Examining the Influence of Species Charisma on the Work of Conservation Organizations

A case study of elephant and vulture conservation in southern Africa

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Abstract:

Species charisma is often discussed as a source of bias in conservation work, with species designated as charismatic expected to benefit from that status while uncharismatic species are disadvantaged. However, the role of conservation organizations is not considered extensively in prior research. This study investigates the factors that shape perceptions of species charisma and how these perceptions influence the work of conservation organizations, using interviews and an analysis of organizational published materials. Species charisma was found to have wide reaching impacts in conservation work, influencing the challenges that organizations face, as well as the resources at their disposal to address these challenges. While species charisma is often viewed as an asset to conservation, it can also contribute to issues such as over-exploitation of a species and increased polarization in wildlife management debates. Species charisma can serve as a tool for mobilizing public engagement with conservation, as well as stimulating a more emotional bond with nature. However, this tactic can have lasting impacts on the way that audiences perceive and prioritize conservation issues. As mediators between conservation topics and the public, conservation organizations have the ability to attempt to balance the emotional component of species charisma with more objective valuations of species based on ecological knowledge. The results of this study suggest a need for species charisma to be defined in a more nuanced way that emphasizes the traits of the audience rather than trait intrinsic to a species itself, and provides opportunities for conservation organizations to address stakeholders' perspectives more directly and maximize conservation engagement.

Contents

Introduction

With the heightened urgency of environmental threats and the finite resources that can be allocated to address them, it is increasingly crucial to understand the factors that influence conservation participation and practice. With numerous environmental crises underway, it can be difficult for individuals and institutions to determine how to prioritize responses to these issues. Although conservation is a discipline of science, as with other decision-making processes, its practice is ultimately shaped by social inputs, with phenomena like public interest and political motivations playing major roles in determining what the products of conservation can and will be (Kerley et al., 2003). One often discussed, but uncertainly defined social concept that influences conservation is species charisma (Albert et al., 2018). Charisma has proven difficult to pin down in conservation discussions due to the subjectivity and context dependency of such an emotionally based term (Krause and Robinson, 2017).

Although charisma may be viewed as primarily relevant to the interface between conservation actors and the public, it may also have wide-reaching impacts on educational topics, publication rates, funding, and even protected status for a species (Fedriani et al., 2017; Régnier et al., 2009; Clucas et al., 2008; Brambilla et al., 2013). The interconnectedness of these issues can result in long lasting impacts on species conservation. For example, less representation of certain species in ecology/biology education, combined with more difficulty in obtaining funding for those species might result in fewer new researchers deciding to study them. Because research is often required to support changes to a species' protected status, reduced publications on certain taxa can also disadvantage those species from receiving stronger protection measures when needed (Régnier et al., 2009). Furthermore, conservation campaigns that only hinge on charismatic species may further bias their audience's knowledge and interest toward certain species (Clucas et al., 2008).

Charisma is commonly defined as "*a personal magic of leadership arousing special popular loyalty or enthusiasm for a public figure (such as a political leader)*" or, "*a special magnetic charm or appeal*" (Merriam-Webster, n.d.). Although the first

definition has a human connotation, both are relevant in the examination of charismatic species. The first definition describes charisma as a characteristic perceived in public figures, yet with the public being exposed to animal species through media like entertainment, conservation campaigns, and advertisement; species, and especially well-publicized individuals (such as Koko the gorilla or Cecil the lion) can become as visible and compelling in the popular imagination as a human public figure.

However, it is worth noting that under both definitions, charisma does not have to be inherently positive, but can instead be based on traits like being intimidating or frightening as well, which may be assumed to contribute to the categorization of some large predators as charismatic (Albert et al., 2018; Lorimer, 2007). Charisma is also a highly subjective quality to assess, especially given its variation across social contexts (Ducarme et al., 2013). Whether a species is perceived as charismatic can be differentiated down to the level of an individual audience member, making the overall concept of charisma all the more difficult to define. A more detailed definition of charisma will follow in the conceptual framework.

This study will examine the role of species charisma in conservation work because previous studies have indicated that there are numerous points in the conservation process where species charisma might influence what work will be achieved and how. Research suggests that perceived charisma may affect the amount of awareness, funding, and degree of prioritization allocated for a species, as well as the type and intensity of threats that it faces (Fedriani et al., 2017; Régnier et al., 2009; Clucas et al., 2008; Seddon et al., 2008 and Amori et al., 2008 as cited in Brambilla et al., 2013; Johnson et al., 2010; Ducarme et al., 2013).

While the presence of different types of species biases in conservation and their potential consequences are discussed often (Tensen, 2018; Watkins et al., 2021; Brambilla et al., 2013), *there is limited consideration of the mediating role played by conservation organizations*. Many studies discuss a trend of conservation actors emphasizing species based on non-ecological qualities (Brambilla et al., 2013; Ducarme et al., 2013; Albert et al., 2018; Krause and Robinson, 2017). However, there is far less coverage of the perspective of these actors themselves and why

they choose certain strategies in their work, or indeed if such approaches are the result of deliberate strategizing around charisma at all.

Conservation organizations often serve as the interface between conservation work and the public. As such, they play a primary role in campaigning for funding as well as public awareness and shaping people's idea of "what matters" in the sphere of conservation topics. *Although 'charismatic species' and how they are perceived are often discussed in terms of 'the public,' the way that conservation organizations perceive this bias and capitalize on or respond to it may be an interesting way of observing how norms or assumptions about what is popular or profitable might be internalized by conservation bodies for the purpose of public support* (Krause and Robinson, 2017). Whether consciously or not, these organizations may promote certain species as the 'faces' of their work, often in line with what would be expected based on the common characteristics of charismatic species identified by literature, which can create and reinforce biases in public perceptions of nature (Ducarme et al., 2013).

While charisma is often assumed to be a characteristic that might boost a species' favor with the public and improve its conservation priority, it can also be associated with more negative attention or outcomes (Ducarme et al., 2013). For example, charismatic megafauna that draw crowds of tourists might be frequently disturbed by human activity (Ducarme et al., 2013). The impressive image of an elephant as a prestigious hunting trophy or the mythic image of a vulture as a creature with supernatural powers that can be harvested are both examples from literature that suggest that the perceived charisma of species groups may also have negative associations for their protection (Johnson et al., 2010; Ogada et al., 2016). Because of this additional angle of interaction between perceived charisma and conservation, this less positive range of possibilities also merits more attention in research.

This study seeks to understand the role of species charisma in the selected case, particularly how it is tied to audiences and how organizations perceive and respond to it. *Understanding what underpins the emotional response that audiences have toward species will contribute to knowledge of how conservation actors might*

encourage emotional connection with nature in a way that promotes more holistic interest in conservation and advances conservation objectives.

The aim of this study was to advance conservationists' ability to respond more directly to species charisma in their work by studying the factors that shape species charisma and how species charisma can influence conservation work.

Research Questions

The overarching research question for this study is as follows:

What factors shape species charisma and how does species charisma influence conservation work?

This question is divided into five stages to account for the relationships that connect the perception of species charisma to conservation outcomes. This progression is meant to show how these stages may influence each other, but is not intended to examine causality. First, it is necessary to understand not just how conservation stakeholders perceive species charisma, but also *why* they have these perceptions. This is important to the work of conservation organizations because in understanding the source of people's attitudes (interest, fear, affection, apathy) toward wildlife species, they have more information as to how to address their audience. This is examined in the first research sub-question:

1. What factors shape perceived species charisma in conservation stakeholders?

Once it is known which factors influence perceptions of species charisma, as well as what those perceptions are for the given case study, this study will examine how perceived species charisma shapes the challenges that conservation organizations face in their work. This could include direct threats to a species' conservation like hunting demand, or other issues that complicate management, like polarization.

2. What are the consequences of perceived species charisma on the challenges that conservation organizations address?

Next, it is also necessary to understand how the resources that conservation organizations can draw on to address these challenges are affected by perceived species charisma. Resources might include more tangible components such as funding and action from the public, but also components like attention and political priority. The degree of resources available to organizations is important to consider to understand the strategies that they employ.

3. What are the consequences of perceived species charisma on the resources available to conservation organizations to conduct their work?

Examining the combination of challenges and resources that conservation organizations work with supports an understanding of how perceived species charisma shapes conservation strategy at the organization level.

4. How do the nature of the challenges faced by and resources available to conservation organizations affect their strategy?

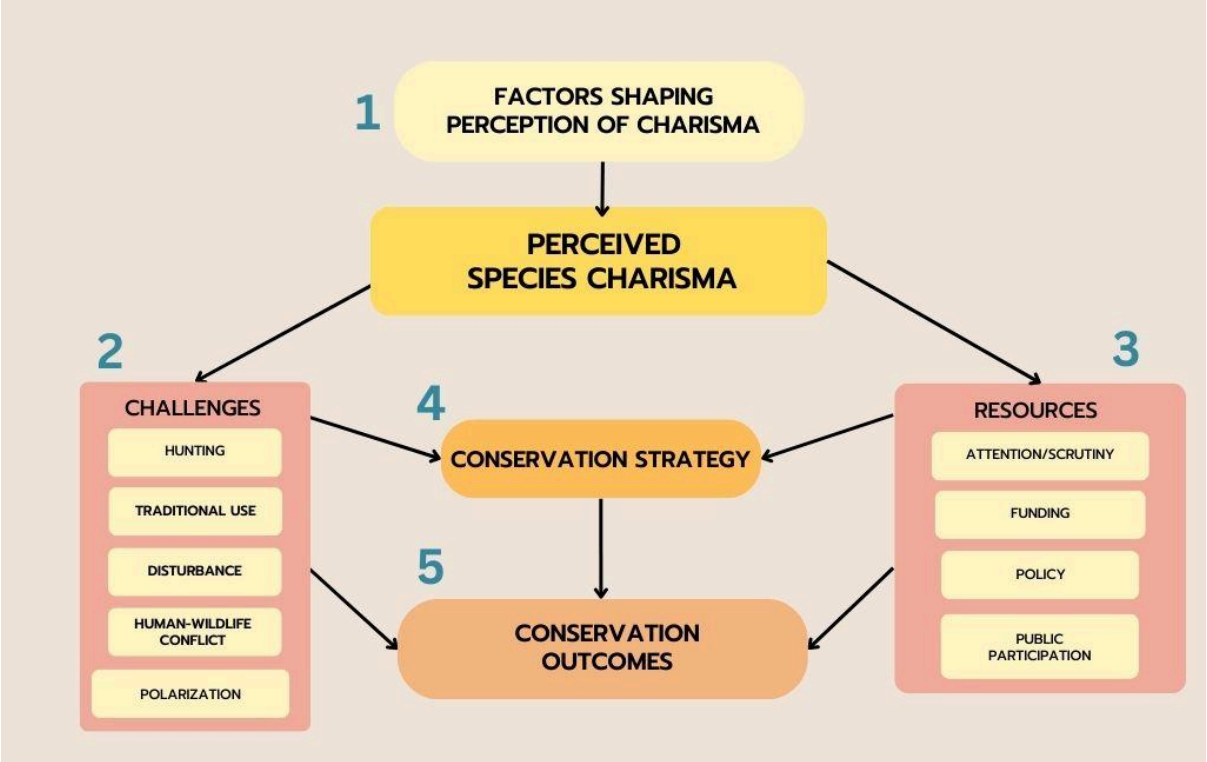
Finally, a review of the previous sub-questions is necessary to understand how perceived species charisma, through this chain of connections, can influence conservation outcomes.

5. What are the consequences of perceived species charisma on conservation outcomes?

It is important to note that although the relationship between these stages is depicted as linear in this progression of sub-questions, it often is not. The ways that species charisma might affect conservation challenges could also affect outcomes, regardless of how organizations respond to them. Additionally, the same factors could affect this process at different points. For example, human-wildlife conflict could influence perceptions of a species' charisma, while also being an issue that organizations respond to directly in their work. And perceived species charisma

could influence how an organization forms its strategy, but organizational strategies such as awareness campaigns can also change perceived species charisma. Finally, it is important to note that while the interviews in this study focus on how perceived species charisma can affect conservation work done by organizations, some respondents described scenarios where perceived species charisma influences conservation outcomes beyond the immediate reach of their own organization's work, and these pathways will also be described in the findings, although they are not the primary focus of the investigation.

Figure 1: *The figure included above illustrates the "stage" in the relationship between species charisma and conservation outcomes that each research sub-question (numbered 1-5) pertains to. The links between the stages are meant to indicate influence on outcomes, but not necessarily direct causality.*



Conceptual Framework

Defining Charisma

Lorimer's guidelines for non-human charisma (2007) will serve as the basis for the definition of charisma used in this study. Lorimer's definition is founded in the familiarity of a species and the emotional response evoked by its appearance, behavior, or contact with the audience (2007). In his publication, "Nonhuman charisma," Lorimer delineates three facets- ecological, aesthetic, and corporeal- that form an animal species' charisma in human perception (2007).

Ecological charisma is a collection of the traits that determine how detectable and distinct a species is (Lorimer, 2007). These traits can be summarized as a species' degree of fame or familiarity for its audience (Ducarme et al., 2013). This corroborates the types of species that other authors have categorized as charismatic (2007). In a study of animals perceived by the Western public to be charismatic, large body size and being a mammal of 'exotic' origin were the most prevalent recurring traits (Albert et al., 2018). Studies indicate that for the general public, charisma is most often attributed to groups like big cats, large primates and ungulates, marine mammals, and bears, which tend to be more detectable and distinguishable than smaller or lesser known fauna (Albert et al., 2018).

Since humans rely primarily on sight and hearing to sense animals, detectability consists of visual parameters like size and color, and aural parameters like presence or volume of an emitted call (Lorimer, 2007). Detectability is also dependent on distribution and behavioral factors like seasonality, times of activity, and habitat accessibility (Lorimer, 2007). However, the wealth of opportunities to observe animal species beyond encountering them firsthand in the wild has an impact on ecological charisma as well. Many species are only known to the bulk of their (global) audience through contexts like photographs, films, or zoos (Lorimer, 2009). Ecological charisma forms the basis for the other facets of nonhuman charisma since they are valuations and reactions based on the presentation of the species.

Aesthetic charisma is formed by the traits ascribed to a species based on the emotional response that they evoke in a viewer (Lorimer, 2007). Descriptors like ‘cute,’ ‘impressive,’ or ‘frightening’ are all aesthetic qualities assigned to a species for the way that it makes the human audience feel, through appearance or behavior. Here a key shared point between the conventional definition of charisma and authors seeking to define nonhuman charisma becomes apparent; that charisma need not be founded solely on positive characteristics but can also be fed by negative emotional reactions like fear and aversion (Lorimer, 2007). In a study to identify the most charismatic animal species in the eyes of the Western public, a lineup dominated by large mammals often characterized as ‘beautiful’ and ‘cute’ also included crocodiles and the great white shark, described by respondents mostly as ‘dangerous’ and ‘impressive” (Albert et al., 2018).

The final facet of charisma that Lorimer describes is **corporeal charisma**, so named because it is the result of ‘practical’ encounters between humans and animal species, either in a single event or across time (2007). While Lorimer discusses corporeal charisma primarily regarding the perception of ‘natural historians,’ I will be focusing on a broader range of perspectives, especially the people who make up conservation organizations and their audience in the public (2007, p.921). Corporeal charisma springs from encounters with species in the field and the emotional reactions they inspire, including senses of awe, satisfaction, and pride in having seen a particular species (Lorimer, 2007). While Lorimer composed this definition with firsthand, wild encounters in mind, in this framework I will expand the idea of ‘practical’ encounters to acknowledge the ever-increasing role that media and captivity play in human-wildlife exposure. While the average person may never encounter an elephant in the wild, they can observe one at almost any zoo. Likewise, millions of people can watch documentaries that render the “*private li[ves], full of drama, joys and tragedies*” of rare and secluded species in dramatic detail (Ganetz, 2004, p. 206). This confers a level of access that in the past only a handful of researchers might have experienced.

Virtual Nature

With the abundance of access to digital media that much of the global public enjoys, the role that this virtual exposure to animal species may play in their public perception cannot be ignored. Nature 2.0 refers to the online presence that nature occupies after being filtered through the human content creation process (Büscher, 2016). This is the realm that most conservation content now exists and is consumed in, and as conservation voices take advantage of online platforms, they are also able to reach wider, diversified audiences (Büscher, 2016). Increasing online presence for conservation has influenced the way that topics like biodiversity are presented and commodified, as well as the way that audiences experience nature (Büscher, 2016). An example of how this might affect conservation practices is the fact that online consumer behavior can incentivize “continuous, visually attractive and dynamic content,” which may in turn encourage certain types of conservation messaging (Büscher, 2016, p. 730).

It is now also common for research into the effect of nature on human mental health to use virtual instead of tangible doses of nature, and studies examining the effects of virtual nature exposure on participants’ physiological and emotional states have found that it produces some of the same impacts as exposure to ‘real-life’ nature (Browning et al., 2020; Jimenez at el., 2021). Although this study will not assert that “’meaningful distinctions’ between ‘lived and mediated reality are fading,’” online content has taken on an increasingly important role in the way that people experience nature, and these online encounters will be taken into account when assessing ecological and corporeal charisma in this study (Büscher, 2016, p. 738).

Flagship Species

Due to how established the concept of species charisma is, it may be applied deliberately or inadvertently to conservation actions. One form through which species charisma is often harnessed for conservation is the “flagship species” template. To translate the complex issue of biodiversity into a more simplified target, surrogate labels, such as keystone, umbrella, indicator, and flagship species are sometimes invoked (Albert et al., 2018). Flagship species are selected to be the

‘face’ of conservation causes, and as such are often large, recognizable animals (Clucas et al., 2008). Unlike other surrogate categories, flagship species are considered to lack unifying ecological qualities, and instead are grouped together based on their application and public perception (Verissimo et al., 2011).

Charisma is a recurring characteristic mentioned for flagship species, although the extent of its role in defining flagship species is debated (Lorimer, 2007; Leader-Willams and Dublin, 2000 as cited in Albert et al., 2018). Authors may define charisma as the unifying characteristic in this group (Simberloff, 1998 cited in Ducarme et al., 2013). Flagship species are also defined by Heywood as “popular, charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action” (Heywood and Watson, 1995, cited in Clucas et al., 2008, p. 1517).

However, McGowan et al define flagship species as simply those which possess “traits that appeal to a target audience,” and assert that when organizations select flagship species based on perceived charisma, funding inequalities between taxa can become an issue (2020, p.2). While an emphasis on species deemed as charismatic may be successful in terms of public facing work, it also raises concerns that this focus will bias conservation attention away from more urgent issues (Zanin et al., 2014 and Brodie, 2009, as cited in Albert et al., 2018). Although organizations that deliberately employ the flagship strategy may claim to distribute funding to more holistic conservation initiatives, there is also the question of transparency for donors, as raised by Entwistle and Dunstone (2000, as cited in Ducarme et al., 2013).

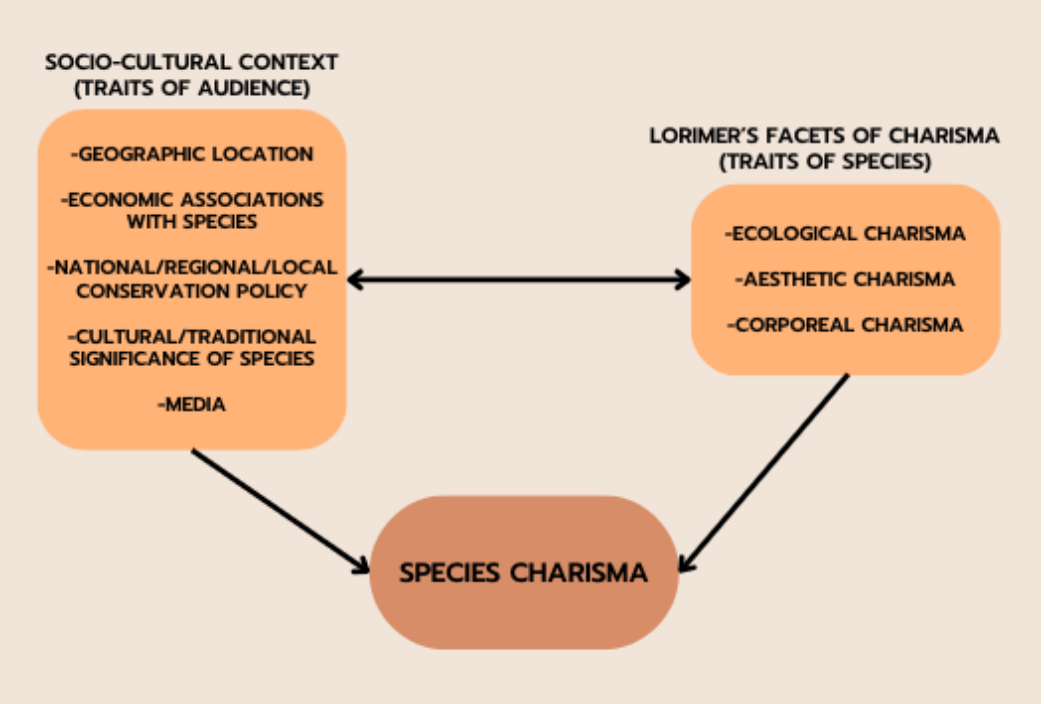
Since flagship species have no specific ecological significance, the concept is primarily relevant as a campaign and marketing strategy (Verissimo et al., 2011). Although species chosen for flagship roles are generally already perceived as charismatic, charisma can be manipulated or constructed through media, including strategic flagship campaigns (Albert et al., 2018; Bowen-Jones and Entwistle, 2002 and Home et al., 2009). Because of this, whether a species is considered charismatic before selection does not necessarily have any bearing on whether it can be built into a suitable flagship campaign (Verissimo et al., 2011). As Albert et al point out, for species that have long been branded as flagships, this can make it

difficult to determine whether they were initially chosen due to their perceived charisma or whether their perceived charisma was built by their image as a flagship species (2018).

There is also concern that conservation campaigns that hinge on charismatic species will ultimately restrict their audience's exposure to and understanding of less promoted species and issues (Clucas et al., 2008). Some authors emphasize moving away from focusing on charisma in flagship species selection and instead choosing species which maximize habitat protection, also known as umbrella species (Kerley et al., 2003). However, this approach also has its critics, especially regarding tying the value and protection of an area to a single species which may die off or come into conflict with the broader diversity of the habitat, possibly jeopardizing the protection of the overall ecosystem (Kerley et al., 2003; Fedriani et al., 2017).

While this study uses Lorimer's definition as a basis, the conceptualization of charisma is expanded to take into account the diversity of audiences focused on in the research. It also seeks to acknowledge that beyond characteristics of species themselves, characteristics of their audience play a strong role in shaping how charisma will be perceived. This allows for the inclusion of political, economic, and cultural factors that can influence perceptions of species charisma and how they in turn interact with conservation. Finally, by using a broader conceptualization of charisma that examines the underlying social drivers of species charisma perceptions, this study aims to also show where there may be opportunities for conservation organizations to develop or respond to species charisma more deliberately in order to advance public engagement with their work.

Figure 2: *The figure below illustrates how the traits of a species and its audience interact to form perceptions of species charisma.*



Materials and Methods

Comparative Case Study

This research used a comparative case study approach. Yin describes case studies as a common method for investigating social, organizational, and individual-based phenomena, and the perception of charisma as focused on in this study overlaps with these categories (2003). Case studies are also described as a way to retain the complexity of events and processes and to integrate evidence from a variety of source types, especially when “the boundaries between phenomenon and context are not clearly evident” (Yin, 2003, p.13). Since this study dealt with a highly context dependent social phenomenon, a case study was a suitable format.

Based on the methodological description of Goodrick, the use of two cases in a comparative design was an appropriate approach to the research questions (2014). While this study does not investigate direct causality, it does look at outcomes. Additionally, the socio-cultural contexts of each case were expected to be major influences on the responses from study participants. A comparative case study approach offered a structure for examining the connection between the social element of perceived charisma and the corresponding conservation outcomes in a “natural” setting.

Species Groups

In this study, elephant and vulture species groups in southern Africa were used to examine how perceived charisma and subsequent treatment in conservation work varies across species. Although this is not the most taxonomically precise labeling, it can be assumed that across the same species group, the public will make minimal charismatic distinctions (Albert et al., 2018). In a study to identify charismatic species, Albert et al found that respondents in the public rarely identified animals based on species-level labels, instead providing responses such as ‘elephant,’ ‘tiger,’ or ‘whale’ (2018). It is also worth noting that when the public is exposed to species in formats like films and posters, they will most likely not be identified by and

subsequently associated with a species name (Albert et al., 2018). The groups in this study will henceforth be referred to simply as ‘elephants’ and ‘vultures’.

These species groups were selected during the preliminary research process based on identified or assumed similarities and differences. Some of these traits, such as contrasting portrayal in media and ecological function were expected to result in differences in perceived charisma, while others, like both being large vertebrates, were not. Since these species groups demonstrate notable contrast in traits like appearance, behavior, cultural associations, and ecological role, it is likely that they would be perceived as occupying different charismatic images and be treated as such by conservation organizations. As well-known megafauna that can be found in open habitats, these two groups have high detectability and distinctiveness, placing their ecological charisma in a comparable starting plane (Lorimer, 2007). It was also assumed that due to how extensively both groups are depicted in media, the public would at least know of them, and conservation organizations’ campaigns in relation to these species might focus on awareness for their importance rather than their existence.

African bush elephants (*Loxodonta africana*) were selected as a case species because they embody many of the classical characteristics of a charismatic species. Charisma is more often attributed to species perceived as exotic by Western audiences, and as a member of the Big Five, elephants are one of the most visible species for these audiences (Albert et al., 2018). The Big Five species of Africa (lion, elephant, leopard, rhino, and African buffalo) were originally grouped together and so named for their prestige as hunting trophies (Langley, 2019). Now, these species are instead the most sought-after by tourists and some of the most internationally recognized (Kerley et al., 2003).

A study by Leader-Williams and Dublin found that large mammals from African savannah ecosystems were the most often used as charismatic flagship species (2000). In a study aiming to determine the most charismatic species for the Western public, more than half of the selected species were found in Africa, with nine out of twenty species also being found in the savannah habitat (Albert et al., 2018). This suggests that an ecosystem such as a savannah may take on a charisma of its own,

on the merit of hosting so many widely recognized and popular species. Because of this, the open habitat areas where vultures and elephants overlap, as charismatic landscapes themselves, can offer an interesting stage on which to examine the politics of charisma in the resident populations (Krause and Robinson, 2017; Kerley et al., 2003).

Although populations have declined steeply historically and remain unstable in most of *Loxodonta africana's* range, populations in southern African states have demonstrated greater recovery and even generous increases (Mennell and Scholes, 2008). In South Africa, most wild elephants are enclosed into fenced reserves, which has allowed elephant populations to expand rapidly (Mennell and Scholes, 2008). However the manipulation or mitigation of factors like ratios with other species, natural disasters, and elephants' ability to disperse across the landscape in protected areas has also created concerns about elephant population densities and their potential negative impacts (Druce et al., 2011)

A cursory internet search showed that many of the conservation organizations concerning elephants in South Africa are voluntourism arrangements in which visitors can pay to stay at or visit a facility and care for the elephants on site. This is in keeping with a growing trend of conservation activities taking the form of close encounters between compelling species and (often affluent) consumer-volunteers (Lorimer, 2012). This system of paying to volunteer at elephant care organizations suggests the magnitude of the species' perceived charisma and the lengths that people are willing to go to experience it firsthand.

Vultures were selected as a species group with different traits to offer an expected counterpoint to elephants in this study. In contrast with elephants' "Big Five" designation, vultures have been relegated to the humorously designed "Ugly Five" list of African species ("Faces", n.d.; Stara et al., 2022). As the most declining group of birds globally, they are in a precarious position, which has increased discussions around their conservation (Stara et al., 2022). However, as obligate scavengers, their public image is often rife with negative associations with death, decay, and uncleanliness (Stara et al., 2022).

In contrast with the more widely known negative cultural connotations, vultures have also been associated with supernatural powers and their body parts viewed as sources of healing properties in some African cultures (Stara et al., 2022). They are often killed deliberately for traditional medicinal and beneficial purposes, especially in southern and western Africa, where their body parts are sometimes believed to improve luck and intelligence (Ogada, 2014). In order to harvest their organs, they are often poisoned, with one study finding that 35% of vultures found in South African markets had been poisoned (Mander et al., 2007, as cited in Ogada, 2014).

The last 50 years have seen an acceleration of human-wildlife conflict across Africa due to expanding human population (Ogada, 2014). The poisoning of vultures is well-documented and could be even more devastating to populations than estimated because deaths may be undercounted due to some individuals leaving the original site before dying from poisoning (Groom et al., 2013, as cited in Ogada, 2014). Escalated conflict between farmers and predators, and intensified efforts to poison predators seen as threats to livestock have increased the potential for vultures to be inadvertently poisoned in the process of scavenging baited carcasses (Ogada, 2014). As obligate scavengers and social feeders, vultures are also likely to encounter poisoned carcasses, and feed on them in large numbers (Ogada et al., 2012, as cited in Ogada, 2014).

In addition to similarities such as size and geographic overlap, elephants and vultures in southern Africa are linked through their shared risk of poisoning (Ogada, 2014). Elephants have been targeted with poison to harvest their ivory (Ogada, 2014). Additionally, poachers targeting large species like elephants and rhinos may also poison vultures so that their presence above a carcass does not give away the poachers' activities, in a practice known as 'sentinel poisoning' (Ogada, 2014). The different status that these species have sometimes held in the human imagination can be summarized by Stara et als' reference to accounts from European explorers which described vultures as "gaunt, ravenous, loathsome harpies who would not allow 'noble animals' (i.e., elephants) to die in peace" (2022, p. 733). *As a species group that is killed as a casualty of the conflict between humans and predator species, or the pursuit of large game animals, vultures experience threats that are often linked more strongly to humans' perception of other species than themselves.*

Study Region

The perception of charisma in wildlife species is subjective, and often variable based on culture or geographic proximity to the species in question (Ducarme et al., 2013; Lorimer, 2007). To keep the geo-cultural scope similar across cases, this study initially focused on organizations working within South Africa. Both target species groups are found in South Africa and have been the subject of highly publicized threats and protection initiatives. As a region with significant wildlife tourism, this is also a suitable setting to study how species charisma can affect public interaction with conservation. Furthermore, a large and diverse pool of conservation organizations operate in South Africa, including organizations of various sizes and scopes, like international and local ones.

However, due to the high mobility of populations of elephants and vultures, many of the organizations that were contacted also work across multiple countries bordering South Africa. Additionally, in South Africa, elephant populations are usually enclosed within fenced areas, creating a "*unique*" case where "*elephant and human distributions are completely spatially separate*" (Mennell and Scholes, 2008, p.1). Because of this, conservation issues around elephants in South Africa are often different from those experienced in countries where elephants mostly roam free. Organizations also working exclusively in bordering countries such as Namibia were included to address this and offer a more representative variety of elephant conservation issues.

In the initial round of contact to potential organizations, there were far fewer responses from those working with elephants. At the same time, during the preliminary literature review, it became apparent that the organizations already contacted would not necessarily reflect the broader scope of elephant conservation issues in the region. To account for these points, a larger set of elephant related organizations was subsequently contacted. However, it is worth noting that due to this broader collection of issues addressed by the elephant focused organizations in this study, there will also be a larger collection of results and discussion about this group.

Participant Selection

This project aimed to understand how species charisma influences conservation work by examining how organizations respond to species charisma. Because the case study was on vulture and elephant species groups across southern Africa, participants were selected from organizations engaged in conserving these species groups in this region (although they did not need to be restricted to these characteristics in their overall work). Efforts were made to find respondents from organizations which work with both elephant and vulture conservation, but ultimately only one such respondent participated in the study. To represent a diversity of conservation organizations and issues, efforts were also made to find respondents from organizations of different sizes and scopes.

A web search was used to identify wildlife conservation organizations in southern Africa and then further searches within that pool were used to identify which organizations work with elephants and vultures. In addition to more traditional conservation NGOs, other conservation involved organizations such as eco-tourism and government agencies were included in the search to try to get a diverse collection of perspectives. Snowball sampling was used during the interviews to determine if participants knew of other relevant experts who could be contacted.

Due to the availability of information about staff on many conservation organizations' websites, potential respondents were purposively selected based on their job capacity listed on organization sites and contacted by email for their interest in participating in this study. Since the research questions pertained to the perception of the relationship between the animal species and the public, and the organizations' strategies, the preferred types of employees to be interviewed were those who work directly with stakeholders. However, employees who had a direct communications role were also included in the pool of potential participants. Since this project did not have an interpreter, all interviews were conducted in English.

Organization and Participant Background

Species Group	Number of Organizations	Number of Participants	Organization Type	Issues	Countries of Focus
Vulture	4	6	International/ national NGO, government agency	monitoring and research, rehabilitation, governance	South Africa
Elephant	6	9	International/ national NGO, government agency	monitoring and research, rehabilitation, governance, rural community development, human-elephant conflict	South Africa, Mozambique, Zimbabwe, Namibia

Figure 3: *This table displays information about the organizations and participants included in this study. Some organizations were represented by multiple participants, either in separate interviews or, in two cases, requesting to be interviewed together. One organization worked with both vulture and elephant conservation, so the single participant representing that organization was interviewed for both species groups. Finally, although many of the organizations were at least somewhat active across multiple countries, the country range indicated in the table reflects the countries where participants' work was primarily based.*

Interviews

The primary method of data collection in this project was formal semi-structured interviews, to ensure that certain topics were covered, but also leave flexibility for other avenues arising during the discussion. The interval manual used in this study can be found in the appendix. Interviews were recorded and automatically transcribed using transcription software included in Microsoft Teams. The software

produced transcriptions were corrected manually afterward. Participants were sent their transcriptions and asked if they would like to clarify or modify any part of their original responses. The degree of anonymity desired by participants was agreed upon on an individual basis before beginning interviews, using an informed consent form. They were able to choose between total anonymity, identification based on organization, identification based on name, or another method of their choosing.

The analysis was conducted in Atlas.ti using a combination of deductive and inductive coding. For the first interviews, inductive coding was mainly used, along with some deductive coding based on the conceptual framework. Some codes were used which referred to the flagship species strategy, as well as codes that were connected to the different tenets of charisma, as defined by Lorimer (2007). After analysis was done on these first interviews, the created codes were used deductively in subsequent interviews (along with a continuation of inductive coding). The codes were chosen to represent certain concepts or themes. For example, points in the interviews were highlighted where the participants described species subjectively or referred to emotionally based reactions to them, such as “impressive, fascinating, disgust, fear, compassion.” Codes were also created to represent overarching factors that shaped or interacted with perceptions of charisma, such as “economic concerns, human-wildlife conflict, cultural associations.” A list of the codes used in this study can be found in the appendix.

Published Materials

To account for the role of digital media in contemporary conservation, the second method of data collection was reviewing materials published by the studied conservation organizations. This focused on materials which mentioned elephants or vultures, and included the primary webpage for each species (if available) for each organization, as well as other relevant webpages or articles about the species. Social media sources were also used, to represent the messaging about these species that someone following one of the organizations would be exposed to. The purpose of this data collection method was to triangulate interview data about the perception of species charisma within these organizations and the strategies that they use in response. It was important to include this method because some of the

interview participants had no involvement with communications such as social media, so this allowed for the juxtaposition of organizations' "official" public outputs with the personal views of the interviewed employees.

Validity was established by examining the statements made by participants about their organizations alongside the published materials. While not everything that participants said could be confirmed or denied by these materials, they still offered some opportunity to compare participants' views to the organizations' messaging. In some cases, there were also multiple participants interviewed from certain organizations, which provided an opportunity to triangulate data about the same organization from different sources. *This also helped to reveal how much perceptions of charisma and the role of charisma vary on an individual basis, which was an important aspect to consider across this research.*

Results

Overall it was apparent that vulture managers and elephant managers hold different views on how charisma influences their work. When asked about whether species charisma is an explicit factor in their work, vulture managers generally characterized the non-charismatic perception of vultures to be an obstacle in their work while elephant managers characterized the charismatic perception of elephants to be a source of support, but also complication for their work. One participant said that people working with vultures in South Africa tend to be "*well aware that most people don't love vultures*," making their work more difficult (Participant C). Meanwhile, another participant said that "*elephants are an easy species [to work with] if you want to play on people's hearts*" due to being "*intelligent..well known..[and] the largest land mammal*" (Participant F). Additional results that shed light on the different perceptions of the case species, as well as on the perspectives of the different participants are included in the appendix.

1. What factors shape perceived species charisma in conservation stakeholders?

Knowledge, Culture, Urgency, and Perceived Costs and Benefits

Discussions about factors that influence perceptions of species charisma tend to emphasize traits of the species themselves. However, the results of this study indicate that traits of the human audience are equally, if not more influential in shaping these perceptions of species charisma. Of these personal factors, those that were most often mentioned in the interviews as influencing perceptions of species charisma can be broadly categorized as based on knowledge, culture, and the perceived costs and benefits that people experience from a particular species. These components also overlap, such as in the case that knowledge of a species might affect the perceived costs and benefits associated with it, while cultural associations could also negatively or positively bias the information that someone has about a species.

The **knowledge** that individuals have of species could be drawn from a variety of sources, such as traditional ecological knowledge, professional experience, personal firsthand encounters, and media. The degree of biological and ecological knowledge and interest that stakeholders have was mentioned frequently by participants as a factor in how people perceive species charisma. In terms of knowledge, both an individual's general knowledge about ecosystems and biology, as well as their specific knowledge of a species seemed to affect perceptions of charisma. Broadly speaking, having greater knowledge about a species was connected with fascination and greater perceptions of charisma in both elephants and vultures. Less knowledge

of a species had varying links to charisma. One participant shared that people without "*an ecological background*" that they encountered while previously working in the tourism industry were more likely to "*resonate with a species because of the stories that they have heard about*" it, rather than more scientific information (Participant G). The filling in of knowledge gaps with storytelling and imagination based responses to a species were generally more positive for the perceived charisma of elephants and more negative for the perceived charisma of vultures.

Among the most salient factors influencing people's views on a species' charisma, many were linked to the **perceived costs and benefits** that people experience from that species. This is especially true for people who live in close proximity to the species and therefore are repeatedly exposed to those costs and benefits. Perceived costs and benefits also have an influence on how important of a role charisma plays in shaping someone's response to a species.

The proximity that people live in with a species plays a major role in the costs and benefits that they experience from it because of the different types of interactions and associations that they might form with it. For example, whether someone's primary interaction with a species occurs through their profession, or as a tourist, or in person versus virtual may influence both their physical and financial security. Firsthand encounters with a given species were also agreed to be a major factor in species charisma perceptions for both vultures and elephants because of the added emotional dimensions, either positive or negative (i.e. awe, fear), of encountering an animal in the field.

One participant stated that the people who are most likely to place a higher value on vultures are those who live in areas where they can observe how vultures function in the environment and how that might benefit them (Participant B). On the other hand, people in higher-up and potentially more distant decision-making roles in relation to the species could be less aware of them (Participant B) However, residents in areas with vulture populations might also see them as a threat to their livelihood, since some livestock deaths are attributed to vultures, although the likelihood of vultures actively hunting and killing livestock is negligible.

> "*In many cases…people at that level are probably more aware of vultures and what they do and the role that they play, the fact that they … live cheek by jowl and in some cases they do realize the value of the birds in terms of cleaning up carcasses, cleaning up waste and so on in various environments… Your bigger challenge is probably with the higher level decision makers, where people are either oblivious of the existence of animals like that, and then you know, it requires a lot of higher level engagement to make people aware of them*." (Participant B)

For vultures, most participants stated that people (who did not already live in close proximity to vultures) had a generally more positive perception of their charisma when they had the opportunity to observe the birds in person. When people could observe interesting behavior in vultures in the field, or see up close how physically imposing they can be, participants agreed that they would be more likely to appreciate vultures and view them with some degree of charisma. One participant said that more of these "*face to face*" encounters with vultures would "*definitely..change people's perceptions of how charismatic they are*" (Participant A). However, multiple participants also commented that as it is not very common for people to encounter vultures at close range in the wild, the opportunities for this type of interaction can be limited.

With elephants, **geographic proximity** and the associated economic costs and benefits were an even more influential factor in their perceived charisma, due to the higher economic and social stakes associated with them. While elephants are considered to be a major draw for tourism and therefore a source of income for a wide range of people working in the tourism sector, they can also pose a risk to agricultural livelihoods and the safety of communities when they venture into human settlements to look for food (Participant M, N). The degree of tolerance that people have for hardships or inconvenience associated with elephants is sometimes weighed against whether or not elephants are also a source of income for communities. People in areas that benefit economically from cohabitation with elephants may tend to have far more positive views of their charisma than in areas where people cannot perceive any benefits.

In situations of human-elephant conflict, charisma can play a very minimal role in how community members view elephants because ultimately they are far more concerned for their livelihoods or safety than more subjective valuations of elephants, causing them to "*push the charismatic aside and rather talk of them as a nuisance*" (Participant K). One participant gave the example of some people in areas of Mozambique where they work, where "*if an elephant comes and crop raids and basically eats up the entire livelihood for the rest of the year, you can only imagine how people should feel about elephants*" (Participant K). On the other hand, people from other areas who "*don't see elephants every day*" may instead enjoy the "*privilege*" to admire or even "*revere*" elephants from a distance, without experiencing any of the negative aspects of cohabitating with them (Participant K). The often geographic divide in perspectives on elephant charisma partly fuels polarized views in elephant conservation.

Profession is another factor that can influence individuals' perceptions of species charisma, by shaping both the knowledge and costs and benefits associated with a species. Profession has an impact on the type of knowledge that someone would have in relation to wildlife as well as the interactions that they have with species, which could result in different costs and benefits being experienced. The type of

information about elephants or vultures that a farmer versus a field ranger would cultivate and use in their daily life, would likely differ. Likewise, the potential for individuals in these professions to view these species as a threat or an asset would probably differ from each other, as well as from someone who has a job in an urban area. One participant gave the example of a "*hunter versus an [elephant] orphanage owner*" as two individuals who would have very different reasons to "*perceive [elephants] to be compelling*" (Participant L).

Cultural Context

A combination of cultural characteristics also contributes to perceptions of species charisma. This includes traditional beliefs and knowledge systems, cultural associations, the history of a region or people, and the frame of reference that is used for the urgency of a species' conservation status.

Across some regions of Africa, including the southern states, communities and families sometimes have a totem animal from **traditional belief systems** that they have a symbolic connection to (Mandillah and Ekosse, 2018). Each totem species is associated with different traits and stories, and is respected and protected by groups who have family ties to it. The positive traits and stories associated with totem species translate into more positive charismatic perceptions of species as well. For example, some of the traits associated with elephants within this belief system are gentleness, strength, learning from experience, and being strongly family oriented (Participant G, H). Some beliefs around elephants also suggest that individuals should not harm or eat them because they will remember and return to plague that person's crops in the future (Participant G). Although vultures may also be totems, this aspect was never raised in the interviews for this study (Mandillah and Ekosse, 2018). How these beliefs influence conservation participation will be discussed in the results section of the third research question.

The main traditional association with vultures that was mentioned by participants was their use in traditional medicinal practices, also known as *muthi*. Vultures are harvested for muthi uses because of the belief that different body parts from them can confer certain health benefits or special abilities. With muthi, as with flagship species, there is a bit of a "chicken and egg" situation, where it can be difficult to say whether the mythological image of vultures, which some might call a type of charisma, is a result of the muthi beliefs surrounding it, or whether muthi beliefs were also originally connected with the charismatic image that people perceived in vultures.

While traditional associations were primarily positive for both species groups, the conservation implications differed. For elephants, traditional views emphasized that they have positive behavioral traits that humans can benefit from by observing and

learning from their example. For vultures, however, the primary traditional associations mentioned in this study were the positive qualities physically imbued in them that humans can benefit from by harvesting and using their parts. This naturally results in contrasting pressures for how people should conserve or consume these species.

With the increasing exposure to different media forms and the frequent appearance of animal, mediums like film, TV, and news can strongly shape the **cultural associations** that people link to species charisma, especially from a young age. Participants mentioned media like cartoons and Disney films as early influences on which species individuals perceive as charismatic.

People may also connect species with concepts that have negative cultural connotations that subsequently lower their charisma. One participant described people's perception of a vulture being a "*sinister*" animal that "*hangs around and waits for things to die*" and that because of that, they have more of an "*association with death and loss…rather than the role that they play and the function that they fulfill*" (Participant B). The idea that vultures are opportunistic is also reflected in the social behaviors in humans that their name is attached to:

> "*Like for a very crude example from a South African perspective of a tow-truck driver. So these are guys that respond to the scene of an accident, to tow a vehicle away…everyone refers to them as vultures because as soon as there's an accident, they suddenly just come out of nowhere, which is fairly similar to what happens around, you know, around a kill. Vultures do come out of nowhere. You don't see any birds, and suddenly they arrive…but it's always these negative connotations. So people don't really see them as how important they are in terms of the ecosystem services that they're providing*." (Participant J)

The **history** of a region or people can also play a role in shaping people's perceptions of species charisma. One reason for this is that history indicates the relationship that a group may have had with a species in the past, and how likely they would be to conflict or coexist with it in the present. While this is related to the perceived costs and benefits discussed in the previous section, it is also connected with a broader time scale and sense of identity. The case of the Herero people in Namibia, described by one of the participants, illustrates how a group's historic practices can also shape their perceptions of species. The Herero people have historically been cattle herders, a practice which remains in their communities today (Participant N). Because they need range lands and water for their herds, "*elephants feeding, elephants drinking the water– everything is a direct competition to their cattle*" (Participant N). Other groups which are not "*culturally cattle herders*" may be

more adaptable to both environmental conditions and resource competition with elephants (Participant N). This can lead to generally more negative views of elephants and less desire to cohabitate with them.

The history of interactions that a community might have with wildlife is also important to their perception. As human and elephant populations have fluctuated and moved around, the groups have been brought in and out of contact with each other (Participant N). Because of this, there have been times when communities were more accustomed to living alongside elephants and sharing resources, but there have also been periods as long as a generation where people have not lived in close contact with elephants. Because of this, there can be an absence of information about how to live safely and peacefully with elephants, and that can also increase people's resistance to the idea, as well as give them more negative perceptions and anxiety surrounding elephants (Participant N).

> "*But the biggest issue with humans and elephants comes in that elephants were overhunted… from the 60s to the 90s there was this gap of elephants in certain areas. And then elephants returned…they recovered in certain areas, but also the environmental conditions changed too. So there is this home range shift that's happening. So now they're back and people [feel] they're not supposed to be here now, because they've never been here. They've always been there, but then there was a gap and people basically hold on to the fact that they weren't there a few years ago. Now they are there. And yeah, that's a problem, because of course they didn't learn about living with them. They don't know and it's scary and it's annoying. And it's threatening.*" (Participant N)

Another factor tied to geography which also was connected with how people perceive species charisma is the conservation status that people have come to associate with a species. Multiple respondents believed that a sense of **urgency** associated with a species also prompted people to view them as more valuable and charismatic. However, audiences will have differing knowledge on the conservation status of species, so even if a species is highly threatened, people could potentially perceive it as common and vice versa.

Additionally, because these species groups are found across a wide range, with varying rarity depending on the region, an audience may have a different frame of reference for the rarity of a species than what a conservation organization working in specific regions might have. Ultimately whether a sense of urgency might contribute to an individual's value and affinity for a species will depend on the type of information about its conservation status that they are using as a frame of reference, whether it is situationally representative or not. How this directly affects conservation

work will be discussed further in the results sections for the second and fourth research questions.

2. What are the consequences of perceived species charisma on the challenges that conservation organizations address?

Poaching, "Problem" Behaviors, Perception, and Polarization

There were several routes through which species charisma exacerbated challenges that conservation organizations face. Species charisma was mentioned as a driver of demand for poached wildlife products, as well as an incentive for people like tourists to desensitize wildlife to human presence, which also increases the risk of human-wildlife conflict. Both species also have cases where a more negative, but nonetheless charismatic idea or misconception of them can capture the imagination of humans, making conflicts more intractable. While species charisma of both groups contributed to conservation challenges in terms of *what* organizations work on, for elephants, charisma also worsened challenges in terms of *how* organizations can work.

In southern Africa, vultures are used for **belief based** traditional medicine known as *muthi* (Mashele, Thompson & Downs, 2021). Different parts of a vulture's body may be used for a variety of purposes, such as longevity, predicting the future, and winning the lottery. Although it can be difficult to understand whether species that have some degree of mythological charisma have acquired it from traditional sources of significance like muthi, or whether they became sources for muthi due to a pre-existing charismatic image, participants in this study believed that charisma was a factor in vultures being harvested for muthi. One participant stated that "*small, nondescript animals*" that do not "*do anything interesting or noteworthy*" are not the types of species that "*get targeted for belief based use*" (Participant A). Instead, they suggested that these types of beliefs were more likely to be developed around animals with more "*striking*" or impressive (or charismatic) features or abilities such as strength, size, or powerful eyesight (Participant A). For vultures, their ability to seek out and suddenly congregate at carcasses makes some people feel that "*they must have known that animal was going to die*," contributing to the mythos, and to a certain degree, charisma around them (Participant A).

While there is a long history of vultures being harvested for belief-based use, in recent years, a convergence of other population threats like power line collisions and incidental poisoning with large numbers of vultures being poisoned deliberately for traditional use has generated concern around how traditional use could increase the

pressure on vulture populations (Mashele et al, 2021). Although harvesting vultures for muthi is a long established practice, the use of chemical poisons to kill vultures has increased the impact that this practice has on vulture populations, raising concerns among conservationists about its long term sustainability (Participant C).

With elephants, there are many values attached to ivory in consumer countries like China. Gao and Clark characterize Chinese consumer values for ivory as spanning "*economic, social, cultural, aesthetic, religious, and medical*" reasons (2014, p.27). It is difficult to fully break down how species charisma could be connected to these different values, as it is unclear how much the reputation and desirability of ivory is based on its sourcing from elephants, and how much it is viewed as a valuable material in a way that is more disconnected from the source species. However, as with vultures, products from elephant ivory are sometimes viewed as having spiritual and medicinal properties, which is based to some degree on the perceived charismatic qualities of the species (Gao and Clark, 2014).

Another conservation challenge that organizations need to address that involves the convergence of charisma of multiple species is **sentinel poisoning**. Sentinel poisoning refers to the practice by poachers of pre-emptively poisoning carcasses to "*eliminate vultures from an area*" (Participant B). This is done to prevent their presence above poached carcasses from alerting enforcement agencies to the poachers' presence (Participant B). This practice can be especially devastating to vulture populations because "*elephant carcasses that were poached for ivory that were then poisoned have killed hundreds and in one case is believed to have killed more than 1000 vultures in a single incident*" (Participant B).

The connection between sentinel poisoning and charisma lies in the reputation that vultures have garnered with poachers and enforcement agencies, and in the drivers of demand for poached products from species like elephants and rhinos. In protected areas, it is a regular practice for rangers to investigate when they see a kettle of vultures circling in the sky, due to the possibility of poaching activity, but also to determine the cause of death if an animal dies naturally (Participant J). In examining the perception of vultures from a poacher's perspective, it seems that they are responding not just to the behavior of the vultures and the practical consequences of their presence, but also to more intangible social or emotional implications. To some degree, the presence and surveillance of vultures over a poaching site serves as a proxy for the threat and arrival of enforcement personnel. This association adds to the charisma of vultures because they no longer have just an ecological meaning, but also an imposing social weight behind their presence.

However, the threat of sentinel poisoning for vultures is most strongly linked to the charisma of the target species of poachers, such as rhinos and elephants, and how this charisma drives demand for poached products like ivory. This creates an

unfortunate situation where vultures can become victims of other species' charisma, and both species together can be threatened by a particular interpretation of their charisma.

Even when they are not being killed, perceived charisma can result in negative effects for species. In this study, this was illustrated by the described impacts of **tourism** on elephants. The charisma and popularity of elephants drives a tremendous amount of wildlife tourism, and also often prompts people to attempt to approach elephants at close range. Elephants which have had negative experiences with humans through situations like attempted poaching, snaring, and human wildlife conflict, can be traumatized by these previous experiences and "*want nothing to do with*" humans (Participant F). In these cases, coming into contact with other humans like tourists and researchers in park areas can be additionally distressing for these "*skittish*" individuals (Participant F). Elephants from areas with poaching activity may also develop more aggressive behaviors, which could potentially exacerbate human-wildlife conflict situations later (Participant F, L).

In other cases, high levels of tourism and repeated interactions with humans where there is no "*respect from the human side*" may also shape elephant behavior in a negative way (Participant M). Some participants commented that this is worsened by the fact that many tourists push the boundaries of what is a safe distance to observe elephants from (Participant M, N). This could be driven by people's intense interest and desire to approach elephants, which might also be facilitated by images and encounters that they have seen in cartoons or television that could give viewers misconceptions about elephant behavior or cause them to not treat elephants as a wild animal with the potential to be "*a killing machine*" when not treated with appropriate caution (Participant M). These charismatic and often unrealistic depictions of elephants may cloud people's ability to accurately assess risk in these close encounters. This over-exposure to tourism can also desensitize elephants and make them more bold in their interactions with humans and human settlements,creating "*problem elephants*" (Participant L, N). Left unchecked, this progression can end in situations that are potentially deadly for both humans and elephants, if elephants come into conflict with humans in their search for food and water.

Human-wildlife conflict is one of the most high-stakes and complex challenges that conservationists need to address in their work. As discussed in the previous section, the likelihood and intensity of conflict can be influenced by factors like an individual's occupation and cultural context. Human-wildlife conflict was raised as an issue that both vulture and elephant conservationists address, although the conflict issues involving elephants were exacerbated by their potential to pose a risk to human

safety. External stressors on farming like drought can also raise the stakes for conflict with wildlife and make mediation more difficult, because people's livelihoods are already in a more precarious state. One participant stated that while charisma is certainly a factor in driving benefits associated with elephants, in the case of human-elephant conflict, they would see evolving land-use patterns and changing tolerances for coexistence with elephants as a greater factor (Participant G).

However, the role that charisma can play in exacerbating conflict situations was discussed by a participant who works in a region with frequent human-elephant conflict. In this region, conflict includes "*financial pressure and physical damages that elephants can do, of course, to water tanks, water infrastructure, houses, gardens*" as well as "*fear, basically, and the lack of knowledge of how to mitigate conflicts*" (Participant N). Because these elephants are still wary of humans, they come into villages at night, and villagers can hear them destroying buildings (Participant N). Although there are actions that residents can take to scare off elephants and also deter them from re-entering the village, people in these areas can be very intensely afraid of them, especially because their main interactions with them are when they are displaying destructive or seemingly aggressive behavior (Participant N).

In this case, a more negative aspect of elephants' charisma comes into play, with people feeling deeply intimidated by their presence, in a way that is also made worse by storytelling amongst residents. This more emotional and negative conceptualization of the elephants in these cases can make mediation of the conflict more difficult, because people are very averse to taking the actions that could possibly curb elephant activity in their villages (Participant N). Failure to address problematic behavior in elephants can create further conservation challenges by creating "problem" elephants which need to be addressed more forcefully, and by worsening relations between communities and elephants and reducing goodwill toward elephant conservation.

In vulture conservation, human-wildlife conflict also poses challenges for conservationists. However, in the case of vultures, it is likely that few of the issues that vultures are blamed for are actually their doing. At farms with smaller livestock, especially in regions where drought conditions sicken or kill animals, vultures are sometimes blamed for the deaths, since they arrive at dying animals or carcasses and begin eating them immediately (Participant B, C). There can also be misconceptions around vultures due to the labeling of bearded vultures as *lammergeier,* or "lamb vulture" (Participant A). This is a long-standing misnomer stemming from beliefs that bearded vultures would hunt and eat lambs, and has contributed to historical persecution of various vulture species (Lambertucci et al, 2021). However, in South Africa, this can be complicated by the fact that Martial eagles, which have been known to hunt livestock, are also colloquially known as *lammervangers* or "lamb catchers" (Participant A). The confusion between these

names, coupled with the fact that many people cannot readily distinguish species of raptors from each other may play a role in the misattribution of livestock killings to vultures (Participant A).

One human-wildlife conservation challenge that may link elephants and vultures is the **impact of elephants on large trees**. Elephants have been known to inflict damage on or push over trees in their range. While elephants in natural circumstances would be able to range over a wide area, dispersing their impacts on the landscape, the enclosure of elephants into fenced areas concentrates their impacts onto limited areas, raising concerns that their damage to trees can be too extensive and may also potentially impact other species like tree-nesting vultures (Participant C, J). One participant stated that compared to anthropogenic threats like poisoning where "*50 to a couple hundred vultures can die in a single poisoning event, It'll take you so many years for elephants to ever push down that number of trees to be considered a risk to the vultures*" (Participant F).

However they also noted that in smaller protected areas, elephants could have a much more pronounced impact on the tree populations and dependent species than in a larger region like the Greater Kruger area (Participant F). Another participant stated that this combination of threats is troubling, since "*vultures are getting hammered by poisonings, power line collisions…and now we're potentially taking nesting away. How are we going to be supplementing the population if we don't have places for birds to breed? If there's no tall trees because that's what the elephants are impacting upon, the population's doomed even more than just by the anthropomorphic threats*" (Participant J).

In the past in South Africa, culling of elephants was used to reduce their impacts on trees. One participant states that culling being the best approach to reduce elephant impacts has become "*an entrenched mindset*", and that sometimes people "*don't quite accept this idea that you'd rather manage their effects on the environment instead of their numbers*" (Participant F). Another stated that even when elephants are causing "*huge damage*" in protected areas, "*there's no way elephants will ever be culled, because of public opinion*" (Participant C). With the charisma of elephants being an exacerbating factor in management debates, pressure to protect trees for vulture nesting can clash with pressures against culling elephants. One participant summarized this issue as one where "*the charisma of elephants trumps vultures*" (Participant J).

In addition to ecological challenges that directly impact species survival, conservation organizations may also experience species charisma related social challenges that make it more difficult for them to work to address these more direct conservation concerns. One such issue is the sense of **urgency** created by the

particular framing around a species' conservation status. Audiences might get their impressions about the urgency of conservation for a species from their own knowledge, or may be taught to view it a certain way through conservation campaigns or media. However, the potential variation in how different audiences and conservation organizations view and approach the conservation urgency of a species can lead to difficulties in forming a unified approach.

This factor is especially relevant to elephant conservation because of the variation in the status of elephant populations across different regions. In South Africa, where elephant populations are growing and often confined in fenced areas, people are concerned "*that there are too many elephants because in certain parts of South Africa, that's the case*" (Participant L). However, one participant noted that "*across the whole of Africa, they're an endangered species*" and that "*globally that's quite understood*," but that the perception in South Africa often focuses on the regional population density issues, rather than larger scale status (Participant L). The participant noted that this can also create challenges for organizations that work on elephant conservation, because more localized elephant population management issues can diminish people's sense of urgency and support for elephant conservation (Participant L).

In contrast, another participant suggested that although elephants are mostly threatened in certain parts of their range, "*the narrative that is portrayed in the media is that all elephants are under threat*" (Participant J). Because of this, the participant stated that regardless of whether a conservation region has healthy or struggling elephant populations, they "*all get painted with the same brush*" and that this can also result in heightened emotions and challenges being introduced into elephant management in stable areas, because people may hold that perception that elephants are severely threatened across their entire range (Participant J). The discrepancy between how these two conservationists view the same divide between the conservation status of elephants in South Africa versus the rest of their African range demonstrates how widely interpretation of these factors varies based on individuals, which also suggests how widely organizational approaches might vary as well.

A sense of urgency was considered to be one of the main factors in mobilizing people's support for vulture conservation, and was mentioned by most of the participants as being part of their organizational strategy, so how the interplay between urgency and charisma influences vulture conservation work will be discussed further in the section for the fourth research question.

A major theme that emerged during interviews was how species charisma has fed the **polarization** of conservation decision-making around elephants. While vulture conservationists were also asked about polarization in their work areas, the lower

degree of perceived charisma in vultures also translates to less intense engagement in issues surrounding them. With elephants on the other hand, the strong emotional reactions that elephants provoke, both positive and negative, and across very diverse audiences, have resulted in a highly polarized discursive landscape. Polarization is a route through which species charisma shapes the challenges that conservationists face, but also impacts the resources that organizations can mobilize to address conservation issues because of the way that polarization can divide coalitions and their resources.

Participants discussed traits in people that exacerbate the polarization in discussions. These traits influence how individuals view the charisma of elephants, as well as how highly they (are able to) prioritize charisma in their opinion forming or decision making. One recurring factor was the geographic background of individuals which, as discussed in the results for the first research question, greatly influences the types of interactions and associations that people might have with elephants. Participants discussed how it is common for privileged international observers of elephant management issues in southern Africa to feel strongly about prioritizing the welfare of elephants, but often at the expense of local people who might need to "*live with the consequences of elephants eating their livelihood*" or "*threatening the safety of their children*" (Participant K).

One participant attributes this to a lack of accountability on the part of people getting involved in management issues from a distance (Participant J). These people who are "*shouting and preventing certain things*" often have "*no accountability of what happens when their decision comes to fruition*" (Participant J). One example they gave was that people might oppose a hunt that could generate revenue for a community because of a moral objection to a particular species being hunted (Participant J). At the same time, they might have no interest (and indeed no mandate) in supplying an alternate solution for economic opportunities (Participant J).

With elephants, human wildlife conflict creates an especially heated debate around their management, because the need to act becomes more urgent when people's livelihoods or safety are endangered. Conflict situations are also the ones where lethal force is most likely to be used on an elephant, which is naturally a controversial measure for people who find them charismatic. Extreme situations like these can pit people who see elephants as charismatic and believe they should not be harmed under any circumstances against people who emphasize the security of communities. One participant suggested that species that "*cause conflict for humans*" bring out the most polarized views (Participant F). They characterized two polarized views on elephants as "*do not touch an elephant*" and "*I wish we could shoot as many as possible*" (Participant F). These widely contrasting attitudes across stakeholders like "*hunting associations…animal welfare groups, elephant*

management and scientists, rangers, and academics" can result in "*high tempers*" in discussions around management approaches (Participant F).

3. What are the consequences of perceived species charisma on the resources available to conservation organizations to conduct their work?

Awareness, Prioritization, and Public Participation

While species charisma contributes to the types of challenges that conservation organizations need to address, it also plays a role in determining the resources that can be applied toward conservation work. This can include more tangible resources such as funding and volunteer participation, as well as more difficult to quantify resources, such as attention and prioritization.

With vultures, **apathy** and a **lack of knowledge** limit the degree of support that conservation organizations can rally for their work. Because of the lower public awareness about vultures and their conservation status, conservationists may find that "*the degree of apathy in that situation is sometimes greater and [the] challenge is greater to sort of make people aware to do something before you get into a dire situation*" (Participant B). The lack of knowledge about vultures may also make it easier for people to view vultures with "*superstitions or fear*" (Participant B). This lack of awareness may extend beyond "the public", with one participant mentioning that biased media coverage that mainly showcases conservation issues around species like rhinos and elephants can also bias the conservation knowledge and priorities of individuals like lawmakers and judicial officials (Participant D).

While this lack of engagement is certainly driven in part by people's lack of knowledge about the status of vultures, their (un)charismatic perception of vultures also plays a role. It was suggested that "*the fact that they do feed on dead animals, that they do clean up carcasses*" creates a connection with "*death and loss*" and that this negative connotation could also "*develop an apathy from some people, they don't want to associate with loss*" (Participant B).

Although participants agreed that vultures are commonly viewed as uncharismatic, they also believed that this view could potentially change as people are exposed to vultures more and also learn more about their ecological role. Charisma was described as the force that can "*pull people to conserve wildlife*" and over time, as people become more familiar with species, the importance of charisma in their perspective might diminish (Participant G). One participant stated that for their

organization, the perceived charisma of vultures is a very influential factor in people deciding to sponsor their work or volunteer at their facility (Participant E).

While participants in both groups agreed that charisma played a major role in influencing donor-based funding, they stated that other sources of funding such as from the government was shaped more by other characteristics of the species. For elephants, one participant mentioned that there was often funding available for elephant research due to the high rate of conflict with humans and the amount of issues that need to be resolved (Participant F). For vultures, one participant mentioned that their endangered and critically endangered status across the region gives them some priority in funding (Participant C).

Many of the interviewed conservationists felt that species charisma also had impacts in terms of the **policy and priority** attached to species conservation. Some participants stated that while policies tend to be founded in more concrete scientific data, "*the way that members of the public feel has an influence on*" the priority that is conferred to different conservation issues because "t*he person that shouts the loudest gets the most attention*" (Participant J) and ultimately it tends to be the "*more charismatic species that get pushed and shouted about*" (Participant A).

One participant mentioned that in the case of elephant management, charisma plays a strong role in policy. In their opinion, even in cases where there is evidence that elephant populations are inflicting extensive damage to the landscape, culling will never be reintroduced as a policy response because of the negative reaction from the public that this would trigger, due to species charisma (Participant C). In the past, South Africa practiced culling as a management method for elephants, but the charisma of elephants created a "*huge public outcry*" (Participant F). With elephants viewed as "*sentient*", emotional, intelligent, and incredibly well known, one participant suggested that these traits are now reflected in management approaches in national parks and other reserves (Participant F).

One issue that was mentioned is that policies governing elephant management can be strict, and in the views of some people, too restrictive. For landowners holding private reserves with elephants, the litany of policy requirements for the safe and humane keeping of elephants on protected land can also be a deterrence or a dealbreaker for continuing to use their land as conservation areas. This exposes one pitfall of tying conservation to particular species, especially "controversial" ones, which will be examined further in the discussion.

An interesting example of species charisma being tied to differences in political treatment was raised by one participant who works in South Africa. They stated that in the judicial system, there tends to be a discrepancy in penalties for poaching different species, with species with higher charisma, but lower conservation urgency

incurring steeper punishments (Participant D). While killing a rhino will generally result in a prison sentence of greater than 10 years, poisoning multiple vultures has sometimes been punished with just a fine (Participant D). The participant suggested that this could result from a lack of knowledge in the judiciary about the actual conservation status of different species, causing them to instead base the severity of punishments on the visibility of species, which tends to be driven by charisma (Participant D).

When discussing how species charisma influences awareness in conservation, it is inevitable for **scrutiny** to also be raised as a topic. When people feel more strongly about (charismatic species), their attention may also come with a more critical and concerned lens. This is the case with conservation involving elephants, but also other species that the public tends to find more charismatic, such as primates (Participant J, K). The outcry generated around the management of certain species may also be accompanied by legal cases and media, and the time required for organizations to provide input in these scenarios could instead be spent "*going out and engaging with landowners, engaging with communities and addressing other threats*" (Participant J).

Although scrutiny could also have a limiting effect on the way organizations conduct their work, through mechanisms like limiting potential solutions and prompting backlash, participants mentioned that scrutiny can be a benefit to their work because it causes them to consider their decisions more carefully to try to come to solutions that will be justifiable to their diverse audience in the public (Participant J, K).One participant described it as having a "*watchdog*," which incentivizes them to be "*introspective*" and weigh their decisions across many different perspectives and values, which helps them to find "*the moral high ground or the middle road*" (Participant K). In a way, scrutiny creates an additional morality-based framework for conservationists to evaluate their work through, that is beyond the scope of just legality.

Both elephants and vultures have a **cultural significance** that is expressed through traditional beliefs and practices associated with them, as described in the first section of results. Elephants may be totem animals for families or communities, and as such, have certain positive characteristics attached to them. When an animal is a totem, there are also conventions of care, kinship, or respect that people are expected to show towards them. One participant who has the elephant as their family totem described it as "*that which we believe should be protected…that we respect. It is that nature or animal that we feel needs to be valued, needs to be protected and it is this big animal that our kind of people wish we could behave like*" (Participant H).This tradition of indigenous knowledge about certain species and the

“charismatic stories” that people in these regions are raised on creates a pre-existing degree of desire to protect these species (Participant G).

This can be undertaken through personal or collective actions in the communities that share land with these species, but can also open the door for their support or interest in conservation undertaken by organizations. When working to develop conservation projects in communities where certain species are a totem, organizations are able to “*build on what a particular community values already*,” knowing that such a community will already have certain views toward the species in terms of their “*culture and heritage and respect*” (Participant H).

For vultures, although their main cultural role that was discussed in this study was their use in traditional medicine, which would perhaps seem at odds with efforts to protect them, a desire to sustain this tradition among those who practice it also shows a shared goal with conservationists. One participant stated that when they approach the public about the use of vultures for muthi, they do not try to condemn the harvest of vultures (Participant D). Instead, they try to emphasize to those who practice muthi that this practice which has been part of their cultural heritage for generations will not be able to be sustained, if the harvest of vultures continues using such unsustainable methods (such as mass-poisoning via chemical pesticides), compared to the way that their ancestors would have once captured vultures (Participant D).

4. How do the nature of the challenges faced by and resources available to conservation organizations affect their strategy?

While conservationists working with vultures and elephants both respond actively to charisma in their strategy, the generally more charismatic perceptions of elephants mean that elephant oriented conservationists see charisma more as an asset in their strategy while vulture conservationists seek to emphasize ecological importance of vultures and the urgency of their conservation status. However, participants working with both species asserted that an optimal conservation campaign would be able to center on the ecological value of species, while also highlighting aspects that stimulate charisma and mobilize engagement in audiences.

Balancing Ecology and Emotion

Participants generally said that they hoped that their audience’s view of species would hinge on an ecological or intrinsic valuation. However, they also said that charisma was something that they stayed aware of and tried to leverage when possible, regardless of species. One participant said that while their organization’s priority is threatened species and systems, they also take into account what focal

species and systems they can raise money for, and are aware that charisma is a major factor in that (Participant A). Another participant said that "*a mix of the two systems"*, "*the more emotional component*" with "*the scientific component*" was the ideal balance to strike, and this sentiment was echoed by many of the other participants in this study (Participant G). Organizations may sometimes seek to build a more charismatic image for a species by showcasing its different values for the public. When people have a better understanding of this, they tend to be more likely to associate species with traits that contribute to charisma like being interesting, impressive, or important.

> "*I would think that most conservation organizations, they try and do a couple of things at the same time. The one is sort of highlighting the ecological role and the importance in the system... But another thing's also just their intrinsic value. And to build sort of that, that idea of intrinsic value you're sort of building the charisma of the species, you're saying, 'Wow, look at this animal. Look how interesting it is. Look at what it can do. Look, it's beautiful.' …And yeah, it's something we have done in the past with vultures definitely*." (Participant A)

When reviewing materials published by the participating organizations, this was the main commonality found across the websites of different organizations. Most of the main webpages for the species groups in this study emphasized their conservation status and ecological role. Although there were some posts such as blog articles and smaller pieces about individual animals which seemed to build on charisma a bit more by spotlighting an individual and telling its story, the bulk of written materials maintained a primarily ecological tone. Fundraising based solely "*on science*" can be difficult because audiences may be "*out of touch with it or find it boring*," so the science being presented in campaigns needs to remain "digestible and unpackable" for organizations' audiences (Participant K).

That being said, one participant said it is also not ideal for fundraising campaigns to be "*based on sensation*" (Participant K). One route through which organizations could capitalize on charisma more without presenting biased information was through the use of dramatic or emotional images of these species. Images of babies, family groups, or spectacular settings could certainly stimulate charisma in the audience's view, while accompanying accessible scientific information.

One participant stated that since urgency is often such a compelling narrative in conservation, there can be pressure on conservation organizations to preserve that tone in their messaging (Participant J). This is both due to urgency catalyzing donations, but also because of the concern that if the urgency of a situation is not "*constantly reinforced*," people might assume that the conservation status of a species is stable enough to revert back to not caring about it (Participant J). The participant describes this as a "*perverse incentive*" for conservationists to maintain a

narrative of urgency instead of feeling able to acknowledge conservation gains when they do happen (Participant J).

Broadly speaking, the awareness and fundraising strategy for vulture conservationists aimed to build the charisma of vultures while elephant conservationists aimed to capitalize on the charisma of elephants. Vulture conservationists responded to a perceived low opinion of vulture charisma in their audience. Meanwhile, elephant conservationists viewed charisma as an asset in dealing with potential donors, and as a complicating factor in addressing issues like human wildlife conflict. Overall, vulture conservationists emphasized the urgency and importance of vulture's status in the wild, while elephant conservationists focused on storytelling around the lives of elephants to encourage connection from the audience.

For vultures, the unified message across organizations was that vultures are crucial for the ecosystem, and in a critical conservation status across Africa, and indeed globally. Organizations focusing on vulture conservation direct these education efforts to a wide audience, including potential donors, farmers, and policy makers. Education about the conservation status for vultures has also been used to address the discrepancies in how people might respond to vultures versus species that are viewed as more charismatic (Participant D).

One participant said that conservation messaging for vultures needed to "*articulate [their] argument a bit better and play on the heartstrings of individuals*" and explain not just the significance of the role that vultures play in the landscape, but also "*to frighten people a little bit into the realities of not having vultures around*" (Participant D). The fact that so many vulture species are critically endangered, endangered, or vulnerable has been one of the main catalysts for these organizations to "*leverage funding*" (Participant D).

For vultures, now in a period labeled as the "African Vulture Crisis," messaging can tend very heavily toward emphasizing a state of emergency. While participants agreed that it is crucial to educate the public about how precarious the status of vultures is, one participant expressed doubts about campaigns that often hinge on alarming statistics and gruesome reports about poached or poisoned vultures (Participant C). They suggested that it would be an improvement if organizations also shared more general knowledge and "*nicer messaging*" that engages the public more positively with vultures, instead of primarily content about responses to threats (Participant C).

For the organizations working with elephants, participants described their awareness and fundraising work as often oriented around telling stories about the elephants that they work with to attract support. This is possible due to the often more individual level of identification possible when studying elephant populations, with collaring and

tracking allowing some elephants to become “*a bit famous*” (Participant F). While some participants worked in parks or regions with thousands of elephants, many worked in settings where individual elephants were collared, tracked, named, and often recognizable to the public as well. This allows these organizations to build their audience’s knowledge of and connection to individual elephants by telling them about their life histories, habits, movement, and social groups, for example. This can be translated directly into fundraising pleas because organizations can then identify and elaborate on a specific elephant that donations would benefit. How this might be done is briefly summarized below:

> “ ‘*This is Joe the elephant who loves to hang out in the marula fields by camp A, and everyone sees Joe and Joe's collar’s almost dead. So we need to sponsor a new collar for Joe. Could you help?’ And I think that gives it a real feel to the public. It's not just some random elephant. It's Joe*.”(Participant F)

When discussing how species charisma can relate to conservation strategy, the **flagship species approach** was a recurring method mentioned by participants, either in general or in relation to the case species. There were mixed responses in terms of whether vultures are used as or have the potential to be portrayed as flagship species. Multiple participants stated that vultures are not particularly well suited to being used as flagship species because they are habitat generalists, so they cannot be as effectively linked with a specific habitat. However, one participant did note that vultures and condors have become iconic representatives of certain landscapes, so in those cases they might be adaptable into flagships (Participant B). A flagship species would also ideally be one that fits into a “*system approach*” that focuses on the health of an overall landscape (Participant A). For vultures, however, conservation primarily focuses on “*threat mitigation*” directed toward the various anthropogenic drivers of vulture decline like incidental and deliberate poisoning (Participant A).

For elephants, participants agreed that they could function as flagships, as well as other surrogate labels, due to their popularity and ecosystem impact and role. With their behavior and role as ecosystem engineers, they may be considered by some to be a keystone species (Participant F). They also play a significant role in the protection of areas due to their appeal for tourism or hunting, making them an “*economic benefit to a protected area that keeps them*” and also function as umbrella species and flagships, depending on the situation (Participant F).

5. What are the consequences of perceived species charisma on conservation outcomes?

Perceived species charisma can impact conservation outcomes by creating or escalating conservation challenges and impacting the resources or support that organizations have at hand to address these challenges. Critically, species charisma can impact the willingness amongst stakeholders to come to solutions in conservation conflicts.

For vulture conservationists, the main charisma related challenge that they contend with in their work is apathy and a lack of awareness toward vultures and their critical conservation status. While further study would be needed to understand stakeholders' attitudes toward vultures firsthand, the responses from participants in this study suggest that a perceived lack of charisma or at least a predominantly negative form of charisma perceived in vultures substantially impacts audience's level of interest in vultures, as well as the likelihood that they might be exposed to vultures through external sources like media. Since many participants cited increased knowledge of vultures as a crucial step to build their charisma, this negative cycle can be perpetuated without deliberate intervention.

On the other hand, because vulture populations are in crisis in southern Africa, the urgency of the situation and the emphasis on the importance of vultures in the ecosystem have fed into a more charismatic view of vultures in the public. Ultimately, it appears that awareness has the greatest impact on conservation outcomes for vultures, so the pathways through which charisma affects awareness and attention for vultures are the most important for their conservation.

In elephant conservation, charisma has the strongest impact on outcomes through its escalation of polarization. Because elephants are often viewed as one of the most charismatic species in the world, they elicit strong reactions and opinions as to how they should be treated. Discussions around elephant management, even at the official level, may involve groups with difficult or seemingly impossible to reconcile viewpoints. The fact that participating groups are "*so far from each other*" and that discussions are often "*polarized and maybe not objective enough*" can damage the potential for collaboration, which may in turn limit the available conservation solutions (Participant M). The economic benefits (and costs) of elephants are also polarizing factors in elephant management, and are also escalated by the charisma of elephants, especially considering how much charisma can be linked to tourism. This degree of polarization can slow down or halt decision making for elephant management, which can ultimately be harmful for conservation goals. One participant said that since "*the management around elephants takes time*," it is possible that decisions that are needed "*for the benefit of the elephant*" might take too long to get through (Participant F).

While perceived species charisma was discussed often as having a negative impact on conservation outcomes, participants also illustrated examples of how the more emotional response provoked by species charisma in their audience could have a stronger positive impact on people's views toward these species and their conservation. For example, working with the charisma associated with totem animals can increase the desire of communities to participate in protected area management, which generates positive conservation outcomes by creating more habitat for protected species.

Additionally, organizations are able to work with species charisma as a direct tool in improving attitudes toward conservation. When asked about whether species charisma was something brought into their organization's work, one participant responded that forging positive emotional connections between people and elephants is a way of creating a "*more sustained long lasting approach*" to conflict situations, because when individuals from areas with human-elephant conflict have the opportunity to develop a positive connection and association with elephants, they can also personally "*carry that out into their communities as well*" (Participant N). In their work, this organization has demonstrated that the strong emotional response connected to perceptions of species charisma can also be adapted toward improving people's outlook and practical bond with species, rather than just being instrumentalized for funding for example.

Discussion

The results of this study suggest that not only is species charisma widely variable based on context, but it is also more strongly linked to characteristics of an audience than traits of a species itself. This study emphasizes that species charisma is a trait that is observed and influenced, but not intrinsically possessed by any given species. However, the ways that characteristics of species as well as the context that they are interpreted in influences charisma were consistent with prior literature on the topic. Elephants, as members of the Big 5 and well-recognized tourism drawcards, were agreed among participants to be one of the most charismatic species in their working areas (Albert et al, 2018; Kerley et al, 2003).

One factor that shapes how species charisma influences conservation work across the different research questions is **traditional beliefs**. Traditional beliefs that connect a community or family to a totem animal through ties of respect and kinship help to cultivate an appreciation for the species, as well as incentivize coexistence and protection (Participant H). Organizations know that communities with totem species that are relevant to their conservation projects may also have a greater predisposition to want to collaborate with them. This was discussed in this study in relation to elephants, but not to vultures, although they can also be regarded as totems (Mandillah and Ekosse, 2018). For elephants, totemic beliefs emphasize the positive characteristics that elephants exhibit, that can be learned from observing them.

For vultures, traditional beliefs that their use in medicine can provide benefits instead incentivizes consumption of the species. It is interesting to observe that a species believed to bring so many benefits (longevity, good fortune, intelligence, good dreams) can still be viewed in such an overall negative light, and vice versa. Of course, there is a possibility that the perception of vultures is different among those who use or consume them in medicine versus other individuals, and it would be interesting to study the species charisma of vultures from the perspective of consumers who perceive personal benefits from them.

Although traditional medicinal beliefs around vultures require the harvest of their body parts, some conservationists also see this as an opportunity to show the link between both species and cultural preservation. As vultures decline, the long term viability of muthi practices using them becomes more uncertain as well, a concern that has also been raised by traditional healers and emphasized by organizations (Mashele et al, 2021). In India, the Zoroastrian ritual of sky burials is in perilous status, due to the near extinction of the vultures necessary to remove dead bodies (Umar, 2015). The ‘endangered’ status of this traditional practice shows the future that vulture-based muthi may face if harvest does not become more sustainable. However, traditional healers have also expressed concern about the possible harm

that poisoned vultures may have on clients who consume them, so this linkage between conservation, concern for human health, and cultural preservation is one that conservationists may promote in their strategy (Mashele et al, 2021).

One notable trend in how both species were discussed was the fact that **characterizations of vultures tended to revolve around their diet, whereas characterizations of elephants emphasized their cognitive and social qualities**. Discussions about the public view of vultures demonstrated that there is a high fixation on their role as scavengers, as well as their appearance and behavior as it relates to their feeding. Participants also stated that they promote the ecological function of vultures, which highlights their importance in the ecosystem, but also contributes to this somewhat one dimensional ideation of vultures. With elephants, on the other hand, participants connected the public's fascination with them to their size, but also primarily to their intelligence, sentience, and social behaviors. The role that elephants play in the ecosystem was not mentioned as an important factor in shaping the general public's perception of them. Conservationists working with elephants also tended to emphasize these more cognitive traits, showing that across both the public and conservationists, these species groups may be valued or vilified by the same criteria.

The overall emphasis on vultures' role as scavengers and on elephants as complex social creatures is likely fed by the types of depictions of these groups in **media**, especially in films and cartoons targeting younger audiences. Results in this study suggest that when individuals lack specific ecological knowledge about species, they tend to fill in those gaps with storytelling and imagination. Because of this, positive or negative biases sowed by depictions of these groups could be magnified by the imagination they inspire in audiences.

Despite common assumptions that charisma has benefits for species, the evidence from this study suggests that it can also contribute significantly to **negative implications for conservation**. Species charisma can fuel polarization, demand for species both for tourism and material consumption, and lead to overexposure to humans that encourages problematic behavior in wildlife. The case of elephant management on privately held land in South Africa demonstrates a convergence of some of these issues. Elephant management is primarily regulated by the National Norms and Standards for Elephants in South Africa. The guiding principles of this document state that "*while it is necessary to recognise the charismatic and iconic status of elephants and the strong local and international support for their protection, proper regard must be given to the impacts of elephants on biodiversity and people living in proximity to elephants"* (Department of Forestry, Fisheries and the Environment, 2023). However, some participants believed that charisma still played

a role in shaping these regulations, especially in the organized discussions for them, which involve gathering many different stakeholders with often polarized views, and can result in heated arguments.

An additional issue arising from the regulations around elephants in South Africa is the fact that some landowners for private conservation areas believe that they are too restrictive and too expensive to comply with. In some cases, landowners may feel an incentive to instead switch to other land uses like crop agriculture. In this situation, “smaller biodiversity” which initially benefits from the formation of conservation areas around elephants may also become vulnerable to a loss of habitat due to land use changes due, in part, to elephant management (Participant J). This also illustrates the contrast between incentives for landowners to keep elephants as a tourism draw, but also the financial pressure that keeping them might create. Additionally, hinging the fate of a conservation area on a single prominent species can jeopardize the status of other species present if ecological or social pressures render that surrogate species (flagship, umbrella, etc) unviable (Kerley et al, 2003).

It is also possible that more charismatic species that play a flagship or umbrella role in an ecosystem can also conflict directly with other more vulnerable species. In this study, participants described the risk that elephants pushing over large trees poses to tree nesting vulture species. Fedriani et al describe how the management of “*favored species*” “*may threaten other species of concern and, thus, generate divergences among conservationists with contrasting sensitivity or priorities*” (2017, p.450). Whether or not the impacts of elephants pose a threat to vulture populations remains a controversial topic in management, with some parties emphasizing that the impacts of elephants should be managed based on effects and not population size or density, while others urge for precautionary control of elephant populations.

Strategy for both species reveals the **tensions between urgency and “spectacularization,”** or, the pressure on conservationists to “*fulfill the mandate for entertainment while simultaneously raising concerns for environmental issues*” (Soppe and Pershina, 2019, p. 87). Soppe and Pershina’s analysis of the “*conflicting institutional demands*” for wildlife documentaries highlights an issue present in the messaging for conservation organizations, namely, “*the pressure to entertain the audience, while simultaneously addressing serious environmental issues*” (2019, p. 85). Organizations working with both vultures and elephants mainly demonstrated use of “alternation” as a strategy for communicating about species conservation (Soppe and Pershina, 2019).

Alternation is the use of a diversified range of storytelling tactics to integrate more serious environmental messaging with entertainment (Soppe and Pershina, 2019). For vultures, sentiment alternation, which juxtaposes “*upsetting and overall negative*

facts and examples" with material that provides a more "*positive outlook*" can be observed in the heavy emphasis on urgent statistics of vulture deaths, as well as the interspersed stories of individual rehabilitations, from some organizations (Soppe and Pershina, 2019, p. 98). For elephants, alternation between perspectives allows organizations to tell more "*empathetic and entertaining stories*" about individual "*protagonists*" while using content about broader populations to focus on more dire messaging (Soppe and Pershina, 2019, p.98)

Lorimer's Conceptualization of Nonhuman Charisma

Overall, the responses of the participants of this study shed light on many differences in the way that species charisma influences conservation work. Between the two case groups, the differences in the way that they are perceived to be charismatic, and the organizational responses to these perceptions can be analyzed through the three facets of nonhuman charisma conceptualized by Lorimer (2007).

Ecological charisma focuses on how recognizable and well-known a particular species is (Lorimer, 2007). While this study assumes that both case species are generally well-known, the consistent designation of elephants as charismatic megafauna suggests that they enjoy a greater degree of *fame and familiarity* than vultures do (Skibins et al, 2013; Albert et al, 2018; Clucas et al, 2008). Additionally, participants mentioned multiple times that the general public might have difficulty distinguishing vultures from other raptors, whereas no concerns were raised in terms of mistaken identity for elephants. While Lorimer's conceptualization of detectability focuses on encounters in the field, with the role that contemporary media plays in people's exposure to nature, "detection" is more likely to occur through routes like documentaries, TV, or social media, rather than out in the wild, especially for species which are not found in the home landscape of a particular observer (2009). Most people have not observed elephants or vultures in the wild, and have likely primarily viewed them in captivity or media.

Modern media also plays a significant role in terms of the **aesthetic charisma** assigned to particular species. Aesthetic charisma refers to the characteristics of an organism that provoke emotional judgements based on its appearance or behavior, such as: cute, frightening, noble et cetera, so it is particularly malleable in the hands of media (Lorimer, 2009). Aesthetic charisma "*catalyzes individuals' ethical sensibilities*" to form these judgements, which also makes it the most susceptible to influences from anthropomorphism (Lorimer, 2009, p.326).

Because many people are introduced to animals through media like Disney films from a young age, media also has a hand in shaping the emotional context that these species are presented in. Species might be presented to children as (anthropomorphized) heroes or antagonists. Consider the way Dumbo the elephant is depicted as the hero of his story while the vultures in the Lion King are a faceless danger that the protagonist must escape (Sharpsteen et al., 1941; Allers et al., 1994). The appearance of certain animals in animated children's films is even used as a metric for their species charisma by some studies (Courchamp et al, 2018; Albert et al, 2018).

For vultures, aesthetic charisma is the form through which the most negative connotations are attached to them. This can be observed through the types of descriptors that participants said the public associates with them, like "*dirty, disgusting, ugly, smelly, aggressive*"- all terms associated with their appearance or their feeding behavior. Further discussion of how anthropomorphism, aesthetic charisma, and morality intersect in this case will follow in the section dedicated to anthropomorphism.

Corporeal charisma, also referred to as practical charisma by Lorimer, refers to the emotional response evoked by "practical, embodied, and sensory interactions between humans and nonhumans in different places" (2009, p.327). This is differentiated from the emotional response of aesthetic charisma by being developed over a longer time frame and from more lasting interactions between humans and nature. An example of this contrast would be the difference between the emotions of a tourist who encounters a vulture or elephant on a safari once, versus someone who lives alongside them or studies them for many years.

As with aesthetic charisma, although Lorimer conceptualized these facets of charisma based on actual encounters in the field, the proliferation of media like wildlife documentaries and social media posts from conservation organizations are able to give audiences the next closest experience to being in the field themselves (2009). While this of course is an incredibly different route of exposure and experience in the end, for the general public, being able to observe the minute details of animals' lives and follow their trials, triumphs, and social bonds may be just as effective of a source to stimulate aesthetic and corporeal charisma as a field visit.

For the case species, the corporeal and aesthetic facets encompass the major differences in how their charisma is perceived. Broadly speaking, the negative aspects of vulture charisma were in the aesthetic realm, which also contained many of the positive aspects of elephant charisma. Meanwhile, the corporeal charisma of vultures was primarily characterized as positive, while more negative aspects of elephant charisma were also from corporeal encounters.

Figure 4: *This table shows a summary of the charisma of elephants and vultures in this study, as interpreted through Lorimer's three tenets.*

	Ecological Charisma	Aesthetic Charisma	Corporeal Charisma
Vultures	Well known. May be mistaken for other species. Likely indirect exposure through media.	Often negative. Perceived as ugly, dirty, and malicious or opportunistic; reinforced by negative portrayals in entertainment media	Often positive. People who cohabitate with vultures tend to have more appreciation for their role in the ecosystem
Elephants	Very well known and recognized. Likely indirect exposure through media, but also sought after in-person by tourists.	Often positive. People view them as majestic, gentle, intelligent, benevolent; reinforced by positive portrayals in entertainment media and fleeting positive encounters like through tourism	Sometimes very negative. Repeated conflict and negative encounters with elephants can create more negative charismatic perceptions

Social Themes

While the factors governing charismatic perceptions of vultures and elephants are numerous and varied, two social themes: anthropomorphism and individualism, emerged from this study which seem to have a strong influence on how perceptions of these species differ. Broadly speaking, these concepts can be applied to suggest why elephants mobilize a more positive image of charisma than vultures, as well as why they tend to command more interest and empathy from the public.

Anthropomorphism is the “attribution of human traits, emotions, or intentions to non-human entities” (Miralles, Raymond & Lecointre, 2019, p.1). Root-Bernstein et al characterize anthropomorphism as “a double-edged sword” in conservation, due to the potential to bolster public engagement, but also to create a conservation bias in the public toward species that “*are not like humans in the ‘right’ ways*” (2013, p.1578). The uneven way that anthropomorphism is applied to species and their aesthetic charisma is highlighted by the differences in moral characterization of vultures and elephants.

The way that anthropomorphism factors into people’s perception of vultures and elephants is shown through the traits attached to them during the interviews in this study. Terms used to describe elephants were almost all positive traits that underline their perceived similarity to humans (and elevation above other non-human animals) such as *moral, intelligent, sentient, deliberate,* and *kind*. The descriptors for elephants also notably emphasized their social ties and cognitive abilities, both categories generally used to highlight non-human species’ proximity to humans.

However, the anthropomorphism of elephants can also have negative impacts on their conservation. Several study participants mentioned that tourists sometimes get too close to elephants when they see them in the field, and that this can create dangerous confrontations for humans, as well as desensitized and problematic behavior in elephants that can lead to increased conflict with humans in the future. Approaching elephants and expecting a sort of reciprocal and “human-like” response, rather than that of a wild animal, is one of the various potential pitfalls of anthropomorphism discussed by Root-Bernstein et al (2013).

For vultures, on the other hand, both positive and negative terms used to describe them focused heavily on their diet and feeding behavior. More negative descriptions included *aggressive, dirty, disgusting,* and *riddled with disease*; while positive terms mostly referred to their ecological functionality and importance as scavengers. Vultures are especially prone to being connected to negative social phenomena because of the way they are perceived as opportunistic and waiting for others to die (Stara et al, 2022). This projection of human morality onto a non-human species is reflected across dictionary sources for vultures, which list the animal species as the first definition, but have secondary definitions for “vulture” including: people who are “*rapacious or predatory*” (Merriam-Webster, n.d.) or “*eager to win an advantage from other people's difficulties or problems*” (Cambridge Dictionary, n.d.).

In this study, people’s affinity for applying **individualism** to animals overlapped with anthropomorphic ideals. To begin with, participants expressed that audiences were far more receptive to messaging that focused on individual species over entire ecosystems, and indeed individuals within a species, over the overall group. One participant describes this as the “*emotive reasoning*” that drives people’s support for

conservation, and said that often conservation organizations that center individuals more, such as rehabilitation centers, will get more donations than an organization with a "*system based approach*" because people feel better about knowing that their donation will help a specific animal directly (Participant A). Invoking traits that people have more anthropomorphic connotations for, such as personality and social ties, is also more feasible when focusing on an individual rather than a population.

Root-Bernstein et al cite Slovic (2007) to describe how people's sense of indifference grows when the identified suffering or endangered group is greater in scope than an individual (2013). Because of this, conservation messaging that hinges on individuals rather than populations or ecosystems can stimulate more empathy and action in audiences (Root-Bernstein et al., 2013). Multiple participants across this study mentioned the use of methods that promote their target species on a more individual level for the public. For the elephant focused organizations, it was most common for stories and information to be shared about named individuals, in such a way that an audience member could build up a personal knowledge of these animals over time. For the vulture oriented organizations, methods like nest cameras and "adoption" schemes– allowing donors to sponsor and receive updates on an individual in rehabilitation– helped to cultivate a more individualized connection with the animals.

While anthropomorphizing species and empathizing with them at an individual level can have benefits for people's attachment to species and desire to help their conservation, it can also contribute to the challenges faced by conservation organizations, especially **polarization**. Polarization emerged as a salient theme in elephant conservation in this study, but it also has important implications for broader conservation and indeed broader policy and political issues. With the heightened role of polarization in global political rhetoric, it has become increasingly relevant to scientific topics.

Charismatic perceptions of species, and especially more anthropomorphic and individualized views might conflict with certain management methods such as culling and relocation that organizations might plan to use (Root-Bernstein et al., 2013). For elephants, these views contribute directly to opposition to certain management actions because people might view them as inhumane or insensitive to the social needs or rights of elephants. Animals that have been identified on an individual level through methods like research collaring and tourism can develop a sort of celebrity culture around them, with their life history, social ties, habits, and location shared with the public. This can potentially make discussions around managing these (in)famous individuals more controversial by stoking both support and opposition for management actions.

The case of Voortrekker the elephant, mentioned by multiple participants, illustrates the interactions between individualism, anthropomorphism, and polarization, and the challenges and benefits that these products of charisma can bring to wildlife conservation.

"*I don't think that a famous animal is a protected animal at all*" CW

Voortrekker was a large and old bull from Namibia's desert-adapted population of elephants (CW). In the region that these elephants live in, there can be high conflict with humans as elephants venture into communities in search of food and water, especially during more stressful times like drought (Participant N). He was made famous by the story accompanying his name, Voortrekker, meaning 'pioneer,' as he was one of the first elephants to gradually return to historic elephant ranges after war in the region "decimated" elephant populations and drove those remaining into other areas ("Iconic desert-adapted elephant", 2019). Voortrekker was known to local community members as the "Old Man" and was considered a "*gentle grandpa*" who knew how to navigate human settlements and did not cause any problems for people living there ("Iconic desert-adapted elephant", 2019, Participant N).

Voortrekker's celebrity grew when a permit for hunting him was purchased from the Ministry of Environment and Tourism by an NGO that had raised money to protect him, saving him from the fate of the other elephants in that round of permits (Grobler, 2019). However, in 2019, Voortrekker was accused of having caused infrastructure damage in one community and was designated as a 'problem elephant,' with an accompanying permit for him to be trophy hunted ("Iconic desert-adapted elephant", 2019). This resulted in a massive public outcry, from both international supporters, as well as local communities which believed that there had been a mistake, as Voortrekker had coexisted without incident with them ("Iconic desert-adapted elephant", 2019).

The discussion around Voortrekker was polarized, as some communities and conservation groups were strongly opposed to his being hunted, as they were familiar with him on an individual level and felt that his killing would be unjustified (Participant N). A coalition of conservancies representing the communities in the region that Voortrekker frequented wrote to the Ministry to request that he be saved, but it was ultimately unsuccessful (Participant N). The Ministry claimed that killing Voortrekker would be necessary for the safety of other communities ("Iconic desert-adapted elephant", 2019).

On a local level, individual identification and some degree of anthropomorphizing elephants can be positive for the relationship between community members and elephants. People come to know the temperament and behavior of different individuals and know which ones are "*good elephants*" that "*follow the rules*," and which ones are more likely to cause issues by destroying infrastructure, for example (Participant N). This can reduce some conflict and anxiety that people might feel around elephants by removing some of the uncertainty about how dangerous a given elephant may be.

Elephants that are reported for frequent or severe enough threats to communities may be designated as "problem elephants," and have an order to be killed (Participant N). While some countries restrict the killing of problem elephants as a responsibility of government environmental officers, others, like Namibia, allow a hunting permit to be issued to recreational trophy hunters (Participant F, "Iconic desert-adapted elephant", 2019). However, because this adds an additional source of incentives for the hunting of an elephant, people may accuse the government of wrongfully designating a "problem elephant" to facilitate a trophy hunt ("Iconic desert-adapted elephant", 2019). Framing elephant hunting as a way to protect local populations from "rogue elephants" and benefit communities has its roots in a historical need to justify it with a noble rationale, and is echoed in the rhetoric of today's conservation debates (Lorimer and Whatmore, 2009, p.680). Rhetoric that pits conservation interests against the interests of communities, whether accurate or not (and this is debated extensively), also contributes to the overall polarization around elephant management.

While a **culture of celebrity** around an individual animal might contribute to its protection in the short term, as in the case of the first attempt to hunt Voortrekker, the second hunt on him raises the question of whether the accompanying infamy might ultimately create more risk for particular animals. There is also the question of whether outcry over activities like trophy hunting actually results in decreased demand or accessibility. Although Voortrekker's iconic status as one of the last old bull elephants in the region gave him value in the eyes of conservationists, it would have also contributed to his appeal as a hunting trophy, as size, rarity, and charisma are all traits found to influence trophy value (Johnsonet al., 2010). Courchamp et al suggest that in cases where very few hunting permits are available, there is added social prestige to a given trophy (2006). Having broken off his tusks years before being hunted, Voortrekker was technically no longer a trophy animal "*except in reputation*," further suggesting that his status as a regional icon may have contributed to the price on his head (Grobler, 2019).

For both species, the **Anthropogenic Allee Effect** (AAE) is a concept that merits consideration. This theory suggests that rarity of species enhances their value to consumers, creating a disproportionate demand stress, and leading to an "*extinction vortex*" (Courchamp et al, 2006). Among other uses, Courchamp et al caution that ecotourism and traditional use may contribute to the AAE for a species (2006). With vultures and elephants experiencing demand as poached commodities, hunting trophies, or tourism targets, and with these being areas where their value would remain consistent or even grow as their rarity increases, the risks of the AAE should be considered for these groups.

For vultures, it is more difficult to draw connections between anthropomorphic and individualistic views and their charisma and conservation, especially since in this study, these traits were only occasionally attributed to them by the participant researchers. However, based on literature, some linkages can be made between these themes and how vultures are often perceived as uncharismatic. These links can also be connected to issues of **apathy** in the public toward vulture conservation issues. While anthropomorphism might be characterized by more blatant comparisons to humans, it may also be expressed in more subtle scenarios where "*human norms and morality*" can "*invisibly colour*" interpretations of wildlife (Ganetz 2004, p. 206).

In a study on human compassion and empathy toward other species, Miralles et al found that people felt a stronger emotional connection with species that were evolutionarily closer to humans, because they shared traits that could be anthropomorphized and would therefore trigger a more "human to human-like empathic attitude" (2019, p.4). This type of bias would strongly favor organisms like mammals which have less evolutionary divergence from humans than birds or fish, for example. Vultures, as a group that people may not perceive as sharing many traits with humans, would not benefit as much from this type of anthropomorphic bias. Additionally, although individual vultures may be banded and tracked for research purposes, they do not tend to accrue the public image or personality and storytelling associated with some collared or identified elephants.

Finally, Lorimer's discussion of drivers of negative charismatic perceptions for insects contains several points which can also be applied to the case of vultures (2009). Lorimer cites Hillman's four characteristics of insects that provoke negative charismatic responses from people: "*multiplicity, monstrosity, autonomy, and parasitism*" (1988 cited in Lorimer, 2007, p. 920). With "multiplicity," Lorimer discusses how people struggle to understand and connect with organisms that "*swarm*," as humans are more accustomed to thinking in terms of individuality and personification (Milton, 2002 cited Lorimer, 2007, p.920). In this study, participants asserted that the "*feeding frenzy*" behavior of vultures– or swarming– fed into negative perceptions of their charisma. Here, people's struggle to conceptualize

vultures in a more individualized or personified way, combined with fear and disgust toward their feeding behavior could be linked to their more negative charismatic perceptions.

Finally, Lorimer states that "*insects as parasites transcend numerous moral geographies that mark out the spaces and practices for bodily hygiene, domesticity, and civilization*" (Douglas, 2002 cited Lorimer, 2007, p. 920). The **aversion** created by this violation of human morality is certainly echoed in the case of vultures, which despite their role as obligate scavengers and attention to their own cleanliness, are often viewed as dirty, unruly, and opportunistic (Participant C). The non-ecological stigma that in feeding on the dead, vultures are somehow crossing boundaries of civilized behavior is one that has shaped negative views of vultures for centuries (Stara et al, 2022).

The way that perceived rarity and charisma may be reflected in the valuation of species is demonstrated in a more institutionalized setting through pronounced differences in **poaching penalties** in South Africa. A participant stated that there tends to be a discrepancy in penalties for poaching different species, with species with higher charisma, but lower conservation urgency incurring steeper punishments (Participant D). While killing a rhino will generally result in a prison sentence of greater than 10 years, poisoning multiple vultures has sometimes been punished with just a fine (Participant D). The participant suggested that this could result from a lack of knowledge in the judiciary about the actual conservation status of different species, causing them to instead base the severity of punishments on the visibility of species, which tends to be driven by charisma (Participant D).

It is difficult to do a direct comparison of penalties for poaching vultures versus more charismatic species. In South Africa, Zimbabwe, and Botswana, vulture poaching can generally be punished by a fine or a prison sentence of up to three years (Mafundikwa, 2022). There is a low rate of arrests and convictions for vulture poaching (Naidoo and Howard, 2022). Between 2021-2022, investigations into 6 vulture poisoning incidents in which more than 100 individuals were killed yielded only one conviction, which was punished by a fine of R 2,000 (Naidoo and Howard, 2022).

Courchamp et al note that the official designation of a species as rare can drive demand further, so a species' protected status may actually worsen its conservation outcomes if its protection is not actually enforced (2006). It is unclear whether the decline of vulture populations in southern Africa has stimulated demand for them, and this would be an interesting area of study to undertake to understand how susceptible they may be to the Anthropogenic Allee Effect.

Meanwhile, rhino poaching in South Africa is addressed by vast amounts of resources including higher level investigation units and militarized patrols (“Hearing held”, 2011). Rhino poaching is designated as a “priority crime” in South Africa, and is handled by the Organized Crime Unit of the SAPS due to its connection to international trafficking networks (Naidoo and Howard, 2022; “Hearing held”, 2011; Venter, 2013). Inside Kruger National Park, which houses around 30% of all wild rhinos, the Skukuza Regional Court, also referred to as the “rhino court,” was established to address rhino poaching related cases (Neme, 2020). In its first year, the court had a 100 percent conviction rate, with prosecutors who “*routinely secured prison sentences of 12 to 40 years*” (Neme, 2020).

The inclusion of this statistic is by no means intended to suggest that this is an ideal model for addressing poaching that other species conservation should aspire to, but simply to illustrate the vast discrepancy in willpower and resources that are directed toward rhinos which are typically viewed as more charismatic than vultures, but which are often in a less precarious conservation status than vulture species. Of course, there are many other social factors contributing to the emphasis on rhino protection such as the desire to combat international organized trafficking, and the tendency toward green militarization in some conservation contexts (Neumann, 2004). However, a rise in green militarization has also seen the anthropomorphizing of species like elephants used as a tool to simultaneously dehumanize poachers, an approach that ultimately pushes polarization in conservation rhetoric to new heights (Neumann, 2004). While this is an arena of rhetoric that most conservation organizations do not delve into, it is still important to consider the wider reaching and more extreme rhetorical implications that tactics like anthropomorphism may ultimately have.

Methods and Limitations

This study initially aimed to interview organizations from a wider range of backgrounds, such as ecotourism and hunting outfitters, to get a more varied perspective on how different groups within “the public” perceive species charisma. However, while contacting organizations and refining the list, I decided to focus most on the mandate of the organizations, rather than the audience that they cater to, to determine how “conservation organizations” would be defined in this study. I ultimately focused on nonprofit and government organizations to maintain some consistency across the mandates of the participants, since I assumed that conservation strategies would be significantly influenced in cases where organizations are also functioning primarily as a business.

One limitation of this study was that it focused on the perspectives of conservation personnel in organizations. While these participants were suited to offer insights on

the stakeholder groups and issues that they work with, they were often not involved in components like fundraising and social media, and could not always comment on strategy in these areas. This could be corrected in future studies by ensuring that the different personnel involved in these areas of work for an organization are also interviewed. Furthermore, the marked differences in views about species charisma and responses expressed by participants, even those working in the same organization suggest that interviewing a small number of individuals will not necessarily reflect the approach of an overall organization. While this was supplemented in this study by the inclusion of published materials as a second data source, a study investigating the strategy of conservation organizations more comprehensively would also need to include a wider range of employee roles such as communications and leadership for a more complete idea of how the organization functions.

This study also focuses on how conservation organizations perceive and respond to their audience's views of species. However, this does not offer an opportunity to see whether the organizations' perceptions of their audience's views are accurate or not. It would be interesting to also have first hand responses from the public that these organizations work with, to know if their strategies are formed in response to accurate assessments of the public sentiment. This study also focuses on the pathways through which species charisma influences conservation outcomes through the mediation of conservation organizations. There are many possible pathways through which species charisma may affect conservation outcomes without the involvement of conservation organizations, and these are not comprehensively represented in this study.

While this study discusses the role that traditional culture and beliefs play in charismatic perceptions, there is a more intangible aspect to that cultural significance of species that is not addressed. Additionally, although many participants discussed how species have a role in local belief systems, only a few participants were from community and ethnic backgrounds that practice totemic values and could give a more personal insight into how they factor into daily life and individual perceptions of species. Although this significance could be characterized as a form of charisma, study participants also suggested that there is often a spiritual component to how people connect with species, particularly elephants. This lies beyond the scope of this study's definition of species charisma, but van de Water et al offers further reading into this aspect (2022).

Finally, this study seeks to understand how species charisma influences conservation work, through the case study of elephants and vultures. While these groups were selected because they have some base similarities, while also diverging in other areas that affect charisma, the fact that they are both well-known megafauna shrinks the scope of this study to a taxa that is already viewed as more charismatic than many others. This study illustrates some of the differences in how species

charisma plays out in conservation work for large vertebrates, but ultimately, case specific studies for other groups of organisms are necessary to understand the full scope of how species charisma shapes conservation strategy and work. However, this study was able to illustrate how factors like culture, appearance, and ecological role can influence species charisma. In order to further study species charisma in conservation with fewer differences between the cases, one might study cases that are taxonomically closer, yet still demonstrate contrasts in popularity and charisma, such as large and small wild cat species.

Conclusions and Recommendations

The aim of this study was to advance conservationists' ability to respond more directly to species charisma in their work by studying the factors that shape species charisma and how it can influence conservation work. The results indicate that species charisma is able to influence conservation work through many mechanisms and at different stages. A variety of factors shape perceptions of species charisma, with traits of the observing audience seeming to be equally, if not more consequential for charisma as traits of a species itself. Crucial to this study is the interpretation of charisma as a malleable characteristic that can evolve, be manipulated, and lost as a result of many social and cultural factors. This diverges from some notions of charisma as a static quality or one that is inherently possessed (or not) by a given species. While knowledge, culture, and the state of urgency for a species are generally important factors in shaping charisma, in many cases species charisma in the most classical sense is not very meaningful for local audiences when the perceived costs and benefits associated with a species play a far more important role in their outlook.

Although charisma is often understood to provide an advantage in species conservation, this study also focused on the challenges that species charisma can also give rise to or exacerbate. Charisma can drive demand for species, both as a poached or hunted product and as a target of tourism. The latter scenario may also create stress or over-habituation of wildlife to human presence, which in turn can increase conflict situations as well. In addition to contributing to *what* challenges conservation organizations must address in their work, charisma was also found to complicate *how* they are able to do this. By engaging people's emotions, charisma can also provoke escalated responses to conservation issues, and this polarization might make it more difficult for organizations to take actions without scrutiny, backlash, or deep divisions between stakeholders. The culture of demand that species charisma can contribute to, and the potential of charisma to exacerbate polarization conservation are both consequences that suggest that conservation organizations should exercise caution if choosing to invoke or manipulate charisma in their work.

When working with more charismatic species, conservation organizations may find that charisma can be linked to greater ease at creating funding pleas and higher priority in both the public and policy realm. For species that are considered less charismatic or not at all, conservationists may instead seek to emphasize ecological traits and benefits, and through that, eventually cultivate a sense of appreciation surrounding those groups. Although charisma can provide some advantages in creating engagement in conservation, it also emphasizes an emotional, rather than ecological understanding of nature. However, this dichotomy between charismatic and ecological should not be viewed as exclusive or fixed. The results of this study link increased ecological knowledge and appreciation for the role of species with a

greater sense of charisma, so by educating audiences in a more scientifically based way, organizations still have a route to balancing ecological understanding with the emotional depth created by charismatic perceptions. This educational approach can be diversified based on the audience, with landowners, farmers, city-dwellers, and schoolchildren all being examples of groups whose perceptions of species and engagement with conservation topics could be very much influenced by the type of information made available to them.

Overall, species charisma and how organizations respond to or employ it can have a significant impact on how the public engages with conservation, as well as their base understanding of what the priorities and goals for conservation should be in the first place. Because charisma invokes an emotional response in people, it can be a tool in creating a more lasting or deep seated connection between the public and nature, when used correctly. Results of this study suggest a need for species charisma to be understood as a more nuanced interaction of species traits being filtered through the context of a certain audience. This indicates that there is a set of factors that organizations can consider when they appraise how the charisma of a species that they work with is perceived by their audience if they want to work with species charisma in their strategy. Reviewing an audience's perception of a species more deliberately and unpacking which factors form the basis of their views can reveal opportunities for that to be addressed and developed in harmony with conservation.

However, the personal traits that audiences bring into their perceptions of species charisma and the context provided by a certain setting represent a large swathe of inputs that conservation organizations may not have information about. Additionally, because media and entertainment were also mentioned as significant contributors to people's charismatic perceptions, they represent another major factor in species charisma that conservationists can not necessarily predict or influence. For a given species or group, it is necessary for organizations to consider where the power to shape its charisma lies and what the main source of "input" would be that organizations are responding to. Organizations should also consider how widely conservation priorities and perspectives might vary regionally or internationally, especially in cases where organizations know that they are addressing both local and international audiences with their content.

Furthermore, while charisma is often discussed as a tool that conservationists may wield, or lament the lack thereof, the variety of unforeseen negative consequences that charismatic perceptions can have for a species' conservation necessitates a closer examination of whether "charismatic species" should be an aspirational label. Greater species charisma can also come with restrictions and challenges to conservation work, so caution should be exercised when seeking to enhance the role of charisma in an organization's approach. It may also be beneficial to give greater consideration to how species charisma can contribute to threats for a species,

especially those that perhaps cannot be so immediately observed, such as the Anthropogenic Allee Effect.

Charisma can be seen as a driver, or sometimes side effect of people developing a closer connection to nature, with these two phenomena having a cyclical relationship. Charisma can certainly prompt a deeper and more emotional connection between people and species, as well as nature on a broader scale. This is true for species that are considered “classically” charismatic, as well as for those for which more effort is required to encourage charismatic perceptions of them. However, there are limitations to the reach of charisma as a strategy– while vultures may be just a few campaigns away from being recognized as ecologically vital charismatic species, other even more ‘disadvantaged’ and invisible groups such as soil microorganisms and algae may face no hope of being seen as charismatic, regardless of the strategy employed (Ducarme et al., 2012). A risk with the charismatic approach, even if it is built on a species’ contributions, is that it can reinforce anthropocentric priorities in nature conservation, where only organisms with a special appeal to humans (whether emotional or utilitarian) are billed as worth saving (Ducarme et al., 2012).

Because using charismatic single species as a conservation strategy is almost certain to exclude some taxa or entire landscapes, conservation organizations as a whole, especially those that heavily emphasize species conservation as the face of their work should consider how sustainable this approach is for cultivating public support for conservation issues in the long term. This is especially important given the rise of large scale environmental threats like climate change that cannot be so neatly addressed by linking them to a single charming species. Ultimately, it is up to organizations, as an important mediator between the public and conservation topics, to weigh decisions about the strategies that they want to use to engage people with their work and the type of relationship to conservation that they wish to cultivate in their audience.

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Appendix

Interview Manual

Research Questions:
What is the role of species charisma in conservation work?

How do conservation organizations work with the perceived charisma of species?

What are the potential consequences of species charisma on conservation outcomes?

These questions will be answered using vulture and elephant species groups in South Africa as the case study. [V/E] refers to vultures or elephants, in cases where the participant only works with one of the species groups. For participants in organizations that work with both groups, the questions will be asked for each species group.

Introduction
-Introducing self
-Giving participants some background on the thesis

-Ask for them to introduce themselves, describe their organization, and summarize their role.

<u>Defining Charisma</u>

- (1) Is charisma a concept that you think about or deal with explicitly in your work?

If not, then follow up with similar (or component) traits to stimulate discussion of the same concept- attractiveness, interest, popularity, likeability etc

- (2) How would you define charisma for animal species?
- (3) Which species or types of species in your working area do you think are perceived as the most charismatic?
- (4) Do you feel that this perception varies based on the audience? (i.e. researchers, public, policymakers)

<u>Case Species</u>

- (5) Would you consider [V/E] to be a charismatic species (group)?
  (6) *Follow up for vultures:* Do you think that perceived charisma varies across the different species?

<u>Inputs</u>

- (7) Do you think charisma of [V/E] influences the protection of the species?
  Follow up examples:

-(7a) In terms of willingness of the public to donate
-(7b) In terms of ease/difficulty in obtaining research funding
-(7c) In terms of policy addressing it
-(7d) In terms of general attention/scrutiny for its conservation

- (8) Do you think that the charisma of [V/E] contributes to negative effects for the species?
  Follow up examples:
  -In terms of demand (i.e. as a game trophy or trafficked species)
  -In terms of disturbances from humans (i.e. tourism)
  -In terms of polarization

Response

- (9) Do you take the charisma of a species into account when designing conservation strategies?
- (10) Does charisma of [V/E] play a role in how your organization creates campaigns? (for funding or awareness)
- (11) What qualities of a species do you aim to emphasize the most in a conservation campaign?
  (11a)- Is this species dependent?

Flagship Species

- (12) Are there currently any species that you would consider to be flagships for your organization's work?
- (13) What qualities do you prioritize when selecting a flagship species?
- (14) Do you consider [V/E] to be a flagship species (group)?

Do you have any colleagues who you would recommend that I get in contact with?

Codes Used for Interview Analysis

There was a designated code to separate the responses for each interview question from the others. In addition to these codes, there were some deductive and inductive codes created during the course of the interviews, which are listed below:

- Adjectives charismatic species
- Adjectives non-charismatic species
- Example charismatic species
- Example non-charismatic species
- Urgency
- Animal welfare concerns
- Public perception
- Empathy
- Prioritization
- Exposure/direct encounters
- Fear
- Storytelling/word of mouth
- Misconception
- Cultural belief
- Policy making/ governance
- Lack of awareness
- Environmental concern
- Values
- Global Perspective
- Mismanagement
- International funding
- Public participation
- Scrutiny
- Elephant culling
- Human wildlife conflict
- Polarization
- Hunting
- Community economic stability
- Individualism
- Claims about organizations
- Cultural associations
- Education
- Media
- Accountability/responsibility
- Human nature relationship

Additional Results

Figure 5: *The table below displays some of the descriptors associated with the case species, as mentioned by the study participants. They have been sorted based on positive or negative connotation to highlight how differently skewed descriptors for vultures and elephants are.*

Case Species	Descriptors Associated with Species
Vulture	Positive: striking, important, resilient, regal, iconic, magnificent Negative: aggressive, ugly, dirty, sinister, disgusting, scary, smelly, riddled with disease, uncharismatic, intimidating, revolting, gross, rotting
Elephant	Positive: intelligent, charismatic, revered, awe-inspiring, strong, brave, emotional, sentient, complex, human-like, moral, intriguing, gentle, powerful, calm, kind, peaceful Negative: scary, annoying, threatening, dangerous

Figure 6: *The table below shows the adjectives and types of species that the study participants attached to charisma. Responses from participants working with vultures and elephants have been separated to illustrate the differences, and examples of non-charismatic species that were given in the interviews are also included.*

Participant Species of Focus	Descriptors Associated with Species
Vulture	Positive: striking, important, resilient, regal, iconic, magnificient Negative: aggressive, ugly, dirty, sinister, disgusting, scary, smelly, riddled with disease, uncharismatic, intimidating, revolting, gross, rotting
Elephant	Positive: intelligent, charismatic, revered, awe-inspiring, strong, brave, emotional, sentient, complex, human-like, moral, intriguing, gentle, powerful, calm, kind, peaceful Negative: scary, annoying, threatening, dangerous