



Observing the top of the food chain: The dynamics of tourism of apex predators in protected areas

Observando o topo da cadeia alimentar: A dinâmica do turismo de predadores de topo em áreas protegidas

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ABSTRACT

The article explores the intricate relationship between top-of-the-food predator tourism, conservation, and socio-economic considerations. Starting with the innate allure that apex predators offer, the article delves into their ecological significance and their representation in cultural narratives. Through a dual methodological approach, involving systematic review and secondary data analysis, specific case studies from Africa, the United States, Brazil, and India were dissected. These detailed analyses identified the nuances of human-animal interactions, safety concerns, economic implications, and conservation challenges unique to each region. The comparative analysis revealed common patterns of human-animal conflicts, economic contributions of tourism, and ethical considerations. The emphasis on community engagement, safety protocols, habitat preservation, and sustainable tourism practices was evident in the recommendations. The study concludes with a call for a harmonious blend of tourism aspirations and conservation imperatives, especially amid global challenges such as climate change. Top predator tourism, when executed ethically and sustainably, presents an invaluable opportunity for both ecological preservation and economic growth.

Keywords: Top predators, Top of the food chain, Sustainable tourism, Protected areas.

1 INTRODUCTION

Observing predators in their natural habitats has always captured the human imagination, and in recent years, this fascination has significantly impacted the tourism industry. Large predatory animals, often considered the top of the food chain, offer a unique and exciting experience for tourists. Animal-watching tourism, particularly focused on these top predators, has emerged as a prominent segment of wildlife tourism, greatly influencing biodiversity conservation, sustainable development, and economic opportunities in protected areas. The allure of experiencing such majestic creatures in the wild has increased over the past two decades, driving economic development and biodiversity conservation efforts in various regions (Newsome et al, 2012). However, alongside its numerous benefits, this unique intersection of humans, wildlife, and



the ecosystems they inhabit brings with it a set of ecological and social challenges that deserve scrutiny.

1.1 DEFINITION OF ANIMAL WATCHING TOURISM

Animal viewing tourism involves trips predominantly designed to observe and experience wildlife in their natural environments. This form of tourism, particularly when focused on large predatory species, offers an exciting experience, catering to individuals and groups deeply committed to immersing themselves in such extraordinary encounters (Higginbottom, 2004).

1.2 IMPORTANCE OF PREDATORY ANIMAL WATCHING TOURISM IN PROTECTED AREAS

Protected areas, encompassing national parks and wildlife reserves, have historically stood out as bastions of ecological stability and champions of biodiversity conservation. These sanctuaries, over time, have evolved into top-tier tourist spots, introducing travelers to the unparalleled beauty of raw nature, especially from the dominant predators at the top of the food chain (Balmford et al., 2009). This mix of conservation and tourism agendas, when harmoniously aligned, brings socio-economic benefits, particularly benefiting local communities. Krüger (2005) discerned that the financial influx of tourism in these regions can be channelled back into reinforcing conservation initiatives, thereby promoting a sustainable feedback loop. In addition, the educational and inspirational value of witnessing top predators in action, when guided responsibly, can catalyze a global push for biodiversity conservation and advocate for the prospect of sustainable tourism (Ballantyne, Packer, Sutherland, 2011).

1.3 PURPOSE OF THE STUDY

Given the delicate balance between the benefits and challenges presented by predatory animal viewing tourism in protected habitats, this research seeks to unravel its multifaceted dimensions. Focusing on emblematic instances of a spectrum of landscapes—whether observing lions in the sprawling savannahs of Africa, tracking bears and wolves in the vast expanses of U.S. national parks, tracing the elusive trail of jaguars in the Brazilian wetlands, or contemplating the majestic pass of tigers in the dense forests of India—this article aims to provide a holistic examination of the issues, perspectives and best practices fundamental to this niche of tourism. With this, it is hoped to provide stakeholders with insights, strategies, and knowledge to improve



the experience of tourists, support local communities, and prioritize the welfare and conservation of wildlife in protected areas, in particular predators at the top of the food chain.

2 METHODOLOGY

In order to comprehensively understand the dynamics of tourism of large predatory animals in protected areas, a dual methodological approach was used. First, a systematic review was conducted to gather and analyze the peer-reviewed literature on the topic from established databases, such as Web of Science, Scopus, Academia.edu and Google Scholar. Inclusion criteria encompassed empirical studies, reviews, and theoretical papers published between 2000 and 2021 that addressed ecological, socioeconomic, and cultural aspects of predator tourism from the top of the food chain. This review facilitated the identification of themes, gaps, and trends prevalent in existing research. Secondly, a secondary data analysis was employed, drawing on data from various governmental and non-governmental organizations, tourism boards, and conservation agencies. This data offered insights into tourism figures, economic revenues, human-animal conflict incidents, and conservation outcomes, allowing for a quantitative understanding of the dynamics at play and allowing for the juxtaposition of empirical findings with broader trends in top predator tourism.

By integrating both the qualitative insights of the systematic review and the quantitative patterns of secondary data analysis, this methodology ensured a holistic examination of the complex interaction between top predators and tourism in protected areas.

3 CONTEXTUALIZATION

3.1 WILDLIFE TOURISM

Ecotourism, as an expression of the human desire to reconnect with nature, has found a niche in an increasingly urbanized and globalized world. One of its most popular strands is wildlife viewing tourism, which has attracted a global crowd of enthusiasts, eager to witness the beauty and majesty of nature firsthand (Dybsand & Fredman, 2021). However, while the potential for economic and ecological benefits is significant, it is also accompanied by challenges associated with wildlife management and conservation.

Unlike hunting and fishing practices, wildlife viewing tourism is predominantly a passive activity, focused on observing animals in their natural habitats. This segment has experienced a remarkable rise, with several tourism companies offering personalized experiences in this area or incorporating it into their tour packages (Tapper, 2006). In fact, the attraction isn't just limited to



large mammals or exotic habitats; it ranges from wild horse watching in the U.S. to polar bear watching in the Arctic (Dybsand & Fredman, 2021).

Countries like Kenya, in particular, have a rich tradition of wildlife tourism, attracting visitors to witness the majesty of iconic species such as the African lion and elephant (Estifanos et al, 2021). This strand of ecotourism not only helps fund parks and reserves, but also raises awareness of the importance of biodiversity conservation.

The inclusive approach is vital to the success of this tourism model. The involvement of different stakeholders, ranging from investors to local and indigenous communities, is crucial to ensure that tourism practices not only benefit a select few, but also foster sustainable development and benefit local communities (Korir, Muchiri, & Kamwea, 2013).

Despite the immense potential for benefits, poor management can cause adverse impacts such as wildlife disturbance and habitat degradation (Dybsand & Fredman, 2021). Therefore, an "adaptive management" approach, where practices are continuously reviewed and improved based on experience (Tyagi et al, 2019), is essential. For example, limiting the number of visitors and using trained guides can help minimize disturbance to sensitive habitats.

In addition, habitat fragmentation and loss, decreased genetic diversity, and poaching are serious threats that large predators, especially felines, are facing (Tyagi et al, 2019). These challenges are compounded by biological traits that make these animals more vulnerable.

In short, wildlife viewing tourism, when managed well, has the potential to play a vital role in conserving biodiversity and benefiting local communities. But it is essential to balance economic and conservation interests, ensuring that tourism practices are sustainable in the long term (Dybsand & Fredman, 2021; Korir, Muchiri, & Kamwea, 2013)

3.2 TOP PREDATOR WATCHING TOURISM

The growing interest in the observation of predators in the wild has led to the debate on the integration between tourism and wildlife conservation. Aquatic and terrestrial predators, such as sharks, crocodiles, and big cats, have peculiarities that deserve special attention when exposed to human contact. Due to their biological and ecological characteristics, these animals are vulnerable to interference, often having low population densities and being able to be displaced to marginal habitats due to human proximity (Macdonald et al, 2017).

These animals, especially large carnivorous mammals, act as top predators, playing a crucial role in maintaining the ecological balance of ecosystems. Unfortunately, a significant proportion of them are threatened with extinction, largely due to conflicts with humans, habitat



loss, and the decline of their prey (Williams et al, 2017). At the same time, it is worrying to note that human-induced mortality is contributing to the reduction of the populations of these carnivores, and is often driven by retaliation from livestock farmers (Ohrens et al, 2021).

However, observing these animals in their natural habitat has the potential to change how they are perceived. Many of these predators are aesthetically appreciated for their beauty, attracting tourists interested in natural experiences (Lopes-Fernandes et al, 2022). More than a mere aesthetic experience, ecotourism focused on top predators can foster environmental education, sensitizing tourists to the need for conservation of these species and contributing to a more positive perception of these animals (Macdonald et al, 2017).

In addition, traditional practices in rural areas are being reviewed in light of the growth of wildlife tourism. There is a current trend to reconsider hunting as a source of revenue, particularly when natural superpredators such as the lynx are reintroduced to their habitats, reducing the need for active management of prey populations through hunting. Movements against the killing of animals are gaining momentum, and traditional practices, such as the display of hunting trophies, are being replaced by nature photographs (Lopes-Fernandes et al, 2022).

To maximize the benefits of predator tourism and mitigate its potential negative impacts, effective management that ensures wildlife resilience, engages local communities, and promotes responsible behaviors is essential (Macdonald et al, 2017). Strategies that highlight the economic benefits of predators to local communities, educate about their ecological importance, and develop protective measures for livestock are key in this process (Ohrens et al, 2021).

Large carnivores, particularly felines, are facing significant reductions in their historical ranges and are some of the most endangered species on the planet. Being top predators, they are crucial for ecological balance. However, they face serious threats such as habitat fragmentation and loss, decreased genetic diversity, decline of their prey, and poaching. Their biological characteristics, such as the tendency to solitude and the need for vast territories, make them even more susceptible to the challenges brought about by human population growth (Tyagi et al, 2019).

Tourism focused on top predators represents a unique opportunity to promote wildlife conservation and generate economic benefits for local communities. Through responsible practices and awareness, one can combine passion for nature with concrete actions in favor of biodiversity.

3.3 MYTHS AND TOP PREDATORS: A DUALITY IN HUMAN PERCEPTION

For millions of years, our ancestors faced the constant fear of predators. The landscapes of the Pleistocene were filled with formidable creatures, in addition to those predators that still haunt



the margins of our consciousnesses and nightmares today, such as tigers and crocodiles. This incessant exposure to predators has profoundly shaped the human mind, creating a rich space for the creation of myths and legends (Trout, 2011).

To manage their fears, humanity has turned to storytelling, turning these predators into mythical, often divine or demonic figures. Predators were seen alternately as monsters to be avoided or as beneficial entities guarding the tribe. This symbolic transformation stemmed from the need to process and understand the world in which they lived. Myths were not just stories, but survival tools, helping humans interpret their environment and their encounters with these majestic beasts (Trout, 2011).

In Africa, the relationship with lions is complex. While some see them as threats, many revere them for their strength, majesty, and even sacredness. Tribes such as Ikoma, Tsonga, and Sepedi venerate lions, while in Mozambique, it is believed that men turn into lions after death. However, in some cultures, killing lions brings status, thanks, and marital benefits. The relationship of the Maasai, Samburu and others with lions is emblematic of this paradox. Historically, killing lions was a rite of passage. To mitigate killing, strategies involve offsets and valuing traditions to foster conservation. In areas of the lions' habitat, young men are trained as "guardians of the lions," learning to value what was once considered an adversary. However, with changing cultural values, as seen among the Christian Maasai, conservation challenges also evolve. One initiative is the Maasai Olympics, replacing lion hunting with traditional sports. Other cultures, such as the Sukuma people, still hire lion hunters, although threats to livestock are minimal. These practices, however, are slowly transforming. (Stolton, 2019)

The rich variety of myths surrounding top predators is widely varied, with the wolf serving as a prime example. This majestic canid has been central to many mythical traditions around the world. In popular folklore, he is often castigated as the fearsome "Big Bad Wolf", but upon taking a closer look at his mythological depiction, we realize that the wolf has a multiplicity of roles (Wallner, 2005).

In the Edda, the ancient Icelandic sagas, and in Indian mythology, the wolf is a demonic force, often associated with entities such as Odin or even the devil. On the other hand, it is also worshipped in various cultures: the Egyptians saw him as a deity of the realm of the dead, while the Romans revered him as the symbol of Mars, the god of war. The story of Romulus and Remus is particularly touching, demonstrating the wolf not as a predator but as a savior and protector (Wallner, 2005).



The ambiguous relationship between humans and predators, exemplified through the wolf, highlights the complexity of the relationship. While human fears may have given rise to dark narratives, there is also a deep awe and respect. Thus, the modern challenge is not to erase negative images, but to remind the public of the vastness of roles and meanings that these predators hold, especially the positive aspects. Ultimately, myths reflect the stresses and wonders of the human experience, processing ancestral fears and triumphs. They serve as a mirror for the complex relationship between humans and predators, a testament to the duality of nature and humanity (Trout, 2011). By acknowledging this duality, we can seek a more harmonious coexistence with the majestic apex predators that still inhabit our world.

3.4 ECONOMIC BENEFITS AND CHALLENGES FOR THE CONSERVATION OF WILDLIFE TOURISM

Wildlife-centric tourism has proven to be a powerful force on the global stage, reflecting a growing trend of interest in our planet's natural wonders. This aspect of tourism not only moves huge sums of money, but also holds the potential to positively impact the conservation of species and habitats, while offering substantial economic benefits to the regions involved.

Globally, this market is expanding rapidly, attracting millions of visitors annually and generating billions in revenue. Specific observations, such as the one related to sharks, attract about 600,000 tourists annually, while birdwatching in the United States alone generates a staggering revenue of 107 billion dollars. One cannot ignore the fact that diving tourism in Southeast Asia is worth more than 150 million dollars, and whale watching employs more than 13,000 people around the globe (Fernández-Llamazares, et al 2020).

Moreover, the economic impact of this segment is palpable when we consider that wildlife-related tourism accounts for 3.9% of global GDP, a figure equivalent to the total GDP of nations such as South Africa or Hong Kong. In 2018, the sector's contribution to global GDP was US\$120.1 billion, and its total economic contribution amounted to a remarkable US\$343.6 billion, supporting 21.8 million jobs internationally (WTTC, 2019).

In this context, the relevance of this type of tourism for Africa is highlighted, where more than a third of tourism revenues are derived from animal watching (WTTC, 2019). Concrete examples, such as the project in Madagascar, demonstrate that tourism can play a crucial role in conservation, directly benefiting at-risk species such as lemurs (Fernández-Llamazares, et al 2020). In Mexico, the protection of monarch butterfly hibernation areas and the subsequent influx of tourists reaffirm the importance of tourism as a conservation tool (WTTC, 2019).



Countries such as South Africa, Kenya, Zimbabwe, Tanzania, Uganda, Malawi, Namibia, Botswana, Congo, Madagascar, Mozambique, Rwanda, Seychelles and Zambia have a strong interest in preserving endangered species, thanks to revenues from tourism. For example, in Kenya, a lion can generate up to \$7,000 per year in tourism revenue, while a group of elephants can earn up to \$610,000 annually. In some of these countries, it is permissible to hunt certain large animals, as long as the tourist obtains the proper license. (Mohammed, 2022)

However, it is essential to recognise that, despite its clear benefits, wildlife tourism can bring with it negative impacts on fauna, such as behavioural changes and population imbalances (Fernández-Llamazares, et al 2020). These challenges reinforce the need for responsible and informed management. The emerging use of technologies, such as social media, promises to be a valuable tool for understanding and catering to visitor preferences, ensuring a more sustainable future for the industry (WTTC, 2019).

Wildlife tourism offers a delicate balance between economic benefits and conservation challenges. Its potential to fund preservation and combat threats such as poaching is undeniable (Fernández-Llamazares, et al 2020). The key to maximizing its positive impact lies in conscious management, equitable inclusion of local communities, and continuous adaptation to new technologies and information.

4 CASE STUDIES

For the case studies, four cases of top predators - African lions, wolves and bears in the United States, tigers in India and jaguars in the Brazilian Pantanal - were selected based on multiple criteria. Firstly, each of these animals occupies a crucial role as the apex predator in their respective ecosystems, regulating prey populations and maintaining an ecological balance. In addition, each of these predators is emblematic and has a rich set of cultural, historical, and spiritual meanings in their regions, making them natural hotbeds of tourist interest. The choice also reflects the geographical diversity, spanning three different continents, which allows for a broader and comparative analysis of the challenges and opportunities associated with tourism aimed at top predators in varied contexts. Finally, the choice of these animals highlights regions where the balance between conservation and tourism is particularly precarious and vital, requiring specialized attention and strategies.



4.1 LION WATCHING IN AFRICAN PARKS

African parks, known for their rich biodiversity and extensive savannahs, have long been magnets for tourists seeking the quintessential wildlife experience. One of the most iconic species sought after by animal-watching tourists in these parks is the lion (*Panthera leo*). Often nicknamed the "King of the Jungle," lions have not only ecological significance but also cultural and economic value within the framework of African wildlife tourism. African national parks, such as the Serengeti in Tanzania, the Maasai Mara in Kenya, and Kruger National Park in South Africa, have established themselves as the top lion-watching destinations (Bauer et al., 2015). The appeal of witnessing lions in their natural habitat by displaying their natural behaviors offers a unique and unparalleled experience.

4.1.1 History and Context: The Role of the Lion in African Culture and Ecology

Lions are deeply embedded in African cultures, appearing in folk tales, traditions, and ceremonies. Tourists gain insight into this cultural heritage, fostering an understanding and appreciation that goes beyond mere wildlife viewing (Macdonald et al., 2017).

Lions, often referred to as the "King of the Jungle," have occupied a prominent position in African culture and ecology. These majestic creatures have long been emblematic of strength, courage, and royalty in various African cultures. Lions hold fundamental significance in terms of livelihood, culture, and politics. They are central to the African tradition. By understanding and managing the overarching importance of lion preservation, one can strengthen community and political support for harmonious coexistence. (Stolton, 2019).

Historically, lions have been depicted in traditional art, folklore, and even currency, emphasizing their cultural significance. The Maasai have a deep respect for lions, which is evidenced by the importance and positive outlook given to these animals in their culture. This appreciation is present in traditional Maasai stories, where lions symbolize traits that they also value in people. Especially among the Maasai warriors, known as the *ilmurran*, there is an identification with the lions, seeing them as the only adversaries worthy of their bravery. (Fernández-Llamazares et al, 2020)

Ecologically, lions are top predators, playing a key role in regulating prey populations, thus ensuring a balanced ecosystem. Its influence on maintaining the health and diversity of African savannah ecosystems is paramount (Packer et al., 2010).



4.1.2 Attraction and impact: how observation tourism influences local lion populations

Tourism focused on lion watching has grown in recent decades. African parks have become hotspots for tourists eager to catch a glimpse of these majestic creatures in their natural habitat. However, increased vehicular traffic and the presence of humans can alter lions' natural behaviors, causing them stress or causing them to become too habituated to human presence, thereby increasing the chances of conflict (Vanthomme, Kolowski, Korte, & Alonso, 2013). While this influx brings economic benefits to local communities and helps conservation funding, it also raises concerns. Increased vehicular traffic can lead to disturbances, potentially affecting lion behavior and hunting patterns (Loveridge et al., 2006). Additionally, interactions with humans, especially if not properly managed, can acclimate lions to human presence, potentially leading to increased human-lion conflicts outside of protected areas.

Another aspect to consider is that developing infrastructure to cater to the growing number of tourists can lead to habitat fragmentation or degradation. This not only affects lions, but also the intricate savannah ecosystem they inhabit (Riggio et al., 2013).

4.1.3 Challenges and controversies: human-lion conflicts and security issues

As top predators with extensive territories, lions often come into conflict with local communities, especially those situated on the outskirts of protected areas. These conflicts often arise from livestock predation, posing significant challenges to local livelihoods (Bauer et al., 2015). As lions become habituated, the likelihood of them wandering around local settlements in search of easy prey increases. This can lead to fatal encounters for both the local population and the lions (Loveridge et al., 2016). The expansion of tourism, while beneficial in many ways, can exacerbate these tensions if not carefully managed. Additionally, ensuring the safety of tourists, guides, and the lions themselves remains paramount, with cases of uncontrolled tourism leading to unfortunate incidents that sometimes escalate into calls for retaliatory action against lions.

4.1.4 Context and opportunities for lion conservation

Lions add economic value to the regions that preserve them. Tourism that revolves around lion watching has brought significant revenues to these regions. The revenue generated assists not only in conservation activities but also strengthens local economies by generating jobs and supporting community projects (Lindsey et al., 2007).

Lion watching provides an opportunity for people to become aware of environmental conservation. Sightseeing interactions with lions, when facilitated by experienced guides, serve as



educational experiences. This immersion can make tourists more aware of conservation needs, often leading them to contribute directly or indirectly to lion conservation projects (Di Minin et al., 2016).

4.2 BEAR AND WOLF WATCHING IN U.S. PARKS

The U.S. National Park system, a treasure trove of natural beauty and biodiversity, serves as an excellent backdrop for wildlife enthusiasts eager to spot some of the country's most iconic creatures. Among them, the bear, specifically the grizzly and black bear, and the wolf, especially the gray wolf, stand out as major attractions for visitors. Not only do these animals have ecological significance, but they are also symbols of American wilderness. Prominent parks like Yellowstone and Great Smoky Mountains National Parks are hotspots for bear and wolf watching activities. Its vast and rugged landscapes offer a relatively undisturbed habitat for these predators (Smith et al., 2005).

4.2.1 Preservation vs. Observation: Balancing Conservation and Tourist Interest

The ecological role of these top predators should be increasingly valued. Both bears and wolves play crucial roles in their respective ecosystems. For example, the reintroduction of wolves to Yellowstone led to a trophic cascade, balancing the ecosystem. Observing these creatures in their natural environment allows visitors to appreciate these ecological dynamics firsthand (Ripple & Beschta, 2012).

Since the reintroduction of gray wolves to Yellowstone in the 1990s, there has been a profound impact of these predators on the park's ecosystem and an unexpected economic benefit for local communities. A University of Montana analysis revealed that a decade after their reintroduction, wolves generated more than \$35.5 million in ecotourism, directly benefiting the states of Wyoming, Montana, and Idaho and making them an economic magnet for wildlife enthusiasts (Duffield, 2006).

Wildlife viewing, especially charismatic megafauna like bears and wolves, attracts millions of visitors annually. This influx results in significant economic returns for the management of parks, local communities, and surrounding areas (Duffield et al., 2008). Park ranger programs, guided tours, and interpretive centers related to bears and wolves offer a wealth of information. Such educational efforts increase visitors' understanding of these animals and their ecosystems, fostering a conservation mindset.



Bear and wolf watching has been growing in popularity in the U.S., particularly in national parks like Yellowstone and the Great Smoky Mountains. The allure of observing these wild predators in their natural habitat is immense, and the revenue generated by such activities greatly benefits park management and conservation initiatives (Smith et al., 2003). However, this increase in observation tourism often poses challenges. There is a fine line between conservation and commodification. While increased tourist numbers can provide funding for parks, increased human presence can potentially disturb wildlife habitats and alter the natural behaviors of these top predators (Stahler et al., 2013).

4.2.2 The Cultural Impact: Bears and Wolves in Native American Mythology and Traditions

In Native American culture, both bears and wolves are of deep significance. They are often revered as spirit guides, symbols of strength, and guardians of the wilderness. Stories and rituals passed down through generations underscore the deep-rooted relationship between indigenous communities and these top predators. Acknowledging and honoring these cultural perspectives is essential, especially when developing and implementing wildlife tourism strategies in areas that overlap with Indigenous lands or have cultural significance.

4.2.3 Protocols and Guidelines: Ensuring the Safety of Tourists and Animals

Close encounters between humans and these predators can be dangerous. Irresponsible behaviors on the part of tourists, such as getting too close to animals or feeding them, can lead to unfortunate incidents (Gunther et al., 2014). Continued human presence and interactions can lead animals to become habituated or displaced from privileged habitats, affecting their natural behaviors and increasing human-wildlife conflicts (St. Clair & Forrest, 2009). Increased foot and vehicular traffic can result in habitat degradation, litter, and disturbance, impacting not only bears and wolves, but the broader ecosystem (Cromsigt et al., 2013).

The increase in bear and wolf watching requires robust safety protocols, both for the well-being of the animals and the safety of tourists. Parks have implemented guidelines such as maintaining safe viewing distances and minimizing noise and disturbances. Efforts should also be made to educate visitors on the importance of not feeding wild animals, as this can acclimate them to human presence, leading to potential conflicts and dangers. Collaborative initiatives between park authorities, conservationists, and local communities have further amplified efforts to ensure sustainable and safe wildlife viewing experiences.



Understanding the behavior of large carnivores in the face of human activity in protected areas is crucial for the conservation of these predators. Roads and vehicular traffic influence the behavior of fauna, causing mortality from collisions and altering travel patterns due to increased traffic. While many underestimate the impacts of roads on protected areas, the numbers don't lie. From 1979 to 2017, visits to Yellowstone National Park jumped from 1.9 million to 4.1 million, with a large portion of visitors attracted by the chance to spot wolves up close. In response, wolves began to avoid areas near roads, especially during peak visitation in the summer. Wolf habitat selection patterns were not significantly influenced by the presence of prey, but varied among different packs. Some packs have shown greater tolerance for roads, potentially increasing their vulnerability outside the park. Ecotourism, while benefiting millions and boosting local economies, can have negative impacts. Between 1979 and 2017, visitation to national parks in the U.S. grew by 70 percent, from 50.4 million to 85.5 million, and was even more pronounced in Yellowstone, with a 120 percent increase. (Anton, 2020).

The growing tourist demand can lead to inappropriate practices such as artificial feeding and imitation howls, negatively affecting their behavior. Therefore, it is essential to establish clear guidelines for responsible tourism. Places like Spain already have consolidated destinations for wolf watching and manuals of good practices. Observation should prioritize large areas, ensuring distance so as not to disturb the animals. In challenging scenarios, soundproof shelters for observation come in handy. In addition, extra care is needed near breeding sites, to protect the species from potential threats such as poaching. (Kavčič et al, 2022)

4.3 OBSERVATION OF JAGUARS IN BRAZILIAN WETLANDS

Brazil's wetlands, particularly the Pantanal, are home to one of the world's most captivating and elusive big cats: the jaguar (*Panthera onca*). This biome, with its mosaic of aquatic and terrestrial habitats, offers an exceptional environment for the jaguar. Spotting these majestic felines in the wild wetlands has become an increasingly popular wildlife tourism activity. The Pantanal, the largest tropical wetland in the world, offers ideal conditions for jaguar sightings, especially during the dry season when the water recedes, and prey concentrates around the remaining water bodies (Tortato et al., 2015).

The jaguar occupies a significant place in Brazilian and South American indigenous cultures. For tourists, the experience offers a connection not only to nature but also to the cultural history and folklore associated with this magnificent creature (Jácomo et al., 2004).



4.3.1 Jaguar Ecology: Adaptations and Behaviors in the Pantanal

The Pantanal, a vast wetland region in Brazil, is home to a significant population of jaguars. Adapting to this unique floodplain ecosystem, these jaguars have developed behaviors that set them apart from their Amazonian or forest-dwelling counterparts. They often hunt in broad daylight, take down larger prey like alligators, and have become good swimmers, taking advantage of the water-rich environment (Tortato et al., 2015). These specific adaptations not only highlight the jaguar's versatility as a top predator, but also its ability to thrive in varied habitats.

4.3.2 Tourism and Local Economy: Benefits and Repercussions for Local Communities

Jaguar-watching tourism is quickly becoming a major source of income for local communities in the Pantanal, shifting their reliance on traditional farming and livestock practices. It is estimated that, in some parts of the Pantanal, jaguar tourism revenue has surpassed traditional cattle ranching as the main source of income.

This jaguar-watching tourism, called "jaguar tourism", has grown in the Pantanal, concentrating in two regions. In the North, observation is done in rivers using boats, especially during the dry season. In the South, it is common to use adapted vehicles on cattle ranches associated with hotels, and in some places, boats on streams. These jaguars, while they can affect the herd, have become a significant source of revenue for ecotourism. For example, the São Francisco Farm in the southern Pantanal profits 25 times more from jaguar tourism than it loses from jaguar attacks on cattle. In addition to farms, jaguar tourism also takes place in conservation units, such as the Taiamã Ecological Station and the Encontro das Águas State Park, although these areas lack specific management plans. (Tortato & Izzo, 2017)

In the Pantanal, four-fifths of the region is private unfenced farms, where cattle and jaguars coexist. This coexistence leads jaguars to have cattle as one-third of their diet, resulting in economic losses for ranchers and potential retaliation against the felines. However, many cattle ranchers see value in jaguars due to tourism. Tourism has changed the local perspective on the feline: a live jaguar is more profitable than a dead one. It benefits a variety of industries, including hotels and guides. Ecotourism in the Pantanal is crucial. Jaguar tourism alone generated US\$6.8 million annually in the northern Pantanal, while cattle losses totaled US\$121,500. Thus, jaguars represent a tourist value 56 times greater than the damage caused to livestock. To distribute the benefits of tourism, a fee is levied on tourists, which is passed on to farmers affected by jaguar attacks. In six months, this rate not only covered the losses at Pousada Piuval, but also generated



a profit 1.5 times greater than the losses. This model ensures that the gains from ecotourism benefit the local community (Brown, 2023)

4.3.3 Conservation Strategies: Initiatives to Protect the Jaguar and Its Habitats

Recognizing the ecological and economic value of the jaguar, several conservation initiatives have been initiated. Non-governmental organizations and local actors have collaborated for the development of protected areas, wildlife corridors and anti-poaching measures (Conde et al., 2010). These initiatives are particularly crucial given the threats jaguars face, ranging from habitat loss to retaliatory killings for livestock predation. Intertwining conservation with sustainable tourism practices is increasingly seen as the way forward to ensure the protection of jaguars while also benefiting local communities.

Revenue from jaguar tourism provides a substantial incentive for local landowners and the government to invest in the conservation of the species and its habitat. This form of ecotourism plays a vital role in protecting the jaguar from threats such as deforestation and poaching (De Azevedo and Conforti, 2008).

However, a worrisome practice is feeding jaguars to ensure contact with tourists. This can alter the animals' natural behavior, making them aggressive, habituated to humans, and vulnerable. This habituation has been linked to human attacks, posing significant risks to tourists and animals (Tortato & Izzo, 2017).

4.3.4 Challenges to be faced in the observation of jaguars

Like other wildlife tourism enterprises, jaguar viewing in the Pantanal is not without its challenges. Increased boat and vehicle traffic can be a source of disturbance for jaguars and their prey, affecting their natural behaviors and causing potential stress (Cavalcanti & Gese, 2009). There is an increase in the occurrence of conflicts between jaguars and tourists/human settlements, increasing the possibility of problems. The jaguar preying on cattle can provoke retaliatory actions by local residents (Cavalcanti et al., 2010). The influx of tourists, if not properly managed, can lead to environmental degradation, impacting the fragile wetland ecosystem and the species it supports. Sustainable practices and guidelines need to be established to ensure that jaguar viewing remains a source of wonder without becoming a problem for the very creatures it aims to celebrate.



4.4 TIGER WATCHING IN INDIA'S PARKS

Tigers (*Panthera tigris*), with their enigmatic allure, are undeniably one of India's most iconic wildlife spectacles. Synonymous with the country's cultural and historical ethos, the Bengal tiger, in particular, has been at the heart of India's wildlife conservation efforts. Numerous national parks and tiger reserves have been established to offer refuge to these majestic felines, and over time, they have also become major wildlife tourism hotspots.

The tiger (*Panthera tigris*) has seen a drastic reduction in its range, losing more than 95% of its historical range. Although it has experienced a huge decrease in population and territory, the Indian subcontinent is still vital for its conservation, being home to approximately 60% of the world's remaining wild tigers. However, these animals face ongoing human challenges, such as poaching and habitat degradation. Currently, most tigers are concentrated in protected areas, small spaces in mostly humanized areas, insufficient to maintain stable populations. Even with conservation efforts, the tiger is still an endangered species. Recent conservation strategies focus on "Tiger Conservation Landscapes", which are sets of protected areas linked by corridors, seeking to sustain healthy populations (Tyagi, 2019).

4.4.1 Reverence and Respect: The Tiger in Indian Culture and Spirituality

Tigers hold a place deeply rooted in India's cultural and spiritual tradition. Symbolizing power, strength, and grace, they often appear in ancient scriptures, folklore, and are revered deities in certain sects of Hinduism. They were also emblematic figures for the royal families, evident in the numerous tiger hunts that were organized by maharajas in past eras. The tiger's central place in Indian spirituality underscores the nation's unique relationship with this apex predator, which transcends mere ecology.

One example is the Soligas tribe in the Western Ghats of India, who value and revere the Bengal tiger for its spiritual significance. While species conservation is not the primary goal of these traditions, it can occur as a byproduct. Notably, data from the NGO *Survival International* pointed out that the tiger population in the Soligas region doubled between 2010 and 2014, surpassing the national average. However, traditional conservation methods often neglect this spiritual value, resulting in the removal of these tribes from protected areas (Lopes et al, 2020).

4.4.2 Challenges of coexistence: tensions between local communities and tiger populations

Despite their revered status, tigers and humans in India often find themselves in conflict, especially when human settlements encroach on tigers' traditional habitats. Such conflicts often



arise from livestock predation and sometimes, unfortunately, attacks on humans, leading to retaliatory killings of tigers (Karanth & Gopalaswamy et al., 2012; Madhusudan & Mishra, 2003). In addition, increasing pressure from human development, including infrastructure projects, has led to habitat fragmentation, further exacerbating these conflicts. An uncontrolled number of safari vehicles can cause disturbances to tigers and other wildlife, influencing their natural behaviors and potentially increasing stress levels (Biswas & Sankar, 2002).

The over-commercialization of tiger watching in certain areas becomes a race to capitalize on tiger tourism and can lead to uncontrolled infrastructure development, which can negatively impact the delicate ecological balance of these regions (Spiteri & Nepal, 2008).

4.4.3 Education and Awareness: Using tourism as a conservation tool

India's rich biodiversity, combined with significant efforts for tiger conservation, has led to an increase in tiger populations in many national parks, notably in Ranthambore, Bandhavgarh, and Jim Corbett, among others. As per the recent data from the National Tiger Conservation Authority, there has been a growth of 200 tigers in India's population in the last four years, totaling 3,167 in 2022. Since 2006, when there were 1,411 tigers, the number has grown consistently until 2022. India currently has 53 tiger protection areas (Qureshi, 2023).

The allure of seeing the majestic tiger in the wild has led to a boom in wildlife tourism in India's national parks. Renowned reserves like Ranthambore, Bandhavgarh, and Sundarbans attract thousands of visitors every year. While this has proven to be a significant revenue generator, park officials and conservationists have simultaneously tapped into this interest for conservation awareness. Outreach programs, interactive sessions, and educational safaris have been introduced to enlighten tourists about tiger ecology, conservation challenges, and the importance of coexistence (Goodrich et al., 2015).

Visiting these parks offers tourists an insight into the ecology and behavior of tigers. The experience educates them on the importance of conserving not only the tiger but also its habitat and the rich biodiversity contained within it (Goodrich, 2010).

4.4.4 Tiger Watching Opportunities in Indian Parks

Tiger tourism has transformed the economic landscape of the regions that are home to the national parks in India. The influx of tourists has created numerous employment opportunities for locals, from guides to resort workers, thus providing a direct economic boost to conservation efforts (Karanth & DeFries et al., 2012).



Tiger reserves, in addition to protecting biodiversity and natural evolution, have considerable economic relevance. They sustain human life by providing resources such as clean water, fish ponds, and genetic material, which is the basis for medicines. These sites play a vital role in tourism, generating income and jobs for local communities. In addition, they play a crucial role in mitigating climate change by storing and sequestering carbon. Although many of the benefits are intangible and not easily quantifiable in market transactions, their economic valuation is vital to inform public policy. Ecosystem services, such as pollination and biodiversity support, from reserves vary according to the ecological and socioeconomic context of each reserve, but are essential for human well-being at various scales (Verma et al, 2015).

Contrary to the idea that these areas are a burden on local communities, studies show that they can be beneficial, especially when considering local services such as the creation of jobs related to tourism and the management of these spaces. However, where opportunity costs are high, equitable benefit-sharing mechanisms are needed. To ensure biodiversity conservation and the continuous flow of ecosystem services, it is vital to expand and integrate the management of reserves into the wider landscape, focusing on ecological connectivity. This connectivity is crucial for the resilience of ecosystems and for the mitigation of environmental risks. Economic valuation can make it easier to obtain stable financing for the management of these reserves. However, it is essential to recognize that certain values, such as sacred meanings or health benefits provided by reserves, are not easily captured by traditional economic analyses (Verma et al, 2015)

5 COMPARATIVE ANALYSIS

The practice of wildlife observation in protected areas has seen an increase globally, emphasizing the intrinsic and aesthetic values that humans place on nature. Drawing on the detailed examination of four distinct case studies—lion watching in African parks, bear and wolf watching in U.S. parks, jaguar watching in the Brazilian swamp, and tiger watching in indigenous parks—this section seeks to juxtapose and compare these experiences. The intention is to understand patterns, commonalities, unique challenges, and draw lessons that can be applied in all contexts.

5.1 ECONOMIC IMPLICATIONS

The allure of observing top predators in their natural habitats has immense economic potential. Direct contributions are evident in the revenues generated from park entrances, guided tours and local accommodation. For instance, tiger tourism in India contributes immensely to the



local and national economy, with national parks generating millions annually from tourism-related activities (Karanth & DeFries et al., 2012). In addition, indirect economic benefits permeate the local community, with job creation in sectors such as hospitality, transportation, and handicrafts. The economic influence, however, goes beyond immediate tourism. As seen in lion watching tourism in Kenya, a robust ecotourism industry can catalyze investments in infrastructure, health, and education in the surrounding areas

The economic value of wildlife viewing is undeniable for many regions. In the U.S., for example, nearly 20 percent of residents cited birdwatching as a recreational activity, generating an estimated \$32 billion in direct spending in 2001, of which about \$7.5 billion was on related travel. It is estimated that between 20% and 40% of international tourists have an interest in wildlife viewing. In East Africa, this activity is a major source of tourism revenue. In 2000, Kenya brought in \$304 million from 943,000 international arrivals. Tanzania saw 459,000 arrivals, generating revenues of \$739 million. Uganda received \$149 million from 151,000 arrivals. All in all, the region has grossed more than \$1 billion, much of it attributed to wildlife viewing (Tapper, 2006).

In Alaska, tourists value the observation of grizzly bears more than any other fauna, generating high satisfaction in Denali National Park. This interest has catalyzed the growth of the bear-watching industry. Historically, in Yellowstone National Park, bears were fed to promote their viewing. Currently, visits to bear viewing areas have grown, even doubling annually in some places. On the border between Finland and Russia, 4,000 visitors annually arrive to see bears. Out of 235 bear-watching opportunities in North America and Europe/Russia, 57% of European locations use artificial feeding. Economically, bear watching benefits ecotourism and other sectors. In Finland, bear-watching companies receive around €1 million from tourists between spring and autumn. In 2012, in the Great Bear Rainforest, Canada, the activity attracted 11,369 visitors, generating jobs and contributing \$4.9 million in income to related companies. Visitors spent \$15.1 million, of which \$14.1 million went to bear-watching companies. These deals generated 12 times more than bear hunting that year (Penteriani et al, 2017).

Wildlife viewing, especially photographic 'safari', is crucial to African tourism, accounting for 80% of annual sales of trips to the continent. In 2017, foreign tourism generated more than \$30 billion for sub-Saharan Africa, with lions being the main attractions. In South Africa, for example, large predators are the biggest motivators to visit places like the Kruger National Park. The presence of charismatic megafauna, such as lions, has a direct impact on ecotourism revenue. If these species disappear, there will be great economic losses. Research has shown that nearly 40% of visitors in Uganda would pay less to enter a park if big cats were not spotted. Despite their



economic importance, the presence of lions has a more significant impact on tourism than their exact number. As an example, the reintroduction of lions in Akagera National Park in Rwanda has boosted tourism (Stolton & Dudley, 2019).

5.2 IMPACT ON CONSERVATION

One of the shared successes among these regions is the encouragement of conservation. Whether it's the jaguars of Brazil or the tigers of India, tourism revenue has consistently been channeled back into conservation efforts (Goodrich, 2010). However, challenges persist. Pressure from tourism can sometimes disturb natural habitats, as seen in North American parks and even in the Pantanal (Cavalcanti & Gese, 2009; Biswas and Sankar, 2002).

Although each top predator holds a unique ecological position, there is a shared narrative: their indispensable role in maintaining the balance of the ecosystem (Estes et al., 2011). Tourist attractions centered around them invariably emphasize this ecological significance, although the depth of this education varies by region. However, universally, the challenge remains: minimizing disruption while maximizing the visitor experience. For example, tiger watching in the lush forests of India contrasts with this activity carried out in the Brazilian wetland, but both deal with the risk of altering natural behaviors or causing habitat disturbances due to increased human interaction.

Lion conservation benefits not only these majestic felines, but the entire African ecosystem that is vital to the livelihoods of more than 300 million people in sub-Saharan Africa. These biodiversity-rich landscapes provide numerous ecosystem services, including clean water, carbon storage to combat climate change, and support food security. Lions, as tourist attractions, contribute millions to African economies. By protecting the landscapes where lions live, vital resources are conserved and funding for sustainable development is attracted. However, as lion populations decline, Africa faces the threat of loss of these essential services and vulnerability to climate change. To ensure a balanced and sustainable future, it is crucial to recognize the importance of intact ecosystems and iconic species such as lions, and to promote sustainable practices that benefit both nature and local communities (Stolton & Dudley, 2019).

5.3 SOCIOCULTURAL INTERACTION

A distinctive observation is the role of cultural context. In India, the tiger is not just an animal; It is a cultural icon, deeply embedded in folklore and religious narratives. Likewise, the presence of the jaguar in the Brazilian indigenous tradition is noteworthy (Jácomo et al., 2004).



This cultural connection can enhance the tourist experience, but it also places an increased responsibility on conservationists to respect and integrate these traditions.

The lion is one of Africa's most iconic creatures, yet it is in an alarming decline, with its population halved in just two decades. Although it is a major tourist attraction, the survival of this species goes far beyond luxury tourism or sport hunting. The lion's presence in Africa has a deep significance, rooted in the continent's culture and traditions. Its decline is not only a loss of biodiversity, but also represents the erosion of a rich cultural legacy. Lions, in particular, are more than simply majestic animals of the savannah. They are vital indicators of the health of ecosystems. A robust lion population is a sign of a healthy savannah and, by extension, indicates the stability of essential ecosystem services such as food and water security. By protecting lions, we are also protecting these critical ecosystems and all the associated benefits they offer, both for wildlife and human communities (Stolton & Dudley, 2019).

Africa is currently experiencing significant transformations in various sectors, from finance to politics. These changes, driven in large part by socio-economic development aspirations, are still deeply intertwined with its rich biodiversity. African fauna and flora provide numerous ecosystem services, such as clean water, protection from flooding and desertification, carbon storage, and wild food sources. Therefore, investing in lion conservation is strategic, not only in terms of preserving a singular species, but also in the broader context of Africa's environmental, economic and cultural sustainability. (Stolton & Dudley, 2019). The survival of lions, and the values they represent, are essential to the future of the continent

5.4 MANAGEMENT AND REGULATION

While all regions emphasize the importance of sustainable and controlled tourism, their strategies and levels of success differ. U.S. parks, with a longer history of organized wildlife tourism, have established robust regulatory systems (Smith et al., 2003). In contrast, emerging hotspots such as the Pantanal or certain Indian parks may still be in the evolutionary phase of refining these regulations.

This type of tourism translates into income in a variety of ways, such as entrance fees, paying guides, and spending on accommodation. It also stimulates other local economic sectors and can attract tourists for other activities in the country, such as cultural visits, prolonging their stay and increasing their spending. Nationally, tourism is vital for many developing countries. In 2000, it was one of the top three export sectors for most of these countries. The gains, which come mainly from protected areas rich in wildlife, directly benefit local economies, tourism companies



and governments. To sustain this ecosystem, it is crucial to adequately fund wildlife conservation and tourism. Thus, local communities are benefited and can find employment in the sector. Ensuring the steady flow of resources for conservation and community development is essential to the continued success of this industry (Tapper, 2006).

The Revealing Benin Project has as its flagship initiative to transform Pendjari National Park into one of West Africa's leading wildlife sanctuaries. Situated in the W-Arly-Pendjari complex, which also encompasses the Republic of Niger and Burkina Faso, this UNESCO World Heritage Site is one of the last wilderness regions in West Africa and is home to a considerable number of lions. The government's plan is to make the park the premier wildlife refuge, allowing tourists to see the "Big 5" in ecotourism and luxury settings. To fund this project, a public-private collaboration has been proposed, hoping to raise more than \$50 million. Organizations such as the National Geographic Society, African Parks and the Wyss Foundation have already confirmed a joint investment of more than \$23 million for the preservation of the site. The expected benefits are the creation of 6,000 jobs and an export income of more than US\$ 25 million. (Stolton & Dudley, 2019)

It is important to consider that while the economic benefits of predator tourism are tangible, they raise poignant ethical questions. Is it justifiable to capitalize on the allure of these majestic creatures, especially when their habitats are shrinking and their behaviors can be altered by human presence? For example, studies of African lions have shown that excessive vehicular traffic can affect hunting success and disrupt nocturnal behaviors. This leads to the overarching ethical dilemma: where is the line drawn between non-intrusive observation and harmful interference? Ethical considerations also encompass the potential for 'zooification' of wild habitats, where animals are baited or conditioned for enhanced tourism experiences, diminishing the very essence of wild encounters (Moorhouse et al., 2015). To navigate this conundrum, it is imperative that economic aspirations are aligned with ethical obligations, ensuring that the pursuit of monetary benefits does not undermine the well-being of these magnificent creatures and their habitats.

5.5 RISKS AND CONFLICT MITIGATION

Conflicts between humans and wild animals are universally evident, but they manifest themselves differently. In Africa, retaliatory killings due to lions preying on cattle are a challenge, while in India, tiger-human conflicts on the outskirts of parks are worrisome (Cavalcanti et al., 2010; Madhusudan & Mishra, 2003). Effective mitigation strategies, often involving local community participation, remain crucial.



Almost every case underscores the friction between these magnificent creatures and human communities. Whether it's human-lion conflicts in Africa or tensions around wolf reintroductions in the U.S., the root often lies in habitat encroachment, resource competition, or deep-seated cultural fears (Treves & Karanth, 2003). The safety protocols, while tailored to specific species, carry a universal foundation: minimal human interference and maximum education. Conservation results, strongly influenced by tourism, show both positive and negative trends. The economic benefit of tourism has funded conservation initiatives, for example in Kenya, but has also sometimes led to over-commercialization and habitat degradation, as seen in some tiger reserves in India (Linkie et al., 2015).

Taking into account that each top predator presents unique tourism opportunities and challenges, patterns emerge in human-animal relationships, safety considerations, and conservation outcomes. Acknowledging these shared narratives can aid in the development of universally applicable best practices, even while considering region-specific nuances. And while each region offers its unique wildlife tourism narrative, underlying patterns of economic growth, conservation challenges, cultural interactions, regulatory needs, and conflict management strategies emerge. It is vital to learn from the successes and challenges of each region, aiming for a holistic and sustainable global model of wildlife tourism.

6 DISCUSSION

The intersection of top predator tourism with its economic, ethical, and ecological implications is a multifaceted area, fraught with challenges and opportunities. Among which are:

6.1 THE WIDER ECOLOGICAL IMPLICATIONS OF PROTECTING THESE PREDATORS AND HOW TOURISM AFFECTS THE BALANCE OF TOURISM

Protecting top predators goes beyond preserving individual species; It ensures the sustainability of entire ecosystems. As top predators regulate prey populations and maintain the health of their ecosystems, their protection transforms into broader ecological stability (Ripple et al., 2014). Tourism, being a double-edged sword, presents threats and support for this balance. On the one hand, well-managed tourism can fund conservation initiatives, raise awareness, and foster global partnerships for conservation. On the other hand, poorly regulated tourism can exacerbate habitat disturbances, increase human-wildlife conflicts, and even facilitate the spread of human-wildlife diseases (Plowright et al., 2008).



6.2 STRATEGIES FOR SUSTAINABLE AND ETHICAL PREDATOR TOURISM

Ensuring sustainable and ethical predator tourism requires a comprehensive approach. A starting point could be stricter regulations on the number of tourists, schedules and activities allowed in sensitive habitats, as seen in some tiger reserves in India. Combining this with community-based conservation initiatives, such as those in African lion habitats, ensures that local communities are stakeholders in conservation, aligning their interests with those of top predators (Western et al., 2009). Regularly updating guidelines, fostering research collaborations, and promoting ecotourism rather than mere wildlife tourism can further align economic motivations with ecological and ethical imperatives.

In addition, the proliferation of wildlife viewing tourism in protected areas presents unique challenges and unparalleled opportunities for conservationists, local communities, and policymakers. Considering the case studies examined – lion watching in Africa, bear and wolf watching in the USA, jaguar watching in the Brazilian Pantanal and tiger sightings in indigenous parks – some other specific themes and considerations emerge, such as:

6.3 ECONOMIC FEASIBILITY VS ENVIRONMENTAL SUSTAINABILITY

In almost all regions studied, there is a clear nexus between wildlife tourism and local economic uplift. Whether in the Pantanal or the Ranthambore, local communities experience economic benefits from the influx of tourists. However, the very appeal of these regions – pristine environments and the thrill of spotting wildlife in their natural habitats – could be at risk if tourism is not managed sustainably. The challenge is to strike a balance between short-term economic benefits and long-term ecological imperatives.

6.4 THE ROLE OF EDUCATION AND AWARENESS

One of the inadvertent but significant benefits of wildlife tourism is the education and awareness it brings. Tourists, once exposed to the majesty of these wild creatures and the fragility of their ecosystems, often return home as conservation advocates. The creation of interpretive centers, the hiring of experienced guides, and the integration of indigenous wisdom can amplify this effect, serving both conservation and cultural preservation purposes.

6.5 LOCAL COMMUNITY INTEGRATION

A recurring theme, particularly evident in African and Indian contexts, is the importance of integrating local communities into wildlife tourism strategies. When residents see tangible



benefits of wildlife conservation, they are more likely to become its protectors. On the other hand, if they perceive wildlife as a threat to their livelihood or safety, conflicts may arise, undermining conservation efforts. Incentive structures, employment opportunities, and community-based tourism models can fill this gap.

6.6 REGULATORY FRAMEWORKS

The benchmarking underscored the importance of robust regulatory mechanisms. Regions with established guidelines, such as certain U.S. parks, seem to do better at managing tourism pressures. There is an opportunity for newer or less regulated regions to learn from these models and adapt them to local contexts.

6.7 INTERDISCIPLINARY COLLABORATION

Wildlife viewing tourism cannot be approached in isolation – it intersects with domains such as anthropology, economics, ecology and even political science. Collaborative approaches, based on interdisciplinary culture, can achieve more holistic strategies, considering cultural nuances, economic models, and ecological imperatives together.

6.8 FUTURE DIRECTIONS OF RESEARCH

Future investigations may explore the effectiveness of community-based tourism models, the role of technology in enhancing wildlife viewing experiences without disturbing natural habitats, and the potential of global collaborative networks in sharing best practices and resources.

In summary, wildlife viewing tourism in protected areas is more than just an economic activity. It is an interplay between ecology, culture, economics, and human behavior. While the challenges are manifold, the rewards – a preserved ecosystem, educated global citizens, and economically dynamic local communities – are worth the effort. In essence, while the allure of top predators as a tourist attraction is undeniable, it is paramount to approach this allure responsibly, ensuring that the act of observation does not detract from the existence and balance of these majestic creatures.

7 RECOMMENDATIONS

Harnessing the economic and social benefits of top predator tourism, while ensuring the safety and well-being of wildlife and tourists, requires careful strategies. Based on the results of the analysis, the following recommendations are presented.



7.1 BEST PRACTICES FOR REGIONS SEEKING TO DEVELOP OR ENHANCE TOP PREDATOR TOURISM

- a. Capacity limitations:* Minimise habitat disturbance, regulate the number of visitors and establish quiet zones, especially during mating or calving seasons (Krüger, 2005).
- b. Guided tours:* Ensure that all interactions with top predators are supervised by experienced guides to limit direct human-animal conflict and provide accurate information to tourists (Newsome et al., 2012).
- c. Tourism Education:* Offer mandatory orientation sessions prior to any wildlife encounters. This ensures that tourists are aware of the behavioral guidelines and the importance of these rules (Ballantyne et al., 2009).
- d. Monitoring and Research:* Collaborate with academic institutions for ongoing research on the impact of tourism on top predators and their habitat. This assists in obtaining information for decision-making (Higham & Lusseau, 2007).

7.2 COMMUNITY ENGAGEMENT, SAFETY PROTOCOLS, AND HABITAT PRESERVATION STRATEGIES

- a. Community-Based Tourism:* Involve local communities in decision-making processes, ensuring that they benefit directly from tourism and become guardians of conservation (Spenceley & Goodwin, 2007).
- b. Emergency Protocols:* Establish clear protocols for unexpected encounters or dangerous situations to ensure the safety of tourists and minimize harm to animals (Fennell, 2002).
- c. Habitat Improvement:* Dedicate a fraction of tourism revenue to habitat restoration projects and anti-poaching units, ensuring long-term sustainability (Boley & Green, 2016).
- d. Feedback Mechanism:* Introduce feedback systems for tourists to share their experiences and suggestions, which can be integrated into the improvement of the tourism model. Managers need to "listen" to what tourists say, with a view to improving visitor experiences and improving visitor management in protected areas (Prakash, S.L. et al, 2019).

By carefully implementing these recommendations, regions can achieve a harmonious balance between tourism aspirations and conservation goals.



8 CONCLUSION

Wildlife viewing tourism in protected areas has emerged as a powerful tool in the arsenal of conservationists, local communities, and policymakers. Their influence is not merely relegated to the confines of tourism or the economy; extends into the realms of conservation, cultural preservation, education, and global collaboration. The journey through diverse landscapes – from the mesmerizing African savannahs, the iconic national parks of the USA, the mysterious wetlands of Brazil to the dense forests of India – presents a picture of challenges and opportunities that echo universally.

The economic ramifications of wildlife viewing are evident and substantial. Regions that use this form of tourism have witnessed local economic revitalization, creating livelihoods and raising living standards. However, the balance between this economic benefit and ecological sustainability remains a delicate journey. Over-commercialization or lax regulations can endanger the very ecosystems that these ventures aim to preserve.

It should be highlighted that the power of wildlife tourism to influence nature advocates cannot be underestimated. Tourists, once touched by the raw majesty of nature, often emerge as advocates for these regions and their inhabitants. The potential here is twofold: a call for regions to invest in visitor education, and an invitation for visitors to take these lessons beyond their journeys into their everyday lives.

Local communities are at the center of this discourse. Their engagement, empowerment, and education are paramount. As immediate custodians of these ecosystems, their perceptions, conflicts, and collaborations with wildlife have direct consequences for conservation outcomes.

From a regulatory perspective, the need for robust, adaptive, and context-specific frameworks is clear. Systems that have evolved over decades in places like U.S. parks can offer insights for emerging hotspots. The confluence of modern traditions, regulations, and best practices can forge a way forward.

As we stand at this juncture, reflecting on the vast tapestry of wildlife viewing experiences around the world, a singular truth emerges: the interconnectedness of all life. The jaguar in the wetlands of Brazil, the tiger in the forests of India, the lion in Africa, and the wolves and bears in the parks of the U.S. all speak a common language: one of survival, coexistence, and mutual respect.

As we move forward, the plan is clear: collaboration, education, sustainable practices, and unwavering commitment. The world has embarked on this journey; The direction it takes is a



collective decision. Through the contributions of this article, the hope is to catalyze conversations, inspire action, and most of all, foster a deep respect for wilderness and its myriad wonders.

In essence, the history of wildlife viewing tourism isn't just about observing animals; It's about introspection, understanding the place humans occupy in nature, and making choices that contribute to biodiversity conservation. The path is challenging, but the rewards, seen and unforeseen, promise a world where human beings and nature coexist in harmonious synchrony.



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