



WWF

REPORT

2017



HALTING THE ILLEGAL TRADE OF CITES  
SPECIES FROM WORLD HERITAGE SITES

# NOT FOR SALE

A REPORT FOR WWF BY

Dalberg

## ACKNOWLEDGEMENTS

The report was written by Dalberg Global Development Advisors, and the team comprised Wijnand de Wit, Ellie Marsh and Anders Kjemtrup.

This report was made possible by the generous contributions of time and expert knowledge from many individuals and organizations, and we would like to thank the following people: Tim Badman (IUCN), Remco Van Merm (IUCN), Naomi Kingston (UNEP-World Conservation Monitoring Centre), Kelly Malsch (UNEP-World Conservation Monitoring Centre), Yichuan Shi (UNEP-World Conservation Monitoring Centre), Susan Lieberman (Wildlife Conservation Society), David Newton (TRAFFIC), Pia Jonsson (CITES Secretariat), Milena Sosa Schmidt (CITES Secretariat), Tom De Meulenaer (CITES Secretariat), Mechtild Rössler (UNESCO World Heritage Centre), Richard Veillon (UNESCO World Heritage Centre), Susanna Kari (UNESCO World Heritage Centre), Ambassador Pekka Puustinen (Permanent Representative of Finland to the OECD and UNESCO), Guy Debonnet (Independent expert), WWF and its offices. This study was also invaluable shaped by the thought partnership of several colleagues at Dalberg.

## WWF

WWF is one of the world's largest and most experienced independent conservation organizations, with over 5 million supporters and a global network active in more than 100 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

The designation of geographical entities in this report, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of WWF concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Published in April 2017 by WWF – World Wide Fund For Nature (Formerly World Wildlife Fund), Gland, Switzerland.

Any reproduction in full or in part must mention the title and credit the above-mentioned publisher as the copyright owner.

© Text 2017 WWF

All rights reserved

Design: Ender Ergun

ISBN 978-2-940529-57-5

Printed by Echo Brand Communications



**WWF International**

Avenue du Mont-Blanc  
1196 Gland, Switzerland  
**www.panda.org**

**Dalberg**

Rue de Chantepoulet 7  
1201 Geneva, Switzerland  
**www.Dalberg.com**

# CONTENTS

## FOREWORDS

Foreword from CITES Secretary-General John E. Scanlon 4

Foreword from IUCN Director General Inger Andersen 5

---

## WWF'S CALL FOR ACTION 6

---

## EXECUTIVE SUMMARY 10

---

## INTRODUCTION: WORLD HERITAGE SITES AND TRADE IN CITES-LISTED SPECIES 12

---

## THREATS: ILLEGAL HARVESTING OF CITES-LISTED SPECIES FROM WORLD HERITAGE SITES 16

---

## CASE STUDIES

Case Study: Tropical rainforest heritage of Sumatra 21

Case Study: Rainforests of the Atsinanana Madagascar 24

Case Study: The World Heritage sites of eastern DRC 27

---

## SOLUTIONS: INCREASING COLLABORATION BETWEEN CITES AND THE WORLD HERITAGE CONVENTION 29

Case Study: How the Thai government combats  
the illegal trade in Siamese rosewood 31

---

## THE PATH FORWARD 34

---

## ANNEX I 36

## ANNEX II 43

## ENDNOTES 45

# PROTECTING OUR HERITAGE FOR PEOPLE AND THE PLANET

## FOREWORD FROM CITES SECRETARY-GENERAL JOHN E. SCANLON



John E. Scanlon  
CITES Secretary-General

It gives me great pleasure to join the launch of this thought provoking report prepared by Dalberg on behalf of WWF.

For many decades now, there have been various reviews and reports on synergies amongst the biodiversity-related conventions. Within the CITES community, the clear focus has been on pragmatic action orientated synergies, in particular as they affect individual species or places. This report gives expression to a range of options to further enhance tangible synergies between CITES and the World Heritage Convention, focussed around World Heritage sites.

Many of the World Heritage sites designated for their natural - or mixed cultural and natural - significance, have been designated because they host important populations of iconic species of wild animals and plants. The same wildlife is also often targeted by transitional organised groups and poached and smuggled at an industrial scale. This in turn

diminishes the outstanding universal values that underpinned their recognition as part of the world's heritage, with many sites being placed on the World Heritage in Danger list over recent years.

For these 'jewels in the crown' of our planet's natural heritage to retain their World Heritage status, and to ensure the survival of some of our most vulnerable wild animals and plants, it is essential that CITES is fully implemented and that these irreplaceable sites are fully protected. In doing so, we will benefit our heritage and our wildlife, provide security to people and places, and support national economies and the rural communities that depend on these sites for their livelihoods.

This report is not intended to provide a prescriptive way forward but to stimulate further thinking and a rich debate. As Secretary-General of CITES, I look forward to engaging with our Parties and partners in such a discussion and thank WWF for producing this timely report.



# ACHIEVING A SUSTAINABLE FUTURE

## FOREWORD FROM IUCN DIRECTOR GENERAL INGER ANDERSEN



Inger Andersen  
IUCN Director General

Illegal wildlife trafficking is a tragedy pushing many plants and animals to the brink of extinction and undermining years of conservation action. Despite global efforts to protect species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) against overexploitation and illegal killing, organised criminals continue to target precious biodiversity, even in the supposed safety of World Heritage sites.

If the protection of wildlife cannot be fully secured within these sites, singled out by the international community as the most valuable of our natural heritage, how can we achieve the sustainable future we all long for?

The illegal harvest of species for international trade now threatens the integrity of some of the most iconic natural areas. These include the Rainforests of the Atsinanana in Madagascar, threatened by the trade in rosewood and ebony, and the Selous Game Reserve in Tanzania, afflicted by elephant poaching.

In fact, today wildlife trafficking threatens nearly all of the 18 natural sites on the List of World Heritage in Danger, degrading the unique values which give these places the status of World Heritage. The targeted species are at times so rare that their survival largely depends on their strict protection in these World Heritage

sites. Consider the Sumatran rhinos, of which less than 100 remain, mostly confined to Indonesia's Tropical Rainforest Heritage of Sumatra, or the Critically Endangered totoaba and vaquita, both endemic to Mexico's Gulf of California.

This is a global challenge that can only be tackled through collective, international action.

As the world's largest conservation organisation, IUCN welcomes this report on the harvest of CITES-listed species from World Heritage sites as a sobering reminder of the extent of illicit and unsustainable trade. The report draws attention to the crucial importance of the rule of law in nature conservation. When that rule is lacking, it not only threatens wildlife and robs us of our natural heritage; it erodes security, threatens local communities who depend on healthy ecosystems for their livelihoods, and slows development and poverty reduction.

IUCN continues to support the World Heritage Convention as its advisory body on nature, and CITES as a technical advisor – roles it has played since the establishment of both conventions. These crucially important conservation instruments must lead on action to tackle the growing global crisis in illegal wildlife trade head-on, before some of our most precious threatened species are lost forever.

# WWF'S CALL FOR COLLECTIVE GLOBAL ACTION

**World Heritage sites, the pinnacle of Earth's most protected areas, contain some of the planet's most treasured species.** Natural World Heritage sites are places of iconic beauty, geology, ecology and biodiversity, and are often granted the highest possible levels of national protection. Many World Heritage sites host large populations of rare plant and animal species, including almost a third of all remaining wild tigers, and 40 per cent of all African elephants.

**Despite the protection accorded to World Heritage sites and their wildlife, the number of threatened species being harvested from them is cause for serious concern.** International trade in many species is strictly regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Generally, harvesting of these species is forbidden in World Heritage sites. However, poaching, illegal logging and illegal fishing of CITES-listed species occurs in more than 25 per cent of all natural and mixed World Heritage sites, and has contributed to the inscription of 14 sites on the List of World Heritage in Danger.

**Unless governments, the UN system, NGOs and civil society groups take additional, immediate measures to halt illegal harvesting of CITES-listed species in World Heritage sites, some species might face local extinction, and some World Heritage sites could lose their *outstanding universal value* for present and future generations.**

## WWF CALLS ON WORLD HERITAGE CONVENTION STATES PARTIES AND PARTIES TO CITES TO:

- Increase collaboration between the CITES and World Heritage Convention secretariats<sup>1</sup>, between the World Heritage Committee and the CITES Standing Committee, and between national representatives of both conventions, to further promote a systematic, international approach to halting wildlife trafficking that holds governments to account for their actions. This builds on the World Heritage Committee's 2016 appeal to all Member States to "cooperate in the fight against the illicit trafficking of cultural heritage objects and illegal wildlife trade, including through the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)".
- Increase coordination between CITES and the World Heritage Convention monitoring and reporting activities by expanding current initiatives on site-based reporting to new species and regions, and by using this information to take targeted, direct action to improve the conservation and management of wildlife.

### WWF CALLS ON THE GOVERNMENTS OF COUNTRIES WHERE THERE IS ILLEGAL HARVESTING OF CITES-LISTED SPECIES IN WORLD HERITAGE SITES TO:

- Create, or amend, national policies and legislation relating to wildlife trade – legal and illegal – to reflect the status of CITES-listed species and World Heritage sites, as recommended by expert advisory bodies or requested by other states parties or governments.
- Implement sufficient monitoring and enforcement measures, including strengthening patrols and enhancing criminal investigation, prosecution and sentencing capacities, to ensure that the penalties for illegal harvesting of CITES-listed species in World Heritage sites are severe enough to strongly deter all criminal involvement.
- Explore ways to promote greater involvement of local communities in the management of World Heritage sites, and ensure that they receive direct benefits from wildlife conservation, through revenue sharing schemes or locally managed wildlife management areas in buffer zones, which will reduce human-wildlife conflicts and deter nearby residents from poaching, illegal logging and illegal fishing.

### WWF CALLS ON THE GOVERNMENTS OF COUNTRIES INVOLVED IN THE TRANSIT OR CONSUMPTION OF CITES-LISTED SPECIES THAT ORIGINATE FROM WORLD HERITAGE SITES TO:

- Increase efforts to intercept illegal trade in CITES-listed species, and collaborate with source countries to identify, capture and prosecute all individuals involved both nationally, and internationally, in wildlife trafficking.
- Strengthen and enforce domestic legislation to ensure that any CITES-listed species entering the country in breach of CITES rules cannot be sold in domestic markets.
- Collaborate with civil society and the private sector to educate consumers on the risks and unsustainability of consuming products made from illegally traded CITES-listed species, and drive behaviour change to eliminate demand for such products.

### WWF CALLS ON CIVIL SOCIETY AND NGOS TO:

- Support the effective implementation of the World Heritage Convention and CITES by participating in the management and conservation of World Heritage sites at local, national and international levels, and abstaining from, and reporting, all activities relating to the illegal harvest of and trade in CITES-listed species coming from such properties.
- Hold accountable international institutions, national governments, and private sector entities, particularly logistics companies that facilitate the import, transit and export of goods, for taking necessary measures to prevent, identify and penalize all activities related to the trade of illegally harvested CITES-listed species from World Heritage sites, and for applying the maximum available penalties in wildlife trafficking cases.
- Support and strengthen mechanisms that highlight illegal wildlife harvesting from World Heritage sites, to ensure that CITES and the World Heritage Convention can take immediate action to prevent any degradation of World Heritage sites and adequately protect CITES listed species.



# THE ISSUE

A Parc Gabon Eco Guard displaying seized poached elephant tusks and poacher's weapons, Oyem, Gabon. Combating the illegal wildlife trade has become a seriously dangerous job. Over 1,000 rangers worldwide have lost their lives protecting wildlife and natural places in the last 10 years. Well-armed and well organised poaching crime syndicates continue to target wildlife for large profits from the illegal wildlife trade.

Intricate carvings, jewellery and medical tonics made from endangered species are popular in places like China, Thailand and Viet Nam. Economic success has created an expanding middle class and many want to possess things that used to be out of reach to all but the highest elites. Although they are illegal they are obtainable by anyone with internet access and a big enough bank account.









# EXECUTIVE SUMMARY

---

**World Heritage sites support some of the largest remaining populations of iconic plant and animal species across the globe.** World Heritage sites are internationally

recognized as areas of *outstanding universal value*, which means they have “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”.<sup>2</sup> Over 60 per cent of natural and mixed World Heritage sites were inscribed under World Heritage selection criterion (x). These are universally recognized as the most important areas for the conservation of the earth’s biodiversity,

and they are some of the last remaining strongholds for many rare and endangered plants and animals.<sup>3</sup> For example, World Heritage sites contain almost a third of the world’s remaining 3,890 wild tigers,<sup>4</sup> and the Okavango Delta World Heritage site in Botswana is a crucial habitat for the elephants in northern Botswana, which constitute 31 per cent of all African elephants.<sup>5</sup>

**Due to their immense value, World Heritage sites and many of the species they support are protected under the World Heritage Convention and the Convention on International Trade in Endangered Species of Fauna and Flora (CITES).** The World Heritage Convention protects cultural, natural and mixed World Heritage sites that are internationally recognized for their *outstanding universal value*.<sup>6</sup> CITES regulates the international trade in a large number of wild animals and plants, which are referred to as CITES-listed species. Collectively, these two conventions are designed to protect the world’s most biodiverse places and precious species, and are ratified by almost every country in the world.<sup>7</sup>

**Despite this protection, poaching, illegal logging and/or illegal fishing occur in over a quarter of all natural and mixed World Heritage sites.**<sup>8</sup>

Poaching of vulnerable and endangered animal species, such as elephants, rhinos and tigers, has been reported in at least 43 World Heritage sites, and illegal logging of valuable plant species, such as rosewood and ebony, has been reported in 26 properties. Illegal fishing has been reported in 18 out of the current 39 marine and coastal properties. Illegal harvesting of CITES-listed species is a significant problem across the globe, and occurs in around 50 per cent of African, Asian and Latin American properties.<sup>9</sup>

**Continued illegal harvesting in World Heritage sites could lead to the extinction of species.** Between 1970 and 2012, global wildlife populations declined by almost 60 per cent on average, and illegal harvesting of species was one of the main drivers for this decline.<sup>10</sup> World Heritage sites now function as the last bastion for many critically endangered species, and unless protected within World Heritage sites, these species will go extinct. Ujung Kulon National Park in Indonesia is the last refuge for around 60 critically endangered Javan rhinos,<sup>11</sup> and the Islands and Protected Areas of the Gulf of California supports the world’s 30 remaining vaquitas, the world’s smallest porpoise.<sup>12</sup>

**Illegal harvesting of species in World Heritage sites also degrades vital social, economic and environmental benefits, and endangers the lives of nearby residents and rangers.** 93 per cent of natural World Heritage sites support recreation and tourism, 91 per cent provide jobs and 66 per cent of properties are important for water quantity and/or quality.<sup>13</sup> Many of these benefits are dependent on the presence of CITES-listed species in the properties. For example, Chitwan National Park in Nepal generates annual revenue in excess of US\$1.2 million from wildlife tours alone,<sup>14,15</sup> and more than 50 per cent of Belize’s population, or 190,000 people, are

# 90%

ILLEGAL TIMBER  
TRADE IS  
RESPONSIBLE FOR  
UP TO 90% OF  
DEFORESTATION IN  
MAJOR TROPICAL  
COUNTRIES AND IS  
VALUED AT US\$  
30 TO 100 BILLION  
ANNUALLY.

supported by incomes generated through reef related tourism and fisheries.<sup>16</sup> Illegal harvesting of CITES-listed species significantly undermines properties' attractiveness to tourists, and can alter the natural ecosystem. The illegal timber trade is responsible for up to 90 per cent of deforestation in major tropical countries<sup>17</sup> and it increases soil erosion and water pollution while reducing carbon sequestration. Over a two-year period, illegal rosewood trade has cost the people of Madagascar up to US\$200 million in lost income,<sup>18</sup> and it is estimated that Africa loses US\$25 million per year in tourism income due to elephant poaching.<sup>19</sup> Wildlife trafficking has also often endangered people's lives, and between 2009 and 2016 at least 595 rangers were killed in the line of duty, many of whom were protecting World Heritage sites.<sup>20</sup>

**The current international approach to preventing illegal harvesting of CITES listed species in World Heritage sites is not working, and stakeholders must redouble their efforts and address all parts of the wildlife trafficking value chain.** The wildlife trafficking value chain connects the harvesting of species in source countries, the transportation of these goods through intermediate collation or processing destinations, and the sale of goods in consumer markets. Stakeholders agree that to adequately address illegal wildlife trafficking, enhanced protection and monitoring at the site level must be accompanied by greater action to curb demand through education, enforcement and prosecution. However, conventions and activities to halt wildlife trafficking currently focus on independent parts of the value chain. The World Heritage Convention is primarily a site-focused convention that monitors individual properties for illegal harvesting and other threats, whilst CITES is predominately focused on working with source, transit and consumer countries at the national, rather than the site, level.

**Increased collaboration and integration between CITES and the World Heritage Convention at the national and site level in particular, could lead to a more coordinated, comprehensive response, and save time and valuable resources.** Combined, the two conventions cover the entire value chain from the site level in source countries, through to transit and consumer countries. Involvement of CITES in the monitoring, analysis and reporting of illegal harvesting of CITES-listed species from World Heritage sites would help to identify problems and implement required policy changes earlier. Through CITES involvement, World Heritage Convention states parties would also be able to identify trade routes and consumer markets for harvested products, and implement an international, multi-stakeholder effort to address the problem. This collaboration would reinforce the imperative for increased collaboration between source, transit and consumer countries and would allow for more forceful use of CITES compliance mechanisms and World Heritage in Danger profiling, if required. By engaging in joint efforts, both conventions could also save valuable resources, while being more responsive and comprehensive towards emerging crises.

**The governing bodies of CITES and the World Heritage Convention recognize the need to continue improving interactions between the two conventions<sup>21</sup>, and in order to halt illegal harvesting in World Heritage sites,<sup>22</sup> stakeholders must support them to implement the actions required immediately.** Successfully addressing the problem within, and outside of, World Heritage sites will require the full commitment of all 193 World Heritage Convention states parties and the 183 CITES parties. Some states parties are starting to show increased attention to the wildlife trafficking, and several have already shown commitment to inter-agency collaboration on wildlife crime. The remaining countries must follow this lead, and support CITES and the World Heritage Convention to unite and take the action required to prevent irreversible damage the world's most iconic places and species.<sup>23</sup>



# INTRODUCTION:

## WORLD HERITAGE SITES AND TRADE IN CITES-LISTED SPECIES

**In response to increasingly industrialized wildlife harvest, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>24</sup> was implemented in 1973 to protect the world's most endangered species.** CITES regulates the trade of animals and plants, referred to as CITES-listed species, against over-exploitation. It currently protects 5,600 types of animals and 30,000 kinds of plants. Many of these species support ecosystem functioning and are a source of economic, social and cultural value for local and global populations. Many CITES-listed species are listed on the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species<sup>25</sup> and need protection to prevent their extinction in the wild. CITES also includes "look-alike species", which are species that look like those species listed for conservation reasons, to ensure that they are not adversely affected by trade.<sup>26</sup> Importantly, CITES also regulates the legal trade of wildlife, and many wild plants and animals are harvested from the wild and then sold legitimately as food, pets, ornaments and medicine.<sup>27</sup>

**Poaching:** Describes the illegal capturing or killing of wild animals.<sup>28</sup>

**Illegal harvesting:** Includes all illegal activities that remove species from their habitats, including poaching, illegal logging and illegal fishing.

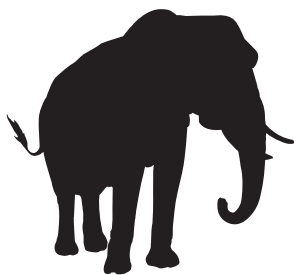
**Wildlife trafficking:** Describes any environment-related crime that involves the illegal trading, smuggling, poaching, capture or collection of endangered species, protected wildlife (including animals and plants that are subject to harvest quotas and/or regulated by permits), derivatives or products.<sup>29</sup>

### **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**

CITES, signed in 1973, is a multilateral treaty that aims to protect wildlife against over-exploitation, and to ensure that the international trade of wild animal and plant specimens does not threaten their survival. It lays out a set of rules for wildlife trade, and all import, export, re-export and introduction of species covered by the convention must be authorized through a CITES licensing system.

Countries, known as parties under the convention, voluntarily agree to CITES and subsequently must implement and adhere to the convention. Although CITES is legally binding, it does not replace national laws. Rather, it provides a framework to be respected by each party, that must then adopt its own domestic legislation to ensure that CITES is implemented at the national level. CITES currently has 183 parties.

The species covered by CITES are listed in three appendices, according to the degree of protection they need. Appendix I includes species threatened with extinction. Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilisation incompatible with their survival. Appendix III contains species that are protected in at least one country, which has asked other CITES parties for assistance in controlling the trade.



**WORLD HERITAGE  
SITES SUPPORT  
ALMOST A THIRD  
OF ALL REMAINING  
WILD TIGERS,  
AND ALMOST  
40 PER CENT OF  
ALL AFRICAN  
ELEPHANTS.**

**Despite CITES, illegal wildlife trafficking is a multi-billion-dollar industry that continues to threaten endangered species.**

The market for illegal wildlife trade is worth US\$15 to 20 billion annually,<sup>30</sup> and is the fourth biggest illegal global trade after drugs, counterfeiting and human trafficking.<sup>31</sup> The illegal timber trade is responsible for up to 90 per cent of deforestation in major tropical countries<sup>32</sup> and is valued at US\$30 to 100 billion annually.<sup>33</sup> The world is currently experiencing a spike in wildlife trafficking. Annual rhino poaching in South Africa increased by more than 9,000 per cent between 2007 and 2015, from 13 rhinos poached in 2007 to 1,175 in 2015.<sup>34,35</sup> Similarly, another African elephant poaching outbreak began around 2005, which resulted in the death of around 20,000 elephants per year. If current trends continue, many savannah areas will lose half of their elephants every nine years.<sup>36</sup> The pangolin is the most trafficked animal in the world despite a total international trade ban,<sup>37</sup> and more than a million pangolins have been killed in the last decade.<sup>38</sup> Several pangolin sub-species in Asia are now locally extinct or close to extinction.<sup>39</sup>

**World Heritage sites are particularly vulnerable to illegal harvesting due to their large populations of vulnerable species, such as elephants, rhinos, tigers and rosewood.** 147 properties, or 60 per cent, of the 238 natural and mixed World Heritage sites are inscribed under selection criterion (x), which indicates a high degree of biodiversity and presence of rare species, including CITES-listed species.<sup>40</sup> World Heritage sites support almost a third of all remaining wild tigers,<sup>41</sup> and almost 40 per cent of all African elephants,<sup>42</sup> and the Okavango Delta World Heritage site in Botswana is a crucial habitat for the elephants in northern Botswana, which constitute 31 per cent of all African elephants.<sup>43</sup>

**UNESCO World Heritage Convention and criterion (x).**

Natural World Heritage sites are internationally recognized under the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Convention as areas of *outstanding universal value*, which means they have “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”.<sup>44</sup> Areas can be inscribed on the World Heritage List by fulfilling a least one of 10 *outstanding universal value* criteria. Inscription as a natural, mixed or cultural World Heritage site under criterion (x) indicates an area is one of the “the most important and significant natural habitats for in-situ conservation of biological diversity”. These often contain “threatened species of outstanding universal value from the point of view of science or conservation”.<sup>45</sup>

Through the World Heritage Convention, 193 states parties have agreed not to take direct, or indirect, action that damages World Heritage sites.<sup>46</sup> States parties are also encouraged to integrate the protection of properties in regional planning programmes, set up staff and services at their properties, and provide periodic reporting on the site’s state of conservation to the World Heritage Committee.<sup>47</sup> In addition, the World Heritage Convention has one of the most comprehensive monitoring systems under any international convention, called reactive monitoring, to address specific threats on World Heritage properties.<sup>48</sup>

**While commercial-scale harvesting is the biggest threat to CITES-listed species in World Heritage sites, small-scale harvesting by local people is contributing to the problem.** Local populations and foreign criminals engage in illegal harvesting of CITES-listed species from World Heritage sites. Harvesting can

be small-scale, for example for bush meat for local populations, and large-scale by criminal networks looking to sell products for large profits on international markets. Some poachers use simple rifles, while other use military equipment.<sup>49</sup> Human-wildlife conflict, for example through retaliatory killings of tigers, the cause of illegal killing of endangered animals.

**Once taken from World Heritage sites, international criminal networks transport the illegally harvested species through transit countries before they reach their end destination.** It is well documented that criminal networks drive the illegal trade of wildlife.<sup>50,51</sup> In order to profit from these activities, criminal networks transport the goods via air, land or sea through a number of intermediary countries to reach consumers. Most seizures take place in sea ports,<sup>52</sup> and illegal goods frequently go through ports such as Mombasa, Zanzibar, Port Kelang in Malaysia, Singapore, Hong Kong, Haiti and Miami.<sup>53,54</sup> Corruption of customs officials and other enforcement agencies plays a central role in allowing smuggling to take place, and corrupt officials often take bribes to alter and augment trade declarations or simply wrongly declare the species.<sup>55</sup>

*Ruffed lemurs (Varecia variegata variegata) are threatened by habitat loss through logging and development in Madagascar. They are also at risk from hunting for meat and for pets. Analamazaotra Special Reserve, Madagascar*

**Products are predominantly sold in Asian markets where they are highly valued by local cultures, and consumers are willing to pay exorbitant prices.** There is a large demand for shark fins, which are the key ingredient in the traditional shark fin soup, commonly served at banquets. Tiger penis is sold for its perceived virility enhancement properties. Rosewood is used for luxury Hongmu furniture in Asia. Increased purchasing power among Asian consumers means they willingly pay incredibly high prices for illegally harvested products, which drives supply.<sup>56</sup>



© R. Isotti, A. Cambone / WWF



© naturepl.com / Jeff Rotman / WWF

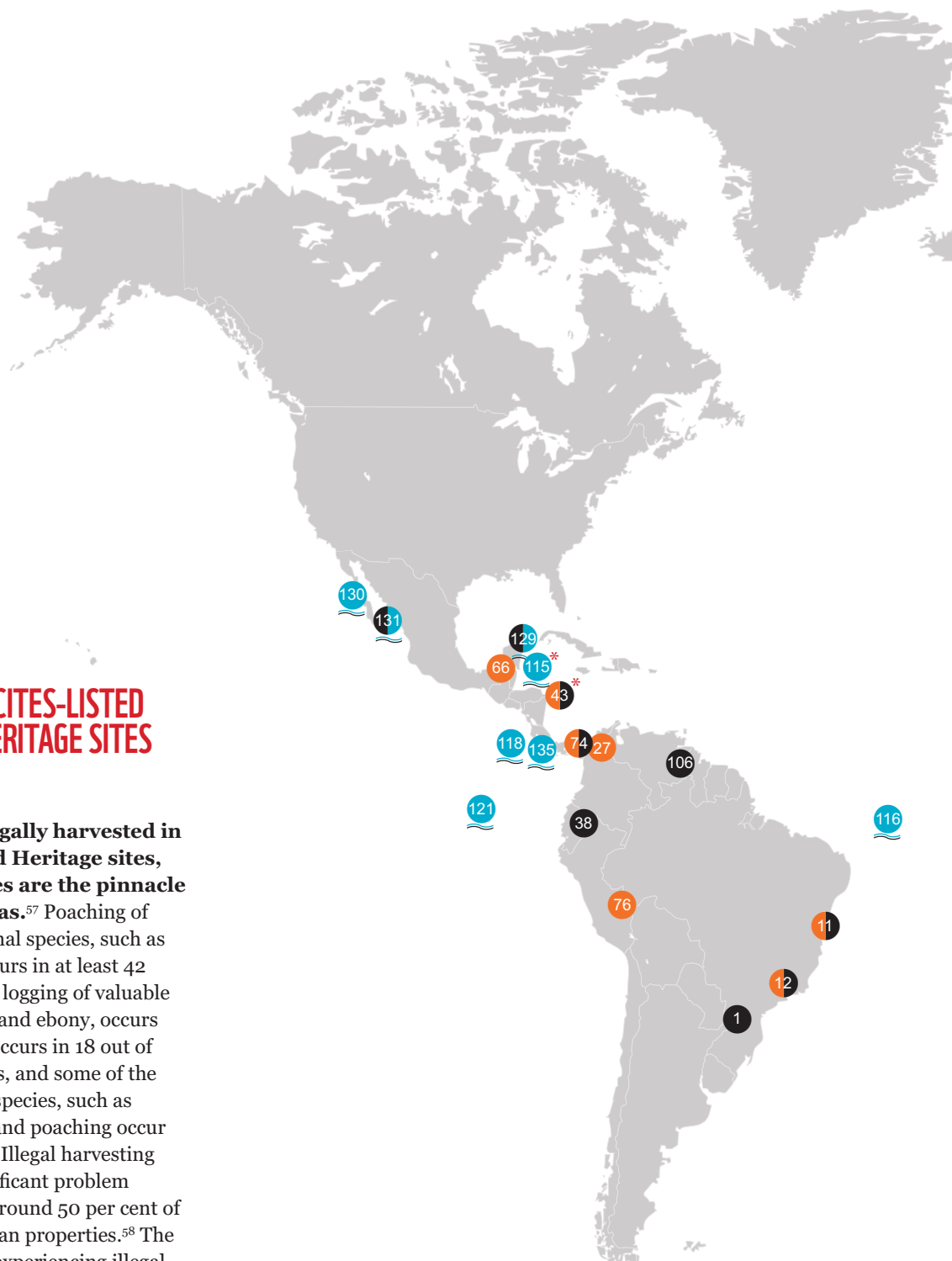
*Scalloped hammerhead sharks (Sphyrna lewini) schooling, Cocos Island, Costa Rica, Pacific Ocean.*

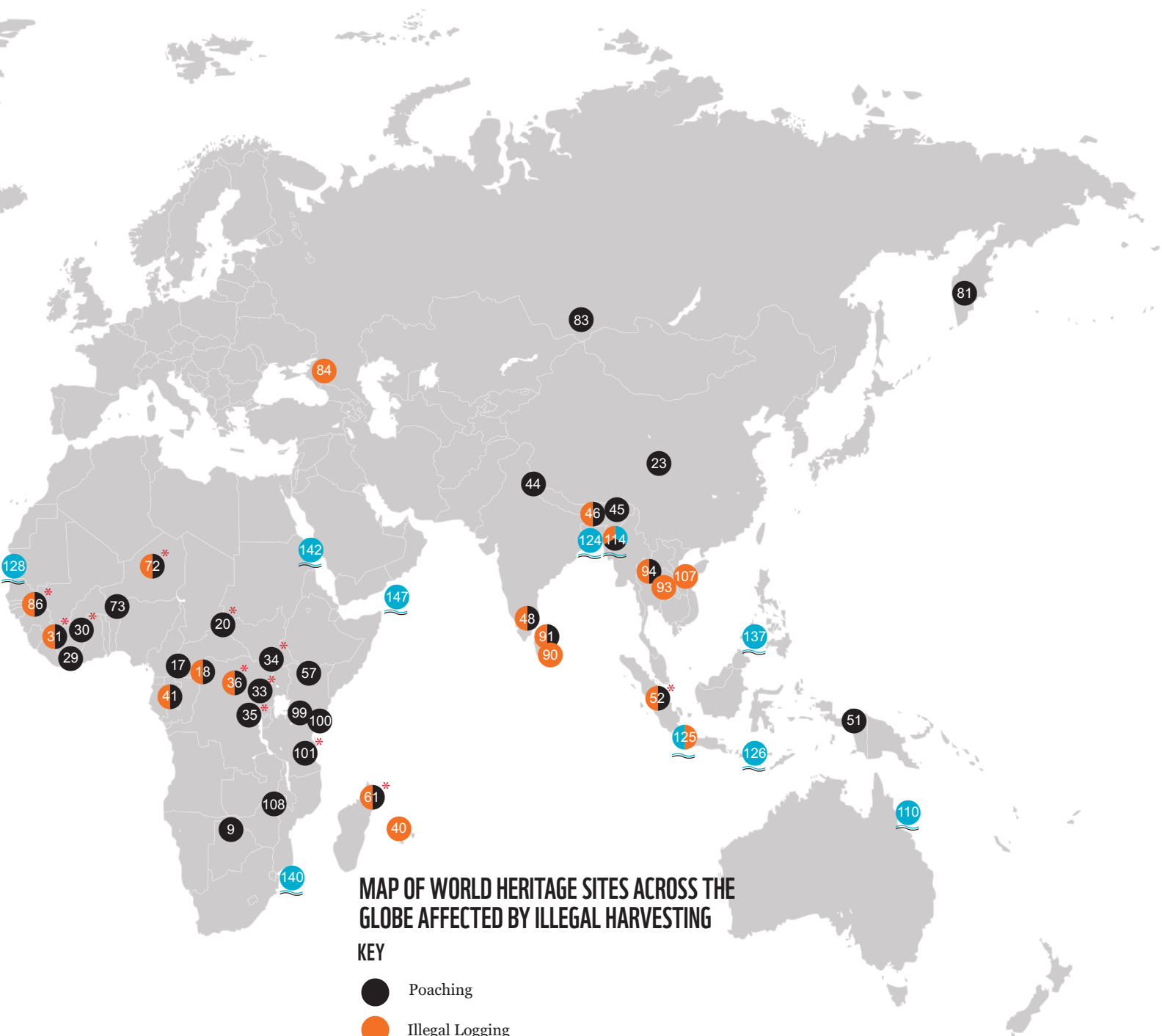


# THREATS:

## ILLEGAL HARVESTING OF CITES-LISTED SPECIES FROM WORLD HERITAGE SITES

CITES-listed species are illegally harvested in 45 per cent of natural World Heritage sites, even though these properties are the pinnacle of the world's protected areas.<sup>57</sup> Poaching of vulnerable and endangered animal species, such as elephants, rhinos and tigers, occurs in at least 42 World Heritage sites, and illegal logging of valuable plant species, such as rosewood and ebony, occurs in 26 properties. Illegal fishing occurs in 18 out of 39 marine and coastal properties, and some of the harvested fish are CITES-listed species, such as sharks and rays. Illegal logging and poaching occur simultaneously in 17 properties. Illegal harvesting of CITES-listed species is a significant problem across the globe, and occurs in around 50 per cent of African, Asian and Latin American properties.<sup>58</sup> The number of properties currently experiencing illegal harvesting is likely to be higher than recorded, as estimating the scale of illegal activities is challenging due to its illicit nature and lack of reporting.





**ELEPHANT  
POACHING OCCURS  
IN OVER 60 PER  
CENT OF THE  
WORLD HERITAGE  
SITES CONTAINING  
AFRICAN AND  
ASIAN ELEPHANTS.  
SELOUS GAME  
RESERVE IN  
TANZANIA HAS  
LOST ALMOST 90  
PER CENT OF ITS  
ELEPHANTS SINCE  
ITS INSCRIPTION  
IN 1982, AND  
NOW HAS ONLY  
15,217  
ELEPHANTS LEFT.**

**Poaching occurs in the majority of World Heritage sites containing flagship species such as elephants, tigers and rhinos.** Many World Heritage sites contain globally important populations of threatened and endangered animals making them hotspots for illegal harvesting. Elephant poaching occurs in over 60 per cent of the World Heritage sites containing African and Asian elephants. Selous Game Reserve in Tanzania has lost almost 90 per cent of its elephants since its inscription in 1982,<sup>59,60</sup> and now has only 15,217<sup>61</sup> elephants left. On average, the reserve lost six elephants per day between 2010 and 2013.<sup>62</sup> Similarly, tiger and African and Asian rhino poaching occurs in 70 per cent of World Heritage sites containing these species.<sup>63</sup> For example, there are increasing levels of tiger poaching in the Sundarbans World Heritage site in Bangladesh.<sup>64</sup>

**While less understood, illegal harvesting of CITES-listed species in World Heritage sites also occurs in Latin America.** Despite significant attention on Africa and Asia, the illegal harvesting and trade of CITES-listed species is a global problem. Illegal wildlife trade in America is valued at US\$2 billion annually, much of which originates from Latin America.<sup>65</sup> The trade includes often forgotten species such as exotic birds, sea turtles, coral, caimans, iguanas and land tortoises.<sup>66</sup> One of the World Heritage sites affected in Latin America is the Río Plátano Biosphere Reserve in Honduras, which has seen high rates of illegal logging and poaching of mammals and birds such as white-lipped peccary, jaguar and the green macaw.<sup>67</sup> Another is the Galapagos Islands, which is threatened by illegal fishing of sharks and rays.<sup>68</sup>

**Illegal harvesting of CITES-listed species has degraded the *outstanding universal value* of 14 properties and led to their inscription on the List of World Heritage in Danger.**<sup>69</sup> The List of World Heritage in Danger includes properties that are in “ascertained” and “potential” danger of losing their *outstanding universal value* because of a serious decline in endangered species populations.<sup>70</sup> Both poaching and illegal logging have been reported in 7 of the 14 properties, and large-scale poaching, logging or fishing occurs in the remaining half. Eleven of the 14 properties are in Africa, including Mana Pools National Park in Zimbabwe and Comoé National Park in Côte d’Ivoire, which are both under pressure from illegal harvesting of small and big mammals such as pangolins and elephants.

*The Ukok Plateau Natural Park is part of the UNESCO World Heritage Site Golden Mountains of Altai. It provides critical habitat for the snow leopard and other endangered species. The plateau is the source of major rivers that flow into Russia, Mongolia, Kazakhstan and China.*





**Continued illegal harvesting in World Heritage sites could lead to the extinction of many species.** Between 1970 and 2012, global wildlife populations declined by almost 60 per cent on average, and illegal harvesting of species was one of the main drivers for this decline.<sup>71</sup> World Heritage sites now function as the last bastion for many critically endangered species, and unless protected within World Heritage sites, these species will go extinct. Ujung Kulon National Park in Indonesia is the last refuge for around 60 critically endangered Javan rhinos,<sup>72</sup> and the Islands and Protected Areas of the Gulf of California supports the world's remaining vaquitas, the world's smallest porpoise.<sup>73</sup> Garamba National Park in the Democratic Republic of the Congo was the last remaining site for the now extinct wild northern white rhino.<sup>74</sup>

**Removing keystone species such as sharks, elephants and trees degrades local ecosystems, and can lead to secondary extinctions.** Many of the species harvested act as ecosystem engineers by directly or indirectly controlling the availability of resources for other species.<sup>75</sup> Removing ecosystem engineers has severe negative cascading impacts. A recent study showed that there is significantly more species under trees damaged by elephant than under intact trees.<sup>76</sup> Similarly, several studies have reported reduced shark abundance degrade coral reefs.<sup>77</sup> Illegal logging has indirectly put other species at risk by removing their habitats and creating greater access for poachers. In Madagascar, more than 90 per cent of all lemur species are now close to extinction for these reasons, and several are locally extinct already.<sup>78</sup>

**Illegal harvesting of CITES-listed species diminishes the social and economic benefits World Heritage sites provide.** Due to their rare and iconic nature, many CITES-listed species are major global tourist attractions. They generate revenue for host countries, and local communities benefit from jobs, infrastructure investments and revenue sharing schemes. As such, 93 per cent of natural World Heritage sites support recreation and tourism and 91 per cent provide jobs.<sup>79</sup> Tanzania's income from nature-based tourism accounts for around 10 per cent of the country's GDP and stimulates around 1.2 million direct and indirect jobs.<sup>80</sup> Meanwhile, Chitwan National Park in Nepal generates annual revenue in excess of US\$1.2 million from wildlife tours alone.<sup>81,82</sup> More than 50 per cent of Belize's population, or 190,000 people, are supported by incomes generated through reef related tourism and fisheries.<sup>83</sup> Illegal harvesting of iconic species, however, rapidly decreases animal populations and reduces



the site's attractiveness as a tourist destination, which can lead to a decline in the local tourist industry and jeopardize livelihoods. It is estimated that Africa loses US\$25 million per year in tourism income due to elephant poaching.<sup>84</sup> Illegal logging precludes sustainable, selective logging practices from continuing, eliminates local jobs, and leads to a significant loss of taxable income. It also leads to widespread deforestation and forest degradation, reducing ecosystem services provided by the area including carbon sequestration, climate regulation and soil stabilisation.<sup>85</sup> This is problematic since 66 per cent of natural World Heritage sites are important sources of fresh water.<sup>86</sup>

**The ramifications of illegal wildlife trade go beyond natural degradation as it spurs corruption and endangers lives.** Wildlife trafficking is facilitated by, and thrives off, corruption and money laundering. According to the Transparency International Corruption Index, 12 out of 15 significant wildlife trade countries<sup>87</sup> have high levels of corruption.<sup>88</sup> Corruption prevents well-designed laws and policies from being effective as officials with entrusted power take bribes for personal gain. While almost all countries have legislation against corruption, there is generally a low risk of being caught and sentenced in countries with weak governance systems.<sup>89</sup> There are also multiple examples of where poaching had led to increased violence, or has been associated with national conflicts. The International Ranger Federation and the Thin Green Line Foundation conservatively estimate that between 2009 and 2016, at least 595 rangers were killed in the line of duty, many of whom were protecting World Heritage sites.<sup>90</sup> Local populations that engage in the illegal wildlife harvesting are also threatened by accidents related to logging, increased rates of disease, further loss of income and are sometimes forced into temporary resettlement.<sup>91</sup>

**Despite ratifying CITES and the World Heritage Conventions and repeated calls to action, parties are often involved in the transportation or importation of illegally traded species.** The World Heritage Convention stipulates that states parties must not take any deliberate actions, directly or indirectly, that might cause damage to World Heritage sites in their own or foreign territories.<sup>92</sup> Similarly, CITES stipulates that parties must take appropriate measures to enforce the provisions of the Convention, and to prohibit illegal trade.<sup>93</sup> Despite these stipulations and repeated calls from the World Heritage Committee to take action against national and international illegal wildlife trade,<sup>94</sup> illegally harvested species from World Heritage sites are transported through, and imported to, CITES and World Heritage Convention countries. In 2016, the major ivory trade routes went out of Tanzania and Kenya, transited through Malaysia, Viet Nam and the UAE, and ended in China.<sup>95</sup> China is the greatest importer of illegal ivory and 72 tonnes of ivory have been seized in China since 2000, which is equivalent to the death 10,800 elephants.<sup>96</sup> This is likely a significant underestimation of the problem as some customs officials estimate that only 10 per cent of the illegal trade is intercepted.<sup>97</sup>

# CASE STUDY: TROPICAL RAINFOREST HERITAGE OF SUMATRA - THE LAST STAND FOR THE CRITICALLY ENDANGERED SUMATRAN TIGER



## 5%

A SURVEY CONDUCTED IN 2006 ESTIMATED THAT 23 TIGERS HAD BEEN KILLED IN SUMATRA IN A SEVEN-MONTH PERIOD, WHILE DATA FROM 2016 ONLINE SALES INDICATE THAT AT LEAST 17 TIGERS HAVE BEEN KILLED, EQUIVALENT TO AROUND 5% OF THE ISLAND POPULATION.

**The Tropical Rainforest Heritage of Sumatra is home to a large number of endemic and threatened species, and was inscribed on the List of World Heritage in Danger in 2011 due to illegal harvesting and industrialization.**<sup>98</sup>

The property was listed as a World Heritage site in 2004 due to its outstanding scenic landscapes and high number of animals that are found nowhere else.<sup>99</sup> The property comprises three national parks: Gunung Leuser National Park, Kerinci-Seblat National Park and Bukit Barisan Selatan National Park in Indonesia, which cover over 2.5 million hectares, an area equivalent in size to Macedonia.<sup>100,101</sup> The property contains approximately 200 mammal species, including several endemic species such as the Sumatran orangutan, Sumatran rhino, and Sumatran elephant. Sumatra is also home to an estimated population of 400 critically endangered Sumatran tigers, which is about 10 per cent of the global population,<sup>102,103,104</sup> many of which live in the World Heritage site. The property was inscribed on the List of World Heritage in Danger due to excessive harvesting of species, agricultural encroachment for industrial-scale palm oil plantations, and infrastructure construction.<sup>105</sup>

**Despite increases in some populations of tigers and a possible global increase in tiger numbers,<sup>106</sup> Sumatran tigers are still critically endangered, and recent data suggests that around 5 per cent of the tiger population was killed in 2016.**<sup>107</sup> Data from online sales indicates that at least 17 tigers were killed in 2016.<sup>108</sup> This is likely to underestimate the scale of the problem given limited data availability on tiger poaching.<sup>109</sup> Tigers are predominantly hunted using snare traps, which hold a tiger until the hunter returns to kill the animal. Occasionally, the tiger will escape the snare and suffer debilitating wounds that inhibits its ability to hunt prey and survive.<sup>110</sup> A recent study that looked at the number of snare traps in Sumatra recorded double the number of traps in 2013 and 2014, compared to the preceding eight years, suggesting a higher number of poachers in the area.<sup>111</sup>

**Poaching of Sumatran tigers is driven by demand in countries such as Korea, Taiwan, Malaysia and China,<sup>112</sup> where tiger products are used for traditional medicines, fashionable delicacies and decorations.** The international trade is reported to transit through Singapore and Malaysia before being transported to its end destination.<sup>113</sup> Besides the international trade, there is also a significant domestic market in Sumatra, as evident from sales through online channels.<sup>114</sup>

**If current levels of poaching and trade continue, the Sumatran tiger could disappear from the wild, putting key habitats and ecosystem services at risk.** Tiger habitats overlap substantially with areas that provide important ecosystem services to local communities. Forests and peatland sequester carbon and retain sediment on mountain slopes.<sup>115</sup> The ecosystem services of the Gunung Leuser National Park, which makes up roughly a third of the World Heritage site, are valued at over US\$600 million per year and the park stores over 1.6 billion tons of carbon and provides water to four million people.<sup>116</sup> If tigers are lost on Sumatra, there is reduced incentive to protect these forests, which is likely to result in further wide-scale deforestation. The extinction of the Sumatran tiger would also represent a cultural and ecological tragedy.



**Increasing efforts by Indonesian authorities must be sustained to protect the Sumatran tiger and other endangered species in the World Heritage site.** Conservation efforts have been intensified, and ranger units now use spatial monitoring and reporting tool (SMART) patrolling systems.<sup>117</sup> Likewise, wildlife crime teams are more forcefully identifying poachers and traders, and tackling illegal wildlife trades in tiger landscapes and beyond. In 2016 alone, five poaching cases were brought to court in central Sumatra, and sentences neared the maximum five years' imprisonment.<sup>118</sup> Despite these actions, tigers and other endangered species remain seriously threatened in the Sumatran rainforests.



*Sumatran tiger (Panthera tigris sumatrae)*

© David Lawson / WWF

*Trafficking routes for Sumatran tiger parts.*



# CASE STUDY: RAINFORESTS OF THE ATSINANANA MADAGASCAR – FEEDING THE ILLICIT DEMAND FOR ROSEWOOD IN CHINA



# 95%

OF ALL ILLEGAL  
LOGS ARE  
IMPORTED BY  
CHINA, WHICH HAS  
AN ENORMOUS  
DEMAND FOR  
ROSEWOOD

**The Rainforests of the Atsinanana in Madagascar harbours some of the most pristine forests and unique ecosystems on the planet.**<sup>119</sup> The property includes six national parks and covers almost 500,000 hectares, equivalent to the surface area of Brunei.<sup>120</sup> Around 80 per cent of all the animal and plant groups living in the Atsinanana rainforests are unique to the World Heritage site.<sup>121</sup> The property hosts 12,000 endemic plant species including endemic rosewood and ebony species, as well as several types of lemurs, such as the silky sifaka, the Malagasy civet and threatened birds such as the Madagascar serpent eagle and the Madagascar red owl.<sup>122</sup>

**Illegal logging of rosewood and ebony led to the site's inscription on the List of World Heritage in Danger in 2010.**<sup>123</sup> Illegal logging has been a significant problem in the Atsinanana Rainforests for the last decade. At its peak, illegal rosewood logging rates were estimated to be as high as 200 to 300 m<sup>3</sup> per day in Masoala and Marojejy national parks.<sup>124</sup> Madagascar has made several attempts to stop illegal logging in the past, including a complete ban on logging in 2006 and an export embargo in 2010.<sup>125</sup> However, these have been ineffective and it is estimated that around 350,000 trees, mainly rosewood, were cut down between 2010 and 2015 in protected areas, many of which originated from the World Heritage site. Since 2010, at least 1 million logs – approximately 150,000 tonnes – were illegally exported out of Madagascar.<sup>126</sup>

**Illegal rosewood is predominantly imported by China, despite a complete CITES rosewood trade ban in 2013.** In 2013, all Malagasy populations of precious timber species were listed in CITES Appendix II.<sup>127</sup> China has continued to import rosewood despite this ban, and it is estimated that over 95 per cent of all illegal logs are imported by China.<sup>128</sup> Estimates suggest that China received 50,000 tonnes of illegally logged rosewood between 2013 and 2016,<sup>129</sup> valued at US\$1.25 billion.<sup>130</sup> The main transit routes are via Zanzibar in Tanzania, Mombasa in Kenya, as well as Mozambique,



*Selective hardwood  
logging Kribi Cameroon*



Sri Lanka, Singapore and Hong Kong,<sup>131</sup> and Zanzibar and Hong Kong are the main laundering countries for Malagasy rosewood.<sup>132</sup>

**If unstopped, illegal logging and trade of rosewood will degrade the outstanding universal value of the property and the benefits it provides to local people.** Illegal logging has caused rapid forest degradation across the property and increasingly opened previously inaccessible areas of forest. This has led to increased poaching of endemic species such as lemurs, and has compromised the property's ability to provide ecosystem services to the 100,000 people living in its vicinity.<sup>133</sup> Deforestation has resulted in soil erosion, which has entered rivers and streams and led to a decline in local water quality,<sup>134</sup> reduced the carbon storage capacity of the forest, and increased the likelihood of flooding and mudslides. Illegal logging also takes valuable resources away from local communities, and less than 1 per cent of the profits from illegal logging remain in the country.<sup>135</sup> Most of these profits are unregulated, untaxed and retained by a small group of timber barons, preventing the funds from being spent on healthcare, education and other public services that would help drive nationwide development.<sup>136</sup>

**The Rainforests of the Atsinanana have received significant attention from the World Heritage Committee, CITES and other international bodies.**

However, more must be done to halt illegal trade there. In 2014, the CITES secretary general committed CITES support, and called for increased action from international bodies to combat rosewood trafficking. These included the International Consortium on Combating Wildlife Crime and a wildlife incident support team led by INTERPOL.<sup>137</sup> The World Heritage Centre and IUCN conducted a reactive monitoring mission to the site in 2015, and the Norwegian government granted Madagascar US\$1 million to finance an emergency plan for the property.<sup>138</sup> While these actions are commendable, 2016 reports indicate illegal logging is still occurring in protected areas. In June and July, between 60 and 100 tons of rosewood reportedly were exported from Madagascar.<sup>139</sup> To stop illegal trade, Madagascar must implement a timber species monitoring system that accounts for which species are being harvested, and assess natural standing stocks to determine sustainable logging rates.<sup>140</sup>



© N.C. Turner / WWF



*Trafficking routes for Malagasy rosewood.*



# CASE STUDY:

## THE WORLD HERITAGE SITES OF EASTERN DRC - THE ILLEGAL TRADE IN ELEPHANT IVORY TUSKS

**The three World Heritage sites in eastern Democratic Republic of the Congo (DRC) are home to significant populations of elephants, and rare animals such as mountain gorillas and okapis.** Virunga National Park, Garamba National Park and Okapi Wildlife Reserve were inscribed on the World Heritage List in 1979, 1980 and 1996.<sup>141</sup> These properties cover a combined area of 26,000 square kilometres, equivalent in size to neighbouring Rwanda.<sup>142</sup> Each property was inscribed for its unique landscapes and wildlife, such as volcanoes, chimpanzees and northern white rhinos.

**All three properties are on the List of World Heritage in Danger<sup>143</sup> due to a collapse in their elephant populations from militarized poaching following civil war.** Twenty years of civil war has placed all three properties under severe pressure from human activities, particularly from poaching for the ivory and bush meat trades.<sup>144</sup> Okapi Wildlife Reserve has lost approximately 5,100 elephants since its inscription, and now has only 25 per cent of its original population.<sup>145,146</sup> 3,000 elephants were killed between 2007 and 2014 in Garamba National Park, and the current population is estimated to be around 1,700 elephants.<sup>147</sup> There has been a 90 per cent decrease in elephant populations in Virunga in the last 20 years, and only around 150 individuals remain.<sup>148</sup> Much of this poaching is driven by armed groups that are part of the ongoing conflicts in eastern DRC.<sup>149</sup> Since April 2015, nine ICCN guards and three FARDC soldiers were killed in the line of duty in Garamba National Park and since March 2016, a guard was killed in Kahuzi-Biega National Park, two guards killed in the Okapi Wildlife Reserve and four guards in Virunga National Park.<sup>150</sup> In April 2016, an additional three park rangers were killed in a shootout with poachers in Garamba National Park.<sup>151</sup>

**The majority of the elephant ivory from the three properties is illegally exported to several Asian markets.** The CITES monitoring system, the Elephant Trade Information System (ETIS), reports that DRC is a significant source of ivory for international trade.<sup>152</sup> Most of the trade passes through ports in Kenya, Tanzania and Zanzibar,<sup>153</sup> before being shipped to East Asian countries. At least two-thirds of the ivory seized between 2006 and 2015 was destined for East Asian markets.<sup>154</sup> Besides the international trade, Kinshasa, the capital of DRC, hosts Central Africa's largest ivory market, which continues to sell ivory products despite national commitments to shut the market.<sup>155,156</sup>

**Unless poaching and conflicts stop, the three properties may lose their elephant populations entirely, which would jeopardize local ecosystems.** Recent data suggests that elephant poaching rates in Garamba National Park have not improved, so, the outlook for the *outstanding universal value* of the park is critical.<sup>157,158,159</sup> Continued loss of elephants from these properties could critically affect local ecosystems as elephants are one of the most important ecosystem engineers.<sup>160</sup> They reduce predation risk for smaller species by maintaining open habitats with high grass, and create refuges for small vertebrates and insects by peeling bark of trees.<sup>161</sup> Forest elephants also function as gardeners by dispersing tree seeds across the forest floor.<sup>162</sup>

**Both the CITES and the World Heritage Convention are working to halt poaching, but additional, joint action is needed to improve site protection, enforcement and prosecution.** Through the CITES-led Monitoring the Illegal

Killing of Elephants (MIKE) programme, CITES has been conducting site-specific reporting on elephant poaching in 58 African sites and 27 Asian sites, including Okapi Wildlife Reserve, Garamba National Park and Virunga National Park.<sup>163,164</sup> SMART monitoring and reporting is also used in all three sites.<sup>165</sup> The World Heritage Convention is collaborating with the United Nations Organization Stabilization Mission in the DRC (MONUSCO) to prevent wildlife trafficking, including rescuing infant chimpanzees and other wildlife.<sup>166</sup> All stakeholders must also collaborate to end the conflict that continues to threaten these properties and the people within and around them.

*The trafficking routes for ivory out of World Heritage sites in the DRC*



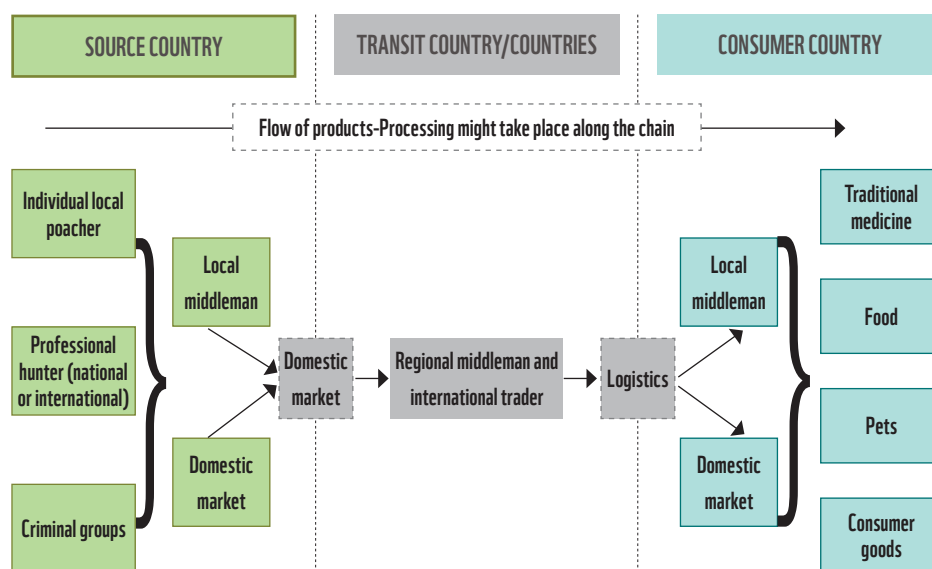
# THE SOLUTIONS:

## SOLUTIONS: INCREASING COLLABORATION BETWEEN CITES AND THE WORLD HERITAGE CONVENTION

**The current approach to preventing illegal harvesting of CITES listed species in World Heritage sites is not working.** CITES representatives, World Heritage Committee members and international organizations agree that current efforts to control and halt illegal harvesting in World Heritage sites are insufficient, and explicit action is needed to protect World Heritage sites and the valuable species they support.<sup>167</sup> Stakeholders agree that increased action is needed to cut off supply, which will require enhanced protection and monitoring of World Heritage sites, and this must be accompanied by greater action to curb demand through education, enforcement, prosecution and legislative action. This will require renewed commitment from, and coordinated action between, states, with support from international organizations and civil society.

**The World Heritage Convention and CITES predominately focus on separate parts of the wildlife trafficking value chain, which means it is difficult to launch a coordinated response.** The wildlife trafficking value chain connects the harvesting of species in source countries, the transportation of these goods through intermediate collation or processing destinations, and the sale of goods in consumer markets. Organized criminal groups form distribution networks across national boundaries linking source and consumer countries, often via important transit destinations, as shown in Figure 1. The World Heritage Convention is a site-focused convention and therefore primarily focuses on illegal harvesting activities within, or directly around, World Heritage sites, whilst CITES is predominately focused on working with source, transit and consumer countries at the national level. CITES only focuses on specific sites when given an explicit mandate from its states parties.<sup>168</sup>

**Figure 1: The generic wildlife trafficking value chain<sup>169</sup>**



**Preventing the illegal harvest and trade of CITES-listed species in World Heritage sites will only be possible through coordinated action across the value chain between source, transit and consumer countries.** Increasing protection around properties will make harvesting of CITES-listed species more difficult, but if the large rewards for obtaining these goods continue to exist, poachers, criminal fishers and illegal loggers will find new, potentially more dangerous and damaging ways to harvest valuable species. Similarly, education, enforcement and legislative activities that reduce demand will be unsuccessful if there aren't sufficient safeguards in place to prevent products reaching the market through transit countries. Corruption must also be fought across the value chain as it erodes any positive measures taken at site and consumer level. Therefore, a more systematic approach is needed that surmounts national borders, and simultaneously addresses all steps in the value chain in order to effectively tackle illegal harvesting.

**A coordinated approach to wildlife trafficking must also engage local communities near World Heritage sites to increase ownership and make local people positive agents of change.** Poverty and poor job opportunities often drive local populations into illegal harvesting that can provide high temporary incomes. For example, while still low, Madagascan woodcutters earn up to US\$12 a day by illegally felling and skidding trees,<sup>170</sup> and fees for rhino poaching in South Africa range between US\$500 to 20,000 depending on the role of the poacher.<sup>171</sup> To counter these situations, governments must help local populations secure alternative, sustainable livelihoods. By including local populations in park management, these people can become powerful and positive actors of change. In Chitwan National Park in Nepal, local communities receive 50 per cent of annual tourism revenues, and almost US\$1 million was distributed to communities in 2014, which was used to build schools and roads, provide veterinary support, and create secure supplies of drinking water.<sup>172,173</sup> Tourism in Chitwan National Park also indirectly employs over 30,000 people, further contributing to the livelihoods of local people.<sup>174</sup> Co-management of the park and buffer zones with local communities has helped to create a feeling of ownership and responsibility for conservation,<sup>175</sup> and on 27 January 2017, the park celebrated 1,000 days without poaching of rhinos, elephants and tigers.<sup>176</sup> This approach could be much more widely tested and implemented across World Heritage sites.

*Nepalese army Kishor Rai and Suman Shrestha take Belgian Sheppards, Murray and Sears, paroling at Chitwan national park, Chitwan, Nepal. 11 May 2015.*

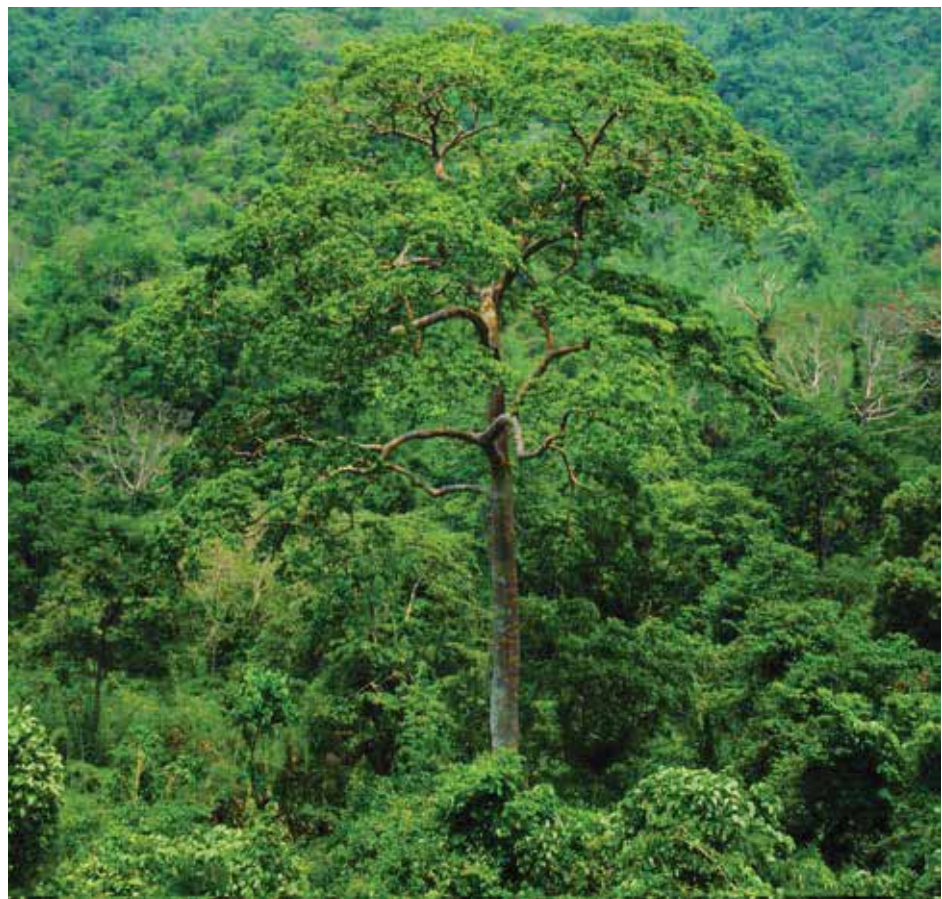




# CASE STUDY: HOW THE THAI GOVERNMENT COMBATS THE ILLEGAL TRADE IN SIAMESE ROSEWOOD

**The Dong Phrayayen-Khao Yai Forest Complex in Thailand hosts the world's largest remaining stock of Siamese rosewood<sup>177</sup> and supports several endangered animal species.** The property was inscribed as a World Heritage site in 2004 and covers more than 600,000 hectares across five protected areas,<sup>178</sup> equivalent in size to Brunei.<sup>179</sup> In 2011, Thailand estimated that 80,000 to 100,000 Siamese rosewood trees remain in the country, which was recognized as the largest remaining stock anywhere in the world, much of which is in the World Heritage site.<sup>180</sup> The property also hosts rare animals such as the Siamese crocodile, Asian elephant and tiger.<sup>181</sup>

**Illegal logging and trafficking of endangered Siamese rosewood for Chinese luxury furniture have degraded the property and led to violence between loggers and rangers.** Siamese rosewood is classified as vulnerable by IUCN and was listed under CITES Appendix II in 2013 as it risks going extinct in the wild unless illegal logging is stopped.<sup>182</sup> Despite this listing, vast amounts of rosewood have been illegally harvested from the Dong Phrayayen-Khao Yai Forest Complex to meet surging demand in China. The wood is often trafficked through Cambodia, Laos and Viet Nam before reaching China where it is sold at extremely high prices, reaching US\$50,000 per cubic meter, and is used for luxury Hongmu furniture.<sup>183</sup> The illegal logging has become



*Evergreen rainforest in  
Khao Yai National Park.  
Thailand.*

© Gerald S. CUBITT / WWF

increasingly violent and many loggers in Thailand are armed with automatic weapons and grenades.<sup>184</sup> More than 150 forest rangers, police, soldiers and illegal loggers have been killed in firefights in recent years.<sup>185</sup>

**Recognizing the problem, the Thai government has started to take action across the value chain to stop logging, and is working with transit and consumer countries.** After witnessing the damage caused by illegal loggers, the Thai government committed US\$1.5 million in 2015 and 2016 to invest in ranger training and enforcement.<sup>186</sup> Rangers are now better equipped to prevent the logging and Thailand's largest remaining rosewood tree is now guarded 24 hours a day by a platoon from the Thai army.<sup>187</sup> The Thai government is also working with consumer and transit countries to reduce demand and prevent transit through intermediary countries, and has held two regional dialogue meetings<sup>188</sup> including representatives from Cambodia, China, Viet Nam, the CITES secretariat, and several other intergovernmental organizations.<sup>189</sup> These meetings resulted in the implementation of concrete measures such as policy revisions, the establishment of a legal framework, capacity building activities for rangers, enforcement cooperation that facilitates intelligence-led investigations to help identify and prosecute major criminals, and an agreement from all stakeholders to prioritize efforts to reduce consumer demand.<sup>190,191</sup>

**While efforts are ongoing, positive results are starting to be achieved including increased CITES protection for rosewood and decreasing illegal logging rates, and the World Heritage site is on a path toward recovery.**

Following the efforts of Thailand and others, CITES parties agreed to further protect the timber by placing all 300 species of rosewood under trade restrictions in September 2016.<sup>192</sup> Rosewood seizures from the property reduced from around 420,000 m<sup>3</sup> in 2014 to around 110,000 m<sup>3</sup> in 2015.<sup>193</sup> There was also a 40 per cent decrease in the number of logging cases detected in 2015.<sup>194</sup> However, the battle is not over and Thailand needs to continue its efforts to secure the long-term protection and survival of wild Siamese rosewood and avoid having the site inscribed on the World Heritage List in Danger.<sup>195</sup>

**Closer integration of the World Heritage and CITES conventions would facilitate a holistic value chain response and raise the importance of the issue amongst countries.** Combined, the two conventions cover the entire value chain of source, transit and consumer countries, and almost all countries have ratified both conventions.<sup>196</sup> Involvement of CITES in the monitoring, analysis and reporting of illegal harvesting of CITES-listed species from World Heritage sites would help to identify problems and implement policy changes and sanctions, earlier. Through CITES involvement, World Heritage Convention states parties would also be able to identify trade routes and consumer markets for harvested products, and implement an international, multi-stakeholder effort to address the problem. This collaboration would reinforce the imperative for increased collaboration between source, transit and consumer countries and would allow for more forceful use of CITES sanctions and World Heritage in Danger profiling.

**The two conventions could expand upon joint reporting initiatives to produce more comprehensive analyses and increase the speed of response, while saving time and resources.** The two bodies could expand current initiatives on site-based reporting, such as the CITES-led Monitoring the Illegal Killing of Elephants (MIKE) and the national- and site-focused Elephant Trade Information System (ETIS) programmes,<sup>197</sup> as well as The Great Apes Survival Partnership (GRASP), to more species and regions.<sup>198</sup> CITES and the World Heritage Committee could support more joint missions to World Heritage sites to outline collaboratively a response that spans source, transit and consumer countries. By engaging in joint reporting efforts both conventions could save valuable resources and reduce duplication of work, while



being more responsive to emerging crises.<sup>199</sup>

**Closer collaboration between the two conventions and international police and justice organizations would help raise the criminal importance of wildlife trafficking, and ensure best practices are utilized by all organizations.** Both conventions are already collaborating with police and justice organizations to prevent the illegal trade. The World Heritage Convention collaborates with the World Customs Organization to prevent illicit trafficking in cultural property,<sup>200</sup> and CITES is a member of the International Consortium on Combating Wildlife Crime (ICWC),<sup>201,202</sup> which works to bring coordinated support to national wildlife law enforcement agencies and defend natural resources.<sup>203</sup> Closer partnerships between all of the organizations involved in the battle against wildlife trafficking would make it easier to share best practices around enforcement, prosecution and awareness building, and ensure the same objectives and regulations are pursued by all. By expanding these partnerships, the two bodies and justice organizations will better signal that the illegal harvest and trade of CITES-listed species is a criminal issue that is similar in importance to other transnational crimes, such as human trafficking and the drug trade.

*The trafficking routes for Siamese rosewood from the Khao Yai National Park.*



# THE PATH FORWARD

---

**States must now build on their commitments to further increase collaboration between CITES and the World Heritage Convention, and take comprehensive and coordinated action across the value chain.** Several states have already shown commitment to inter-agency collaboration on wildlife crime. The EU, Netherlands, Sweden, UK, and the US all contribute to ICCWC<sup>204</sup> and countries, such as Switzerland, Thailand and Finland, have previously

committed to take measures to fight wildlife trafficking. China's recent decision to ban all ivory trade by the end of 2017 is a breakthrough commitment that could provide forceful momentum for other countries to follow and support.<sup>205</sup> These countries are important agents of change that can advocate for all countries to support increased collaboration between CITES and the World Heritage Convention.

**There is increasing momentum for further coordination between CITES, the World Heritage Convention and other biodiversity conventions.** In 2016, the United Nations Environment Programme (UNEP) developed a sourcebook outlining opportunities for enhanced cooperation amongst biodiversity-related conventions.<sup>206</sup> The study underlined what can be achieved at the national and regional levels by those responsible for implementing the conventions. Both CITES and the World Heritage Convention recognize the need for increased collaboration between the two bodies, and the respective leaders have both endorsed more collaboration.<sup>207</sup> In 2016, the World Heritage Committee formally welcomed collaboration with other biodiversity-related conventions in an official decision, and invited the UNESCO World Heritage Centre to pursue engagements in this area.<sup>208</sup>

**A natural next step is for CITES and World Heritage representatives to better coordinate their activities at a national level, and to attend each other's meetings.** While the CITES secretariat and the UNESCO World Heritage Centre are already taking actions to increase coordination between the two conventions, greater action could be taken at the national level, as government representatives of the different biodiversity conventions typically work independently toward their missions.<sup>209</sup> Therefore, a natural step for improved coordination would be for each country's national representative to the World Heritage Convention and the representative for CITES to regularly meet and coordinate their work, where appropriate. This could be extended to the international level, and CITES

“ THIS REPORT GIVES EXPRESSION TO A RANGE OF OPTIONS TO FURTHER ENHANCE TANGIBLE SYNERGIES BETWEEN CITES AND THE WORLD HERITAGE CONVENTION, FOCUSED AROUND WORLD HERITAGE SITES ”

JOHN SCANLON, CITES SECRETARY-GENERAL

“ THESE CRUCIALLY IMPORTANT CONSERVATION INSTRUMENTS MUST LEAD ON ACTION TO TACKLE THE GROWING GLOBAL CRISIS IN ILLEGAL WILDLIFE TRADE HEAD-ON, BEFORE SOME OF OUR MOST PRECIOUS THREATENED SPECIES ARE LOST FOREVER ”

INGER ANDERSEN, IUCN DIRECTOR GENERAL

representatives could attend World Heritage Committee meetings, and vice versa. Countries must prioritize collaboration and coordination as an integral part of their national biodiversity governance structure, and provide sufficient financing and capacity to support this.<sup>210</sup>

**Implementing these activities and adequately addressing the problem of illegal harvesting of CITES-listed species in World Heritage sites will require additional funding from parties and donor organizations.** Both the CITES and the World Heritage Convention operate on small budgets, with limited staff and scope for activities. The CITES core activity budget between 2014 and 2016 was only around US\$6 million a year,<sup>211</sup> and CITES relies on external contributions to fund programmes outside of its core work.<sup>212</sup> Similarly, the World Heritage Fund has an annual budget of around US\$3 million to support activities requested by the World Heritage Committee.<sup>213</sup> Additional funding is required to increase the scope and level of activities under both conventions, which will be vital to reverse and halt illegal harvesting of CITES-listed species from World Heritage sites.

*In 2017, Chitwan National Park in Nepal celebrated 1,000 days without poaching of rhinos, elephants and tigers. Local communities are part of the park management and received almost US\$1 million from tourism in 2014.*

*Tourism in Chitwan National Park also indirectly employs over 30,000 people, further contributing to the livelihoods of local people.*

**Stakeholders recognize the urgency of the challenge, and must now take the steps required to prevent irreversible damage to some of the most iconic species and places in the world.** If left unchecked, poaching, illegal fishing and illegal logging could lead to the extinction of several valuable species. It could also lead to 14 World Heritage sites losing their status,<sup>214</sup> as well as the social, economic and environmental benefits they provide at local and national levels. As shown in this report, the speed and scale of species and site degradation means that there is little time to act. Despite these alarming trends, increasing momentum and support from the international community, as well as initial commitments by both conventions and actions by some countries, suggest that countries must, and can do, more to end the illegal trade of iconic species from the world's most precious places.



© Narendra Shrestha / WWF

# ANNEX I

## METHODOLOGY FOR ESTIMATING THE NUMBER OF WORLD HERITAGE SITES WITH ILLEGAL HARVESTING OF CITES-LISTED SPECIES.

The team used two main data sources to generate the list of World Heritage sites threatened by illegal harvesting of CITES-listed species.

Properties containing populations of CITES listed species were identified using the World Heritage selection criteria and criterion (x) in particular. Criterion (x) properties “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 conservation”.<sup>215</sup> Criterion (x) properties were used as a proxy for properties that contain threatened and rare species relevant for illegal harvesting. At the time of writing there were 147 natural and mixed properties inscribed under criterion (x).

The team identified sites threatened by illegal harvesting using two main sources:

- World Heritage Convention site descriptions and World Heritage Convention State of Conservation reports from site countries – both from the World Heritage Convention website.<sup>216</sup>
- IUCN World Heritage Outlook database.<sup>217</sup>

A site was considered threatened by illegal harvesting if one of the two sources reported poaching, illegal logging or illegal fishing currently in the property, whether or not it was apparent that such illegal off-take was being driven by demand in international trade.<sup>218</sup> These activities were reported in 65 out of 147 properties. The team only assessed illegal fishing in the 39 marine and coastal criterion (x) properties. The team also identified, where possible, which species were present and being harvested in each site, with a focus on high-profile species such as elephants, tigers or rhinos. The team also assessed the presence and harvesting of smaller species, although this was more challenging due to limited reporting. It was not always possible to confirm which species were being harvested as some sources only reported that harvesting activities were occurring, without specifying which species. For example, many marine and coastal properties report to be threatened by illegal fishing without stating which species are being fished. Similarly, some properties reported that illegal harvesting was no longer a serious threat, but it was not always possible to confirm whether illegal harvesting had completely stopped, or whether it continues at a smaller scale.

The approach is likely to underestimate the number of properties affected by illegal harvesting due to the illegal and covert nature of the activity, underreporting, and the possibility that illegal harvesting might take place in smaller format and for lesser high-profile species outside criterion (x) properties.



### Criterion (x) World Heritage sites

Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
<b>Land based sites</b>								
1	Iguazu National Park	Argentina	•	•				
2	Gondwana Rainforests of Australia	Australia						
3	Wet Tropics of Queensland	Australia						
4	Greater Blue Mountains Area	Australia						
5	Kakadu National Park	Australia						
6	Tasmanian Wilderness	Australia						
7	Białowieża Forest	Belarus, Poland						
8	Noel Kempff Mercado National Park	Bolivia (Plurinational State of)						
9	Okavango Delta	Botswana	•	•			Elephant, Rhino, Pangolin	Elephant, Rhino
10	Iguaçu National Park	Brazil						
11	Discovery Coast Atlantic Forest Reserves	Brazil	•	•	•			
12	Atlantic Forest South-East Reserves	Brazil	•	•	•			
13	Central Amazon Conservation Complex	Brazil						
14	Pantanal Conservation Area	Brazil						
15	Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks	Brazil						
16	Srebarna Nature Reserve	Bulgaria						
17	Dja Faunal Reserve	Cameroon	•	•			Elephant	Elephant
18	Sangha Trinational	Cameroon, Central African Republic, Congo	•	•	•		Elephant, Pangolin, Parrot	Elephant
19	Wood Buffalo National Park	Canada						
20	Manovo-Gounda St Floris National Park*	Central African Republic	•	•			Elephant, Rhino, Pangolin, Giraffe	Elephant, Rhino
21	Mount Emei Scenic Area, including Leshan Giant Buddha Scenic Area	China						
22	Mount Wuyi	China						
23	Sichuan Giant Panda Sanctuaries - Wolong, Mt Siguniang and Jiayin Mountains	China	•	•				
24	Three Parallel Rivers of Yunnan Protected Areas	China						

Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
25	Mount Huangshan	China						
26	Hubei Shennongjia	China						
27	Los Katios National Park	Colombia	•		•			
28	Talamanca Range-La Amistad Reserves / La Amistad National Park	Costa Rica, Panama						
29	Tai National Park	Côte d'Ivoire	•	•			Duikers, Primates	Elephant
30	Comoé National Park*	Côte d'Ivoire	•	•			Elephant	Elephant
31	Mount Nimba Strict Nature Reserve*	Côte d'Ivoire, Guinea	•	•	•			
32	Alejandro de Humboldt National Park	Cuba						
33	Virunga National Park*	Democratic Republic of the Congo	•	•			Elephant, Rhino, Pangolin, Mountain Gorilla	Elephant, Rhino
34	Garamba National Park*	Democratic Republic of the Congo	•	•			Elephant, Rhino, Pangolin	Elephant, Rhino
35	Kahuzi-Biega National Park*	Democratic Republic of the Congo	•	•			Elephant, Pangolin	Elephant
36	Okapi Wildlife Reserve*	Democratic Republic of the Congo	•	•	•		Elephant, Rhino	Elephant
37	Morne Trois Pitons National Park	Dominica						
38	Sangay National Park	Ecuador	•	•				
39	Simien National Park	Ethiopia						
40	Pitons, cirques and remparts of Reunion Island	France	•		•			
41	Ecosystem and Relict Cultural Landscape of Lopé-Okanda	Gabon	•	•	•		Elephant	Elephant
42	Tikal National Park	Guatemala						
43	Río Plátano Biosphere Reserve*	Honduras	•	•	•		White-lipped peccary, Jaguar	
44	Nanda Devi and Valley of Flowers National Parks	India	•	•			Snow Leopard, Ungulates	
45	Kaziranga National Park	India	•	•				Elephant, Rhino, Tiger
46	Manas Wildlife Sanctuary	India	•	•	•		Rhino, Eastern Swamp Deer	Elephant, Rhino, Tiger
47	Keoladeo National Park	India						

Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
48	Western Ghats	India	•	•	•		Elephant, Tiger, Pangolin	Elephant, Tiger
49	Great Himalayan National Park Conservation Area	India						
50	Khangchendzonga National Park	India						
51	Lorentz National Park	Indonesia	•	•			Boelen's python	
52	Tropical Rainforest Heritage of Sumatra*	Indonesia	•	•	•		Elephant, Rhino, Tiger, Pangolin	Elephant, Rhino, Tiger
53	The Ahwar of Southern Iraq: Refuge of Biodiversity and the Relict Landscape of the Mesopotamian Cities	Iraq						
54	Blue and John Crow Mountains	Jamaica						
55	Saryarka – Steppe and Lakes of Northern Kazakhstan	Kazakhstan						
56	Western Tien-Shan	Kazakhstan, Kyrgyzstan, Uzbekistan						
57	Lake Turkana National Parks	Kenya	•	•				
58	Kenya Lake System in the Great Rift Valley	Kenya						Rhino
59	Maloti-Drakensberg Park	Lesotho, South Africa						
60	Tsingy de Bemaraha Strict Nature Reserve	Madagascar						
61	Rainforests of the Atsinanana*	Madagascar	•	•	•		Lemurs	
62	Lake Malawi National Park	Malawi						Elephant
63	Kinabalu Park	Malaysia						
64	Gunung Mulu National Park	Malaysia						
65	El Pinacate and Gran Desierto de Altar Biosphere Reserve	Mexico						
66	Ancient Maya City and Protected Tropical Forests of Calakmul, Campeche	Mexico	•		•			
67	Uvs Nuur Basin	Mongolia, Russian Federation						
68	Durmitor National Park	Montenegro						
69	Namib Sand Sea	Namibia						
70	Chitwan National Park	Nepal						Elephant, Rhino, Tiger
71	Te Wahipounamu – South West New Zealand	New Zealand						
72	Air and Ténéré Natural Reserves*	Niger	•	•	•		Ostrich	
73	W National Park of Niger	Niger	•	•				Elephant

Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
74	Darien National Park	Panama	•	•	•			
75	Río Abiseo National Park	Peru						
76	Manú National Park	Peru	•		•			
77	Mount Hamiguitan Range Wildlife Sanctuary	Philippines						
78	Laurisilva of Madeira	Portugal						
79	Danube Delta	Romania						
80	Lake Baikal	Russian Federation						
81	Volcanoes of Kamchatka	Russian Federation	•	•			Wide ranging species and game stock	
82	Central Sikhote-Alin	Russian Federation						Tiger
83	Golden Mountains of Altai	Russian Federation	•	•			Snow Leopard; Argali Ovis Ammon	
84	Western Caucasus	Russian Federation	•		•			
85	Djoudj National Bird Sanctuary	Senegal						
86	Niokolo-Koba National Park*	Senegal	•	•	•		Elephant	Elephant
87	Vallée de Mai Nature Reserve	Seychelles						
88	Cape Floral Region Protected Areas	South Africa						
89	Doñana National Park	Spain						
90	Sinharaja Forest Reserve	Sri Lanka	•		•			Elephant
91	Central Highlands of Sri Lanka	Sri Lanka	•	•	•			
92	Central Suriname Nature Reserve	Suriname						
93	Dong Phrayayen-Khao Yai Forest Complex	Thailand	•		•			Elephant, Tiger
94	Thungyai-Huai Kha Khaeng Wildlife Sanctuaries	Thailand	•	•	•		Elephant, Tiger, Pangolin	Elephant, Tiger
95	Ichkeul National Park	Tunisia						
96	Bwindi Impenetrable National Park	Uganda						Elephant
97	Rwenzori Mountains National Park	Uganda						Elephant
98	Henderson Island	United Kingdom of Great Britain and Northern Ireland						



Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
99	Serengeti National Park	United Republic of Tanzania	•	•			Elephant, Rhino, Pangolin	Elephant, Rhino
100	Ngorongoro Conservation Area	United Republic of Tanzania	•	•			Elephant, Rhino	Elephant, Rhino
101	Selous Game Reserve*	United Republic of Tanzania	•	•			Elephant, Rhino, Pangolin	Elephant, Rhino
102	Yellowstone National Park	United States of America						
103	Grand Canyon National Park	United States of America						
104	Mammoth Cave National Park	United States of America						
105	Great Smoky Mountains National Park	United States of America						
106	Canaima National Park	Venezuela (Bolivarian Republic of)	•	•				
107	Phong Nha-Ke Bang National Park	Viet Nam	•		•			
108	Mana Pools National Park, Sapi and Chewore Safari Areas	Zimbabwe	•	•			Elephant, Pangolin	Elephant
<b>Marine and coastal sites</b>								
109	Península Valdés	Argentina						
110	Great Barrier Reef	Australia	•			•		
111	Lord Howe Island Group	Australia						
112	Shark Bay, Western Australia	Australia						
113	Ningaloo Coast	Australia						
114	The Sundarbans	Bangladesh	•	•	•	•	Tiger, Shrimp	Tiger
115	Belize Barrier Reef Reserve System *	Belize	•			•	Finfish, Conch, Lobster	
116	Brazilian Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves	Brazil	•			•	Sharks	
117	Kluane / Wrangell-St. Elias / Glacier Bay / Tatshenshini-Alsek	Canada, United States of America						
118	Cocos Island National Park	Costa Rica	•			•	Tuna, Sharks	
119	Area de Conservación Guanacaste	Costa Rica						
120	Wadden Sea	Denmark, Germany, Netherlands						
121	Galápagos Islands	Ecuador	•			•	Shark (Hammerhead)	
122	Gulf of Porto: Calanche of Piana, Gulf of Girolata, Scandola Reserve	France						

Nr.	Site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Illegal harvesting	Poaching	Illegal logging	Illegal fishing	Main species targeted	Elephant, rhino and/or tiger present in site
123	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	France						
124	Sundarbans National Park	India	•			•	Prawn	Tiger
125	Ujung Kulon National Park	Indonesia	•		•	•	Green turtle, Shrimps	Rhino
126	Komodo National Park	Indonesia	•			•		
127	Shiretoko	Japan						
128	Banc d'Arguin National Park	Mauritania	•			•	Sharks and Rays	
129	Sian Ka'an	Mexico	•	•		•	Queen Conch	
130	Whale Sanctuary of El Vizcaino	Mexico	•			•		
131	Islands and Protected Areas of the Gulf of California	Mexico	•	•		•	Vaquita, Totoaba	
132	Archipiélago de Revillagigedo	Mexico						
133	New Zealand Sub-Antarctic Islands	New Zealand						
134	Rock Islands Southern Lagoon	Palau						
135	Coiba National Park and its Special Zone of Marine Protection	Panama	•			•	Yellow-fin Tuna	
136	Puerto-Princesa Subterranean River National Park	Philippines						
137	Tubbataha Reefs Natural Park	Philippines	•			•		
138	Natural System of Wrangel Island Reserve	Russian Federation						
139	Aldabra Atoll	Seychelles						
140	iSimangaliso Wetland Park	South Africa	•			•		Rhino
141	Ibiza, Biodiversity and Culture	Spain						
142	Sanganeb Marine National Park and Dungonab Bay – Mukkawar Island Marine National Park	Sudan	•			•	Sharks	
143	St Kilda	United Kingdom of Great Britain and Northern Ireland						
144	Gough and Inaccessible Islands	United Kingdom of Great Britain and Northern Ireland						
145	Everglades National Park	United States of America						
146	Papahānaumokuākea	United States of America						
147	Socotra Archipelago	Yemen	•			•	Marine turtles, Sea cucumbers, Lobster, Sharks	
<b>Totals:</b>			<b>65</b>	<b>42</b>	<b>26</b>	<b>18</b>		

## ANNEX II

### Estimating the number of African elephants supported by World Heritage sites

The team assessed which World Heritage sites support African elephants using site descriptions from the UNESCO website. This search identified 20 World Heritage sites supporting African elephants. The team used population estimates from the 2016 IUCN African Elephant Status Report on each specific site.<sup>219</sup> The survey year indicates which year the elephant survey was completed, as listed in the IUCN Status Report. Where World Heritage site-specific population numbers were not available, the team assumed the number of elephants in the World Heritage site by using numbers from areas closest to/most resembling the World Heritage site. The team has included a comment on the estimate when this is the case.

World Heritage site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Elephants being poached?	Estimated elephant population	Survey year	Comment on estimate
Okavango Delta	Botswana	•	129,939	2014	Estimate is for northern Botswana
Dja Faunal Reserve	Cameroon	•	420	2015	
Sangha Trinational	Cameroon, Central African Republic, Congo	•	1,029	2015	Estimate is for Lobéké National Park in Cameroon
Manovo-Gounda St Floris National Park*	Central African Republic	•	68	2010	Estimate is for northern savannahs that include Barmingui-Bangoran National Park and Manovo-Gounda St Floris National Park
Taï National Park	Côte d'Ivoire		189	2010	
Comoé National Park*	Côte d'Ivoire	•	100	2015	
Virunga National Park*	Democratic Republic of the Congo	•	153	Multiple	Estimate is made up of 43 elephants in Mikenno (survey year: 2003), 35 in north and central (survey year: 2014) and 75 in south (survey year 2002)
Garamba National Park*	Democratic Republic of the Congo	•	1,718	2014	
Kahuzi-Biega National Park*	Democratic Republic of the Congo	•	70	2010	Estimate is made up of 50 and 20 elephants in northern and southern sector
Okapi Wildlife Reserve*	Democratic Republic of the Congo	•	1,701	2011	
Ecosystem and Relict Cultural Landscape of Lopé-Okanda	Gabon	•	4,142	2009	Estimate is for Lopé National Park
Lake Malawi National Park	Malawi		6	2009	Estimate is for Phirilongwe National Park
W National Park of Niger	Niger		0	2015	This is likely a sampling error as a small population is still believed to reside in the national park
Niokolo-Koba National Park*	Senegal	•	10	2012	
Bwindi Impenetrable National Park	Uganda		43	2015	

World Heritage site name (Properties marked * are currently on the List of World Heritage in Danger)	Country	Elephants being poached?	Estimated elephant population	Survey year	Comment on estimate
Rwenzori Mountains National Park	Uganda		20	2003	
Serengeti National Park	United Republic of Tanzania	•	6,087	2014	
Ngorongoro Conservation Area	United Republic of Tanzania	•	-	2014	Estimate is included in Serengeti estimate
Selous Game Reserve*	United Republic of Tanzania	•	15,217	2014	
Mana Pools National Park, Sapi and Chewore Safari Areas	Zimbabwe	•	3,456	2014	Estimate includes numbers from Chewore II, Chewore I & III, Chewore IV and Doma Safari Area
Total number of African elephants supported by World Heritage sites			164,368		
Continental population of African elephants			415,428		
Per cent of African elephant population supported by World Heritage sites			39 per cent		



1. The World Heritage Centre is the secretariat of the World Heritage Convention
2. UNESCO, *Operational Guidelines for the Implementation of the World Heritage Convention*, 2012, <http://whc.unesco.org/archive/opguide12-en.doc>
3. World Heritage Convention, *The Criteria for Selection*, <http://whc.unesco.org/en/criteria/>
4. Communication WWF Tigers Alive Initiative, February 2017
5. There are 129,939 elephants in northern Botswana, and an African population around 415,428. See: IUCN, *African Elephant Status Report*, 2016, <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>
6. UNESCO, *Operational Guidelines for the Implementation of the World Heritage Convention*, 2012, <http://whc.unesco.org/archive/opguide12-en.doc>
7. Most of the countries that are signatories to the World Heritage Convention are also signatories to CITES and vice versa. UNESCO World Heritage states parties that are not CITES signatories include: Andorra, Cook Islands, Democratic People's Republic of Korea, Haiti, Holy See, Kiribati, Marshall Islands, Micronesia (Federated States of), Niue, Palestine, South Sudan and Turkmenistan. CITES parties that are not signatories to the World Heritage Convention include: Lichtenstein, Somalia and the European Union (European Union countries act as one entity under CITES, whereas they act individually under the World Heritage Convention.) See: World Heritage Convention, *States Parties Ratification Status*, <http://whc.unesco.org/en/statesparties/> and CITES, *List of Contracting Parties*, <https://www.cites.org/eng/disc/parties/chronolo.php>
8. Dalberg analysis. Please see annex I.
9. There are 79 criterion (x) sites in Africa and Asia and Pacific in the World Heritage database, 40 of which are threatened by illegal harvesting of CITES-listed species. There are 34 criterion sites in Latin America and the Caribbean, 18 of which are threatened by illegal harvesting of CITES-listed species. Please see annex I for overview of sites.
10. WWF, *Living Planet Report 2016. Risk and resilience in a new era*, WWF International, 2016, [http://awsassets.panda.org/downloads/lpr\\_living\\_planet\\_report\\_2016.pdf](http://awsassets.panda.org/downloads/lpr_living_planet_report_2016.pdf)
11. IUCN, *Rhinoceros sondaicus*, 2008, <http://www.iucnredlist.org/details/19495/0>
12. Phys.org, *Mexico's vaquita porpoise close to extinction, 30 left*, 2017, <https://phys.org/news/2017-02-world-smallest-porpoise-brink-extinction.html>
13. E. Osipova et al., *The benefits of natural World Heritage: Identifying and assessing ecosystem services and benefits provided by the world's most iconic natural places*, Gland, Switzerland: IUCN, 2014
14. Chitwan National Park Office, *Chitwan National Park and its Buffer Zone: Management Plan 2013 – 2017*, 2013, [http://www.chitwannationalpark.gov.np/index.php/news/doc\\_download/28-management-plan-printed](http://www.chitwannationalpark.gov.np/index.php/news/doc_download/28-management-plan-printed)
15. Currency conversion: US\$1 = INR 66.7112 [Daily rate accessed 14 October 2016 from <http://www.xe.com/currencyconverter/>]
16. Dalberg and WWF, *Protecting People Through Nature*, 2016, [http://awsassets.panda.org/downloads/wwf\\_dalberg\\_protecting\\_people\\_through\\_nature\\_lr\\_singles.pdf](http://awsassets.panda.org/downloads/wwf_dalberg_protecting_people_through_nature_lr_singles.pdf)
17. United Nations Environment Program, *Illegal Trade in Wildlife Fact Sheet*, 2016, [http://www.unep.org/documents/itw/ITW\\_fact\\_sheet.pdf](http://www.unep.org/documents/itw/ITW_fact_sheet.pdf)
18. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
19. R. Naidoo et al., *Estimating economic losses to tourism in Africa from the illegal killing of elephants*, *Nature Communications*, Vol. 7, 2016, <http://www.nature.com/articles/ncomms13379>
20. B. Long et al., *Are rangers adequately protected by insurance schemes?*, *Parks*, Vol. 22.2, pp. 83-93, 2016
21. See for example: UNESCO, *Decision : 39 COM 7*, 2013, <http://whc.unesco.org/en/decisions/6189/>; UNESCO, *Decision 37 COM 7*, 2013, <http://whc.unesco.org/en/decisions/5018/> UNESCO, *Decision 38 COM 7*, 2013, <http://whc.unesco.org/en/decisions/5948/>
22. CITES, *UNESCO calls for closer cooperation with CITES to protect World Heritage sites*, 2014, [https://cites.org/eng/UNESCO\\_calls\\_for\\_closer\\_cooperation\\_with\\_CITES](https://cites.org/eng/UNESCO_calls_for_closer_cooperation_with_CITES)
23. Ibid reference 7
24. CITES, *How CITES works*, <https://cites.org/eng/disc/how.php>
25. IUCN, *The IUCN Red List of Threatened Species*, 2016, <http://www.iucnredlist.org/>
26. CITES, *How CITES works*, <https://cites.org/eng/disc/how.php>
27. WWF-US, *Illegal Wildlife Trade*, <http://www.worldwildlife.org/threats/illegal-wildlife-trade>
28. Meriam-Webster Dictionary, *Poach*, <https://www.merriam-webster.com/dictionary/poach>
29. N. South and T. Wyatt, *Comparing illicit trades in wildlife and drugs: an exploratory study*, *Deviant Behavior*, Vol. 32(6), pp. 538–61, 2011
30. United Nations Environment Program, *Illegal Trade in Wildlife Fact Sheet*, 2016, [http://www.unep.org/documents/itw/ITW\\_fact\\_sheet.pdf](http://www.unep.org/documents/itw/ITW_fact_sheet.pdf)
31. The International Air Transport Association, *Fact Sheet: Illegal Trade in Wildlife*, 2016, [http://www.iata.org/pressroom/facts\\_figures/fact\\_sheets/Documents/fact-sheet-wildlife.pdf](http://www.iata.org/pressroom/facts_figures/fact_sheets/Documents/fact-sheet-wildlife.pdf)
32. United Nations Environment Program, *Illegal Trade in Wildlife Fact Sheet*, 2016, [http://www.unep.org/documents/itw/ITW\\_fact\\_sheet.pdf](http://www.unep.org/documents/itw/ITW_fact_sheet.pdf)
33. Note: The value also includes processing. See: C. Nellemann and INTERPOL Environmental Crime Programme, *Green Carbon, Black Trade: Illegal Logging, Tax Fraud and Laundering in the Worlds Tropical Forests. A Rapid Response Assessment*, 2012, [http://www.unep.org/pdf/RRALogging\\_english\\_scr.pdf](http://www.unep.org/pdf/RRALogging_english_scr.pdf)
34. Save the Rhino, *Poaching Statistics*, 2016, [https://www.savetherhino.org/rhino\\_info/poaching\\_statistics](https://www.savetherhino.org/rhino_info/poaching_statistics)
35. Preliminary numbers for 2016 show a decline in poaching. Environmental Affairs South Africa, *Minister Edna Molewa highlights progress in the fight against rhino poaching*, 2016, [https://www.environment.gov.za/mediarelease/molewa\\_highlightsprogress\\_onrhinopoaching2016](https://www.environment.gov.za/mediarelease/molewa_highlightsprogress_onrhinopoaching2016)
36. M. J. Chase et al., *Continent-wide survey reveals massive decline in African savannah elephants*, *PeerJ*, 2016, <https://peerj.com/articles/2354.pdf>
37. TRAFFIC, *Widespread evidence of ongoing illegal pangolin trade in China*, 2016, <http://www.traffic.org/home/2016/9/20/widespread-evidence-of-ongoing-illegal-pangolin-trade-in-chi.html>

38. D. Challender et al., *Scaling up pangolin conservation. IUCN SSC Pangolin Specialist Group Conservation Action Plan*, Zoological Society of London, 2014, [http://cmsdata.iucn.org/downloads/scaling\\_up\\_pangolin\\_conservation\\_280714\\_v4.pdf](http://cmsdata.iucn.org/downloads/scaling_up_pangolin_conservation_280714_v4.pdf)
39. CITES, *Consideration Of Proposals For Amendment Of Appendices I And II*, 2016, <https://cites.org/sites/default/files/eng/cop/17/prop/060216/E-CoP17-Prop-11.pdf>
40. For this report the focus is primarily on criterion (x) sites. Note that CITES-listed species are not exclusively found in criterion (x) sites, but are also present in other World Heritage sites. See: World Heritage Convention, *The Criteria for Selection*, <http://whc.unesco.org/en/criteria>
41. Communication WWF Tigers Alive Initiative, February 2017
42. Please see annex II for an overview of elephant sites
43. There are 128,340 elephants in northern Botswana, and an African population around 415,428. See: IUCN, *African Elephant Status Report*, 2016, <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>
44. UNESCO, *Operational Guidelines for the Implementation of the World Heritage Convention*, 2016, <http://whc.unesco.org/document/155971>
45. UNESCO, *The Criteria for Selection*, <http://whc.unesco.org/en/criteria/>
46. UNESCO, *Convention Concerning the Protection of the World Cultural and Natural Heritage*, <http://whc.unesco.org/en/conventiontext/>
47. UNESCO, *World Heritage Convention*, <http://whc.unesco.org/en/convention/>
48. UNESCO, *Reactive Monitoring Process*, <http://whc.unesco.org/en/reactive-monitoring/>; UNESCO, *State of Conservation Information System (SOC)*, <http://whc.unesco.org/en/soc>
49. J. Rademeyer, *Tipping Point: Transnational organised crime and the 'war' on poaching*, The Global Initiative Against Organized Crime, 2016
50. J. Rademeyer, *Tipping Point: Transnational organised crime and the 'war' on poaching*, The Global Initiative Against Organized Crime, 2016
51. WWF / Dalberg, *Fighting illicit wildlife trafficking: A consultation with governments*, WWF International, 2012
52. UNODC, *World Wildlife Crime Report: Trafficking in protected species*, 2016
53. Defenders of Wildlife, *Combating Wildlife Trafficking From Latin America To The United States: The illegal trade from Mexico, the Caribbean, Central America and South America and what we can do to address it*, 2015, <https://www.defenders.org/sites/default/files/publications/combating-wildlife-trafficking-from-latin-america-to-the-united-states-and-what-we-can-do-to-address-it.pdf>
54. UNODC, *World Wildlife Crime Report: Trafficking in protected species*, 2016
55. Environmental Investigation Agency, *Routes of Extinction: The corruption and violence destroying Siamese rosewood in the Mekong*, 2014, <https://eia-international.org/wp-content/uploads/Routes-of-Extinction-FINAL-lo-res.pdf>
56. WWF / Dalberg, *Fighting illicit wildlife trafficking: A consultation with governments*, WWF International, 2012
57. Dalberg analysis. Please see annex I for overview of all 147 sites and methodology.
58. Ibid reference 9
59. UNESCO, *Selous Game Reserve*, 2016, <http://whc.unesco.org/en/list/199>
60. WWF and Dalberg, *Saving Selous: African Icon Under Threat*, 2016, [https://d2ouvy59podg6k.cloudfront.net/downloads/wwf\\_dalberg\\_saving\\_selous\\_en\\_lr\\_singles.pdf](https://d2ouvy59podg6k.cloudfront.net/downloads/wwf_dalberg_saving_selous_en_lr_singles.pdf)
61. Tanzania Wildlife Research Institute, *Ruaha-Rungwa ecosystem elephant census results*, 2015 [http://www.tawiri.or.tz/index.php?option=com\\_content&view=article&id=37&Itemid=48](http://www.tawiri.or.tz/index.php?option=com_content&view=article&id=37&Itemid=48)
62. Tanzania Wildlife Research Institute, *Aerial census of large animals in the Selous-Mikumi ecosystem*, 2013, [http://www.daressalam.diplo.de/contentblob/4102454/Daten/3821641/Download\\_Report\\_Selous\\_Elephants.pdf](http://www.daressalam.diplo.de/contentblob/4102454/Daten/3821641/Download_Report_Selous_Elephants.pdf)
63. See annex I for methodology and overview of all 147 World Heritage sites.
64. S. Saif, *Investigating tiger poaching in the Bangladesh Sundarbans*, University of Kent, 2016, [http://futurefornature.org/wp-content/uploads/saif2c-s-phd-thesis\\_final.pdf](http://futurefornature.org/wp-content/uploads/saif2c-s-phd-thesis_final.pdf)
65. Defenders of Wildlife, *Combating Wildlife Trafficking From Latin America To The United States: The illegal trade from Mexico, the Caribbean, Central America and South America and what we can do to address it*, 2015, <https://www.defenders.org/sites/default/files/publications/combating-wildlife-trafficking-from-latin-america-to-the-united-states-and-what-we-can-do-to-address-it.pdf>
66. Defenders of Wildlife, , *Combating Wildlife Trafficking From Latin America To The United States: The illegal trade from Mexico, the Caribbean, Central America and South America and what we can do to address it*, 2015, <https://www.defenders.org/sites/default/files/publications/combating-wildlife-trafficking-from-latin-america-to-the-united-states-and-what-we-can-do-to-address-it.pdf>
67. Republic of Honduras, *Report Of The State Of Conservation Of Natural World Heritage Site No. 196 Reserve Of The Man And The Biosphere Rio Platano*, 2015, <http://whc.unesco.org/document/139971>
68. Dalberg interview with CITES Secretariat, January 2017
69. There are currently 55 sites on the List of World Heritage in Danger. See: UNESCO World Heritage Convention, *List of World Heritage in Danger*, 2016, <http://whc.unesco.org/en/danger/>
70. Note, there are other factors leading to a property being placed on the List of World Heritage in Danger. See: UNESCO, *World Heritage in Danger*, 2016, <http://whc.unesco.org/en/158/>
71. WWF, *Living Planet Report 2016. Risk and resilience in a new era*, WWF International, 2016, [http://awsassets.panda.org/downloads/lpr\\_living\\_planet\\_report\\_2016.pdf](http://awsassets.panda.org/downloads/lpr_living_planet_report_2016.pdf)
72. IUCN, *Rhinoceros sondaicus*, 2008, <http://www.iucnred-list.org/details/19495/0>
73. Phys.org, *Mexico's vaquita porpoise close to extinction, 30 left*, 2017, <https://phys.org/news/2017-02-world-smallest-porpoise-brink-extinction.html>
74. T. Milliken et al., *African and Asian Rhinoceroses – Status, Conservation and Trade*, 2009, <https://www.cites.org/common/cop/15/doc/E15-45-01A.pdf>
75. C. G. Jones et al, *Organisms as ecosystem engineers*, OIKOS, Vol. 69, pp. 373-386, 1994, <https://>

- www.researchgate.net/profile/Clive\_Jones4/publication/258223063\_Jones\_CG\_Lawton\_JH\_Shachak\_M\_Organisms\_as\_ecosystem\_engineers\_Oikos\_69\_373-386/links/00463527d9b59e7165000000.pdf
76. T. C. Coverdale et al., *Elephants in the understory: opposing direct and indirect effects of consumption and ecosystem engineering by megaherbivores*, Ecology, Vol 97(1), pp. 3219-3230, 2016, <https://pringle.princeton.edu/wp-content/uploads/sites/199/2014/01/2016-Coverdale.pdf>
  77. G. Roff et al., *The Ecological Role of Sharks on Coral Reefs*, Trends in Ecology & Evolution, Vol. 31(5), pp. 395-407, 2016
  78. IUCN, *Lemurs of Madagascar*, 2013, <https://portals.iucn.org/library/efiles/documents/2013-020.pdf>
  79. E. Osipova et al., *The benefits of natural World Heritage: Identifying and assessing ecosystem services and benefits provided by the world's most iconic natural places*, Gland, Switzerland: IUCN, 2014
  80. World Bank, *Tanzania's tourism futures: Harnessing Natural Assets*, 2015, <http://documents.worldbank.org/curated/en/204341467992501917/pdf/96150-REVISED-PN-P150523-PUBLIC-Box393206B.pdf>
  81. Chitwan National Park Office, *Chitwan National Park and its Buffer Zone: Management Plan 2013 – 2017*, 2013, [http://www.chitwannationalpark.gov.np/index.php/news/doc\\_download/28-management-plan-printed](http://www.chitwannationalpark.gov.np/index.php/news/doc_download/28-management-plan-printed)
  82. Currency conversion: US\$1 = INR 66.7112 [Daily rate accessed 14 October 2016 from <http://www.xe.com/currencyconverter/>]
  83. Dalberg and WWF, *Protecting People Through Nature*, 2016, [http://awsassets.panda.org/downloads/wwf\\_dalberg\\_protecting\\_people\\_through\\_nature\\_lr\\_singles.pdf](http://awsassets.panda.org/downloads/wwf_dalberg_protecting_people_through_nature_lr_singles.pdf)
  84. R. Naidoo et al., *Estimating economic losses to tourism in Africa from the illegal killing of elephants*, Nature Communications, Vol. 7, 2016, <http://www.nature.com/articles/ncomms13379>
  85. Environmental Investigation Agency, *"The ongoing illegal logging crisis in Madagascar"*, [http://eia-global.org/images/uploads/EIA\\_Madagascar\\_Report\\_2014\\_SC65\\_low\\_res.pdf](http://eia-global.org/images/uploads/EIA_Madagascar_Report_2014_SC65_low_res.pdf)
  86. E. Osipova et al., *The benefits of natural World Heritage: Identifying and assessing ecosystem services and benefits provided by the world's most iconic natural places*, Gland, Switzerland: IUCN, 2014
  87. Botswana, China, Kenya, Laos, Malawi, Mozambique, Nepal, Tanzania, Uganda, the UK, the US, Viet Nam, India, South Africa and Thailand. See: Environmental Investigation Agency, *Time for Action: End the criminality and corruption fuelling wildlife crime*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Time-for-Action-FINAL-1.pdf>
  88. Environmental Investigation Agency, *Time for Action: End the criminality and corruption fuelling wildlife crime*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Time-for-Action-FINAL-1.pdf>
  89. CITES, *China increases prosecutions in response to illegal trade in elephant ivory*, 2013, [https://cites.org/eng/news/sundry/2013/20131128\\_china\\_ivory\\_prosecutions.php](https://cites.org/eng/news/sundry/2013/20131128_china_ivory_prosecutions.php)
  90. B. Long et al., *Are rangers adequately protected by insurance schemes?*, Parks, Vol. 22.2, pp. 83-93, 2016
  91. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
  92. UNESCO, *Convention Concerning the Protection of the World Cultural and Natural Heritage*, 1972, <http://whc.unesco.org/en/conventiontext/>
  93. CITES, *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, 1973, <https://www.cites.org/eng/disc/text.php>
  94. See for example: UNESCO, *Decision : 39 COM 7*, 2013, <http://whc.unesco.org/en/decisions/6189/>; UNESCO, *Decision 37 COM 7*, 2013, <http://whc.unesco.org/en/decisions/5018/> UNESCO, *Decision 38 COM 7*, 2013, <http://whc.unesco.org/en/decisions/5948/>
  95. UNODC, *World Wildlife Crime Report: Trafficking in protected species*, 2016
  96. Environmental Investigation Agency, *Time for Action: End the criminality and corruption fuelling wildlife crime*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Time-for-Action-FINAL-1.pdf>
  97. Great Britain Parliament. House of Commons: Environmental Audit Committee, *Wildlife Crime: Third Report of Session 2012-2-13*, 2013, <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenvaud/140/140.pdf>
  98. UNESCO, *State of Conservation: Tropical Rainforest Heritage of Sumatra*, 2011, <http://whc.unesco.org/en/soc/322>
  99. UNESCO, *Tropical Rainforest Heritage of Sumatra*, 2016, <http://whc.unesco.org/en/list/1167>
  100. UNESCO, *Tropical Rainforest Heritage of Sumatra*, 2016, <http://whc.unesco.org/en/list/1167>
  101. The World Bank Databank, *Land area (sq. km)*, 2016, <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>
  102. The actual number of Sumatran tigers is highly uncertain and no island wide survey has been undertaken since 2010.
  103. IUCN, *World Heritage Outlook: Tropical Rainforest Heritage of Sumatra*, 2014, [http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/902335?p\\_auth=rVuYfCoy](http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/902335?p_auth=rVuYfCoy)
  104. Global Tiger Forum and WWF, *Background Document: Global Wild Tiger Population Status*, 2016, <http://globaltigerinitiative.org/site/wp-content/uploads/2016/04/Background-Documents-Wild-Tiger-Status-2016.pdf>
  105. UNESCO, *Danger listing for Indonesia's Tropical Rainforest Heritage of Sumatra*, 2011, <http://whc.unesco.org/en/news/764/>
  106. Global Tiger Forum and WWF, *Media Release: Global Wild Tiger Population Increases, But Still a Long Way To Go*, 2016, <http://tigers.panda.org/wp-content/uploads/WWF-PR-Global-Wild-Tiger-Population-Increases-But-Still-A-Long-Way-To-Go-1.pdf>
  107. TRAFFIC, *Tigers*, 2016, <http://www.traffic.org/tigers/>
  108. Wildlife Crime Team-WWF Indonesia, Email to Dalberg Global Development Advisors, January 2017
  109. Wildlife Crime Team-WWF Indonesia, Email to Dalberg Global Development Advisors, January 2017
  110. C. Shepherd and M. Nolan, *Nowhere to hide: The trade in Sumatran Tiger*, TRAFFIC Southeast Asia, 2004
  111. D. Risdianto et al., *Examining the shifting patterns of poaching from a long-term law enforcement intervention in Sumatra*, Biological Conservation, Vol. 204 Part B, pp. 306-312, 2016, <http://www.sciencedirect.com/science/article/pii/S0006320716306802>



112. C. Shepherd and M. Nolan, *Nowhere to hide: The trade in Sumatran Tiger*, TRAFFIC Southeast Asia, 2004
113. J. Ng and Nemora, *Tiger trade revisited in Sumatra, Indonesia*, TRAFFIC Southeast Asia 2007, [http://www.traffic.org/species-reports/traffic\\_species\\_mammals37.pdf](http://www.traffic.org/species-reports/traffic_species_mammals37.pdf)
114. Wildlife Crime Team-WWF Indonesia, Email to Dalberg Global Development Advisors, January 2017
115. N. Bhagabati et al., *Ecosystem services reinforce Sumatran tiger conservation in land use plans*, Biological Conservation, Vol. 169, pp. 147-156, 2014
116. Global Conservation, *LEUSER ECOSYSTEM, SUMATRA, INDONESIA*, 2017, <http://globalconservation.org/projects/leuser-national-park-indonesia/>
117. WWF-Indonesia, Email to Dalberg Global Development Advisors, January 2017
118. WWF-Indonesia, Email to Dalberg Global Development Advisors, January 2017
119. UNESCO, *Rainforests of the Atsinanana*, 2017, <http://whc.unesco.org/en/list/1257>
120. The World Bank Databank, *Land area (sq. km)*, 2016, <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>
121. UNESCO, *Rainforests of the Atsinanana*, 2017, <http://whc.unesco.org/en/list/1257>
122. IUCN World Heritage Outlook, *Rainforests of the Atsinanana*, 2014, [http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/903062?p\\_auth=rVuYfCoy](http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/903062?p_auth=rVuYfCoy)
123. UNESCO, *State of Conservation: Rainforests of the Atsinanana*, 2010, <http://whc.unesco.org/en/soc/532>
124. UNESCO, *State of Conservation: Rainforests of the Atsinanana*, 2010, <http://whc.unesco.org/en/soc/532>
125. Environmental Investigation Agency, *2013-2016: LOST YEARS IN THE FIGHT AGAINST TRAFFICKING OF MALAGASY PRECIOUS WOODS*, 2016, [https://s3.amazonaws.com/environmental-investigation-agency/assets/2016/09/EIA\\_Lost\\_Years\\_in\\_the\\_Fight\\_Against\\_Trafficking\\_of\\_Malagasy\\_Woods.pdf](https://s3.amazonaws.com/environmental-investigation-agency/assets/2016/09/EIA_Lost_Years_in_the_Fight_Against_Trafficking_of_Malagasy_Woods.pdf)
126. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
127. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
128. Environmental Investigation Agency, *"The ongoing illegal logging crisis in Madagascar"*, 2014, [https://s3.amazonaws.com/environmental-investigation-agency/posts/documents/000/000/335/original/EIA\\_Madagascar\\_Report\\_2014\\_SC65\\_low\\_res.pdf?1468256639](https://s3.amazonaws.com/environmental-investigation-agency/posts/documents/000/000/335/original/EIA_Madagascar_Report_2014_SC65_low_res.pdf?1468256639)
129. Around 55,000 m<sup>3</sup> of rosewood has been seized, with rosewood weighing around 0.9 tonnes per m<sup>3</sup>.
130. Using the face value of US\$25,000 per metric tonnes previously stated.
131. L. Caramel, *China's rosewood craving cuts deep into Madagascar rainforests*, The Guardian, 2015, <https://www.theguardian.com/environment/2015/feb/16/rosewood-madagascar-china-illegal-rainforest>
132. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
133. L. Caramel, *China's rosewood craving cuts deep into Madagascar rainforests*, The Guardian, 2015, <https://www.theguardian.com/environment/2015/feb/16/rosewood-madagascar-china-illegal-rainforest>
134. Earth Observatory, <http://earthobservatory.nasa.gov/IOTD/view.php?id=4388>
135. Environments Investigation Agency, *"The ongoing illegal logging crisis in Madagascar"*, [http://eia-global.org/images/uploads/EIA\\_Madagascar\\_Report\\_2014\\_SC65\\_low\\_res.pdf](http://eia-global.org/images/uploads/EIA_Madagascar_Report_2014_SC65_low_res.pdf)
136. World Bank, *"Justice for Forests: Improving Criminal Justice Efforts to Combat Illegal Logging"*, [http://siteresources.worldbank.org/EXTFINANCIALSECTOR/Resources/Illegal\\_Loading.pdf](http://siteresources.worldbank.org/EXTFINANCIALSECTOR/Resources/Illegal_Loading.pdf)
137. UNEP, *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels*, 2015, <https://www.cbd.int/doc/nbsap/unep-sourcebook-web.pdf>
138. CITES, *Ebonies (Diospyros spp.) and rosewoods and palisanders (Dalbergia spp.) from Madagascar*, Sixty-seventh meeting of the standing committee Johannesburg (South Africa), 2016, <https://cites.org/sites/default/files/eng/com/sc/67/E-SC67-19-02-R1.pdf>
139. Environmental Investigation Agency, *2013-2016: Lost Years In The Fight Against Trafficking Of Malagasy Precious Woods*, 2016, [https://s3.amazonaws.com/environmental-investigation-agency/assets/2016/09/EIA\\_Lost\\_Years\\_in\\_the\\_Fight\\_Against\\_Trafficking\\_of\\_Malagasy\\_Woods.pdf](https://s3.amazonaws.com/environmental-investigation-agency/assets/2016/09/EIA_Lost_Years_in_the_Fight_Against_Trafficking_of_Malagasy_Woods.pdf)
140. Dalberg interview with TRAFFIC South East Africa, January 2017
141. World Heritage Convention, *Democratic Republic of the Congo*, 2017, <http://whc.unesco.org/en/statesparties/cd>
142. The World Bank Databank, *Land area (sq. km)*, 2016, <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>
143. Virunga National Park was inscribed in 1994, Garamba National Park was inscribed in 1984 and Okapi Wildlife Reserve was inscribed in 1997. Please see: UNESCO, *State of Conservation: Virunga National Park*, 1994, <http://whc.unesco.org/en/soc/1793> ; UNESCO, *State of Conservation: Garamba National Park*, 1984, <http://whc.unesco.org/en/soc/1526>; UNESCO, *State of Conservation: Okapi Wildlife Reserve*, 1997, <http://whc.unesco.org/en/soc/2124>
144. UNESCO, *Biodiversity Conservation in Regions of Armed Conflict: Protecting World Heritage in the Democratic Republic of the Congo*, <http://whc.unesco.org/en/activities/83/>
145. M. Gannon, *Elephants Vanish in Congo Reserve*, 2013, <http://www.livescience.com/27570-elephants-vanish-in-congo-reserve.html>
146. IUCN, *African Elephant Status Report*, 2016 <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>
147. IUCN, *African Elephant Status Report*, 2016 <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>
148. IUCN, *African Elephant Status Report*, 2016 <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>
149. K. Sommerville, *The Ivory Wars: how poaching in Central Africa fuels the LRA and janjaweed*, 2013, <http://africanarguments.org/2013/01/14/the-ivory-wars-how-poaching-in-central-africa-fuels-the-lra-and-janjaweed-%E2%80%93-by-keith-somerville/>
150. UNESCO, *State of Conservation: Garamba National Park*, 2016, <http://whc.unesco.org/en/soc/3365>
151. IUCN, *Deadly poacher attack on Garamba staff horrific – IUCN*, 2016, <https://www.iucn.org/content/deadly->



- poacher-attack-garamba-staff-horrific-%E2%80%93iucn
152. CITES, *Monitoring of illegal trade in ivory and other elephant specimens: ETIS report of Traffic*, 2013, <https://cites.org/eng/cop/16/doc/E-CoP16-53-02-02.pdf>
  153. Environmental Investigation Agency, *Time for Action: End the criminality and corruption fuelling wildlife crime*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Time-for-Action-FINAL-1.pdf>
  154. Environmental Investigation Agency, *Time for Action: End the criminality and corruption fuelling wildlife crime*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Time-for-Action-FINAL-1.pdf>
  155. CITES, *Monitoring of illegal trade in ivory and other elephant specimens: ETIS report of Traffic*, 2013, <https://cites.org/eng/cop/16/doc/E-CoP16-53-02-02.pdf>
  156. CITES, *Report On The Elephant Trade Information System (Etis)*, CoP17, 2016, <https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf>
  157. CITES, *African Elephants Still In Decline Due To High Levels Of Poaching*, 2016, [https://cites.org/eng/news/pr/african\\_elephants\\_still\\_in\\_decline\\_due\\_to\\_high\\_levels\\_of\\_poaching\\_03032016](https://cites.org/eng/news/pr/african_elephants_still_in_decline_due_to_high_levels_of_poaching_03032016)
  158. IUCN World Heritage Outlook, *Garamba National Park*, 2014, [http://www.worldheritageoutlook.iucn.org/search-sites?p\\_p\\_id=IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet&p\\_p\\_lifecycle=2&p\\_p\\_state=normal&p\\_p\\_mode=view&p\\_p\\_cacheability=cacheLevelPage&p\\_p\\_col\\_id=column-1&p\\_p\\_col\\_count=1&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_ACTION\\_CMD=GETPDF&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_SITE\\_ID=32&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_VERSION\\_ID=4866&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_wdpaid=4327&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_jspPage=%2Fsite\\_assessment\\_summary.jsp&\\_IUCNPublicSitesAssessment\\_WAR\\_IUCNPublicSitesAssessmentportlet\\_language=en](http://www.worldheritageoutlook.iucn.org/search-sites?p_p_id=IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet&p_p_lifecycle=2&p_p_state=normal&p_p_mode=view&p_p_cacheability=cacheLevelPage&p_p_col_id=column-1&p_p_col_count=1&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_ACTION_CMD=GETPDF&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_SITE_ID=32&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_VERSION_ID=4866&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_wdpaid=4327&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_jspPage=%2Fsite_assessment_summary.jsp&_IUCNPublicSitesAssessment_WAR_IUCNPublicSitesAssessmentportlet_language=en)
  159. Democratic Republic of the Congo, *Rapport de la mission conjointe de suivi réactif Centre du patrimoine mondial/ UICN au Parc National de la Garamba*, 2016, <http://whc.unesco.org/document/142202>
  160. T. C. Coverdale et al., *Elephants in the understory: opposing direct and indirect effects of consumption and ecosystem engineering by megaherbivores*, Ecology, Vol 97(1), pp. 3219-3230, 2016, <https://pringle.princeton.edu/wp-content/uploads/sites/199/2014/01/2016-Coverdale.pdf>
  161. T. C. Coverdale et al., *Elephants in the understory: opposing direct and indirect effects of consumption and ecosystem engineering by megaherbivores*, Ecology, Vol 97(1), pp. 3219-3230, 2016, <https://pringle.princeton.edu/wp-content/uploads/sites/199/2014/01/2016-Coverdale.pdf>
  162. A. Campos-Arceiz and S. Blake, *Megagardeners of the forest – the role of elephants in seed dispersal*, Acta Oecologica, Vol. 37(6), pp. 542-553, 2011
  163. CITES, *Monitoring of illegal trade in ivory and other elephant specimens: ETIS report of Traffic*, 2013, <https://cites.org/eng/cop/16/doc/E-CoP16-53-02-02.pdf>
  164. CITES, *Interpretation and implementation of the Convention – Species trade and conservation – elephants: Monitoring the Illegal Killing of Elephants*, 2013, <https://cites.org/eng/cop/16/doc/E-CoP16-53-01.pdf>
  165. UNESCO World Heritage Centre: Africa Unit, Email to Dalberg Global Development Advisors, February 2017
  166. GRASP, *GRASP and UN Peacekeepers Rescue Infant Chimpanzee in DR Congo*, 2016, <http://www.un-grasp.org/grasp-peacekeepers-rescue-chimp-drc/>
  167. Dalberg conducted 10 interviews with different stakeholders for this report and all of them mentioned that it is not possible to address this problem in unison or by focusing on only one individual node in the value chain.
  168. Dalberg interview with CITES secretariat, January 2017
  169. WWF and Dalberg, *Fighting Illicit Wildlife Trafficking: A consultation with governments*, 2012
  170. C. Ratsimbazafy et al., *Timber Island: The Rosewood and Ebony Trade of Madagascar*, TRAFFIC, 2016
  171. J. Rademeyer, *Tipping Point: Transnational organised crime and the 'war' on poaching*, The Global Initiative Against Organized Crime, 2016
  172. Chitwan National Park, *Unpublished data*, email to Dalberg Global Development Advisors, December 2015
  173. Dalberg and WWF, *Protecting People Through Nature*, 2016, [http://awsassets.panda.org/downloads/wwf\\_dalberg\\_protecting\\_people\\_through\\_nature\\_lr\\_singles.pdf](http://awsassets.panda.org/downloads/wwf_dalberg_protecting_people_through_nature_lr_singles.pdf)
  174. Chitwan National Park, *Unpublished data*, email to Dalberg Global Development Advisors, December 2015
  175. Dalberg and WWF, *Protecting People Through Nature*, 2016, [http://awsassets.panda.org/downloads/wwf\\_dalberg\\_protecting\\_people\\_through\\_nature\\_lr\\_singles.pdf](http://awsassets.panda.org/downloads/wwf_dalberg_protecting_people_through_nature_lr_singles.pdf)
  176. The Kathmandu Post, *CNP marks 1,000 days of zero rhino poaching*, 2017, <http://kathmandupost.ekantipur.com/news/2017-01-27/cnp-marks-1000-days-of-zero-rhino-poaching.html>
  177. Environmental Investigation Agency, *Corruption, bloodshed and death – the curse of rosewood*, 2013, <https://eia-international.org/corruption-bloodshed-and-death-the-curse-of-rosewood>
  178. The five areas are: Khao Yai National Park, Thap Lan National Park, Pang Sida National Park, Ta Phraya National Park, and Dong Yai Wildlife Sanctuary. See: World Heritage Convention, *Dong Phrayayen-Khao Yai Forest Complex*, <http://whc.unesco.org/en/list/590>
  179. World Bank, *Land Area (sq. km)*, 2015, <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>
  180. Environmental Investigation Agency, *RED ALERT: How fraudulent Siamese rosewood exports from Laos and Cambodia are undermining CITES protection*, 2016, <https://eia-international.org/wp-content/uploads/EIA-Red-Alert-FINAL.pdf>
  181. World Heritage Convention, *Dong Phrayayen-Khao Yai Forest Complex*, <http://whc.unesco.org/en/list/590>
  182. IUCN World Heritage Outlook, *Dong Phrayayen-Khao Yai Forest Complex*, 2014, [http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/902480?p\\_p\\_auth=ocM9A6qD](http://www.worldheritageoutlook.iucn.org/search-sites/-/wdpaid/en/902480?p_p_auth=ocM9A6qD)
  183. Environmental Investigation Agency, *China: ensure rosewood trade not destroying Thai forests*, 2013, <https://eia-international.org/china-ensure-rosewood-demand-not-destroying-thai-world-heritage-site>

184. Environmental Investigation Agency, *An Overview of Illegal Trade in Siamese Rosewood (D. cochinchinensis) and replacement species in the Mekong & China*, 2014, [http://www.forestlegality.org/sites/default/files/EIA\\_Jago\\_Rosewood%20Presentation\\_FLA%20June%202014\\_Screengrabs.PDF](http://www.forestlegality.org/sites/default/files/EIA_Jago_Rosewood%20Presentation_FLA%20June%202014_Screengrabs.PDF)
185. Environmental Investigation Agency, *The Hongmu Challenge: A briefing for the 66th meeting of the CITES Standing Committee*, 2016, <https://eia-international.org/wp-content/uploads/EIA-The-Hongmu-Challenge-FINAL.pdf>
186. World Heritage Convention, *Thailand's National Report on State of Conservation: Dong Phrayayen – Khao Yai Forest Complex*, 2016, <http://whc.unesco.org/en/soc/3467>
187. Environmental Investigation Agency, *Corruption, bloodshed and death – the curse of rosewood*, 2013, <https://eia-international.org/corruption-bloodshed-and-death-the-curse-of-rosewood>
188. CITES, *Concrete measures agreed to tackle illicit trafficking in Siamese rosewood*, 2016, [https://cites.org/eng/news/concrete\\_measures\\_agreed\\_tackle\\_illicit\\_trafficking\\_siamese\\_rosewood\\_11042016](https://cites.org/eng/news/concrete_measures_agreed_tackle_illicit_trafficking_siamese_rosewood_11042016)
189. Other participants include: The Food and Agriculture Organization of the United Nations (FAO), INTERPOL, the International Tropical Timber Organization (ITTO), the International Union for Conservation of Nature (IUCN) and the World Customs Organization (WCO) Regional Intelligence Liaison Office in Asia/Pacific
190. CITES, *Concrete measures agreed to tackle illicit trafficking in Siamese rosewood*, 2016, [https://cites.org/eng/news/concrete\\_measures\\_agreed\\_tackle\\_illicit\\_trafficking\\_siamese\\_rosewood\\_11042016](https://cites.org/eng/news/concrete_measures_agreed_tackle_illicit_trafficking_siamese_rosewood_11042016)
191. CITES, *Joint Press Release On Cooperation To Combat Illegal Logging And Trade Of Siamese Rosewood*, 2016, [https://cites.org/sites/default/files/common/news/2016/Joint\\_Press\\_Release\\_Rosewood\\_05042016.pdf](https://cites.org/sites/default/files/common/news/2016/Joint_Press_Release_Rosewood_05042016.pdf)
192. Environmental Investigation Agency, *Good day for rosewood as species get more protection*, 2016, <https://eia-international.org/good-day-for-rosewoods-as-species-get-more-protection>
193. UNESCO, *Thailand's National Report on State of Conservation: Dong Phrayayen – Khao Yai Forest Complex*, 2016, <http://whc.unesco.org/en/soc/3467>
194. UNESCO, *Thailand's National Report on State of Conservation: Dong Phrayayen – Khao Yai Forest Complex*, 2016, <http://whc.unesco.org/en/soc/3467>
195. D. Stokes, *Thap Lan: Thailand's Unsung Forest Gem Under Threat, But Still Abrim With Life*, Monkabay, 2017, <https://news.mongabay.com/2017/01/thap-lan-thailands-unsung-forest-gem-under-threat-but-still-abrim-with-life/>
196. Ibid reference 7
197. CITES, *Interpretation and implementation of the Convention – Species trade and conservation – elephants: Monitoring the Illegal Killing of Elephants*, 2013, <https://cites.org/eng/cop/16/doc/E-CoP16-53-01.pdf>
198. Dalberg interview with CITES Secretariat, January 2017
199. UNEP, *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels*, 2015, <https://www.cbd.int/doc/nbsap/unep-sourcebook-web.pdf>
200. UNESCO, *Illicit Trafficking of Cultural Property*, <http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/legal-and-practical-instruments/unesco-wco-model-export-certificate/world-customs-organization-wco/>
201. CITES, *The International Consortium on Combating Wildlife Crime*, <https://cites.org/eng/prog/iccwc.php>
202. The ICCWC currently includes Interpol, the World Bank, the United Nations Office on Drugs and Crime and the World Customs Organization.
203. CITES, *The International Consortium on Combating Wildlife Crime: Brochure*, [https://cites.org/sites/default/files/eng/prog/iccwc/iccwc\\_brochure.pdf](https://cites.org/sites/default/files/eng/prog/iccwc/iccwc_brochure.pdf)
204. CITES, *The International Consortium on Combating Wildlife Crime: Brochure*, [https://cites.org/sites/default/files/eng/prog/iccwc/iccwc\\_brochure.pdf](https://cites.org/sites/default/files/eng/prog/iccwc/iccwc_brochure.pdf)
205. WWF-US, *A monumental win for elephants: China will ban ivory trade by 2017*, 2016, <http://www.worldwildlife.org/stories/a-monumental-win-for-elephants-china-will-ban-ivory-trade-by-2017>
206. UNEP, *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels*, 2015, <https://www.cbd.int/doc/nbsap/unep-sourcebook-web.pdf>
207. CITES, *UNESCO calls for closer cooperation with CITES to protect World Heritage sites*, 2014, [https://cites.org/eng/UNESCO\\_calls\\_for\\_closer\\_cooperation\\_with\\_CITES](https://cites.org/eng/UNESCO_calls_for_closer_cooperation_with_CITES)
208. UNESCO, *Decision: 40 COM 5A Report of the World Heritage Centre on its Activities and the Implementation of the World Heritage Committee's Decisions*, 2016, <http://whc.unesco.org/en/decisions/6774/>
209. Dalberg interview with Wildlife Conservation Society, January 2017
210. UNEP, *Sourcebook of opportunities for enhancing cooperation among the Biodiversity-related Conventions at national and regional levels*, 2015, <https://www.cbd.int/doc/nbsap/unep-sourcebook-web.pdf>
211. CITES, *How is CITES Financed*, <https://cites.org/eng/disc/fund.php>
212. CITES, *CITES External Trust Fund: Status of Contributions as of 31 December 2016*, [https://cites.org/sites/default/files/eng/disc/funds/status\\_of\\_external\\_contributions\\_to\\_the\\_CITES\\_External\\_Trust\\_Fund.pdf](https://cites.org/sites/default/files/eng/disc/funds/status_of_external_contributions_to_the_CITES_External_Trust_Fund.pdf)
213. UNESCO, *World Heritage Fund*, <http://whc.unesco.org/en/world-heritage-fund/>
214. These 14 properties were added to the List of World Heritage in Danger due to, among other things, commercial levels of illegal harvesting, and if unstopped, this could lead to the sites losing their World Heritage status. Please see annex I for an overview of the 14 sites.
215. UNESCO, *The Criteria for Selection*, <http://whc.unesco.org/en/criteria/>
216. UNESCO, *World Heritage List*, <http://whc.unesco.org/en/list/> ; World Heritage Convention, *State of Conservation*, <http://whc.unesco.org/en/soc/>
217. IUCN World Heritage Outlook Database, *Search All Natural Sites*, <http://www.worldheritageoutlook.iucn.org/search-sites>
218. Note that these sources also refer to potential threats. These were not considered in this analysis.
219. IUCN, *African Elephant Status Report*, 2016 <https://www.iucn.org/ssc-groups/african-elephant-sg/mammals/african-elephant-specialist-group>



# Illegal trade of CITES species from World Heritage sites in numbers

100%  
RECYCLED



91%

The percentage of  
World Heritage sites  
that provide jobs for  
local people

40%

The percentage of World  
Heritage sites host to African  
elephants



1/3

One third of all remaining  
wild tigers live in World  
Heritage sites

14

Number of World  
Heritage sites in  
danger because of the  
illegal harvesting of  
CITES-listed species



#### Why we are here

To stop the degradation of the planet's natural environment and  
to build a future in which people live in harmony with nature.

[panda.org](http://panda.org)