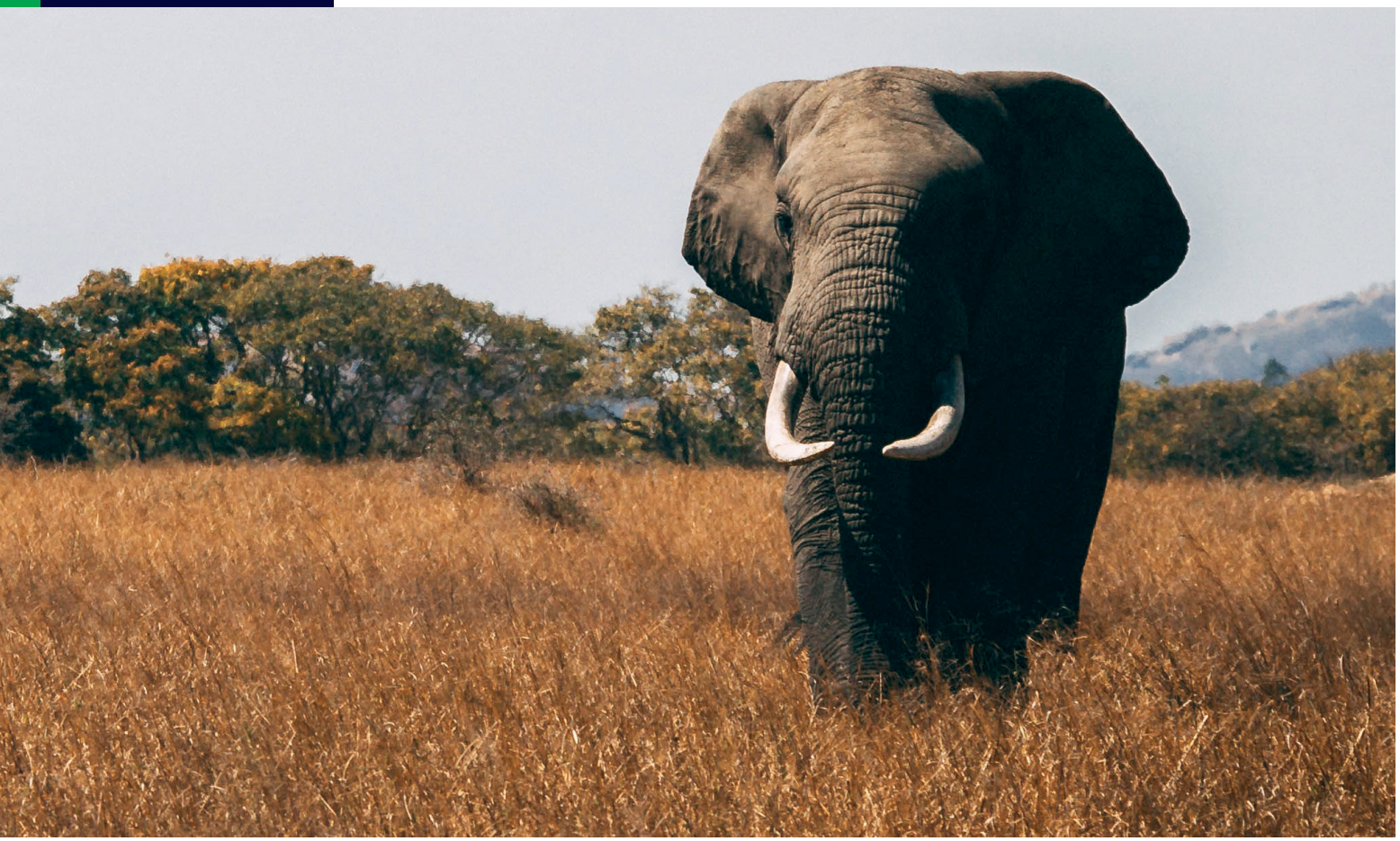
WORLD TRAVEL & TOURISM COUNCIL

THE ECONOMIC IMPACT OF GLOBAL WILDLIFE TOURISM

TRAVEL & TOURISM AS AN ECONOMIC TOOL FOR THE PROTECTION OF WILDLIFE - AUGUST 2019



THE ECONOMIC IMPACT OF GLOBAL WILDLIFE TOURISM

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FOREWORD

Travel & Tourism can play a tremendous role in combatting the global scourge that is the illegal trade in wildlife. Through this research on the economic contribution of wildlife tourism, we hope to draw further attention to the enormous economic opportunities associated to Travel & Tourism and thereby further substantiate the rationale for greater wildlife protection.

I witnessed first-hand how tourism can prevent wildlife from being poached and traded illegally. In Mexico, by protecting the wintering hibernation areas of the Monarch Butterfly in dedicated biosphere reserves, thousands of tourists each year are able to enjoy the most spectacular migration of millions of butterflies. The people in the villages and towns surrounding these reserves benefit enormously from the protection of the wildlife. People who visit the region to view these beautiful creatures create important jobs for residents in conservation, tour-guiding, accommodation and scientific discovery while providing broader economic value to support the prosperity of the families and wider communities in the area.

This research quantifies the importance of wildlife tourism to build greater awareness of its value and showcase the need for protection among policymakers and government budget holders. While the Travel & Tourism sector accounts for 10.4% of global GDP, wildlife tourism represents 3.9% of this figure, or $343.6 billion; a figure equivalent to the entire GDP of South Africa or Hong Kong. Of equal significance is the fact that around the world, 21.8 million jobs or 6.8% of total jobs sustained by global Travel & Tourism in 2018 can be attributed to wildlife.

I am proud that WTTC is working with its Members to eradicate illegal trade in wildlife, devising a zero-tolerance policy and raising awareness of the issue among one billion consumers. Over 110 of WTTC Members and the wider Travel & Tourism community came together in 2018 to sign the Buenos Aires Declaration to collectively work towards this goal. Our work, supported by our collaboration with WWF, has already reached over 100 million tourists.

With wildlife tourism representing over five times the value of the illegal wildlife trade, it is essential that we continue with our advocacy efforts to drive understanding of the nature of the Travel & Tourism sector along with improved governance of the world's flora and fauna.

Gloria Guevara Manzo
President & CEO
World Travel & Tourism Council

EXECUTIVE SUMMARY

Over the years, threats to wildlife around the word, ranging from habitat destruction, climate change and the impacts of poaching have increased significantly. Preventing the illegal trade in wildlife is an immense challenge.

The World Travel & Tourism Council (WTTC) has been promoting industry action to support global efforts to tackle the illegal trade in wildlife. In April 2018 WTTC launched the Buenos Aires Declaration on Illegal Wildlife Trade to bring sector initiatives together under one umbrella[1]. The declaration now has over 110 signatories and was showcased during the High Level IWT Conference in London in October 2018. WTTC's ambition is to raise awareness of the issue with one billion consumers and through a partnership with WWF, devise a zero-tolerance policy and toolkit.

Tourism has a unique role to play by providing economic opportunities for communities and an economic rationale for the protection of endangered species and protecting wildlife habitats. In the Travel & Tourism sector which contributes 10.4% of global GDP and supports one in ten jobs (319 million), quantifying the value of wildlife tourism is an important first step in providing the economic case. Having the data to show how preserving and protecting wildlife through tourism can act as a positive counterbalance to environmentally destructive yet economically profitable practices, is a step towards helping communities and authorities realise the benefits that nature can bring.

Wildlife tourism (WT) – here defined as viewing and experiencing animals in their natural habitat – is increasingly recognised as an important part of the wider Travel & Tourism sector.

This report provides an estimation of the global economic contribution of WT and suggest that it:

- Directly contributed $120.1 billion[2] in GDP to the global economy in 2018 or 4.4% of the estimated direct global Travel & Tourism GDP of $2,751 billion in 2018[3]. Significantly, this represents over five times the value of the illegal wildlife trade.
- Once additional multiplier effects across the global economy are allowed for, the total economic contribution of wildlife tourism comes to $343.6 billion. Equivalent to the entire economy GDP of South Africa or Hong Kong.
- WT therefore sustained 21.8 million jobs, equal to 6.8% of total jobs sustained by global Travel & Tourism in 2018. The 21.8 million jobs supported by wildlife tourism is the equivalent of the entire population of Sri Lanka.
- Across Africa, wildlife tourism represents over one-third of Travel & Tourism revenue.

Apart from improved governance, the increasing use of social media to assess visitation and understand visitor preferences for wildlife tourism and other forms of recreational activities hold promise for future efforts to understand the nature of the sector.

These figures should be caveated by the fact that they are "order of magnitude" estimates based on a variety of sources. With the further development of WT, improved management and efforts to better record visitation numbers and spend, more refined figures could be developed in future. Apart from improved governance, the increasing use of social media to assess visitation and understand visitor preferences for WT and other forms of recreational activities also hold promise for future efforts to understand the nature of the sector.

The impact of WT at the "local" level is also investigated in more detail through a series of country case studies of the key WT markets of UK, Germany, United States, Brazil, South Africa, Tanzania, Kenya, India, Thailand and China.

Figures in this report are presented in Figure 1, expressed in 2018 dollars with foreign currencies converted at PPP exchange rates, unless otherwise indicated.

Fig. 1. Direct and total economic contribution of WT, 2018

CONTINENT	DIRECT				TOTAL	
	EXPENDITURE ($BILLION)	GDP ($BILLION)	SHARE OF T&T	EMPLOYMENT (MILLION)	GDP ($BILLION)	EMPLOYMENT (MILLION)
NORTH AMERICA	25.4	13.5	2%	0.2	37.6	0.5
EUROPE	28.5	13.3	1.6%	0.2	35.4	0.6
AFRICA	48.8	29.3	36.3%	3.6	70.6	8.8
ASIA-PACIFIC	118.2	53.3	5.8%	4.5	171.2	10.4
LATIN AMERICA	19.9	10.7	8.6%	0.5	28.9	1.4
TOTAL	241.0	120.1		9.1	343.6	21.8
SHARE OF TOTAL GLOBAL T&T (%)	4.2%	4.4%		7.4%	3.9%	6.8%

Source: Oxford Economics, Figures may not sum to totals due to rounding

HIGHLIGHTS

The World Travel & Tourism Council (WTTC) has been promoting industry action to support global efforts to tackle the illegal trade in wildlife. To date, over 110 WTTC Members and leaders from the wider global Travel & Tourism sector have signed the Buenos Aires Declaration, on illegal wildlife trade (IWT). Our ambition is to raise awareness of the issue with one billion consumers and through a partnership with WWF, devise a zero-tolerance policy and toolkit.

Quantifying the value of wildlife tourism (tourism that involves watching and experiencing with wildlife in its own natural habitat) as an important niche within global Travel & Tourism is a crucial step towards providing the data that helps provide the economic value of protecting wildlife habitats.

In 2018, wildlife tourism directly contributed $120 billion to economies. Adding in the financial benefits through the supply chain, the total contribution of this niche provided $343.6 billion or 3.9% of global Travel & Tourism GDP[4] in 2018.

The direct contribution of wildlife tourism is worth over five times that of the illegal wildlife trade. The positive action that can be taken through this kind of tourism to empower local communities to pursue sustainable livelihood opportunities, to provide poacher compensation and education workshops and to spread monetary benefits from local or national parks are key ways that support Target 15.7 under UN Sustainable Development Goal 15 to combat poaching and trafficking of protected species.

Wildlife tourism supports 21.8 million jobs either directly or indirectly across the world; 6.8% of total Travel & Tourism jobs. The 21.8 million jobs supported by wildlife tourism is the equivalent of the entire population of Sri Lanka.

The regional shares of wildlife tourism within the wider Travel & Tourism sector differ quite widely - ranging from a hugely significant 36.3% in Africa to 8.6% in Latin America and 5.8% in Asia-Pacific to a low of 2% in North America and just 1.6% in Europe.

Case studies show that Protected Areas, where most wildlife tourism takes place, have developed rapidly over the past few decades in response to burgeoning population growth and a need to protect biodiversity and forest cover. The financial benefits brought from wildlife tourism are also likely to greatly exceed the approximate $10 billion[5] in annual costs of managing these Areas.

Apart from improved governance, the increasing use of social media to assess visitation and understand visitor preferences for wildlife tourism and other forms of recreational activities hold promise for future efforts to understand the nature of the sector.

01 INTRODUCTION

Each year, the illegal wildlife trade (IWT) is worth at least USD 23 billion[6]. IWT is the fourth largest category of illegal global trade and is responsible for threatening a broad range of endangered species[7]. Protecting wildlife is therefore an immense challenge.

The global Travel & Tourism sector is an important part of the world economy accounting for 10.4% of global GDP and supporting one in ten jobs on the planet (319 million)[8]. Quantifying the value of wildlife tourism as an important niche within global Travel & Tourism is a crucial step towards providing the data that helps prove the economic value of protecting wildlife habitats; acting as a positive counterbalance to environmentally destructive yet economically profitable practices.

Wildlife tourism (WT) – here defined as viewing and experiencing animals in their natural habitat – is increasingly recognised as an important part of the overall Travel & Tourism sector. The importance of WT is all the greater given the threats that have emerged to wildlife around the world, ranging from habitat destruction, climate change and the impacts of poaching. However, while the importance of this form of tourism is often recognised, statistics on WT are often dated, incomplete or conflated with other forms of tourism.

Accordingly, this report undertakes that task, using both top down (aggregated) and bottom up (disaggregated) data sources to determine global estimates for the economic contribution of WT. These estimates include direct expenditure, GDP and employment effects of WT at the continental and global levels.

In addition, estimates of the total impact of WT on GDP and employment on these geographies and at a global level have been developed, allowing for the "multiplier effects" of spending by WT suppliers, WT and supply chain workers, investment and government spending.

Country case studies of the key WT markets of the UK, Germany, United States, Brazil, South Africa, Tanzania, Kenya, India, Thailand and China are also examined in this report.

Fortunately, there are several cases of effective programs and 'local level' initiatives to prevent illegal wildlife trade to draw on. For instance, Kenya's National Wildlife Strategy 2030 provides evidence-based support for tackling poaching[9], while a collection of Conservancies (such as Olderkesi Wildlife Conservancy) have implemented land management and monitoring strategies to prevent poachers[10]. GPS-supported, community-based forest crime prevention approaches are being developing in the Amazon in Brazil, with prospects for many African countries[11].

APPROACH 02

The economic estimation of WT has been of interest to many in the tourism and academic fields in recent years, however good data in the area are scarce.

While writers such as Fillion et. al. (1994) have provided much-cited estimates in the past, these estimates are dated, and their current relevance is unclear[12]. Another key issue is definitional. Some studies refer to "ecotourism", "nature" (or "nature-based" tourism) "adventure tourism", "special interest" tourism, "rural tourism" and to WT interchangeably or with little attempt to separate these activities. Still others include zoos and fenced wildlife parks in such tourism.

This study sees a distinction between the following types of tourism:

- Wildlife Tourism - in essence, this study defines WT as tourism in which wildlife watching experiences and/or interactions are an important motivator. It therefore excludes settings such as zoos (or zoo-like parks), circuses or theme parks involving animal performances. The definition also excludes consumptive wildlife tourism such as hunting and fishing. In other words, it is restricted to what is sometimes known as "non-consumptive" WT involving watching and experiencing with wildlife in its own natural habitat.
- Adventure tourism – is viewed as involving some form of activity such as rafting, canyoning, caving etc.
- Ecotourism - is considered to be tourism involving experiences with flora, fauna, landscapes and potentially cultures in a natural setting (and so is slightly broader than wildlife tourism).
- Nature-based tourism - encompasses both ecotourism and WT – for example it could include rural activities such as farm stays.

The figure below illustrates how this study views WT in comparison to the other related forms of tourism. Needless to say, not all studies adhere to these definitional distinctions, while others introduce further or different sub-categories.

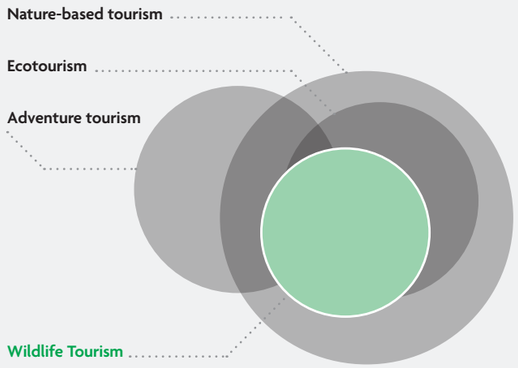


Fig. 2. Wildlife tourism and associated tourism

A further complication (which of course occurs with many forms of tourism) is that an individual tourist may have many reasons for undertaking a trip. A trip to Africa for example may include a wildlife watching safari but also involve purchasing handicrafts, tasting local food or exploring local cultures.

Nonetheless, assessing the economic impact of WT is of great importance to many countries and stakeholders. This is particularly the case in an environment when wildlife faces many threats, ranging from habitat destruction and climate change to poaching.

The discussion below provides details of the approach taken in this study to the assessment of WT and the definition of Protected Areas (PAs) which are closely associated with such tourism, as explained below. A more detailed discussion of the methodology is provided in the Appendix 2.

METHODOLOGY

A way forward to developing an estimation of WT may be found in the work of Balmford et. al. (2015)[13]. This extensive study sought to provide estimates of global visitation and spend in defined Protected Areas (PAs). In essence, PAs, as defined by the International Union for the Conservation of Nature (IUCN), are defined geographical spaces, recognised, dedicated and managed to achieve nature conservation[14]. PAs typically encompass national parks and other designated wilderness spaces. More formally, PA's are grouped into several governance types, as indicated in the box below[15].

A key initial issue in undertaking the work was to distinguish between WT in North America and Europe and the other continents (Latin America, Asia and Asia-Pacific). For this reason, a dual bottom-up/top down analysis was undertaken for this study, namely:

- North America and Europe - "Bottom up" data sources from the US, Canada, the UK and Germany were used to determine visitation and spend figures.
- Africa, Asia-Pacific and Latin America- In the case of these continents, the approach was essentially "top down", using the PA visitation estimates of Balmford et al. as a base. However, significant modifications were made for tourism growth, a WT "filter", inflation and the use of supplementary estimates in some cases.

  This approach yielded estimates for the various continents. Results for the bottom up and top down analysis were then combined to produce a global direct spending total. Data from the Oxford Economics Global Travel Service Databank was used to convert these spend estimates to GDP and employment figures.

  Direct tourism spending also has indirect effects (e.g. spending by WT suppliers, WT and supply chain workers and investment and government spending). The spill-over (or multiplier) effects of the direct tourism spending estimated above, were derived using information from Oxford Economics Global Travel Service Databank. This allowed tor the development of total economic contribution (GDP and employment) figures for WT at the continental and global scale.

PROTECTED AREAS

Much of global WT takes place in Protected Areas (PAs). PAs are defined by the IUCN as falling into the following categories:

- Ia Strict Nature Reserve - strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphic features, where human visitation, use and impacts are strictly controlled.
- Ib Wilderness Area - Usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation.
- II National Park - protected areas which are large natural or near natural areas which also allow for visitation.
- III Natural Monument or Feature: - protected areas set aside to protect a specific natural monument, such as a landform, sea mount, submarine cavern or geological feature.
- IV Habitat/Species Management Area – these protected areas aim to protect particular species or habitats and management reflects this priority.
- V Protected Landscape/ Seascape - protected areas where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value.
- VI Protected area with sustainable use of natural resources - protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.

  In practice, this and many other WT or similar studies exclude PAs falling into Category 1a and 1b as these are generally off-limits to human visitation.

03

FINDINGS

The research analysis suggests that WT made up $120bn or some 4.4% of the estimated direct global Travel & Tourism GDP of $2,751 billion in 2018[1617], and directly supported 9.1 million jobs. When including the indirect and induced benefits of WT, the figures rise to $343.6bn, or 3.9% of the global share of Travel & Tourism GDP and 6.8% of all jobs in Travel & Tourism (21.8 million).

The regional direct shares of Travel & Tourism that WT represent differ quite widely across the world ranging from a low of 1.6% in Europe and 2% in North America, to 5.8% in Asia-Pacific, 8.6% in Latin America, and a hugely significant 36.3% in Africa.

The global direct GDP figure seems consistent with past UNWTO estimates that "nature tourism" captures 7% of the global tourism expenditure (bearing in mind that WT is likely to be smaller than broader definitions of nature tourism)[18]. While not a spend (or WT) estimate per se, another interesting comparison is the work of Levin et al.. who find that 11% of global geo-tagged Flickr photographs are taken within PAs, noting that such photos are a reliable surrogate for visitation[19].

Balmford et al. have suggested that spending on PA development and maintenance runs at approximately $10 billion globally[20]. This suggests that the global returns to WT are likely to greatly exceed the financial costs of PA management[21].

These figures should be caveated by the fact that they are "order of magnitude" estimations based on a variety of sources. With the further development of both WT, improved PA management and efforts to better record visitation numbers and spend, more refined figures could be developed in future. Apart from improved governance, the increasing use of social media to assess visitation and understand visitor preferences for WT and other forms of recreational activities also hold promise for future efforts to understand the nature of the sector.

These WT estimates are necessarily broad and intended to give a "big picture" viewpoint on the state of WT across the global tourism industry a whole. It is also useful to consider the development of WT in key individual markets, as these will have their own pattern of development. Accordingly, the country Case Studies explored below (and the details provided in the Appendix) provide further details on sources and/or aspects of WT in key WT markets across the world.

Fig. 2. Direct and total economic contribution of WT, 2018

CONTINENT	DIRECT			TOTAL	
	EXPENDITURE ($BILLION)	GDP ($BILLION)	EMPLOYMENT (MILLION)	GDP ($BILLION)	EMPLOYMENT (MILLION)
NORTH AMERICA	25.4	13.5	0.2	37.6	0.5
EUROPE	28.5	13.3	0.2	35.4	0.6
AFRICA	48.8	29.3	3.6	70.6	8.8
ASIA-PACIFIC	118.2	53.3	4.5	171.2	10.4
LATIN AMERICA	19.9	10.7	0.5	28.9	1.4
TOTAL	241.0	120.1	9.1	343.6	21.8
SHARE OF TOTAL GLOBAL T&T (%)	4.2%	4.4%	7.4%	3.9%	6.8%

Source: Oxford Economics, Figures may not sum to totals due to rounding

04 CASE STUDIES

The quantitative analysis above provides some indication of the magnitude of global WT. However, it is also useful to take a more in-depth look at ten countries that are some of the key WT markets across the world. This section examines WT in Brazil, China, Germany, India, Kenya, South Africa, Tanzania, Thailand, United Kingdom and the United States which collectively account for 61% of global total Travel & Tourism spending. The information gathered for these case studies also assisted in forming broader estimates of the magnitude of WT to varying degrees. Accordingly, the case studies for the United States, UK and Germany focus on more quantitative aspects of estimation, while the remainder provide more of a broad overview of WT in the respective countries

BRAZIL

Brazil's size, position and growing international prominence (despite recent political and economic turmoil) has made it an increasingly important market for WT. While the fact that the majority of the Amazon rainforest lies within the country makes it an obvious WT destination, another key draw lies to the south of the Amazon, where the wetlands of the Pantanal in Mato Grosso do Sul provide a key habitat for the jaguar, along with deer, otters, eagles, tapirs and giant anteaters.

Though one of the most famous ecosystems in the world and of key interest to wildlife tourists (with authors such as Newhouse quantifying that it is one of WT's global "hotspots) WT in the Amazon basin itself is still relatively limited, with past estimates indicating that tourism accounts for only 1% percent of regional GDP[22]. Though considered megadiverse in terms of its fauna and flora, WT has been relatively slow to develop in comparison to other regions[23].

Nonetheless, there are indications that WT (and related forms of tourism) have been growing substantially in Brazil in recent years. Brazilian government data indicates that federal PA visitation increased from 3.6 million in 2008 to 10.7 million in 2017[24].

Past Brazilian government work has also examined the phenomenon of "ecotourism" and by extension WT, indicates that 65% of domestic Brazilian visits to PAs are motivated by contemplacao ou contato com a natureaza ("contemplation or contact with nature")[25]. 2007 survey work indicated that some 3.4% of domestic Brazilian travellers reported ecotourism as their main motivation for travel while a 2009 survey recorded 1% of Brazilians stating that their main motivation for domestic travel was observation of flora and fauna[26]. Likewise, other studies have indicated that 22% of Brazilian adventure and ecotourists were motivated by wildlife watching[27].

Other work by the Brazilian Ministry of Tourism recorded that nature tourism, ecotourism and adventure tourism were (collectively) cited by 22.2% of international tourists as the main motivator to visit Brazil in 2008, up from 12.8% in 2004, though this appeared to have fallen back to 16.3% by 2017[28].

Estimates based on extensive work by Souza to investigate tourism in Brazilian federal PAs indicate that domestic tourists spent some $43 per day (in 2016 dollars) in these PAs and typically spent some 2.5 days per visit. However, these figures exclude the costs for domestic transportation to and from PAs (which could be considerable given their remote nature in many cases)[29]. These figures also exclude costs incurred by foreign visitors. As is the case in African WT these could be considerable, as foreign tourists often spend large amounts on wildlife/adventure "experiences". Work done by Tortato et. al (2017) indicates that the cost of lodge accommodation/tour packages in the Pantanal amounts to $412 per day[30]. Foreign tourists are likely to make up a large proportion of these lodge patrons.

Jaguar tourism on the Pantanal itself provides an interesting case study of approaches to address the tensions which may arise between WT and local rural industries in Brazil and elsewhere. Tortato et al. for example find that the value of local WT greatly exceeds local cattle losses due to jaguar predation and suggest that a voluntary tourist fund be set up, diverting some tourism benefits to rancher compensation.

GERMANY

WT in Germany has a long history, often intermingled with national traditions of recreational hiking and wanderlust. The country also enjoys internationally renowned locations of natural beauty including the Schwarzwald (Black Forest) and Harz Mountains.

These traditions are reflected in data on the propensity of Germans (and foreign visitors) to undertake trips to the country's Nationalparks (National Parks), UNESCO Biosphärenreservate, (UNESCO Biosphere Reserves) and Naturparks (Nature Parks). According to Naturtourismus in Deutschland 2016 (2016) survey work by the Bundesamt für Naturschutz (BfN) for the period between 2007 and 2015 indicated an average of 53.09 million National Park visitor days per year while a separate study extending this methodology to Biosphere Reserves indicates an average of 65.3 million visitor days per year[31]. These figures total 118.6 million visitor days per year (including both foreign and domestic visitors).

In addition, some 65% of "nature tourists" were found to be motivated by to Tier- und Pflanzenwelt erleben ("experience the flora and fauna").[32]

Naturtourismus in Deutschland 2016 also allows for the estimation of visitor spending in National Parks and Biosphere Reserves, indicating a total spend of €5.7 billion or an average of €48.3 per visitor day in 2016 terms. Note however that no data could be collected in respect of Nature Parks, so these visitation figures will be lower bound nature tourism estimates.

Nonetheless, if combined with the "flora and fauna" motivation factor above (65%) and converted to dollars, this suggests that German WT accounts for 77 million visitor days and $5.3 billion in in-country spending per annum (in 2018 terms) before adjustment for inbound tourism costs.

Combined with data on the total number of German visitor days, both foreign and domestic, (4.1 billion in 2016) this in turn allows for an estimation of the proportion of wildlife tourism in relation to all visitor days (1.9%).[33]

This estimate excludes Nature Parks but includes both flora and fauna motivated tourism. These two effects may cancel each other out to some extent. However, it should be noted that, relative to total visits, the figure may still be at the lower bound, given that total visits include a large number of day trips for various purposes (e.g. shopping). Nonetheless, these estimates are remarkably similar to those obtained for UK WT using different sources, with both suggesting that WT accounts for around 2% of total visits or visitor days in each country.


Black Forest, Germany

CHINA

With their unique natural landscapes and rich flora and fauna, Chinese nature reserves are the most popular areas in China for WT activities[34]. China has 120 PAs, including 16% of its terrestrial land and 5% of its marine areas.[35] These PAs include National Forest Parks, National Key Scenic Resorts, National Natural Reserves, National Geoparks, National Wetland Parks, National Mining Parks, and National Water Reserve Parks. China's national parks have developed rapidly over the past few decades in response to a burgeoning population with an increased disposable income, vacation time, and personal transportation. The country's nature reserves include World Heritage Site status locations: Yellow Mountain (Huangshan), Shennongjia and Jiuzhaigou; which are protected by stringent conservation management regimes.

The Yunnan Province, bordering the Tibetan Himalayan ranges, is home to the greatest number of plant species in China, has 55% of China's vertebrates and roughly 200 endangered and/or rare species including: the Asian elephant, Asian leopard, Yunnan golden monkey, gibbons, wild ox, hornbills and other birds. Yunnan has networks of over 20 reserves, with seven of these classified as Level A nature reserves under the Chinese conservation system in terms of national importance, due to their outstanding natural features and biodiversity[36].

Historically, it has been difficult for China to attract large numbers of international wildlife tourists in the current context due to limited infrastructure in rural areas (where prime ecotourism destinations are located), visa restrictions, and in some cases, the poor condition of the necessary human and organisational resources[37]. Since the first National Forest Park was established in China in 1982 (Zhangjiajie National Forest Park) various types of parks have been established, and their numbers have increased rapidly. Today, there are 1,865 areas classified as National Parks based on the IUCN Guidelines for Protected Area Management Categories[38].

WT and, by extension, ecotourism in China is as much about cultural heritage, as it is about conservation, and indeed culture and nature are not seen as distinct concepts[39]. Wen and Xue (2008) acknowledge the differences in ecological values between Eastern and Western cultures. Western concepts of ecotourism view it as an experience, occurring in the present moment within the natural environment[40]. The Chinese view such tourism as an experience of the unification between nature and humanity and the opportunity to connect one's present with the past. This view is influenced by the evolving notions of Confucianism, Buddhism and Taoism.

WT and ecotourism in Chinese nature reserves enjoy an elevated status because of their role in funding conservation efforts and scientific research, protecting ecosystems, benefiting rural communities, promoting development in rural regions, and enhancing ecological and cultural awareness by educating the visitors. Liu, Wang, Qian, Qin, and Jiang (2009) analysed the data collected from a survey of the status of management in Chinese nature reserves, finding that 75% of nature reserves had ecotourism operations, 23% did ecotourism development planning or tried to operate small-scale ecotourism, and only 2% of nature reserves did not implement any ecotourism[41].

Although the intention of National Park systems in China is to raise environmental quality, and to protect biodiversity and social livelihoods, their success has varied. Future success will be measured by their capacity to reduce poverty, to promote long-term rehabilitation of wildlife habitats, and to simultaneously protect Chinese culture and biodiversity. The lack of attention to environmental elements means that parks often fall short of meeting the criteria of sustainability, as defined by the UN General Assembly and conservation bodies[42]. Unsurprisingly, the vast majority of PAs are governed by national-level ministries or agencies. The Government of China, having realised the importance of sustaining and protecting its environment and natural resources, has accepted the basic concept that tourism, and particularly ecotourism, can help preserve the integrity of natural systems while providing economic opportunities[43]. This is an important first step and a positive sign for the near future, since - if this intent is indeed genuine - China's authoritarian regime has a track-record of swiftly rolling-out environmental restoration initiatives (as seen in the unprecedented rise of its renewable energy development).

INDIA

From the mountains of the Himalayas to the seacoasts of Kanyakumari and from the Thar deserts of Rajasthan to the humid forests of the northeast; India is one of the 12-mega bio-diverse countries of the world and has a rich cultural heritage. The country has roughly 7% of the mammals, 12.6% birds, 62% reptiles, 4.4% amphibians, 11.7% fishes and 6% plants of the world[44]. In many PAs, tourist surveys report that a primary purpose is to view tigers[45].

Renowned biodiversity features including the Western Ghats and Eastern Himalayas. Great variation in climatic condition has given appearance to variety of forest types including tropical and sub-tropical forests in these regions, temperate and alpine forests in central and western Himalayan and desert forests in the arid and semi-arid regions. According to Forest Survey of India (2017), about 7,08,273 km, constituting 21.5% of its geographical area is under forest cover in the country[46]. In total, India has 672 PAs, covering 6% of its terrestrial area[47].

As a part of the updating and cross-checking of Balmford et al.'s work, conducted for this study, data was collected for 20 of India's PAs, with considerable dispersion across the country. A sample of annual visitors per day for select PAs included: Kanha with 101,533 visitors, Mudumalai with 124,322, Satpura with 162,785, and Periyar with 490,866 visitors.

The northern part of India is famous for its hills, plains, rivers, and monuments, including the Himalayas, the Ganges. The Indian Ocean, Arabian Sea and the Bay of Bengal offer a very large coastline. The Sundarbans is the largest single block of tidal halophytic mangrove forest in the world. It has an area of ~10,000 km2 of which 40% is in India and is a UNESCO World Heritage site. The Sundarban National Park is a national park, tiger reserve, and a biosphere reserve located in the Sundarbans delta in the Indian state of West Bengal[48].

In India, tourism is one of the largest net foreign exchange earners and the largest service industry, with a direct GDP contribution of 3.6% according to WTTC data. In terms of legislative support, the national ecotourism policy and guidelines aim to preserve, retain and enrich natural resources and to ensure regulated growth of ecotourism with its positive impacts on environmental protection and community development. Most PAs are governed by sub-national ministries or agencies.

WT and ecotourism have rapidly grown in India as people become more conscious of the environmental hazards and the importance of the existence of diverse flora and fauna. Despite this, there remains vast potential for higher growth in the future, coupled with the need to focus on nature conservation and extending economic benefits to the local communities.


Huangshan Moutains, China


Thar Desert of Rajathan, India

KENYA

Kenya has a rich abundance of wildlife that thrives in habitats stretching from the Indian Ocean to forested ecosystems, vast savannah woodlands, mountain peaks, and to the bottom of the Great Rift Valley. The country has 411 PAs, covering 12% of its terrestrial area and 1% of its marine area. A large share of the governance types for these areas are unreported, followed by 19% federal governance[49]. A widespread PA system is in place with over 10% of its land area currently gazetted as national parks, national reserves or forest reserves: the system to date is comprised of 23 national parks, 28 national reserves, 4 marine national parks, 5 marine national reserves and 4 national sanctuaries[50]. Based on social media data of geotagged ecotourist photos, Willemen et al. (2015) find that Kenyan Reserves, Samburu National Reserve and Mukogodo Forest Reserve, are among the top wildlife tourist attractions in Africa[51].

WT has grown in Kenya over the past several decades, with early initiatives influenced by policy changes that saw the creation of national parks and reserves and banning hunting. Taking a historical perspective, in the 1980s, the WT industry boomed, relatively speaking, with increased lodge capacity and size to cater for increasing visitor numbers. Since then, however, funding for WT related infrastructure has significantly reduced[52]. Past estimates indicate that WT accounted for about 70% of tourism earnings and more than 10% of total formal sector employment in the country[53]. Despite the growth of both private reserves and beach tourism, the heart of Kenya's WT and ecotourism industry remains its national parks and reserves and their surrounding buffer zones.

Kenya has led some of Africa's earliest experiments in community-based conservation using park and tourism revenues and began the first efforts to systematically adopt a set of principles and practices in its national park system. The private sector has also been key to the development of WT and ecotourism in Kenya. Today, roughly 75% of ecotourism ventures are public-private partnerships[54]. Yet in regulatory terms, the Wildlife Conservation and Management Act still recognises the state as the sole regulator of matters related to wildlife, a position perceived as restrictive and insensitive to the realities of wildlife conservation, particularly the potential role of local people. In order to address this gap, the Kenya Wildlife Service (KWS) was created through subsidiary legislation that allows private people to participate in wildlife conservation and WT subject to compliance with legislative requirements[55].

As its human and livestock population grows, the sustainable development and management of its nationally-vital wildlife resources and of its robust safari tourism sector remains a major concern[56]. The country is experiencing an accelerated decline of its wildlife population[57].

Masai Mara National Reserve, Kenya

Savanah, Serengetti, Africa

SOUTH AFRICA

South Africa has 1,544 protected areas, covering 8% of its terrestrial land and 12% of its marine area. The majority of protected areas are governed by individual landowners, which is atypical compared with the other national case studies that are primarily government run[58]. Kruger National Park in South Africa is in a league of its own because of its diversity of animals as well as advanced environmental management techniques and policies. It is one of the largest parks in Africa covering ~20,000 km2. It is well-managed and maintains large and relatively stable animal populations. Grünewald et al. (2016) find that most park visitors are locals, with 79% being South African[59].

Visitors spend large proportions of their viewing time on predators such as lions, leopards and cheetahs. Addo Elephant National Park in the Eastern Cape province is the only park where the Big Seven can be viewed, including: the African elephant, Cape buffalo, African lion, African leopard, African rhino as well as whales and Great White sharks. Across the country's PAs, Lindsey at al. (2009) find that mega-herbivores and large carnivores are most popular, particularly among first-time and overseas visitors. Despite this, African visitors and experienced wildlife viewers tend to be more interested in bird and plant diversity, scenery, and rarer, less easily-observed and/or less high-profile mammals[60].

As a part of the updating and cross-checking of Balmford et al.'s work conducted for this study, visitor statistics were collected for 19 South African protected areas. Kruger National Park was top-ranking in terms of visitation with approximately 1.5 million visitors annually as at 2007. Cape Peninsula National Park also saw an average of 1,462,649 visitors per year from 2002 to 2006[61]. Meanwhile, iSimangaliso Wetland Park was the first site in South Africa to be awarded World Heritage status. It contains most of South Africa's remaining swamp forests and is Africa's largest estuarine system.

A wide range of past studies have focused on South Africa as a primary case study for WT trends. Conducting surveys of South African wildlife tourists, Boshoff et al. (2007) found that 23% of respondents visited South Africa's national parks 'frequently', compared with 13% to its provincial parks and reserves and 4.5% to its private reserves[62]. Social media studies, such as Willemen et al. (2015), show that Addo Elephant National Park in South Africa is among the African PAs with the highest potential to attract wildlife tourists based on attractive species occurrence[63]. Overall, the sustainability implications of South Africa's WT growth appear to be positive. For instance, the proliferation of private WT destinations (e.g. private game reserves) has contributed to the large-scale conversion of previous agricultural land to conservation land use[64].

TANZANIA

Tanzania is endowed with a rich storehouse of nature-based tourist attractions. Tourism is focused primarily around its renowned attractions in the great plains of the Serengeti, the wildlife spectacle of the Ngorongoro Crater, Mount Kilimanjaro as well as the island of Zanzibar with its lush tropical beaches[65]. The Serengeti National Park is one of the best places to see the Serengeti wildebeest migration, while Africa's highest mountain - Mount Kilimanjaro lies in Tanzania's Kilimanjaro National Park[66]. The most popular PAs in Tanzania include the Ngorongoro Crater with roughly 40% of visitors to PAs in Tanzania, followed by Serengeti National Park at 25%, Tarangire with 11.2%, and Arusha with roughly 10.8%[67].

Tanzania has a great variety of PAs with immense biodiversity, including national parks, game reserves, marine parks and forest reserves. As at 2017, this includes 16 national parks, 28 game reserves, 44 game-controlled areas and 38 wildlife management areas. These areas range from marine habitats to grassland and mountain terrains. Indeed, approximately one third of Tanzanian territory is protected[68]. Protected wildlife areas in Tanzania span 246,260 km^2, covering 26.6% of the country's total land area[69]. According to the World Bank (2018), Tanzania has roughly 1.9 million ecotourism visitors per year[70]. Tanzania's 840 PAs cover an uncommonly large proportion of its terrestrial area at 38%, with 3% marine area coverage. Almost all PAs are governed by federal ministries or agencies[71].

Overall, tourism in Tanzania continues to grow. Roughly 46% of international tourists experience a wildlife activity, compared to 26% with a beach holiday component and 11% undertaking hunting and fishing[72]. Entrance fees to PAs, are much greater for tourists than locals. For instance, from 2015 to 2017 game reserve entrance costs averaged US$41 for international tourist adults versus US$3.35 for Tanzanian citizen adults[73]. While a cost to foreigners, this is good news for tourism revenues. WTTC estimates indicate that the tourism sector contributed 11.7% to Tanzania's GDP, with 2.3 million people supported in the sector's employment. Currently, Tanzania's national parks are working towards International Standards Organisation (ISO) certification for service excellence in tourism[74].


Andaman Sea, Thailand

THAILAND

Thailand's PAs are highly dispersed across the country, covering a range of habitats from upper and lower montane rain forests or cloud forest in the north and parts of the northeast to dry dipterocarp forests, and from seashore and mangrove to islands or archipelago in the Gulf of Thailand and Andaman Sea. Khao Yai National Park, an ASEAN heritage site for example, is dominant in its different ecosystem types and home to many species of wildlife and plant to be considered under endangered, rare or endemic status[75].

Spectacular mountain views of Doi Suthep, Doi Pui National Park in northern Thailand and Dong Phayayan Khao-Yai Forest are examples of long-standing, popular destinations. Due to these abundant natural and cultural resources and an already-booming wider tourism market, the WT and broader ecotourism potential of Thailand is high in terms of attracting both Thai and foreign tourists. Thailand's investment in tourism infrastructure to support and enhance its reputation as a premier tourism destination benefit its fledgling WT and ecotourism industries.

Increasing trends in WT activity in Thailand have been further spurred on by environmental challenges. Indeed, between 1961 and 1991, Thailand lost some 50% of its remaining forest cover due to anthropocentric factors. As such, a main aim of the Thai government in the past decade has been to protect the remaining natural forests by establishing a PA system. Comprised mainly of national parks and wildlife sanctuaries, PAs now cover roughly 15% of the country[76]. Thailand's PA system was originally established in 1962 with Khao Yai designated as its first national park. The National Ecotourism Development Policy of 1998 supports pilot projects of village-based ecotourism to support sustainable livelihoods.

Today, Thailand's PAs are distributed widely across the country and are comprised of roughly 14% national parks, 7% wildlife sanctuaries and another 1% non-hunting areas and forest parks; all as a proportion of total land area[77]. Thailand has 238 PAs in total, covering 19% of the country's terrestrial area and 2% of marine areas. This includes 120 national parks (3 that are ASEAN Heritage), 24 marine national parks, 58 wildlife sanctuaries and 13 non-hunting areas[78]. The vast majority of protected areas are governed by federal ministries or agencies.

Both WT and broader ecotourism in Thailand has become focused on promoting tourism at the community or village level, with wider objectives of reducing rural poverty, and sustaining resources use in conservation areas[79]. The Thai Government sees such community-based tourism as raising the income of rural people, whilst conserving their culture and the environment[80]. Thailand offers a wide range of treks to experience hill tribe villages, elephants, rafting and kayaking, among others. Roughly 70% of Thai domestic tourists and 30% of foreign tourists engage in ecology-related activities during their travel[81]. Yet despite Thailand's growing WT and ecotourism activity, standards remain low with many small operators being weak in promotion and marketing.

UNITED KINGDOM

WT in the UK has a long and rich tradition, with key attractions including the Peak and Lakes Districts, Dartmoor National Park and the Scottish Highlands. Birdwatching – including fewer common species such as eagles and puffins - is ever popular, along with an interest in observing deer, red squirrels, badgers and mountain hares.

WT is of particular interest to the Scottish economy, where past estimates suggest that it accounted for 1.12 million annual trips and £276 million in gross expenditure in 2009. WT accounted for 5.2% of all domestic tourism trips to Scotland in that year[82].

Excellent WT data also exist for Great Britain sourced through past surveys of domestic overnight (The GB Tourist) and day tourism (The GB Day Tourist)[83]. These both record the numbers of trips involving "wildlife watching/ birds watching" as well as the days spent, and spending involved in such trips.

While the best disaggregated data appear to date from 2015, these allow for a good estimation of the relative extent of British WT (about 3% of overnight domestic trips and 1.9% of tourism day trips).

A further valuable source is VisitBritain's Valuing Activities: Final Report[84]. This allows for the apportionment of total expenditure of trips involving WT to specific WT activities (15% in the case of domestic overnight holiday trips and 42% in the case of domestic tourism day visits). Accordingly, these figures were used to determine the actual spend on WT.

The resulting figures for Great Britain were then uplifted to account for Northern Ireland (and so develop a UK figure).

An indication of the extent to which overseas visitation to England is motivated due to WT can be found in work by VisitEngland where 7% of overseas leisure travellers indicated they had undertaken such activities during their last trip to England[85]. Foreign WT spend figures were derived by apportioning average overseas traveller spend to WT (derived from Oxford Economics Global Travel Service Databank) using the domestic UK overnight holiday figures noted above (15%). All foreign and domestic WT figures were then adjusted to 2018 values. These figures suggest that 2.1% of UK foreign and domestic trips involve WT to some degree, with domestic spend per person per trip of $70.27 and total in-country spend of $2.4 billion (before adjustment for an inbound travel component).


Peak District, England

UNITED STATES

The United States has a longstanding tradition of enjoying life in 'the great outdoors" with Americans enjoying access to a rich diversity of landscapes and environments spread over a large landmass.

Combined with a large domestic population and strong foreign visitation this makes the country one of the key international markets for WT.

Visitation data reflect these facts. Data for US National Parks record 330.9 million visits in 2017, compared to 275.6 million in 2007[86]. Of course, as indicated, not all of these visits are necessarily related to WT nor is all WT conducted in National Parks. However, with the help of the National Survey of Fishing, Hunting and Wildlife Associated Recreation[87], conducted every 5 years (the latest data being for 2016), the US has excellent WT data.

These data provide a set of accounts for both "stay at home" wildlife watchers and those who venture away from home (i.e. make trips of over 1 mile). It is the latter group that are of most interest for this report. These data indicated that such American domestic wildlife tourists made 258 million trips, accounting for 386 million visitor days, with direct travel spending of at least $11.6 billion on wildlife tourism trips away from home in 2016. Details on auxiliary equipment, day packs, special clothing and other wildlife watching equipment costs provided in the same report were added to this to arrive at a total WT spend of some $16 billion in 2016 dollars[88].

Given 2.3 billion domestic person trips in 2016, these figures suggest that 11.3% of US domestic trips may relate to WT. However, this is likely to be an overestimate, given differences between these two data sources[89].

The National Survey data also indicate that the great majority (79%) of American domestic WT away from home takes place in public lands, with smaller proportions (10%) taking place only in private lands.

While less detail is available on details on international visitation, 2016 survey work indicates that 4% of international leisure visitors indicated that "Environmental/Eco. Excursions" was a motivator for their trip[90].

While ecotourism may not be synonymous with WT, the relatively modest figures involved means this can serve as a useful proxy for foreign WT to the United States. Combining these figures indicates that the value of United States WT was some $21.3 billion in 2016. This figure was adjusted to 2018 terms to arrive at a domestic WT spend figure of $22.1 billion for this report. This figure was then adjusted to allow for inbound transportation costs.

01 APPENDIX
BUENOS AIRES DECLARATION

In 2018 at the WTTC Global Summit in Buenos Aires, over 40 WTTC Member CEOs made a commitment to helping to eradicate the scourge of wildlife trafficking in the world.

To date, over 110 WTTC Members and leaders from the wider global Travel & Tourism sector have signed a declaration on illegal wildlife trade (IWT). WTTC and the signatories will work together towards a common goal of changing behaviour of 1 billion travellers as it relates to illegal wildlife trade.

Signatories to date include:

- Abercrombie & Kent
- Adventure Travel Trade Association (ATTA)
- AECO - Association of Arctic Expedition Cruise Operators
- African Parks
- African Travel & Tourism Association (Atta)
- Airbnb
- AITO - Association of Independent Tour Operators
- All for Nature B.V
- Amadeus
- American Express
- American Express Global Business Travel
- American International Group, Inc.
- ANVR - Dutch Association of Travel Agents and Tour Operators
- Associação Onçafari
- Beautiful Destinations
- Beijing Tourism Group
- Best Day Travel Group
- Botswana Tourism Organisation
- Brazilian Luxury Travel Association
- Caiman Ecological Refuge
- Cayuga Collection of Sustainable Luxury Hotels and Lodges
- City Sightseeing
- Cox & Kings
- Cristalino Lodge
- Ctrip
- Dallas Fort Worth International Airport
- Destinations International
- DMK Lawyers
- Dufry
- Dusit International
- Emaar Hospitality Group
- Emirates Group
- Etihad
- eTurbo News
- Europamundo Vacaciones
- Eurotur
- EXO Travel
- Expedia
- Global Exchange Group
- Global Rescue LLC
- Global Sustainable Tourism Council (GSTC)
- Google Inc.
- Grupo Posa
- Grupo Puntacana
- Grupo Security
- Hilton
- HNA
- Hogg Robinson Group
- Hostelling International USA
- Hyatt Hotels Corporation
- IC Bellagio
- International National Trusts Organisation
- Intrepid Group
- JLL
- Journey Mexico
- JTB
- Just a Drop
- Ladevi
- Mandarin Oriental
- Marival Group
- Marriott
- Minor Hotels
- Mystic Invest
- National Geographic Partners
- NYC & Company
- Ol Pejeta Conservancy
- OTI Holding
- Panorama Group
- PATA
- Pride Media
- Rajah Travel Corporation
- Ras Al Khaimah Tourism Development Authority
- RENCTAS
- Riverwind Foundation
- Royal Caribbean Cruises Ltd.
- SEE Turtles
- Silversea Cruises
- SOS Pantanal Institute
- South American Tours
- Swain Destinations
- Tale2tail
- Tauck Inc
- The Long Run
- The Nature Conservancy
- The Travel Corporation
- Thomas Cook
- Thompson Okanagan Tourism Region
- TOFTigers Initiative
- Tony Charters and Associates
- Tourism Industry Aotearoa
- TourismCares
- Travel + Leisure
- Travel Weekly US
- Travesías Media
- TripAdvisor
- TTG Asia
- TUI Group
- Turismo de Sevilla
- UNWTO
- V&A Waterfront
- Value Retail Plc
- Via Venture - Discover Guatemala
- Virtuoso
- Visit California
- Volcanoes Safaris
- WAZA
- WESGRO
- Wildlife Tourism Australia
- WWF
- WYSE Travel Confederation
- Yunnan Mekong Group

02 APPENDIX
DETAILED METHODOLOGY

Definitional issues

In estimating the scale of global WT, a first step is to have a working definition of such tourism. As noted, definitions of WT vary (and data does not always precisely match varying definitions). There is also the confounding factor of pinning down the importance of different attributes (including wildlife) in assessing visitor motivation.

However, in essence, this study defines WT as tourism in which wildlife watching experiences and/or interactions are an important motivator. It therefore excludes settings such as zoos (or zoo-like parks), circuses or theme parks involving animal performances. The definition also excludes consumptive wildlife tourism such as hunting and fishing. In other words, it is restricted to what is sometimes known as "non-consumptive" WT involving watching and experiencing with wildlife in its own natural habitat.

Past work

A way forward to developing an estimation of wildlife tourism may be found in the work of Balmford et al. (2015)[91]. This extensive study sought to provide estimates of global visitation and spend in defined Protected Areas (PAs). In essence, PAs, as defined by the International Union for the Conservation of Nature (IUCN), are defined geographical spaces, recognised, dedicated and managed to achieve nature conservation[92]. PAs typically encompass national parks and other designated wilderness spaces. More formally, PA's are grouped into several governance types, as indicated in the "Protected Areas" box in chapter 2 of this report[93].

Balmford et al. estimated PA-related visitation and visitor spend estimates at the continental (Asia/Australasia, Africa, Europe, North America, Latin America) and global levels. The analysis was extrapolated from 2,663 records of visits to 556 PAs downloaded from the Global Database of Protected Areas (GDPA). However, Category 1, Antarctic and marine sites were excluded from the analysis.

Given the nature of PAs and their close association with complex ecosystems, wildlife, and accordingly WT (especially in Africa, Asia and Latin America) this work provides valuable insights into the order of magnitude of such visitation and expenditure.

Caveats

While the work presented in Balmford et al. is useful as a road map to estimating the magnitude of global WT, there are several caveats associated with using it as an aid to determine the global magnitude of WT. These are listed in brief below:

- PA tourism vs wildlife tourism – Balmford et al.'s work refers to PAs. Not all PA tourism is necessarily related to WT, although WT is likely to be a key component or motivator of such travel in many cases.

- PA visitation in North America and Europe vs other continents - In the case of North America and Europe, the use of PA visitation as a guide to WT may be quite misleading due to the broad scope of such areas and their accessibility for a variety of recreational purposes.[94] Conversely PAs in South America, Asia and Africa would generally appear to be in less accessible areas requiring more deliberate purpose to enter[95]. This distinction has been supported by more recent work, focussed specifically on WT which suggests that PAs in North America and Europe are significantly less likely to be selected as WT destinations then those in Africa, Asia and Latin America[96]. While this means that Balmford et al.'s work is a very useful indicator of WT outside of North America and Europe, independent work is required to assess WT's magnitude in those two continents.

- Time period – The time period referred to relates to the average of PA visitation during the period 1998-2007 but global tourism has developed considerably since that time.

- Direct vs total values – Balmford et al.'s work refers only to the direct value of tourism spending without estimating GDP, indirect (multiplier) or employment effects.

- Other sources - There may be more up-to date or useful data on PA and/or wildlife or related tourism in non-English language publications. This could shed further light on the nature of such tourism. However, a further challenge in using such sources is that these may be difficult to access and/or use varying definitions as indicated above.

With the caveats above in mind, this study has proceeded along the following lines in estimating the value of WT.

GEOGRAPHIC AREA EXPENDITURE ESTIMATES

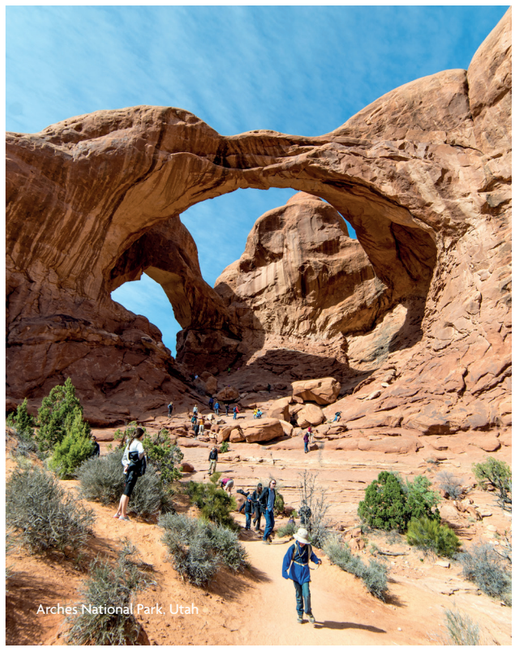
North America and Europe vs other continents

As indicated, a key initial issue in undertaking the work was to distinguish between WT in North America and Europe and the other continents (Latin America, Asia and Asia-Pacific). For this reason a dual bottom-up/top down analysis was undertaken for this study, namely:

- North America and Europe - "Bottom up" data sources from the US, Canada, the UK and Germany were used to determine visitation and spend figures.

- Africa, Asia-Pacific and Latin America- In the case of these continents, the approach was essentially "top down", using the PA visitation estimates of Balmford et al. as a base. However, significant modifications were made for tourism growth, a WT "filter", inflation and the use of supplementary estimates in some cases.

This approach yielded estimates for the various continents. Results for the bottom up and top down analysis were then combined to produce a global spend total[97].



Arches National Park, Utah

North America and Europe

Excellent data for the United States, directly reporting WT visitation and tourism spend can be found in the US Fish and Wildlife Service's, National Survey of Fishing, Hunting and Wildlife Associated Recreation[98]. The data of interest relate to "away from home" wildlife watchers- i.e. both day and overnight trips away from the immediate vicinity of the home residence (over 1 mile). These data allow for the separation of WT from other forms of PA or natural area visitation.

Data on foreign visitation to the US associated with WT can also be inferred from US National Travel & Tourism data which lists the proportion of visitors (4% of leisure travellers in 2016) who indicated that "Environmental/Eco. Excursions" was a motivator for their trip[99].

Canadian domestic travel data on WT can also be determined from past work on domestic travel motivations (which imply that around 5% of Canadian domestic leisure trips involve WT) and recent travel survey data[100]. Detailed data from British Colombia (BC) on the proportion of foreign (US) visitation motivated by WT were used to determine the proportion of foreign visitation to Canada driven by WT[101].

Estimates were updated to 2018 values through the use of relevant US and Canadian CPI data. The combined data sets suggested a visitation of 276 million trips per year with an in-country spend per trip of $89 for North America.

European WT visitation and spend estimates were based on data from both the UK and Germany.

Good data on UK domestic WT can be found in past UK overnight domestic and tourism day visit data (i.e. non-regular day trips away from a home locality and lasting 3 hours or more) as reported in Visit Britain's The GB Tourist and The GB Day Visitor. This data records trip and spend figures for trips involving "wildlife watching/bird watching". The most recent disaggregations relating to such data appear to relate to 2015[102].

Additional UK work allowed for the allocation of specific WT spend from general expenditure in domestic overnight and day trips involving WT[103]. Other studies report the proportion of foreign leisure visitors engaging in UK WT[104]. Foreign visitor spend on UK trips involving WT was then derived by combining this proportion with foreign spend per overnight trip (from the Oxford Economics Global Travel Service Databank). The resulting amount was then allocated to WT specific activities according to the domestic overnight visitor spending allocation used for domestic UK tourists above.

In the case of Germany, detailed German nature tourism recreational data are reported in the German language publication Naturtourismus in Deutschland 2016. Data on the number of visitor days and spend per day in German National Parks and UNESCO Biosphere Reserves are reported in this publication. In addition, this study also provides survey data on the proportion of "nature tourists" who are specifically motivated to undertake such tourism due to Tier- und Pflanzenwelt erleben ("experience the flora and fauna"). Some 65% of nature tourists indicated that they were motivated by such an interest in experiencing flora and fauna and this can be seen as roughly analogous to the proportion of such tourists who could be seen as wildlife tourists[105].

Multiplying the visitor days and visitor spend by the proportion of flora and fauna visitors provides an estimate for WT in Germany. This includes both foreign and domestic tourists, as no distinction is made between the two in the estimation of National Parks and Biosphere Reserve visitor numbers.

A cross-check of both the UK and German results indicated that the proportion of WT relative to total UK and German foreign and domestic tourism is remarkably similar, being roughly 2% in both cases[106].

The results of the UK and German work were then combined and extrapolated to a Europe-wide figure for 2018, adjusting for inflation and differences in purchasing power[107].

Finally, spend data for both North America and Europe were then converted to WT GDP and employment estimates for both continents. This was done by deriving tourism GDP/expenditure and tourism employment/expenditure ratios for North America and Europe from Oxford Economics Global Travel Service Databank. Allowance was also made for inbound travel costs in the case of foreign tourists, again using data in the Oxford Economics Global Travel Service Databank.

This process produced the spend figures indicated in the figure below. All expenditure and GDP figures are in 2018 dollars.

Swantis, Schwende District, Switzerland

Fig. 3. Direct expenditure, GDP and employment estimates for North America and Europe, 2018

CONTINENT	EXPENDITURE ($BILLION)	GDP ($BILLION)	EMPLOYMENT (MILLION)
NORTH AMERICA	25.4	13.5	0.2
EUROPE	28.5	13.3	0.2

Source: Oxford Economics

All tourism also has "multiplier" effects – as direct tourism expenditure causes further rounds of spending through spending impacts on supply chains and tourism and supply chain worker purchases, along with additional impacts on investment and government spending.

The combination of direct and multiplier effects allows for the estimation of total tourism impacts.

Oxford Economics Global Travel Service Databank also allows for the estimation of such multiplier effects for North America and Europe (as well as the other continents). This data was used to derive total GDP and employment impacts for WT for both of these geographies.

Total WT contribution figures for North America and Europe are presented in the figure below.


Whale Watching, Glacier Bay landscape, Alaska

Fig. 4. Total WT GDP and employment estimates for North America and Europe, 2018

CONTINENT	GDP ($BILLION)	EMPLOYMENT (MILLION)
NORTH AMERICA	37.6	0.5
EUROPE	35.4	0.6

Source: Oxford Economics

Other continents (Africa, Asia-Pacific, Latin America)

The approach for Africa, Asia/Australasia and Latin America was based on Balmford et al.'s dataset for PAs. However, this was extensively modified to allow for the following factors:

- A wildlife "filter" to distinguish between PA visitation and dedicated WT.
- Tourism growth factor to allow for the growth since the end of the dataset examined by Balmford et al. (i.e. since 2007).
- A review of the author's PA visit spend per day figures including allowance for more conservative Latin American figures and inflation.


Los Glaciares National Park, Argentina

Wildlife filter

In terms of the first of these factors, as indicated it can be difficult to distinguish WT from other forms of general or closely related tourism (e.g. nature tourism) both for definitional reasons and due to the mix of motivations people have in undertaking a trip. The North American and European work was based on data sources which allowed for the direct estimation of WT. While WT is strongly associated with PA visitation, there may be other and/or intermingled reasons for such PA visits.

Accordingly, a variety of sources were consulted to determine what proportion of PA tourism might be associated with WT:

- German data, cited above, indicates that some 65% of those undertaking "nature tourism" are motivated by a desire to experience flora and fauna[108].
- Data from Indian tiger reserve visitors indicates that only 34% would visit these PAs if tigers were not present (or conversely 66% can be said to be primarily motivated to visit by the presence of wildlife – i.e. tigers)[109].
- Brazilian data suggests that 65% of domestic Brazilian visits to PAs are motivated by contemplacao ou contato com a natureaza ("contemplation or contact with nature")[110].
- Analysis of Instagram and Flickr images taken at Kruger National Park suggests that roughly between 38% (Instagram) and 77% (Flickr) of images relate to "biodiversity (i.e. wildlife) , with other themes being landscapes, human activity, posing, food and accommodation. Excluding "derivative" attributes such as food, accommodation and posing (which are essentially a by-product of the visit rather than likely to be a key motivator) further analysis of these data suggests a weighted average of 61% of images include wildlife (though some will include other attractors in this context such as landscapes)[111].

Taken together, these data are remarkably consistent and suggest that the proportion of PA visitors for whom WT is a strong motivation may be in the 60-65% range. Erring on conservative side, a wildlife filter of 60% of PA visits being motivated by wildlife viewing/experiences has been set for this report.

APPENDIX 2

Tourism growth factor

As indicated, another issue with Balmford et al.'s overall approach is that its data relate to an average of PA visitation from 1998-2007. While this database is of great value for its uniquely global extent, global tourism has developed significantly in recent years particularly given the economic rise of emerging markets. Accordingly, there is a need to allow for tourism growth.

Although claims have been made over the years that WT has or is growing much faster than overall tourism, these claims may be dated, made for specific countries or at specific times and may not necessarily be true for geographical regions across the board.

Ideally a growth estimation could be made using an update of Balmford et al.'s original database. However, as the authors themselves noted, many of these data are "scattered and noisy".[112] In addition, their sources rely on a mix of secondary data as well as primary ones (e.g. personal communications) not all of which are replicable.

Two main approaches were therefore explored in developing growth rates to extrapolate visitation data from 2007 to 2018, namely:

- Method 1 - Growth was estimated using the change in international and domestic visitor nights in Asia-Pacific, Africa and South America recorded by Oxford Economics Global Travel Service Databank between 2007 and 2018[113].

- Method 2 – The data set in Balmford et al. was updated to the fullest extent possible by re-examining the author's sources, providing new historical estimates for the time period originally identified by the authors as well as updates for the period 2007-2018.

Both Methods were then applied to develop separate PA spend figures (allowing for a wildlife filter as described above and adjustments for visitor day spend and inflation described below). A comparison was then made between them. The difference between Method 1 and Method 2 was found to be in the order of 10% in term of overall expenditure estimates, with Method 2 producing the higher estimated spend. Method 1 was preferred due to its more conservative stance and its basis in a more consistent dataset at a continental scale. However, the relatively modest difference between the two Methods is notable. Notwithstanding this, it is acknowledged that individual National Parks and/or PA growth rates may have been high in recent years. For example a parallel review of selected English and foreign language publications for this study indicated:

- Visitation to Thai National Parks increased from 11.8 million in 2014 to 19.6 million in 2018 (66% growth)[114].

- The number of tourists visiting Indian Wildlife Reserves grew from 1.7 million in 2004-05 to 4.6 million in 2014-15 (171% growth)[115].

- Visitors to South African National Parks rose from 4.7 million in 2007-08 to 6.7 million in 2016-17 (43% growth)[116].

These high implied growth rates may in part be reflective of growing wealth and accompanying interest in WT in emerging markets.

However as noted, such data tend to be scattered and noisy covering varying contexts and years. Some data exist for PAs, others for sub-components such as National Parks or other attractants of wildlife tourism. There may be many other instances where visitation has been less marked and/or where National Park visitation growth has not been fully represented in PA visit growth. Accordingly, as indicated, a more broad-based (and potentially conservative) approach has been adopted, using continent-wide tourism overnight growth rates as indicated above.

Amboseli National Park, Kenya

Spend per day and inflation

In addition to these general adjustments, attention was also paid to the median spend per day data reported by Balmford et al. for the various geographies. The authors indicate that their visitor day expenditure data is related to the proportion of foreign visitors to PAs, with a relatively low proportion of foreign tourists in Asia/Australia (13%), higher in Latin America (20%) and highest in Africa (61%). Accordingly, their originally estimated daily visitor spend (in 2014 dollars) for these three continents is lowest in Asia/Australasia ($85 per day), higher in Latin America ($311 per day) and highest in Africa ($698 per day), with the high(er) access costs in these markets and the presence of high spending dedicated foreign visitors (e.g. overnight safari visitors) obviously acting to push day spend up.

UNWTO data also offer some support for Balmford et al.'s day spend figures for Africa and those for Asia to appear reasonable[117]. However, survey data for domestic Brazilian visitation to three selected PAs suggest relatively modest daily spend figures (roughly $43 per day in 2016)[118]. These data are limited to three PAs, exclude the costs of domestic transport to access the PAs (which could be substantial) and as in other parts of the world the starkly differing nature of the foreign visitor WT experience means that foreign tourist spending per day is likely to be considerably higher (e.g. $412 per night for lodge package tourists in the Pantanal)[119]. Nonetheless, De Cruz et al. also report similar figures to Souza and given the above-mentioned preponderance of domestic visitation to Latin American PAs, Balmford et al.'s spend figures for the region may be on the high side[120]. For this report, an alternative daily spend figure of $131 has been adopted. This figure is based on the weighted average spend per domestic and international visitor night for South America in 2018, sourced from the Oxford Economics Global Travel Service Databank.

This provides a figure for Latin American spend in 2018 terms. As Asian and African spends per day were assessed by Balmford et al. in 2014 dollars, allowance was made for inflation (5%) to adjust these figures to 2018 terms.

Adjusting the Balmford et al. data to allow for a wildlife filter, tourism growth and more conservative Latin American data archive produces the spend figures indicated in the figure below. As is the case with the North American and European figures described above, these figures were converted to direct and total GDP and employment figures using conversion ratios and multipliers derived from Oxford Economics Global Travel Service Databank. Allowance was also made for inbound travel costs in the case of foreign tourists, again using data in the Oxford Economics Global Travel Service Databank.

Fig. 5. Direct WT expenditure, GDP and employment estimates for Africa, Asia and Latin America

CONTINENT	EXPENDITURE ($BILLION)	GDP ($BILLION)	EMPLOYMENT (MILLION)
AFRICA	48.8	29.3	3.6
ASIA-PACIFIC	118.2	53.3	4.5
LATIN AMERICA	19.9	10.7	0.5

Source: Oxford Economics

Fig. 6. Total WT expenditure, GDP and employment estimates for Africa, Asia and Latin America

CONTINENT	GDP ($BILLION)	EMPLOYMENT (MILLION)
AFRICA	70.6	8.8
ASIA-PACIFIC	171.2	10.4
LATIN AMERICA	28.9	1.4

Source: Oxford Economics

NOTE ON DATA CONSISTENCY

It should be noted that data in this report have been drawn from a variety of sources. For example, as indicated in the discussion above, the direct expenditure estimates in this report have been derived from a variety of sources including inflation adjusted data in dollars (from Balmford et al's findings for Africa and Asia), the Oxford Economics Travel Service Database data (for Latin American spends) and primary data estimates (for Europe and North America). While care has been taken to harmonise estimates where possible, allowing for factors such as inflation and purchasing power in the case of foreign currencies, this should be noted in considering these results and comparisons to global and regional Travel & Tourism work and appropriate caution applied. However, this challenge is common in WT analysis and indeed was noted in Balmford et al.'s own work. That said, as indicated, reasonableness tests were applied to the estimates undertaken above and the estimates undertaken suggested consistency between primary data sources. For example, despite being derived from widely different sources, estimated North American in-country trip spends ($89 per trip) are of the same order of magnitude as estimates for the UK ($70 per trip) with German data suggesting $69 per day.

ENDNOTES

1 See appendix for signatories of the Buenos Aires Declaration
2 All figures 2018 US dollars unless otherwise indicated
3 World Travel & Tourism Council (2019) Travel & Tourism Economic Impact 2019 World. The WT estimates include both domestic spending and an allowance for estimated WT-related international inbound transport expenditure. While care has been taken to harmonise estimates where possible, it should be noted that as the WT data in this report are derived from a variety of sources some care must be taken in comparing to World Travel & Tourism Council (WTTC) Travel & Tourism estimates.
4 Due to lack of consistency with regard to collection of visitation figures and spending in wildlife areas, these figures can only provide an order of magnitude. Further development of both wildlife tourism and improved management of protected areas could allow for better accounting of value in future
5 Balmford et. al. op. cit.
6 https://www.weforum.org/agenda/2016/09/fighting-illegal-wildlife-and-forest-trade/
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12 Filion FL, Foley JP, Jacqemot AJ. (1994) "The economics of global ecotourism" in Munasinghe M, McNealy J, editors. Protected Area Economics and Policy: Linking Conservation and Sustainable Development. Washington, DC: The World Bank; 1994. Based on analysis of inbound motivations to worldwide destinations, the authors suggest that 40%-60% of tourists are nature tourists and 20%-40% are wildlife tourists.
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14 See IUCN "Protected Areas" https://www.iucn.org/theme/protected-areas/about accessed 12 February 2019
15 See IUCN "Protected Area Categories" https://www.iucn.org/theme/protected-areas/about/protected-area-categories accessed 12 February 2019
16 World Travel & Tourism Council (2019), op. cit. The WT estimates include both domestic spending and an allowance for estimated WT-related international inbound transport expenditure. While care has been taken to harmonise estimates where possible, it should be noted that as the WT tourism data in this report are derived from a variety of sources some care must be taken in comparing to WTTC Travel & Tourism estimates.
17 All financial figures have been expressed in 2018 dollars, with any conversions from foreign currency in primary sources made using PPP exchange rates.
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19 Levin, N, Kark, S., Crandall, D. (2015) "Where have all the people gone? Enhancing global conservation using night lights and social media" Ecological Applications 25(8) 2015. One would of course expect to be WT to be smaller than PA tourism as indicated by this paper. If the 60% WT filter used for Asia, Africa and Latin America is applied to the 11% figure suggested by the authors then this produces a figure of 6.6%. Of course, while many Flickr images are taken during tourist trips many others may simply be taken during the course of everyday life.
20 Balmford et al. op. cit.
21 This comparison is offered as a broad indicator of the gulf between the benefits offered by WT and the costs of PA management only. Technically speaking, a more refined approach would allow for the combination of producer and consumer surplus against PA costs to develop a more formal WT cost-benefit analysis on an economic welfare basis. This study does not undertake a welfare economics approach and does not include such measures, though Gross Operating Surplus (GOS) Producer Surplus benefits alone are over five times PA management costs. Consumer Surplus benefits would be on top of this. It is also acknowledged that some WT takes place outside of PAs per se, the great majority of global WT takes place within such locations.
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26 Ibid
27 Brasil Ministério do Turismo (2010) Perfil do turista de aventura e do ecoturista no Brasil
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31 BTE Tourismus und Regionalberatung (2016) Naturtourismus in Deutschland 2016 Berlin; Bundesamt für Naturschutz (BfN) (Hrsg.) (2016) "Regionalwirtschaftliche Effekte durch Naturtourismus in deutschen Nationalparken" in BfN Skripten Nr. 431. Bonn; Merlin, C. & Kraus, F. (2016) "Wirtschaftliche Effekte des Tourismus in Biosphärenre servaten Deutschlands" in Natur und Landschaft (January 2016; 91. Jahrgang).
32 BTE Tourismus und Regionalberatung (2016) Naturtourismus in Deutschland 2016 Berlin The visitation and spend estimates exclude German Naturparks (Nature Parks) which may mean that these figures are an underestimate of total WT. However, note that the motivation figure includes both fauna and flora, so to the extent that some visitors are motivated primarily by flora, this might counterbalance this.
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89 US domestic person trips are recorded in US Travel Association (2016) US Travel and Tourism Overview. These data include all trips away from home over 50 miles. However, given that the Fish and Wildlife Service data record trips over 1 mile from home, the figures do not consider same geographical scope. The US domestic person trip data would also need to include trips 1 mile from home and over to allow for a true like for like comparison.
90 US National Travel and Tourism Office, 2016 U.S. Travel and Tourism Statistics (Inbound):, Sector Profess Leisure (Vacation-net) Travel Profile: Arrivals to the US http://tinet.ita.doc.gov/outreachpages/download_data_table/2016%20Excel%20PDF%20LEISURE%20(vacation-net)%20final.pdf accessed 16 February 2019.
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94 While the authors noted that largely cultural PAs had been excluded from their study (e.g. the US National Historic sites, Memorials and Battlefields), 85% of Balmford et al.'s recorded global PA visits occurred in North America and Europe. It should be noted that despite the exclusions indicated, the most visited PA in their study was the Golden Gate National Recreation Area in urban San Francisco, which received 13.7 million visits per year. By contrast the Serengeti National Park in Tanzania recorded 148,000 visits per annum. See University of Cambridge "Worlds protected natural areas receive eight billion visits a year" https://www.cam.ac.uk/research/news/worlds-protected-natural-areas-receive-eight-billion-visits-a-year accessed 12 February 2019.
95 UNWTO data for sub-Saharan Africa for example suggest that the vast majority of WT takes place in PAs. The UNWTO surveyed 48 African government institutions and 145 tour operators running wildlife tours in sub-Saharan Africa. When listing the top five wildlife watching destinations, government institutions referred almost exclusively to PAs. Some tour operators referred to wildlife watching on private or communal lands but to a much lesser extent. See World Tourism Organization (UNWTO) (2014) Towards Measuring the Economic Value of Wildlife Watching Tourism in Africa – Briefing Paper.
96 See Newhouse, H. (2017) Which features of protected areas make them attractive to wildlife-based tourists ?: A thesis submitted in candidature for the degree of Masters by Research, Durham University. Newhouse focused on the extent to which WT literature mentions PAs. From this she develops a Likelihood of Selection (LOS) Index for WT in PAs. Statistical analysis indicates that while wildlife is an attractor for such tourists in visiting global PAs. PAs in North America and Europe are significantly less likely to attract wildlife tourists. PAs most likely to attract wildlife tourists were found to be in sub-Saharan Africa, upper Amazonia and Asia.
97 In addition, an allowance was made for the inbound travel (or portion of inbound travel) associated with international WT was made using trip expenditure information sourced from the Oxford Economics Global Travel Service databank.
98 US Fish and Wildlife Service (2016), National Survey of Fishing, Hunting and Wildlife Associated Recreation. Note these surveys are conducted every five years, with 2016 being the most recent year available.
99 US National Travel and Tourism Office, 2016 U.S. Travel and Tourism Statistics (Inbound):, Sector Profess Leisure (Vacation-net) Travel Profile: Arrivals to the US http://tinet.ita.doc.gov/outreachpages/download_data_table/2016%20Excel%20PDF%20LEISURE%20(vacation-net)%20final.pdf accessed 16 February 2019. It is acknowledged that this may be a high end indicator, given that these categories may not be precisely analogous to WT, however the relatively small number of international trips relative to US domestic ones and the small proportions involved means that any overestimation is likely to be small.
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101 Based on Tourism British Colombia (2009) Wildlife Viewing Product Overview. This reported that 5.5% of Canadian domestic leisure tourists and 13.9% of US leisure tourists were motivated to visit due to WT activities. The Canadian figure was similar to the 5% WT proportion of domestic leisure trips estimated above, which acts as a cross check to these figures. Accordingly the 13.9% figure was used to estimate the proportion of international tourists drawn to Canada due to WT. As for US international WT tourism data, these may be an upper end estimate, given the particular attractions of BC but the relatively small size of the international sector means this is unlikely to be a major factor.
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103 Visit Britain (2015) Valuing Activities: Final Report
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106 Or more specifically 2.1% of trips in the case of the UK and 1.9% of visitor days in the case of Germany.
107 Conversions to dollars were made at OECD PPP rates sourced from https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm and adjusted for inflation to produce 2018 values. The combined UK and German spend was then weighted by differences in population and GDP per capita (sourced from the Oxford Economics Global Economics Databank) to derive values for Europe.
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110 Brasil Ministério do Turismo (2010) Ecoturismo: orientações básicas, 2. ed. Note this was made clearly distinct from other activities such as repouso ou fuga da rutina (rest or escape from routine) which accounted for a further 23% , sport (4%), ecological learning (3%), studies and research (2%) or reporting and documentaries (2%) or other professional work (1%).
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117 UNWTO (2018) op. cit. suggests an average tour price of $US 433 per person per day plus $55 per person per day for out of pocket expenses (or $488 per person in total). These figures are still lower than Balmford et al.s suggested ones but the scope of the UNWTO study may not be as extensive. In addition, the report notes that the "luxury" end of the market had prices of up to $2,500 per day though it should be noted that Balmford et al.'s use of median values would damp down the effect of these extremes.
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120 The authors report the cost of wildlife boat tour excursions in Manaus as ranging from $48-$112 per day with excursions lasting 1-3 days, though it is again noted this is only a segment of WT and/or WT costs. See D'Cruze N, Machado FC, Matthews N, Balaskas M, Carder G, Richardson V, Vieto R (2017) "A review of wildlife ecotourism in Manaus, Brazil" Nature Conservation 22

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