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An Investigation into the Management of Natural Heritage Sites

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Abstract

UNESCO currently oversees the preservation of 209 Natural Heritage sites around the globe which have been selected based on their irreplaceability and their testament to nature's astounding ecological diversity. It is the mission of the Natural Heritage Convention to preserve their beauty for future generations while making it universally accessible to present ones. In a time when the tourism industry is blossoming more than ever before, this double mission naturally poses the challenge of balancing the benefits and potential threats of increased tourism to Natural Heritage sites. This paper examines the regulations governing the operation of Natural Heritage properties and assesses relevant data on the efficiency of the Natural Heritage Programme as a whole. Realizing that more than three quarters of Natural Heritage sites struggle with problems relating to management, it is concluded that there are two major areas for improvement if it is the goal to increase the sites' capacity in entertaining tourist visits and capturing their value without sacrificing the preservation of the sites in the process: standardization of management processes and controlled tourism development. The solutions suggested in this paper aim to incorporate the respective local communities into the future operation of Natural Heritage sites, promoting economic growth and development in otherwise often underdeveloped areas while allowing for nature's beauty to be conserved for many generations to come.

Keywords

sustainability, natural heritage, unesco, preservation, management, tourism, efficiency, sustainable development goals, eco-tourism

Disciplines

Business Administration, Management, and Operations | Environmental Studies | Tourism and Travel

Wharton Social Impact Research Experience

An Investigation into the Management of Natural Heritage Sites

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Abstract

UNESCO currently oversees the preservation of 209 Natural Heritage sites around the globe which have been selected based on their irreplaceability and their testament to nature's astounding ecological diversity. It is the mission of the Natural Heritage Convention to preserve their beauty for future generations while making it universally accessible to present ones. In a time when the tourism industry is blossoming more than ever before, this double mission naturally poses the challenge of balancing the benefits and potential threats of increased tourism to Natural Heritage sites. This paper examines the regulations governing the operation of Natural Heritage properties and assesses relevant data on the efficiency of the Natural Heritage Programme as a whole. Realizing that more than three quarters of Natural Heritage sites struggle with problems relating to management, it is concluded that there are two major areas for improvement if it is the goal to increase the sites' capacity in entertaining tourist visits and capturing their value without sacrificing the preservation of the sites in the process: standardization of management processes and controlled tourism development. The solutions suggested in this paper aim to incorporate the respective local communities into the future operation of Natural Heritage sites, promoting economic growth and development in otherwise often underdeveloped areas while allowing for nature's beauty to be conserved for many generations to come.

Section I: Introduction

Founded in 1946, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) made it its mission to preserve and protect sites of outstanding cultural and natural value around the globe. Built on the principle of inclusivity, UNESCO operates on the belief that natural and cultural heritage belong to the people as a collective and should thus be accessible to all. However, due to the growing popularity of UNESCO Natural Heritage sites as travel destinations, this particular principle poses a serious challenge to site managers who must find a balance between the benefits and costs of tourism.

a) Natural Heritage

The 1972 World Heritage Convention defines Natural Heritage as “natural features consisting of physical and biological formations or groups of such formations, which are of Outstanding Universal Value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of Outstanding Universal Value from the point of view of science or conservation; or natural sites or precisely delineated natural areas of Outstanding Universal Value from the point of view of science, conservation or natural beauty”¹ where Outstanding Universal Value, hereafter referred to as OUV, is defined as “cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole”² and describes the World Heritage List as vehicle for the effective conservation and protection of natural properties with OUV for present and future generations.

In order to be considered for a place on the World Heritage List, a specific site must be placed on the responsible State Party’s Tentative List³ and nominated to the World Heritage Committee the Secretariat. Among other requirements, a complete application includes the identification and description of the considered property and its boundaries, as well as a justification for its inscription according to the suitability of its OUV to the World Heritage Criteria listed below. In order to be considered complete, the application must present a strong statement describing the site’s ability to fulfill at least one of the following criteria:

- (i) represent a masterpiece of human creative genius;
- (ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;
- (iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;
- (iv) be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;
- (v) be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

¹ Convention Concerning the Protection of the World Cultural and Natural Heritage Paris, 16 November 1972. (n.d.). UNESCO, 135-148. doi:10.1163/ej.9789004164543.1-760.22

² *ibid*

³ UNESCO World Heritage Centre. (n.d.). Tentative Lists. Retrieved July 13, 2018, from <https://whc.unesco.org/en/tentativelists/>

(vi) be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria) ;

(vii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

(viii) be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

(ix) be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

(x) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation⁴.

At this point it needs to be noted that the above ten criteria apply to all sites nominated for the World Heritage list, whereas only criteria xii-x are likely to apply to potential Natural Heritage sites.

Furthermore, a specific management plan, which outlines the aspired management structure for the proposed site as well as its current state of conservation and potential threats thereof is required.

The World Heritage Committee evaluates applications starting in February each year and releases its decisions in June of the following year. The Committee can opt to refer a site for inscription, not refer a site for inscription, or defer the decision to another year. It aims to maintain a balanced list of World Heritage properties which currently⁵ includes 209 Natural Heritage sites operated by over 90 State Parties.

b) Tourism

Tourism is one of the world's largest industries; its global economic contribution of 8.27 trillion US\$ in 2017⁶ continues to grow steadily even when other major industries enter recessionary periods. Recently, tourism has become particularly important for developing economies around the globe, as it enables them to grow at a more stable and sustainable rate than they might through other strategies, such as industrialization. Unfortunately, the tourism industry has a history of endangering the underlying destinations due to excessive use without proper precautions.

In recent years, the world has seen a promising trend as tourism shifts to being more sustainable in forms such as eco-tourism, away from the formerly popular mass-marketed vacation packages to heritage- or more specifically, ecotourism. The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education"⁷.

As such, ecotourism aims to create awareness and positive experiences for the visitor while minimizing the potential negative impact of mass tourism to the site and the local population. Ecotourism also offers immediate economic incentives for conservation efforts as it is to provides

⁴ Intergovernmental Committee For The Protection Of The World Cultural And Natural Heritage. (n.d.). Operational Guidelines for the Implementation of the World Heritage Convention. *UNESCO*. Retrieved July 12, 2017.

⁵ data as presented on whc.unesco.org as of July 13, 2018

⁶ Travel & tourism: Global economic impact 2017 | Statistic. (n.d.). Retrieved July 13, 2018, from <https://www.statista.com/statistics/233223/travel-and-tourism--total-economic-contribution-worldwide/>

⁷ TIES. (2015). What is Ecotourism? Retrieved from <http://www.ecotourism.org/what-is-ecotourism>

financial means for the further conservation of the area as well as for investments into the local population. It is hoped that increased employment opportunities will help local communities, especially those residing in otherwise remote areas, achieve economic development through economic growth to ultimately break the poverty cycle.

Given that a significant increase in any kind of tourism is inevitably accompanied by serious potential strains on both, the protected area itself and the local cultures surrounding it, and as there is significant evidence of major inefficiencies in the management of UNESCO Natural Heritage sites, it becomes evident that the question of sustainability should stand at the center of all proceedings going forward. The World Commission on Environment and Development defines sustainability as the development “that meets the needs of the present without compromising the ability of future generations to meet their own needs”⁸. In the context of the UNESCO Natural Heritage sites this connotes the goal of an increase in sites’ capacity to entertain tourist visits without compromising their ability to preserve the underlying natural heritage and without endangering local cultures and communities. This research paper proposes that such goal can be realized by catalyzing the increase in ecotourism’s popularity through increasing the efficiency of the management of natural heritage sites. It further recognizes that while the declaration of the year 2017 as the year of sustainable tourism⁹ is a first step in the right direction, more clearly defined action items are needed to truly make an impact, stressing the far-reaching potential positive consequences of their implementation.

c) Research Objectives and Relevance

Through the identification of inefficiencies in the management of Natural Heritage sites, it is hoped to develop implementable and effective solutions to increase the sites’ capacity in entertaining tourist visits and capturing their value without sacrificing the preservation of the sites in the process. This could, in turn, help establish further programs and opportunities to capitalize on eco-tourism that could be integrated into the local community. Such integration of the local community would serve two main benefits: increased employment, economic growth, and economic development in the area as well as the erosion of cultural barriers preventing complete utilization of the sites. Additional revenue from increased tourist activity should then partially be reinvested into the preservation of the sites in order to ensure their protection and further increase the process.

In the long run, it is hoped that increased efficiency of the management of Natural Heritage sites that simultaneously protects the sites from deterioration, will allow for the preservation of Natural Heritage for many generations to come. The direct and indirect effects of this process correspond to several of the seventeen UN Sustainable Development Goals¹⁰.

The increase in sustainable tourist visits to UNESCO Natural Heritage sites, which more often than not are to be found in relatively secluded areas, directly stimulates Goal 8: *Promote inclusive and sustainable economic growth, employment and decent work for all*. By allowing the local population to partake in the establishment of further ecotourism opportunities, efficiently managed natural heritage sites directly create new, fairly remunerated jobs, catering to a variety of skill sets. The value captured from the increased capacity for entertaining tourist visits will further propel economic growth, hopefully in turn leading to economic development.

⁸ Brundtland, G. (1987). Our Common Future (‘The Brundtland Report’): World Commission on Environment and Development. Retrieved June 23, 2018, from <http://www.un-documents.net/our-common-future.pdf>

⁹ UNWTO. (2017, August 29). 2017 International Year of Sustainable Tourism for Development - Official Website. Retrieved from <http://www.tourism4development2017.org/>

¹⁰ United Nations. (n.d.). Sustainable Development Goals. Retrieved from <https://sustainabledevelopment.un.org/?menu=1300>

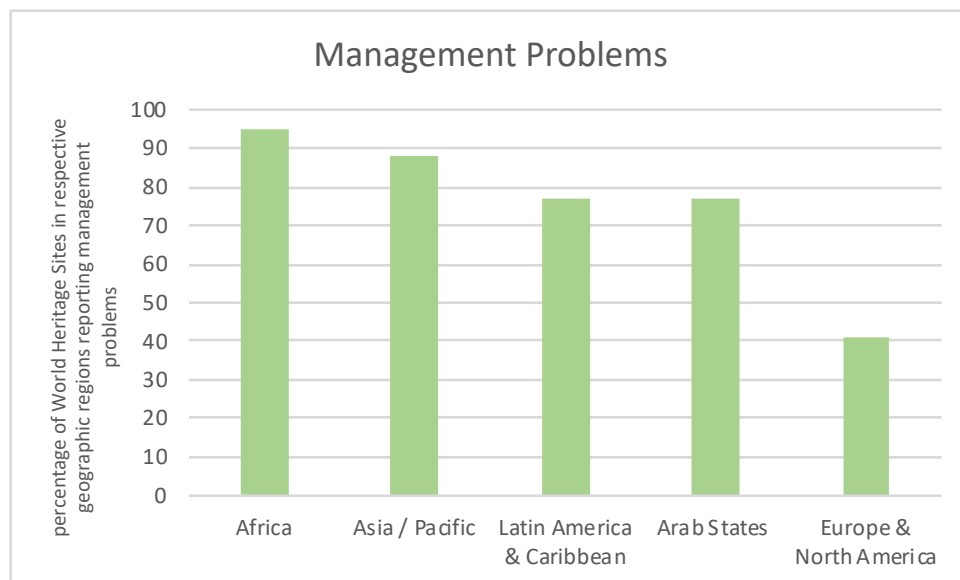
The thus achieved economic growth and development will in turn promote three further key Sustainable Development Goals; *Goal 1: End poverty in all its forms everywhere*, *Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture*, and *Goal 4: Ensure inclusive and quality education for all and promote lifelong learning*. By integrating local communities in the creation of sustainable ecotourism prospects surrounding natural heritage sites, the local economy will benefit off the increased frequency of tourist visits, both directly through tourism revenue and potential government or NGO spending and indirectly through increased consumption resulting from perpetual increases in the local populations' wealth levels. The thus achieved economic growth should, in combination with UN guidance and education, lead to economic development manifested through a more equitable income and wealth distribution within the local population and better educational opportunities.

Section II: Current Situation

Over the past 40 years, the World Heritage List has been expanded year after year, now comprising some of the most prominent tourist attractions around the world. One of the first sites to be added in 1978, the Yellowstone National Park, United States, now entertains more than four million annual tourist visits¹¹ while newer additions to the list, like the Barberton Makhonjwa Mountains, South Africa, added in 2018, are now expecting a sustained increase in tourism activity. While the 209¹² Natural Heritage properties inscribed on the list vary dramatically in size, accessibility, and state of conservation, they all share a certain vulnerability to problems arising from improper management.

a) Management

A 2005 survey carried out by the International Council on Monuments and Sites, hereafter referred to as ICOMOS, shines light upon the apparently universal problems cause by improper management of World Heritage properties. Graph 1 visualizes the fraction of World Heritage sites surveyed by ICOMOS which reported management problems, separated by geographic region.



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Graph 1:

percentage of World Heritage sites in respective geographic regions reporting management problems

Data from ICOMOS „Threats to World Heritage Sites 1994-2004“ (May 2005), published in <https://whc.unesco.org/archive/2009/whc09-33com-9e.pdf>

It needs to be noted that as the surveyed sites included exclusively Cultural and Mixed World Heritage properties, the findings should be taken only as a comparison point and must not necessarily depict the same trends in the context of Natural Heritage sites. The derived information is nonetheless valuable as it becomes evident that while management problems may arise through a variety of contexts and manifest themselves in even more diverse ways, the general issue seems to consistently inhibit the effective operation of World Heritage sites, disregarding their geographical location. As such, sites in Latin American and the Caribbean record the same rate of 77% as do sites in the Arab States. Africa and Asia, with 95% and 88%, respectively, of sites reporting management problems, top the cross-regional average of just under 76%, while only the category of Europe & North America outperformed the average with a rate of 41%. While these figures show a slight correlation to the 2005 Political

¹¹ National Parks Service. (2017). Tourism Data 2017. Retrieved June 04, 2018, from <https://www.nps.gov/yell/learn/news/18002.htm>

¹² data as presented on whc.unesco.org as of July 13, 2018

¹³ UNESCO. (2009). Discussion on Outstanding Universal Value. *Thirty-Third Session of the World Heritage Committee*. Retrieved June 17, 2018, from <https://whc.unesco.org/archive/2009/whc09-33com-9e.pdf>.

Stability Index¹⁴ as published by the World Bank, therefore allowing the conclusion that corruption and a lack of political and social consistency negatively affect the management of Natural Heritage sites, it is evident that inefficient or improper management are a major reason for concern within a great array of contexts.

To accommodate for this grave issue which poses a serious threat to the sustainable conservation of Natural Heritage sites, the inscription process requires the State Parties responsible for proposed new sites to submit a detailed management plan before an application is considered complete. The 1972 World Heritage Convention foresees that the OUV of each inscribed site be at least “sustained or enhanced over time”¹⁵, allocating the responsibility for this enrichment of the property to the designated management and setting the goal of “effective protection of the nominated property for present and future generations”¹⁶. Recognizing the diversity of Natural Heritage sites around the globe, varying on a multitude of dimensions reaching from physical size and location to cultural and political contexts and available resources and infrastructure, UNESCO does not impose a single standardized management system upon its protected properties but rather encourages responsible State Parties to propose a solution they deem fit given each site’s individual circumstances. However, the Operational Guidelines published by the World Heritage Committee do include the following list of common elements of effective management systems:

- a) a thorough shared understanding of the property by all stakeholders, including the use of participatory planning and stakeholder consultation process;
- b) a cycle of planning, implementation, monitoring, evaluation and feedback;
- c) an assessment of the vulnerabilities of the property to social, economic, and other pressures and changes, as well as the monitoring of the impacts of trends and proposed interventions;
- d) the development of mechanisms for the involvement and coordination of the various activities between different partners and stakeholders;
- e) the allocation of necessary resources;
- f) capacity-building; and
- g) an accountable, transparent description of how the management system functions.¹⁷

It is interesting to note that these guidelines do not explicitly address another issue closely related to the management of Natural Heritage sites: the supervision of tourism.

b) Tourism Management

Tourism management is an essential subdivision of the general management of Natural Heritage sites as it is directly related to UNESCO’s mission of making heritage universally accessible while also portraying a tempting opportunity for revenue generation.

While 70.8%¹⁸ of the 141 World Heritage site reports surveyed in 2012 recorded general management problems as a major threat to their OUV, the 36th session of the World Heritage Committee further

¹⁴ Worldbank. (n.d.). World Governance Indicators. Retrieved July 10, 2018, from <http://info.worldbank.org/governance/wgi/#reports>

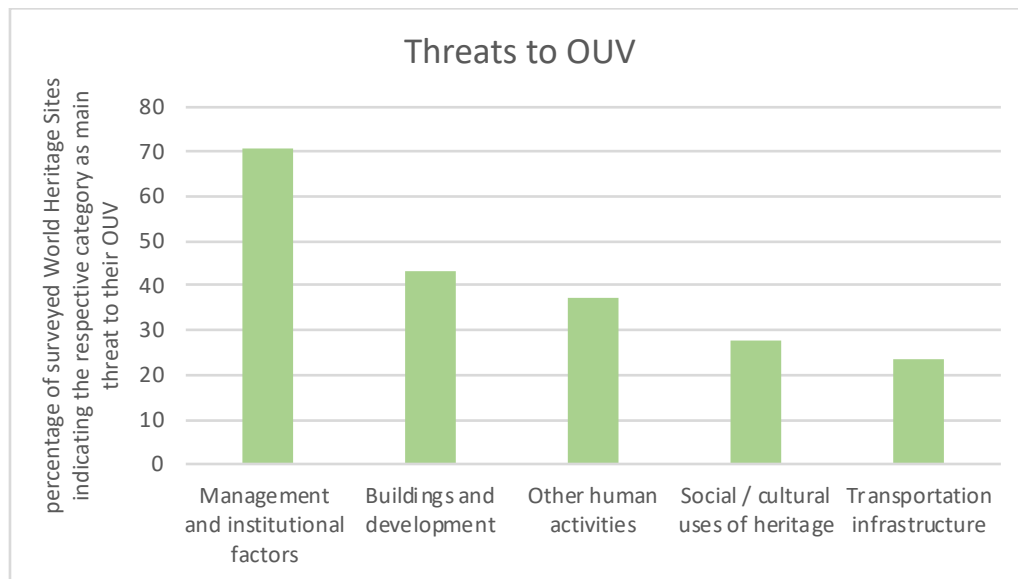
¹⁵ Intergovernmental Committee For The Protection Of The World Cultural And Natural Heritage. (n.d.). Operational Guidelines for the Implementation of the World Heritage Convention. *UNESCO*. Retrieved July 12, 2017.

¹⁶ *ibid*

¹⁷ *ibid*

¹⁸ UNESCO. (2012). Reflection on the trends of the state of conservation. Thirty-Sixth Session of the World Heritage Committee. Retrieved June 07, 2018, from <https://whc.unesco.org/archive/2012/whc12-36com-7C-en.pdf>.

revealed that at least four of the top five of the 82 identified factors¹⁹ negatively affecting OUV, are directly related to management of tourism. Graph 2 depicts the percentage of World Heritage Site reports listing each of the top five threats to OUV as relevant to their respective sites.



Graph 2:

percentage of surveyed World Heritage sites indicating the respective category as main threat to their OUV

Data from the 36th session of the World Heritage Committee (Saint Petersburg, 2012), published in <https://whc.unesco.org/archive/2012/whc12-36com-7C-en.pdf>

With the exception of the broad category of “other human activities”, all concerns listed under the top five threats to OUV are directly related to the usage of heritage properties for tourism and the logistical requirements of this industry. The report further depicts how infrastructure needs pose a particular challenge to the balance between preserving heritage and entertaining tourist visits as increases in tourism require substantial investments into accommodation and transportation infrastructure. This brings about a further threat to the OUV of Natural Heritage sites as the construction of such infrastructure projects unfortunately more often than not include environmentally unsustainable practices.

This can particularly then become a problem, if the rise in tourism activity occurs very rapidly following a peak in global attention to the site, as the responsible managers may not find sufficient time to implement solution to gradually prepare their facilities, and the local communities, to entertain more tourist visits. Conversely, a well-managed sustained increase in tourist visits to a particular site and the therefore resulting stimulation of the local economy can be of great advantage to the surrounding community. An example of excellent tourism management is the Yellowstone National Park, United States. The site was among the first to be recognized as UNESCO Natural Heritage and has continuously yielded positive results for both the conservation of the heritage property and the welcomed effects of tourism since its inscription in the year 1978. Graph 3²⁰ shows the development of total annual tourist visits to the park since its inscription on the World Heritage List.

¹⁹ *ibid*

²⁰ National Parks Service. (2018). Yellowstone National Park - Yellowstone NP (YELL) Annual Park Recreation Visitation (1904 - Last Calendar Year). Retrieved July 19, 2018, from [https://irma.nps.gov/Stats/SSRSReports/Park Specific Reports/Annual Park Recreation Visitation \(1904 - Last Calendar Year\)?Park=YELL](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=YELL)



Graph 3:

Total Annual Tourist Visits to Yellowstone National Park 1978-2017

Data from the United States National Park Service

Although the total annual tourist visits have almost doubled in the past 40 years – increasing from 2,618,380 in 1978 to 4,116,524 in 2017²¹ – the site’s management has successfully prevented the erosion of the natural property resulting from overuse through partially drastic measures. For the past years, the US National Park Service has completely banned the tracking of unmarked paths, as well as camping outside of dedicated areas, or swimming in the hot springs – activities that are still common in other parks around the world. To prevent disturbance to the local wildlife, visitors may not bring their pets to almost the entire area of the site. To ensure the thorough protection of the natural heritage, Yellowstone National Park has also banned the removal or possession of natural resources from the park, therefore forbidding its visitors to pick and take home souvenirs in the form of wild flowers or found antlers²². If tourists ignore the repeated warnings by the over 300 park rangers, Yellowstone does not hesitate to resort to extreme measures which are intended to function as a warning to other tourists. As such, a Chinese tourist was charged \$1000 for wandering off path and attempting to collect thermal water.²³

Due to the efficient management of the site, which includes the integration of the local community in the establishment of infrastructure projects as well as the encouragement of sustainable tourist practices in the surrounding area, Yellowstone National Park has continuously contributed to steady levels of economic growth. In 2017, visitors spent a whopping \$499 million (compared to an even larger sum of \$524 million in 2016) in local communities surrounding the park. Aside other tourism services such as the recreational industry and gastronomy, this spending largely went to accommodation, and accounted for 7,350 jobs in the immediate surrounding areas of the park, leading

²¹ ibid

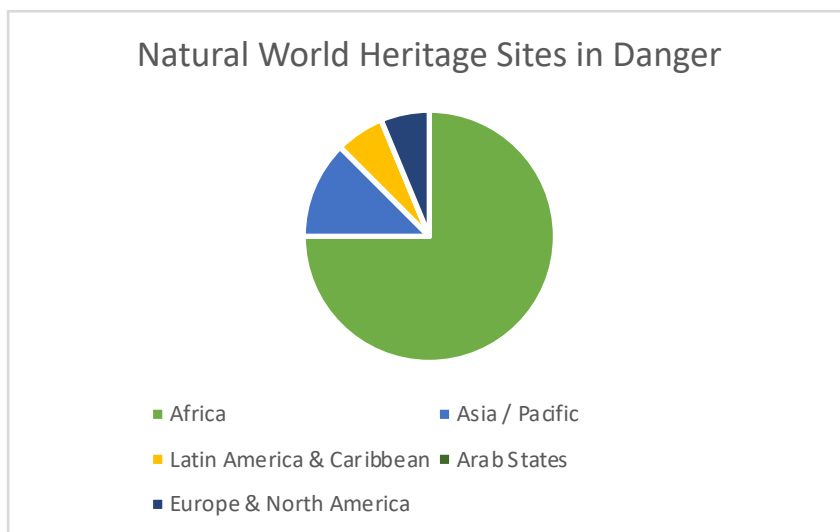
²² National Parks Service. (2017, December 22). Regulations, Yellowstone. Retrieved from <https://www.nps.gov/yell/planyourvisit/rules.htm>

²³ Associated Press. (2016, June 15). Tourist Fined For Collecting Thermal Water In Yellowstone. Retrieved from <http://mtpr.org/post/tourist-fined-collecting-thermal-water-yellowstone>

to a cumulative benefit to the local economy of \$630 million²⁴. Much of the revenue obtained is directly or indirectly reinvested into the conservation of the park and the offering for the tourism industry, leading to continuous improvements in the infrastructure that allow for millions of tourist to enjoy the Natural Heritage site without infringing on its conservation efforts.

c) List of World Heritage in Danger

Unfortunately, not all sites are as well managed as Yellowstone National Park. To bring attention to the deficits of these sites, Article 11 (4) of the World Heritage Convention foresees the placement of single sites on the List of World Heritage in Danger if the “conservation of which major operations are necessary and for which assistance has been requested under this Convention”²⁵. The list may be updated at any time according to the most recent State of Conservation reports and considers only “serious and specific dangers such as the threat of disappearance caused by accelerated deterioration, large- scale public or private projects or rapid urban or tourist development projects; destruction caused by changes in the use or ownership of the land; major alterations due to unknown causes; abandonment for any reason whatsoever; the outbreak or the threat of an armed conflict; calamities and cataclysms; serious fires, earthquakes, landslides; volcanic eruptions; changes in water level, floods and tidal waves”²⁶ and includes the estimated costs of assistance to each individual site. At present²⁷, the list includes 16 Natural Heritage sites around the world, the spread of which is illustrated in Graph 4²⁸.



Graph 4:
Geographical Spread of Natural Heritage in Danger
Data from UNESCO

Graph 4 illustrates that the vast majority, specifically 75%, of Natural Heritage sites on the World Heritage in Danger list are located in Africa. Most of these sites’ conservation, like that of the five sites located in the Democratic Republic of Congo, is immediately endangered by ongoing political conflicts and escalating armed encounters in the region. However, another serious threat to preservation of Natural Heritage, even in regions with high political instability, are bad management practices, both in general and in regards to tourism. An example of such management leading to the

²⁴ National Parks Service. (2018). Visitor Spending Effects. Retrieved July 21, 2018, from <https://www.nps.gov/subjects/socialscience/vse.htm>

²⁵ Convention Concerning the Protection of the World Cultural and Natural Heritage Paris, 16 November 1972. (n.d.). UNESCO, 135-148. doi:10.1163/ej.9789004164543.1-760.22

²⁶ ibid

²⁷ data as presented on whc.unesco.org as of July 21, 2018

²⁸ ibid

fast erosion of Natural Heritage can be found in Tanzania's Selous Game Reserve, the largest game reserve in Africa. Placed on the List of World Heritage in Danger in 2014 after being nominated as Natural Heritage in 1982, Selous Game Reserve suffers from the acute dwindling of its wildlife population due to a variety of factors. While the factors most pressingly threatening each endangered heritage property are updated annually, Selous Game Reserve has been negatively affected by almost identical threats for the past four years. Besides a significant poaching problem, which has led to a rapid decrease in its wildlife populations, Selous has also struggled with general problems relating to site management systems and management plans as well as the impacts of tourism²⁹. In the past, UNESCO has already supported the management of Selous Game Reserve with Anti-Poaching equipment worth over 60,000\$³⁰ as the site additionally suffers from insufficient and inadequately managed funding. While the largely untrained staff of Selous Game Reserve is currently struggling to manage the entertainment of the steadily increasing number of tourists coming to visit Selous every year, the responsible State Party hope to follow the previously mentioned example of Yellowstone National Park and turn the tourism industry from a threat to the site's heritage into a viable source of income to aid future conservation efforts. In fact, the most recent State of Conservation Report³¹, submitted on February 1, 2018 by the United Republic of Tanzania Ministry of Natural Resources and Tourism, lists tourism activity as a prime revenue generation opportunity to help Selous Game Reserve become self-sustained in the near future.

²⁹ UNESCO World Heritage Centre. (2018). State of Conservation (SOC 2018) Selous Game Reserve (United Republic of Tanzania). Retrieved July 21, 2018, from <https://whc.unesco.org/en/soc/3819>

³⁰ World Heritage Committee. (1987). Decision 11COM X25. *11th Session of the Committee (CONF 005)*. Retrieved July 20, 2018.

³¹ Ministry of Natural Resources and Tourism, United Republic of Tanzania. (February 1, 2018). Report of State of Conservation of Selous Game Reserve World Heritage Property (N199). *UNESCO*. Retrieved July 21, 2018.

Section III: Viable Solutions

While general plans like Selous' mission to transform the tourism industry from a threat into an asset may be helpful in some cases, more specific definitions of problems and respective implementable solutions are desperately needed to provoke permanent positive change. While the necessity and feasibility of certain measures will vary greatly from one site to another, there are some reoccurring themes that affect a great majority of Natural Heritage properties around the world. In the following, some major areas for concern as well as potential measures to counteract them are outlined in more detail.

1) Management: Lack of Standards

While the flexibility resulting from a lack of standards can in some cases be positive as it allows for individualization, it does, however, lead to inconsistency, both on a site-internal and a global basis, and ultimately decreases efficiency. In order to prevent such irregularity, clear guidelines must be implemented. These guidelines must be mutually exclusive and collectively exhaustive, thus ensuring that all possible events are covered by exactly one clearly stated rule. These rules must not only be clearly identified, but also recalled on a regular basis as several research studies have shown that ethical fading due to inattention leads to more unethical behavior. In case that deviation from the standard set of rules may be permitted under certain circumstances, these circumstances must be defined just as precisely. While such rules for site-internal standardization may vary slightly from site to site, some procedures that certainly require the implementation of clear rules, both internally and on a trans-national basis, include:

a) Training

Insufficient training as result of missing standardization, insufficient and badly managed funds, and a lack of expertise leads to inefficient operation of Natural Heritage sites, sub-ideal allocation of resources and management of tourism, as well as a poor execution of the management plan. To improve this, UNESCO could implement worldwide workshops that train personnel according to a set standard. In these workshops, employees would train to meet the expectations of their particular position as well learn about UNESCO, The World Heritage Convention, and the specifications of their own site. Through such workshops it could be ensured that all personnel working directly on or with a Natural Heritage site is at least familiar with the aims and proceedings of UNESCO and thus less likely to accidentally engage in behavior negatively affecting the conservation efforts.

These workshops could be supplemented through more regular trainings under the supervision and sponsorship of the respectively responsible State Party. Such trainings should focus on the more specific cultural, political, and economic context of each site or group of sites. Hence the personnel working on a specific State Party's Natural Heritage sites can be familiarized with both persistent circumstances such as a particular need for cultural awareness and more acute conditions such as sudden political instability. Such trainings will also ease the integration of the single Natural Heritage sites into the economic objectives of their countries as employees can be educated on new developments such as tourism programs or environmental initiatives.

On an even more specific level, the sites' top manager should hold regular briefings with staff members to ensure a thorough familiarization with the management plan as well as the 5-year development plan. In such briefings, staff should work to implement simple yet straightforward procedures into their daily actions to ensure the smooth operation of the site. They should also be trained to react to emergency situations and implement a routine of standardized reporting procedures. Additionally, the different levels of trainings and briefings could include a simple repetition of the guiding principles or a signing of a vow to discretion. Psychological research has shown that

conscious repetition of stated values reduces unethical behavior, making such vows an effective tool to combat corruption from within. Additionally, if incentives such as the potential of ascending in the ranks of the site's management exist within the context of a particular site, these should distinctly be based on ethical behavior as to avoid the negative effects of potential conflicts of interest.

b) Data Collection

For the vast majority of Natural Heritage sites, there exists only a very limited amount of data, making it difficult to trace their individual development or draw global comparisons between them. This, in turn, inhibits UNESCO's ability to quickly recognize trends affecting multiple properties around the globe or to establish some form of performance metric that allows for excellently managed properties to be rewarded. In many cases, the property's management does not keep track of several key metrics to determine the health of a Natural Heritage site. These metrics include, but are not limited to, an exact balance of payments keeping track of available funds, a quantitative assessment of tourism, as well as data regarding the extent to which the local community is integrated into the operation of the site.

A standardized procedure for collecting such data would benefit both the individual sites and the operation of the World Heritage Programme as a whole. By increasing the transparency of the operation and management of individual Natural Heritage sites, it is assumed that site-internal corruption can to some extent be counteracted. Further, it will allow local managers to obtain insights helpful in increasing the efficacy of their property's operation and equip them with the knowledge needed to efficiently manage their resources and tourism visits.

For this purpose, it is essential that all financial information for a given site is precisely being taken care of. This includes all income streams which should further be categorized depending on their sources, as well as all expenditures. It is crucial that managers kept track of a clearly defined budget and note any form of deviations to ensure the ideal allocation of funds going forward. The hence described budget should regularly be revised with the help of financial advisors and forwarded to the responsible State Party. This allows accountable governmental agencies to obtain a clear picture of the funds available to the Natural Heritage sites and initiate additional direct or indirect funding if necessary.

Another equally important metric to be examined is a quantitative tourism assessment. This includes, but is not limited to, the total number of annual visitors as well as their demographic, the average length of their stay, as well as their expected expenditure that directly affects the Natural Heritage site. It would further be beneficial to determine the expected behavior of any given visitor segment in order to cater to their needs and wishes as best as possible. This includes, but is not limited to, their preferred form of transportation and accommodation, their willingness to spend money in the direct context of their visit to the Natural Heritage site, as well as their engagement with the local community.

These figures should in turn be supplemented through qualitative assessments to aid the managers' understanding of the tourism circumstances. Such qualitative assessment should include the visitors' motivation for their stay as well as how they received information about the site and local opportunities for accommodation and transportation. This would help the managers tailor the experience to the tourists' wishes for example by starting an initiative to promote eco-tourism or the authentic integration of the local community and culture into the entertainment of tourism. Such qualitative research can be carried out through on-site surveys as well as follow up communication through email newsletters and online surveys if visitors are asked to leave their contact information when entering or exiting the Natural Heritage property.

It is important to note that data should not only be obtained from the visitors but if possible, also from the local community to ensure the recognition of their concerns and integration of their wishes into the general plan of the managers. Managers, too, should be required to supply data to the state party regarding their management of staff and facilities. This would allow for negative trends to be recognized early on and counteracted more quickly as damage control can be exerted sooner.

A State Party that shows exceptionally well documented figures of their properties is the United States of America. Under the supervision of the National Park Service, exact tourism figures are collected and compared over time and across sites. The key figures used for comparison include the total number of annually entertained tourist visits as well as the resulting income from consumer spending and the overall benefit to the local economy. These figures, which even break down the major areas for consumer spending, are readily available to the public, while even more detailed data is provided to government agencies.

In an ideal scenario in which equally thorough data would exist for Natural Heritage sites around the globe, this data would represent a valuable opportunity for global comparisons. Given the standardization of several other management processes proposed in section III.1.a above, the obtained data could be used as basis for the assessment of the cross-cultural effectiveness of different initiatives. It would further be possible to detect trends in the development of tourism as well as problems relating to management practices through routine procedures without the need for further investments in data collection.

2) Tourism: Uncontrolled Growth

With the tourism industry already representing one of the world's largest business sectors, which, despite its already impressive size of a global economic contribution of 8.27 trillion US\$ in 2017³² is yet projected to continue to grow, the management of tourism at Natural Heritage sites is essential to their smooth operation.

It is pivotal that sudden spikes in tourist visits are avoided as a gradual and sustained increase in total visitation numbers should be more desirable. This is because suddenly occurring drastic increases in tourism would exceed the capacity of the site in the form of a shortage of accommodation and transportation opportunities but also in the form of too little staff and an underdeveloped plan to effectively manage the simultaneous entertainment of large numbers of visitors. This, in turn, would endanger the preservation of the underlying Natural Heritage as staff can no longer ensure the appropriate measures that oversee the contact between visitors and the property. Further, the sudden need to accommodate and transport an exceptionally large number of people would likely go beyond the site's existing capacity and trigger the creation of quickly built but unsustainable solutions. Through these circumstances, the contact experience will be less pleasant than desirable for both the visitors and the local communities, undermining UNESCO's efforts to facilitate communication and mutual compassion through providing the best possible experience for both groups of stakeholders.

However, while gradual increases in tourism are generally highly desirable if not among the top priorities of Natural Heritage sites' managers, they require careful planning and thorough monitoring. As an aspiration for tourism growth requires expensive long-term infrastructure investments, it is crucial for projections about future tourism trends to be accurate. For this purpose, sites managers should consult experts in the field and compare their projections to past trends made evident through the data collected under the measures suggested in section III.1.b. They should also consult with

³² Travel & tourism: Global economic impact 2017 | Statistic. (n.d.). Retrieved July 13, 2018, from <https://www.statista.com/statistics/233223/travel-and-tourism--total-economic-contribution-worldwide/>

relevant government agencies to ensure that their plans are in line with the local government's planned initiatives relevant to the development of tourism.

With increasingly more tourist visits, the threat of alienation of the Natural Heritage from the local community becomes a grave reality. In order to avoid the dissociation from the native culture, it is crucial that the local economy, culture, and community are fundamentally integrated into the planning and operation of the site. Especially given the current shift in the nature of tourism towards ecotourism as explained in section I.b, it is crucial that mutual understanding and respect are the foundation for all interactions. To integrate the local economy into the operation of the Natural Heritage sites, State Parties should promote programs that connect tourists to the local culture in a respectful manner through official tourism offices. Here it is important to be aware of the nature of these programs, as only programs actually benefitting the native population should be endorsed to avoid attracting foreign investors attempting to exploit the local community. There should also be a program to award subsidies to small local business directly related to the tourism industry. This program could obtain funding from either the local government or globally operating NGOs. Despite the goal to maximize the entertainment of tourist visits and capture their value, the preservation of the underlying Natural Heritage should remain the main objective of any site manager. Hence it is important to consider the sustainability of all actions. It is hoped that the increase in revenue for the local population translated through economic growth through increased consumption, ultimately propelling economic development in the region. To further support this, schools with a specific focus on the education of young locals of the opportunities associated with the proximity to the Natural Heritage site should be founded. These schools should convey a mixture of traditional school education and practical training for employment opportunities specific to the site. Through this, the local population would be more likely to receive jobs on the Natural Heritage property, thereby also benefitting the site through less need for extra job training and consequently lower hiring costs. This will help additionally help integrate the local community into the operation of the Natural Heritage site until a symbiosis between the two can be reached, ultimately helping the site increase its capacity to entertain tourist visits and capture their value without compromising the preservation of the underlying heritage while also promoting economic growth and development in the local community and furthering the accomplishment of the Sustainable Development Goals.

Section IV: Conclusion

The thorough assessment of regulations governing Natural Heritage sites around the globe in combination with an evaluation of the sparsely available data regarding their operation has shown that there are several areas for improvement in light of the pursuit of an increase in the sites' capacity to entertain tourist visits. While the potential solutions described in this paper are by no means exhaustive, they would allow for a solid foundation for the future operation of Natural Heritage sites to be laid. Thus it is inevitable that sites' operation must become more transparent if it is the aim to capture tourism's value without sacrificing the preservation of the Natural Heritage. This entails the standardization of training procedures for on-site personnel as well as an effort to collect exhaustive data about the operation of the site. With more complete data at hand, it will become possible to conduct in-depth analyses on the economic contributions of single sites as well as to draw global comparisons for other central tourism figures. More data would also help integrate a guided tourism development and growth program into each site's management plan in order to smoothly bring about a sustained increase in total tourist visits without straining the site's capacity and endangering the conservation of the Natural Heritage. Furthermore, it is hoped that the measures proposed in this paper can help integrate the local communities into the future operation of Natural Heritage properties, and that not only economic growth but also economic development can thus be stimulated. In the long term, the solutions recommended are intended to thus serve the global community as a whole through ensuring the ongoing preservation of Natural Heritage while simultaneously furthering several of the United Nations' Sustainable Development Goals and promoting economic growth and development in traditionally underdeveloped regions. Of course, the suggested improvements would only then be viable if they are implemented in reconciliation with each other as an integrationist approach can address the inefficiencies in question from a much broader perspective than any single action. Further, it is important to note that the solutions suggested in this paper should only serve as a guideline to the general problems likely to occur at Natural Heritage properties and that it is inevitable for managers to assess the particular circumstances of their sites before taking action.

References

- Associated Press. (2016, June 15). Tourist Fined For Collecting Thermal Water In Yellowstone. Retrieved from <http://mtpr.org/post/tourist-fined-collecting-thermal-water-yellowstone>
- Brundtland, G. (1987). Our Common Future ('The Brundtland Report'): World Commission on Environment and Development. Retrieved June 23, 2018, from <http://www.un-documents.net/our-common-future.pdf>
- Convention Concerning the Protection of the World Cultural and Natural Heritage Paris, 16 November 1972. (n.d.). *UNESCO*, 135-148. doi:10.1163/ej.9789004164543.1-760.22
- Convention Concerning the Protection of the World Cultural and Natural Heritage Paris, 16 November 1972. (n.d.). *UNESCO*, 135-148. doi:10.1163/ej.9789004164543.1-760.22
- Intergovernmental Committee For The Protection Of The World Cultural And Natural Heritage. (n.d.). Operational Guidelines for the Implementation of the World Heritage Convention. *UNESCO*. Retrieved July 12, 2017.
- Intergovernmental Committee For The Protection Of The World Cultural And Natural Heritage. (n.d.). Operational Guidelines for the Implementation of the World Heritage Convention. *UNESCO*. Retrieved July 12, 2017.
- Ministry of Natural Resources and Tourism, United Republic of Tanzania. (February 1, 2018). Report of State of Conservation of Selous Game Reserve World Heritage Property (N199). *UNESCO*. Retrieved July 21, 2018.
- National Parks Service. (2017, December 22). Regulations, Yellowstone. Retrieved from <https://www.nps.gov/yell/planyourvisit/rules.htm>
- National Parks Service. (2017). Tourism Data 2017. Retrieved June 04, 2018, from <https://www.nps.gov/yell/learn/news/18002.htm>
- National Parks Service. (2018). Visitor Spending Effects. Retrieved July 21, 2018, from <https://www.nps.gov/subjects/socialscience/vse.htm>
- National Parks Service. (2018). Yellowstone National Park - Yellowstone NP (YELL) Annual Park Recreation Visitation (1904 - Last Calendar Year). Retrieved July 19, 2018, from [https://www.irma.nps.gov/Stats/SSRSReports/Park Specific Reports/AnnualParkRecreationVisitation\(1904 - Last Calendar Year\)?Park=YELL](https://www.irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/AnnualParkRecreationVisitation(1904%20-%20Last%20Calendar%20Year)?Park=YELL)
- TIES. (2015). What is Ecotourism? Retrieved from <http://www.ecotourism.org/what-is-ecotourism>
- Travel & tourism: Global economic impact 2017 | Statistic. (n.d.). Retrieved July 13, 2018, from <https://www.statista.com/statistics/233223/travel-and-tourism--total-economic-contribution-worldwide/>
- Travel & tourism: Global economic impact 2017 | Statistic. (n.d.). Retrieved July 13, 2018, from <https://www.statista.com/statistics/233223/travel-and-tourism--total-economic-contribution-worldwide/>
- UNESCO World Heritage Centre. (2018). State of Conservation (SOC 2018) Selous Game Reserve (United Republic of Tanzania). Retrieved July 21, 2018, from <https://whc.unesco.org/en/soc/3819>
- UNESCO. (2009). Discussion on Outstanding Universal Value. *Thirty-Third Session of the World Heritage Committee*. Retrieved June 17, 2018, from <https://whc.unesco.org/archive/2009/whc09-33com-9e.pdf>

UNESCO. (2012). Reflection on the trends of the state of conservation. Thirty-Sixth Session of the World Heritage Committee. Retrieved June 07, 2018, from <https://whc.unesco.org/archive/2012/whc12-36com-7C-en.pdf>.

United Nations. (n.d.). Sustainable Development Goals. Retrieved from <https://sustainabledevelopment.un.org/?menu=1300>

UNWTO. (2017, August 29). 2017 International Year of Sustainable Tourism for Development - Official Website. Retrieved from <http://www.tourism4development2017.org/>

World Heritage Committee. (1987). Decision 11COM X25. *11th Session of the Committee (CONF 005)*. Retrieved July 20, 2018.

Worldbank. (n.d.). World Governance Indicators. Retrieved July 10, 2018, from <http://info.worldbank.org/governance/wgi/#reports>