COUNTER EXTREMISM PROJECT

EXTINCTION INC.

ILLEGAL WILDLIFE TRAFFICKING AFTER THE PANDEMIC

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METHODOLOGY

This report is based on a desk review of existing literature and open source material, monitoring of digital and print media, descriptive statistics of secondary data, and interviews with conservation and enforcement experts.

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EXECUTIVE SUMMARY

Three years ago, the COVID-19 pandemic swept across the globe upending life as we knew it.

One consequence of this extraordinary experience is a much greater collective awareness of the dangers posed to humanity by the threat of new diseases transmitted to humans from animals, i.e. zoonotic disease.

The fact that COVID-19 is widely believed to have originated in a Chinese wet market containing legal and illegal wildlife products has brought the dangers of the illegal wildlife trade (IWT) into much clearer focus, especially for policymakers.

In the last three years, China has taken a number of steps to ban or limit the import of wildlife products, culminating in the publication of its updated Wildlife Protection Law at the end of 2022, while both the United Nations (UN) and the European Union (EU) have introduced new measures to interdict the trade.

However, demand for illegally sourced wildlife products remains stubbornly high, and poachers and traffickers have proven adaptive to changing conditions during and after the pandemic - not least by moving much of their trade online.

Some of the largest ever recorded seizures have occurred in the last two years, with six tonnes of ivory discovered by Malaysian authorities in a shipping container on 10 July 2022, and 600 kilograms seized in Vietnamese ports over a single weekend in February 2023. In January 2021, Nigerian customs officials confiscated 9.5 tons of pangolin scales from one shipment.

As the pandemic increasingly cedes ground to other news stories, fears of zoonotic disease are losing their sharpness.

We cannot afford to slip back into complacency. Preventing the next pandemic is but one of the compelling reasons for action.

Along with habitat loss, pollution and, increasingly, climate change, illegal wildlife trafficking is driving an extinction rate estimated to be at least 1,000 times the historical average and the worst since the disappearance of the dinosaurs 65 million years ago.

This invidious trade, Extinction Inc., is increasingly monopolised not by small-time players but by major transnational crime syndicates, with extremist groups also playing an important role. They are reaping vast profits in the process. The illegal trade in animals and their body parts has grown to an estimated value of USD 23 billion a year while the illegal timber industry alone is valued at USD 150 billion per year.

The COVID-19 pandemic barely dented this booming illegal industry. Indeed, severe cuts to national parks' budgets and skeleton staffing of ports, airports and border crossings provided a wealth of opportunities for increased poaching and smuggling. With wildlife consumer markets bouncing back and international passenger travel nearing pre-pandemic levels, seizures of illegally trafficked wildlife products are increasing again.

On world wildlife day 2023, we find ourselves at a crossroads.

Either we choose to capitalise on this precious opportunity to help prevent the next pandemic, tackle a global biodiversity crisis and deprive organised crime and extremist groups of a massive revenue stream, or we will very soon find that it is too late to turn back.

Part One of this report investigates the history of the global illegal wildlife trade, explaining how we have arrived at the present crisis and highlighting major emerging trends both in terms of trafficking and measures taken to tackle the trade.

Part Two explores the long history of wildlife exploitation for profit on the African continent, as seen through the lens of the ivory trade, while Part Three provides an overview of some most threatened species on the African continent besides the elephant, as well as the extremist groups which exploit them.

The Conclusion and Recommendations section sets out a detailed seven point plan for how to stamp out the illegal wildlife trade and avert the man-made extinction crisis in which we now find ourselves.

INTRODUCTION

We are living through a mass extinction of earth's flora and fauna.

Unlike every mass extinction event that has come before, this crisis has been brought about exclusively through human action. Hence its common title: the Anthropocene extinction.

The current extinction rate among the world's wildlife is estimated to be at least 1,000 times the historical average and the worst since the disappearance of the dinosaurs 65 million years ago.

In just over a century, we have lost 97% of wild tigers. Three out of nine tiger species - including the Balinese, Caspian and Javan tiger - have already been lost for good.

Prior to the COVID-19 pandemic, an estimated 20,000 elephants were being poached every year, equivalent to 55 every day. In March 2021, for the first time, the International Union for the Conservation of Nature (IUCN) listed the African forest elephant as critically endangered after 86% were lost over a 31-year period.

The crisis extends far beyond headline-grabbing mega-fauna. The European eel (98% population decline since 1980), hawksbill turtle (80% decline over three generations), amur leopard (fewer than 30 remaining), and countless more species all face oblivion unless enormous and immediate changes are made to human behaviour.

Along with habitat loss, pollution and, increasingly, climate change, illegal wildlife trafficking is a primary driver of the biodiversity crisis now affecting every continent and ocean around the globe.

Nearly 6,000 different species of trafficked fauna and flora were seized between 1999 and 2018, with nearly every country in the world playing a role.

Even during the pandemic, with borders often fully or partially closed and whole societies thrown into lockdown, the flow of illegally trafficked wildlife goods found its way through. Any limitations that it did impose are now long forgotten, with the trade recovering at speed.

An eight-week operation coordinated by Interpol in August-September 2021 resulted in the seizures of 1,202 ivory pieces weighing more than four tonnes, pangolin scales weighing 423 kilograms, 50 rhino horns weighing 72 kilograms 46 kilograms of totoaba (fish) bladders, almost 4,000 mollusks

weighing 52 kilograms, 42 shark teeth, 33 red corals, and 1,336 other CITES protected species, as well as live specimens including three turtles and tortoises and more than 120 birds. More than 100 suspects from 23 African and Asian countries were identified as part of the operation.

On 28 December 2021, Hong Kong Customs intercepted a cargo ship south of Cheung Chau island. On board they discovered more than 3,500 kilograms of illegally trafficked sea cucumbers, worth more than USD 2 million. In separate raids between January 6-7, 2022, Hong Kong Customs also seized more than 4,000 kilograms of CITES Appendix II listed red sandalwood, with an estimated market value of about USD 20.7 million, at Hong Kong International Airport. In mid-January 2022, Vietnamese customs officials discovered 456 kilograms of ivory and 6.2 metric tons of pangolin scales in a container shipped from Nigeria to Tien Sa Port in Da Nang.

On 2 February 2022, a man was arrested at OR Tambo International Airport, South Africa, while boarding a flight to Malaysia. Officials discovered 11 rhino horns wrapped in tinfoil and disguised in confectionary and tea boxes.

In July 2022, Malaysian Customs announced the largest seizure of elephant ivory, rhino horn and other goods in the nation's history, valued at USD 18 million. The shipment, originating in an unknown African country, had been tracked from the UAE.

More recently, a month-long Interpol operation in October 2022 resulted in 2,200 seizures and the identification of 934 suspects and 141 companies involved in IWT. Operation "Thunder 2022" brought together agencies from 125 countries, one of the largest such operations ever.

Illegal wildlife trafficking is driven first and foremost by consumer demand. In this respect, the rise of Asia's middle classes since the turn of the millennium has transformed the dynamics of the global wildlife trade in much the same way that European and North American middle classes fuelled the wildlife trade at the turn of the twentieth century.

Wildlife products are consumed in countless ways. In parts of Asia, rhino horn is retailed as a party drug, health supplement, and hangover cure. In Vietnam it is touted as a cure for cancer, despite consisting entirely of keratin, the same protein component that makes up human hair and fingernails.

The pangolin - a small anteater-like creature found in Africa and Asia - is coveted for its use in Traditional Chinese Medicine to the extent that it is now the most commonly trafficked land mammal.

Illegally felled teak is trafficked to Europe where it is used in the luxury yachting sector. Great apes are sold as high-value bushmeat while cheetahs are sold as live pets to wealthy individuals in the Middle East.

The COVID-19 pandemic hardly dented this demand.

Indeed, traders have baselessly promoted tiger bone glue and treatments containing rhino horn as a means of staying healthy during the pandemic. Similarly, the Chinese government promoted bear bile injections to treat COVID-19.

Ever swelling demand has seen wildlife trafficking become a multi-billion-dollar industry with a footprint in every habitat and corner of the planet.

The illegal trade in animals and their body parts has grown to an estimated value of USD 23 billion a year while the illegal timber industry is valued at USD 150 billion per year. By some estimates, illicit timber now accounts for one third of the global timber industry.

Wildlife products have always been coveted by human society, but the modern illegal wildlife trade (IWT) has emerged out of specific historical circumstances. Namely, it is the by-product of poorly formulated and insufficiently enforced wildlife protection laws passed in the course of the second half of the twentieth century.

As the world slowly began to wake up to the extinction crisis that was accelerating over the course of the twentieth century, a raft of national-level legislation and international agreements were conceived to limit the destruction caused by the unrestricted wildlife trade. To little avail.

Existing wildlife protection laws have been patchily enforced, ignored and even annulled, while it is clear to all that they are blatantly failing to stem the tide of illegal trafficking.

Into the void created by this flimsy legislative patchwork have stepped a vast array of criminal enterprises. Today, IWT is one of the most valuable forms of international organised crime, ranking behind only drugs and arms trafficking.

Increasingly, the vast profits generated by IWT are captured not by small-time operators, but by highly organised criminal and extremist networks mainly headquartered in Europe and Asia.

As well as transnational crime groups, extremist groups have also turned IWT into a major revenue stream. With an estimated 80% of global violent conflicts taking place in areas of high biodiversity, the overlap of IWT and extremism is pervasive.

The Zomi Revolutionary Army and Nationalist Socialist Council of Nagaland operating in northeast India, Maoist rebels in Nepal and militant Islamist separatist groups in Bangladesh are all involved in poaching and wildlife trafficking.

In Africa, extremist groups involved in IWT include the Lord's Resistance Army, al Shabaab, Ahlu Sunnah Wal Jamaah, ISIS, Forces Démocratiques pour la Libération du Rwanda (FDLR), Mai Mai, the Mozambican National Resistance (RENAMO), Seleka, the Sudanese Janjaweed, M23 and Islamic State West Africa Province (ISWAP), originally an offshoot of Boko Haram that developed into one of the most powerful ISIS affiliates on the African continent.

Until their fall in 2001, members of the Taliban facilitated hunts of endangered snow leopards and other game for wealthy Middle Eastern hunters, while also selling Saker falcons and Houbara bustards to falconers. Following their takeover of power in Afghanistan, the Taliban have once again given permission for Arab tourists to hunt rare birds, as an income stream for the regime. Islamic State of Khorasan Province, ISIS' branch in South Asia, is also known to engage in illegal logging activities.

As well as driving species to extinction, fuelling deadly conflicts and lining the pockets of criminal and extremist groups, IWT causes numerous other harms.

Prior to the pandemic, wildlife tourism generated USD 120 billion and directly supported 9.1 million jobs. In 2022, it reached USD 135 billion and is projected to reach USD 220 billion over the next ten years. In Africa, it makes up 36.3% of the travel and tourism sector. IWT directly threatens this economic lifeblood.

IWT also poses a threat to humanity in the form of zoonotic disease, i.e., diseases that can pass from animals to humans. According to the United States Center for Disease Control (CDC), three out of every four new or emerging infectious diseases are zoonotic. The illicit transfer of animal products represents a major entry point for such diseases.

As devastating and disruptive as the coronavirus pandemic was, the next may be considerably worse. Bird flu, which is one mutation away from being transmittable to humans, has at minimum a death rate of 20-40% – by comparison, COVID-19 has so far had an average fatality rate of around 0.2-3.4%, depending on the variant and measuring methodology. For these reasons and more, it is imperative that IWT must be tackled with equivalent energy and innovation as the climate crisis.

Despite this, anti-IWT efforts are blatantly failing to evolve at the same pace as criminals, leaving vulnerable wildlife populations and thinly spread frontline defenders exposed to the ravages of poachers and traffickers.

This report finds that:

- The COVID-19 pandemic crippled national park budgets, giving a carte blanche to poachers in many parts of the world. In Garamba National Park, a 5,000 square kilometre designation in the Democratic Republic of Congo (D.R.C.), 25% of rangers had at one point lost their jobs.
- The increasing consolidation of the illegal wildlife trade and the vast profits the industry generates have in recent years led to greater and greater investment in poaching technologies.
- The best equipped illegal hunters now use night-vision goggles, satellite phones, military-grade helicopters, automatic weapons and advanced tactical gear to hunt their prey. For two months in 2014, poachers in the Garamba National Park employed helicopters, grenades, submachine guns and chainsaws to slaughter 68 elephants.
- This pattern is helping to tip the battle between game wardens and poachers decisively in favour of the latter, with hundreds of park rangers losing their lives in recent years. In Virunga National Park (D.R.C.), more than 200 rangers have been killed in attacks going back more than a decade. Over 1,000 rangers have been killed globally over the same period.
- Journalists and activists face similar threats from heavily armed traffickers. In April 2021, two Spanish journalists and the Irish director of a wildlife foundation were among those killed when jihadists ambushed their armoured convoy as they filmed a documentary about poaching in Arly National Park in eastern Burkina Faso. In May 2021, a gang of suspected poachers in Zimbabwe attacked an investigator from the International Anti-Poaching Foundation (IAPF) and set him alight in his car. In June 2022, British journalist Dom Phillips and his Brazilian colleague Bruno Pereira were murdered while investigating IWT in the Brazilian Amazon.
- Despite the serious harms caused by the illegal wildlife trade, in most parts of the world criminal sentencing of wildlife traffickers remains relatively light compared to other offences, such as narcotics and arms trafficking.
- Anti-smuggling efforts are similarly being completely overwhelmed by the dizzying growth of international trade and passenger traffic in the era of globalisation.

- While the total volume of global maritime trade has grown from 4 billion tons in 1990 to more than 11 billion tons in 2021, and is set to triple in the next 25 years, less than one in ten shipping containers is inspected by ship operators. Meanwhile, as little as 2% of all freight is checked by port authorities. These skewed statistics make the detection of IWT products increasingly difficult.
- Airports represent another major gateway for illegal wildlife products. In 2019, one million wildlife products were seized at airports around the world, with half of these found in checked baggage.
- Travel restrictions imposed by the pandemic barely staunched the flow. While passenger travel declined significantly, cargo routes, ports and border posts mostly remained open, often with reduced staff, making large-scale trafficking even easier, due to reduced control capabilities along the shipping routes.
- Vietnam's halt to all inbound flights - aside from repatriation flights - in March 2020 did little to curb the country's flourishing illegal wildlife trade. In July 2020, Vietnamese border enforcement intercepted 138 kilograms of rhino horn - representing approximately 50 rhinoceros - at Da Nang port.

- Despite a major international ban on the sale of ivory dating to 1989 and several significant national sales bans in recent years, the illegal ivory trade continues to thrive, in part to due to a long-standing controversy between those who believe there should be no legal market for ivory and those that believe a regulated trade should be permitted where elephant populations allow.
- In 1989, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) banned the international ivory trade. However, the terms of the ban granted an exception to countries where elephant numbers are robust. Today, this exemption includes Botswana, Namibia, South Africa and Zimbabwe. Critics believe these legal channels have helped fuel demand for ivory while also providing traders with an opportunity to launder illegally sourced ivory.
- CITES also has no scope to interfere in domestic trade. As a consequence, numerous countries that are party to the international convention continue to permit the domestic trade of elephant ivory, as well as rhino horn, tiger body parts and other products derived from endangered species. These legal domestic markets are known to sustain illegal international markets.
- CITES - which to this day remains the only international convention on illegal and legal wildlife trade - was never designed to deal with criminality, but rather exclusively with matters of trade. The continued absence of a dedicated international convention to address illegal wildlife crime has proven a major impediment to resolute action.
- The rise of digital technologies has created a vast new battlefield between traffickers and enforcement authorities, with the former very much in the ascendency.
- While the dark web allows criminals to pull a thick veil across their activities, poor enforcement and Big Tech apathy permits vast amounts of illegal trafficking to occur in plain sight on social media and online vendor platforms. To give but one glaring example, over 70% of the illegal cheetah trade is said to occur on Instagram.
- Meanwhile, end-to-end encrypted communication platforms such as WhatsApp and Telegram allow traffickers to converse with ease and without fear of detection.
- With some traffickers increasingly relying on online platforms following the pandemic, experts fear that traders are widening their digital customer base which, in turn, will increase pressure on endangered species.
- The means by which traffickers circulate and stash the money generated by IWT is also undergoing rapid evolution.
- While wildlife trafficking syndicates are able to make frequent use of the global formal banking system, often using shell and front companies, the evolving payment infrastructure for online sales, as well as cryptocurrencies, prepaid cards and money transfer functions within mobile apps, create countless more opportunities to hide payments and launder illicit revenues.
- Despite the central importance of illicit financial flows (IFFs), enforcement remains lax and criminal sentencing light. A 2017 joint report by the United Nations Office on Drugs and Crime (UNODC) and Asia Pacific Group, found that in 45 countries surveyed, only 1% of wildlife crime cases involved money laundering investigations, charges or prosecutions.

> In the battle to save our planet's wildlife and safeguard humanity from the many harms caused by IWT, the traffickers are winning and there is very little time left to turn the tide.
>
> Yet, there is still hope.
>
> **The Anthropocene extinction is man-made. This means that it is also within our power to avert the catastrophe towards which our planet is presently hurtling.** Countless park rangers, enforcement officers, scholars, political leaders, activists and journalists have already risen to the challenge of confronting IWT in all its shapes and forms.

This report also finds:

- Game wardens are innovating to match the ever-evolving techniques of the poachers. Drones, thermal imaging cameras and advanced DNA technology are some of the new weapons in the conservationists' armoury.
- Community programmes, both state-driven and non-governmental, are helping to build awareness, give local communities a sense of investment in wildlife management and reduce poaching.
- In Assam, India, the International Rhino Foundation (IRF) established a small-grants programme for on-the-ground organisations that support community development and awareness campaigns. These programmes help address food security and support IRF's initiative to establish a network of informants to help prevent rhino poaching and identify poachers and traders working in the area.
- In December 2021, it was announced that the newly formed Legacy Landscapes Fund (LLF) will provide at least 15 years of annual USD 1 million funding to both Gonarezhou National Park, Zimbabwe, and Odzala-Kokoua National Park in the Republic of Congo. Established in 2021, the LLF is a private-public funding instrument aimed at protecting the world's most outstanding natural places. Currently funding four reserves, the initiative aims to sponsor 30 parks by 2030. Currently funding or about to fund seven reserves, the initiative aims to sponsor 30 parks by 2030.
- Universities and other learning institutions are helping to develop novel technologies that can assist wildlife monitoring, as well as poaching and smuggling detection.
- In 2020, Oxford University's Wildlife Conservation Research Unit (WILDCRU) and Machine Learning Research Group developed a new technique of conducting elephant surveying using satellites and machine learning. Satellites can capture more than 5,000 square kilometres of imagery in one pass, exponentially improving efficiency as well as discounting the likelihood of human error in aerial counts.
- Researchers in South Africa are working on a pilot programme to inject rhino horns with radioactive material, a tactic that could discourage consumption and make it easier to detect illegal trade. Globally, 10,000 radiation monitors are already installed at harbours, airports and land borders to detect radioactive material in shipping containers, diplomatic pouches and passenger luggage - providing this pilot programme with readymade infrastructure.
- New forensic DNA technology can now assist officials in back-tracing the origins of wildlife products seized in transit and destination countries, providing critical information about the origins of these goods. Such technology has already been used in the last two years to effectively track and prosecute the illegal trade in shark fins, tortoise shells, and rhino horn.

- In 2020, Australian scientists at Flinders University, Adelaide unveiled a new forensic DNA technology to track smuggled ivory. In the past, it has been notoriously difficult to identify the origin of ivory due to its minimal DNA content. Using this new technique, enforcers can pinpoint where poachers are operating and distinguish smuggled elephant tusks from legally traded ivory in countries such as Thailand, where possession of Asian ivory is permitted but trading in ivory from Africa is illegal. Blind testing 304 samples of ivory, the team at Flinders University found that their method was 100% accurate. Similar research by Washington University has been able to track shifting geographic patterns in the trade.
- Steps are also being taken to defend whistle-blowers and conservation activists. The Platform to Protect Whistleblowers in Africa (PPLAAF) is an example of an organisation defending, litigating and advocating on behalf of NGOs, media and governments speaking out against injustices.
- In late 2019, Johannes Stefansson, a whistleblower supported by the PPLAAF, revealed how one of the largest fishing companies in the world bribed high-level Namibian officials for trawling rights. The scandal resulted in the resignation of a number of high ranking officials, including Minister of Fisheries Bernhard Esau and the Minister of Justice Sacky Shanghala.
- Major ivory sales bans passed by China and the United States have depressed demand significantly. Hong Kong's ban on most ivory sales, which came into force on December 31, 2021, and the U.K.'s 2022 sales ban should help further dampen demand.
- While traffickers continue to find workarounds - such as redirecting the trade to Vietnam or diversifying their portfolio into pangolin scales - these initiatives have shown the value of resolute action. The price of ivory more than halved in China between 2014 and 2018.
- Raised awareness about the risks associated with the consumption of unregulated wild products has also propelled governments into action.
- In response to the global COVID-19 pandemic, the government of China placed a temporary ban on the consumption of wild animals, including pangolins. On February 19, 2020, the National People's Congress Standing Committee began a process to amend the Wildlife Protection Law to criminalise permanently the use of wildlife as food, finalised on 30 December 2022. The move was made in recognition of the possible link between human disease and the consumption of wildlife and the spread of novel diseases in humans.
- In the first nine months of 2020, China prosecuted more than 15,000 people for wildlife crimes, up 66% from the same period a year earlier, state prosecutors said. A three-month operation in early 2022 saw 12,000 cases prosecuted and USD 14.8 million in fines handed out.
- In June 2020, the Chinese government raised the pangolin's protection level, meaning that illegal trafficking of pangolins can now be punished by up to ten years in prison. However, this in and of itself does bring about the end of the legal pangolin trade, as exceptions may still be granted for 'special circumstances' and 'heritage protection' (e.g. Traditional Chinese Medicine), providing a significant loophole for traders. Perhaps more promising is that, also in June 2020, China removed pangolins from the section on TCM ingredients in its official pharmacopoeia. Although this still falls short of a full ban of the pangolin trade, this measure may yet significantly diminish consumption.

> The numerous endeavours highlighted above show that progress is possible. These brave and innovative initiatives must be supported and bolstered by immediate concerted action.
>
> Fears of future transfer of zoonotic diseases, as well as ever greater acceptance of the urgency of the combined climate and biodiversity crises, mean that **there is real appetite amongst the public and political leaders to tackle the illegal wildlife trade**.
>
> **There is still time to act, but only just.**

PART 1: THE GLOBAL ILLEGAL WILDLIFE TRADE

1.1. Concept definition

The present report concerns itself with the illegal wildlife trade (IWT), also known as "wildlife trafficking" or "wildlife crime". A pernicious but historically recent phenomenon, modern IWT has evolved out of a wider set of activities, with considerably greater lineage, known as the wildlife trade.

> *TRAFFIC, the Wildlife Trade Monitoring Network, defines the wildlife trade as:*
>
> **"Any sale or exchange of wild animal and plant resources by people. This can involve live animals and plants, or a diverse range of products needed or prized by humans – including skins, medicinal ingredients, tourist curios, timber, fish and other food products."**

As such, references to the wildlife trade do not presuppose illegality, and may include both legal and illegal, regulated and unregulated activities. IWT, by contrast, specifically refers to the illegal trade in wildlife and their related parts and products.

Although the term "wildlife" more often conjures up images of the animal kingdom, and of megafauna in particular, it is understood here to mean not only animals, including mammals, fish, reptiles, insects and birds, but also other living natural resources, such as plants. As we shall see, the illegal trade in flora, while often overlooked, comprises a very significant segment of IWT.

A final point of clarification is that, following standard usage, "trafficking" is used throughout this report not only in the limited sense of the actual transportation of illegally obtained products, i.e., smuggling. Rather, it refers to the entire supply chain of illegal wildlife commerce, including the poaching or other taking of protected or managed species from their natural environment, their transfer to market and the retail and purchasing of those products.

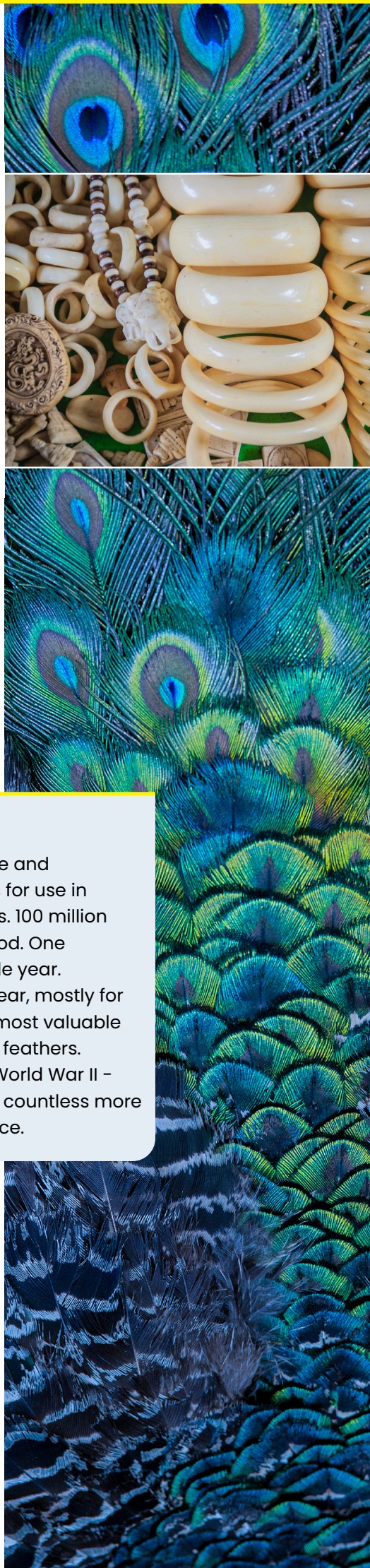
1.2. Origins of the modern wildlife trade

From the bartering of bushmeat, pelts and timber, to the live transfer of exotic animals to be purchased as curios, wildlife has always obtained value in human marketplaces.

The modern wildlife trade, however, is distinguished by the breadth and scale of its operation.

Throughout the nineteenth and twentieth centuries, colonialism and subsequently laissez faire globalisation created a globally connected economic system unprecedented in human history. One of the effects of this emerging global marketplace was to introduce wealthy consumers in the developed world to a vast array of wildlife products and natural resources from every corner of the earth, creating and facilitating mass market demand for elephant ivory, rhino horn, tiger pelts, Amazonian hardwoods and much more besides.

Although demand for exotic wildlife products has always existed, previously the ability to acquire such goods was largely restricted to elites. This would all change with the rising purchasing power of European and American middle classes, and latterly of Asian - particularly Chinese - middle classes. Suddenly, a passing (or lasting) fashion in one part of the world could spell disaster for wildlife on the far side of the world.



The turn-of-the-century plumage craze

In the closing decades of the late nineteenth century, Europe and North America was gripped by a craze for colourful feathers for use in women's hats, setting off a worldwide hunt for exotic plumes. 100 million pounds of feathers were imported into France over this period. One British dealer reported selling two million bird skins in a single year. By 1900, 200 million North American birds were killed each year, mostly for use in the millinery trade. When the Titanic sank in 1912, the most valuable and highly insured merchandise in its hold was 40 crates of feathers. Although demand for exotic plumage had plunged before World War II - driven in part by the advocacy of bird protection societies - countless more fashions based on wildlife products have since taken its place.

At the same time, rising populations in the developing world have also created an enormous market for "bushmeat", or wild meat as it is also called, putting further pressure on wild animal populations.

Driven by modern consumer culture and the ever growing need to feed hungry mouths, the wildlife trade would grow to become one of the leading causes of increasing wildlife scarcity in the twentieth century.

Although entirely unsustainable, the vast majority of wildlife trade activity in this period was either legal or simply unregulated as national authorities and wider society continued to operate under the assumption that nature's larder was practically inexhaustible.

On the Edge

1: Sumatran rhino

The smallest living subspecies of rhino, the Sumatran rhino has been brought to the brink of extinction by the illegal rhino horn trade and deforestation. Fewer than 80 remain. Their recovery is further hampered by an extremely low reproduction rate; just two females have reproduced in the last 15 years.

2: Sumatran elephant

One of three recognized subspecies of the Asian elephant, the Sumatran elephant's conservation status was raised to 'critically endangered' by the IUCN in 2011. Approximately 500 remain in the wild, with a further 2,000 held in captivity. On January 27, 2022, Indonesian courts jailed 12 poachers for their part in the killing and trafficking of five animals in 2020.

3: Helmeted hornbill

Also known as red ivory, golden jade, or "ho-ting", the hornbill's casque has long been considered a natural ivory substitute. Unlike elephant, hippo and walrus ivory, which are dentine material, its casque is made of solid keratin and reportedly worth five times the value of elephant ivory. More than 2,800 casques were seized between 2010 to 2017. 71 casques were confiscated in a seizure in November 2020, ten pieces were seized on 6 August 2022 in North Sumatra. Escalating demand contributed to the 2015 up-listing of the Helmeted hornbill to "Critically Endangered" status.

4: Hawksbill turtle

Numbers of the hawksbill turtle, whose shells are illegally traded to supply the fashion industry, have declined by more than 80% over three generations. The species is now threatened with extinction. All varieties of sea turtles are poached, and with many taking 30 years or more to reach breeding age they are often killed before they have a chance to reproduce.

5: Borneo pygmy elephant

While every elephant population in the world is threatened by ivory hunting, Asia's smallest elephant species has been hit particularly hard, with only 1,500 remaining. Humans are also encroaching upon their territory and destroying their habitats for timber.

6: Vaquita

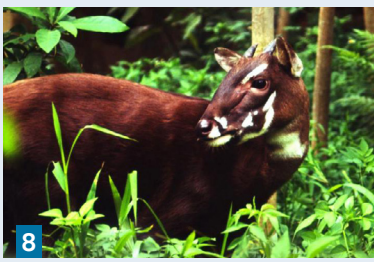
A small porpoise endemic to the Gulf of California, vaquita are often caught and drowned in gillnets used by fishermen operating illegally in the marine protected areas of the Gulf. The species is now the world's rarest marine mammal, with at most 20 individuals surviving.

7: Amur leopard

Also known as the Far Eastern leopard, this Russian cat is dangerously close to extinction, with numbers at one time thought to stand at fewer than 30 individuals. Like many beautiful wild cats, the Amur Leopard is poached for commercial reasons. Poachers also take the Amur's prey, severely limiting their food supply and contributing to their decline. There are signs that things are looking up for the Amur, with the population climbing to around 100 in Russia in recent years thanks to concerted conservation efforts. Yet the species remains on a knife edge.

8: Saola

Also known as the Asian Unicorn, this forest dwelling bovine species was only discovered 26 years ago. The only known population of saola lives in the Annamite Mountains of Vietnam, but they are rarely ever sighted, and their exact number is unknown. However, conservationists do know that deforestation and hunting have made the species critically endangered, with estimates putting the population in the hundreds, and possibly as low as a few dozen.



1.3. Late twentieth century conservation movements

In the second half of the twentieth century, with wildlife populations around the world in freefall, a growing proportion of society began to take greater notice of the damage being done by the unregulated trade in wildlife products. NGOs, conservationist societies and advocacy groups, as well as journalists, documentarians and investigative units increasingly took up the cause of saving various species from extinction and raising awareness about their plight.

In 1961, an influential series of articles in *The Observer* written by Sir Julian Huxley about the destruction of habitats and wildlife in East Africa inspired the formation of the World Wildlife Fund in Morges, Switzerland. Huxley had already founded the International Union for Conservation of Nature (IUCN), to help unite governments and civil society organisations with a shared goal of better protecting nature. In 1964, IUCN established the Red List of Threatened Species, which has since grown into the world's most comprehensive inventory of the conservation status of plants and wildlife

Awareness of the threat posed by the wildlife trade to plants and animals continued to grow in the 1970s. After the establishment of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - a multilateral treaty for the protection of endangered plants and animals which came into force in July 1975 - the IUCN Species Survival Commission established an NGO dedicated to monitoring the wildlife trade, called TRAFFIC. The programme was initially run by a small group of volunteers out of London's Soho.

From 1986-7, another NGO in its infancy, the Environmental Investigation Agency (EIA), uncovered huge stockpiles of poached ivory in Burundi and Singapore, largely owned by international criminals. The EIA next managed to gain undercover access

Better news for bears in 2022

Bear gall bladders are highly prized in traditional Asian medicine. Around 24,000 bears are legally kept in captivity in Asia, with their bile harvested for use in the traditional medicine industry. In some countries, this legal trade has become increasingly regulated.

On January 26, 2022, the South Korean government announced a commitment to phase out bear bile farming by January 1, 2026. Demand for bear gall bladders is also supplemented by illegal trafficking, with wild bears around the world targeted by poachers who can pocket as much as USD 1,000 for a single gall bladder.

On January 11, 2022, U.S. Senators John Kennedy and Tammy Duckworth introduced legislation to tackle the exploitation of bears. If enacted, the Bear Poaching Elimination Act would make illegal all interstate trade in bear viscera, including gall bladders.

and film ivory carving factories run by Hong Kong traders in the United Arab Emirates (U.A.E.), and to gather official trade information, air consignment notes and further evidence in U.A.E., Singapore, and Hong Kong. These revelations received extensive coverage in the worldwide media and appeals from African countries and a host of prominent organisations followed. The international trade in ivory was subsequently banned by CITES in 1989.

Public pressure created by these disparate conservationist movements gradually materialised into policy positions in the course of the late twentieth century. National authorities increasingly sought to regulate, if not necessarily ban, aspects of the wildlife trade. At an international level, the CITES convention represented a landmark achievement in the battle to prevent species loss (see Resilience section for more detail).

Although this new spirit of conservation helped to build awareness of the connection between the consumption of wildlife products on the one hand and the precariousness of animal populations and habitat degradation on the other, demand for wildlife products remained stubbornly high throughout the late twentieth century and into the twenty-first century.

Meanwhile, as laws and regulations were introduced to regulate or ban certain aspects of the wildlife trade, legal markets were rapidly supplanted by illegal supply chains, creating the basis for the modern illegal wildlife trade with which we live today.

Back from the brink: **Grey wolf**

When the North American grey wolf was on the brink of extinction due to trophy hunting and poaching, the elk population in Yellowstone National Park soared. With no natural predator, the elk almost ate the aspen tree to extinction. Today, following the recovery of the grey wolf, elk populations are balancing out and the aspen tree is recovering.

Back from the brink: **Tiger**

In just over a century, we have lost 97% of wild tigers. While there were once nine subspecies of tigers — Bengal, Siberian, Indochinese, South Chinese, Sumatran, Malayan, Caspian, Javan, and Bali — there are now just six. In 2010, a mere 3,200 wild tigers survived. Since then, tigers have staged a comeback, with around 2,600-3,350 individuals in India alone. Nepal's tiger population has nearly tripled since 2010. The species is still vulnerable, however, with TRAFFIC estimating that over 150 wild tigers were killed each year between 2000 and 2022. Tiger or tiger part seizures equivalent to 3,377 tigers were publicly reported in this period.

Back from the brink: **Rhino**

Large-scale poaching saw Africa's black rhino population decline from around 70,000 in 1970 to just 2,410 in 1995 – a loss of 96%. Despite persistent demand and a thriving illegal market, conservation programmes have helped to grow numbers to around 6,195 today. The greater one-horned rhino is another success story. Reduced in number to under 200 in the early 1900s, its population has risen from 2,577 in 2006 to around 4,014 today, thanks to strict protection from Indian and Nepalese wildlife authorities.

1.4. The rise and rise of IWT

Once thought of as largely confined to Africa and Asia, IWT is now also endemic in Latin America, the Middle East, Europe and the United States of America. Nearly 6,000 different species of trafficked fauna and flora were seized between 1999 and 2018, with nearly every country in the world playing a role. While the risks of detection and severity of punishments for the perpetrators of IWT are often relatively low, the rewards can be immense.

The illegal trade in animals and their body parts has grown to an estimated value of up to USD 23 billion a year, devastating animal populations and driving totemic species such as the elephant and rhinoceros towards extinction. Products made from a single tiger can fetch as much as USD 50,000. The retail price of ivory rose to almost USD 3,000 per kilogram at its peak in 2014, more than justifying its description as 'white gold'. At this price, the tusks taken from a single large elephant could be worth as much as USD 500,000. Gorillas have fetched USD 400,000, while rhino horns have reputedly earned traffickers up to USD 65,000 per kilogram.

Trafficking in plants, including cacti and orchids and tropical timber, is similarly lucrative. Cycads, an endangered palm-like plant found in many of the world's tropical and subtropical regions, can fetch USD 100,000 each on the black market and the pandemic has done little to slow the trade. In South Africa, home to 38 species of cycads (10% of the global total), the illicit trade is now seen as a priority wildlife crime, alongside rhino, elephant and abalone poaching. Cycads worth around USD 1 million were stolen in just six months of 2021, according to Western Cape authorities.

Valued at over USD 150 billion annually, the illegal timber industry is now considered the most lucrative product in the illicit wildlife trade. In particular, the unregulated trade in tropical hardwood timber has ballooned in the last twenty years, catering to both Western and Eastern markets. In Myanmar, for example, illegally harvested teak has been routinely trafficked to European markets where it is in high demand in the luxury yachting sector. The military junta that seized control of the country in February 2021 has been accused of trafficking teak to fund its operations in the face of extensive sanctions imposed by the U.S., E.U., U.K. and others. African hardwoods are likewise increasingly trafficked to China for use in high-value furniture.

The illegal timber industry often exists adjacent to its legal counterpart, making detection difficult. By some estimates, illicit timber now accounts for one third of the global timber industry. In June 2021, an acclaimed documentary shed light on the efforts of Gabonese police and environmental authorities to clamp down on both local crime syndicates and big businesses engaged in illegal logging. The video documents how one international company harvested 13 times its annual quota of trees, for export to both East Asia and the West.

The rise of the illegal rosewood industry

Classical Chinese hongmu furniture is traditionally fashioned from rosewood species endemic to Eastern and Southern Asia. As stocks of Asian rosewood (an umbrella term for various, richly hued tropical trees) were exhausted over time, traders have turned elsewhere for the timber. African rosewood imports to China have steadily increased since around 2010, including Nigerian "kosso" (Pterocarpus erinaceus).

In 2017 - in which year 1.4 million cubic metres of kosso were transported to Asian countries from West Africa, 58% originating from Nigeria - the species was placed on CITES Appendix II, meaning that the international trade in kosso could only be conducted under permit.

With these measures failing to curb the trade, the CITES Secretariat undertook a technical mission to Nigeria in 2018 to evaluate the basis for issuing permits. The Secretariat found that certificates were being issued with little to no evidence that the trade was not harming the species, highlighting the absence of relevant scientific reports.

Meanwhile, national trade data suggests a rise in the illegal rosewood trade, with the Democratic Republic of the Congo, the Congo and Mozambique registering major exports of rosewood timber, even though neither kosso nor any other classified rosewoods are found in these countries.

1.5. Demand for IWT and patterns of consumption

IWT is driven in the first and last instance by seemingly insatiable market demand.

Today, the primary market for IWT products is China, where illegal wildlife is consumed as an affirmation of status and wealth or driven by the belief that wildlife products have medicinal or health value. Traditional Chinese Medicine is a USD 43.6 billion-per-year industry and enjoys support not only in China but also throughout Asia and in some 180 countries across the world.

Body parts from endangered species such as rhinos, tigers, Asian bears and pangolins are used to treat a variety of ailments ranging from cancer, erectile dysfunction and hangovers. Yet there is little proof that these animal products have any medicinal benefits at all. Rhino horn, for instance, is made up of keratin, the same substance that forms human nails and hair.

> **"Through its special economic zones, China is expanding and introducing its culture around the world. TCM is one of the pilots of this programme. China is spreading its habits of consuming wildlife and using endangered animals' products."**
>
> *Trang Nguyen, Executive Director at WildAct*

Despite its sophisticated regulatory and enforcement capacity, the United States (U.S.) is considered to be the world's second largest market of illegal wildlife products. The U.S. accounts for 71% of hunting trophies traded globally and is also a major consumer of illegally trafficked meat and fish. There is also an American market for pets and jewellery and curios made from threatened species. In April 2021, a man was arrested at John F. Kennedy International Airport trying to smuggle 35 live finches hidden in hair curlers from Guyana to participate in bird-singing contests in New York City.

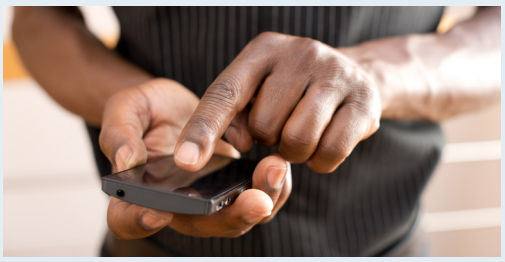
Rising demand for Traditional Chinese Medicine is also believed to be responsible for driving IWT in the U.S.

Elsewhere in the world, demand for IWT is no less robust. A growing desire in the Middle East for exotic cats as pets is putting pressure on cheetah populations. Many species of parrots are in danger because of the pet trade. Demand for a wide array of songbirds throughout Southeast Asia has resulted in a frenzy of illegal trapping and unsustainable trade to supply them as caged birds, which is bringing silence to many of the continent's rainforests. Many endangered species of lizards, turtles and tortoises are highly prized as exotic pets the world over, as are many tropical fish collected illegally for aquaria. On January 4, 2022, Indian customs officials intercepted packages containing 1,364 live star tortoises, an endangered species listed on CITES Appendix 1.

The fashion industry represents another major consumer of IWT products, including skins of protected snakes, crocodiles and monitor lizards.

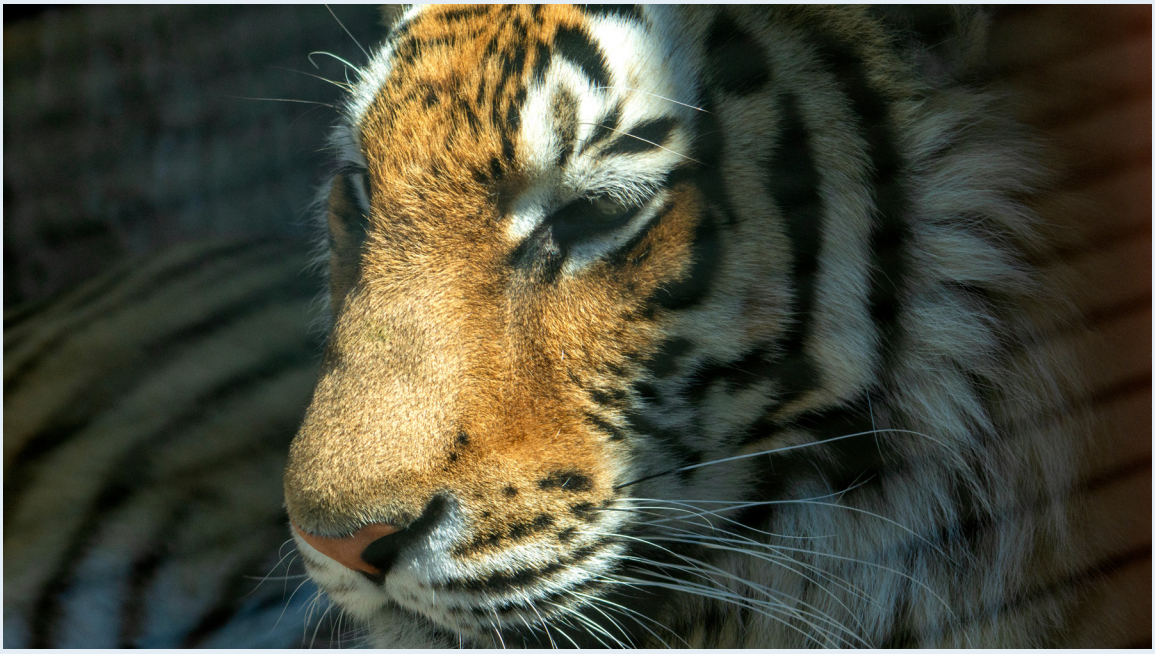
A top fashion designer in the U.S. was charged in 2022 with smuggling endangered crocodile skin purses into the country for use by celebrities. According to a study by researchers at the John Jay College of Criminal Justice in New York, between 2003 and 2013 the United States Fish and Wildlife Service seized more than 5,600 fashion items made from illegal wildlife parts, 84% of which were reptile-derived products, including bags, shoes and belts. Several luxury brands, including Gucci and Michael Kors, were named in the study, although it

Traffiking by text



In November 2020, it was reported that two men from the Democratic Republic of the Congo (D.R.C.) had been arrested in Seattle, Washington, for wildlife trafficking. Starting in summer 2020, the pair had sent packages containing 54 pounds of ivory and rhinoceros horn to Seattle, priced at over USD 30,000. U.S. enforcement reported that ivory had also been cut up and spray painted to resemble ebony, while the smugglers had used encrypted messaging apps like WhatsApp and Telegram to communicate with a middleman. The arrest was accompanied with a seizure of USD 3.5 million worth of ivory, rhino horn and pangolin scales in the D.R.C.

Bad omens for the tiger



February 1, 2022, ushered in the Year of the Tiger, according to the Chinese lunar calendar. However, the weeks leading up to this date were inauspicious for the tiger itself. On January 9, 2022, rangers disturbed poachers in Thailand's Thong Pha Phum national park on the Thai-Myanmar border.

Five suspects fled the scene, leaving behind them the pelts of two Indochinese tigers (Panthera tigris corbetti), with the animals' meat still being cooked on the grill. Malaysia, which includes the tiger in the country's coat of arms, is struggling to defend its last remaining 150 wild tigers from poachers and it is not alone.

Even the reclusive Amur (or Siberian) tiger in Russia's remote Siberian boreal forest is increasingly coming within reach of poachers. The St Petersburg Declaration on Tiger Conservation, signed by 13 tiger range countries in 2011, committed to doubling the number of wild tigers to 6,000 by 2022. This figure was almost achieved, though only due to a sudden jump of 40% thanks to better monitoring methodologies.

was not suggested that the brands in question intentionally engaged in IWT. Rather, significant information gaps, forged permits, and animals smuggled through obscure supply chains, meant that legitimate supply chains were systematically infiltrated by illegal products. The researchers estimated that the seizures made between 2003-13 represented just 10% of the illicit trade, with many thousands more products entering the fashion market undetected.

The consumption of bushmeat is also driving up IWT in certain parts of the world. *National Geographic* has reported that the scale of hunting is increasing, fuelled by growing demand in towns and cities and facilitated through road building by logging and mining companies. This demand is most pronounced in western and central Africa, with wild meat fetching high prices from well-off consumers as a delicacy and status symbol. A similar market for exotic meat exists in Europe and the U.S. In December 2021, U.S. Customs and Border Protection (CBP) officers seized over 104 pounds (approximately 47 kilograms) of bushmeat passing through Saint Paul International Airport, Minneapolis. The seizures were made in the context of increased awareness of the biosecurity risk posed by bushmeat, especially in terms of the transfer of communicable diseases.

As in the fashion industry, a significant proportion of bushmeat enters the market covertly, where it is sold to unwitting customers and, as with other areas of IWT, the bushmeat industry is increasingly controlled by large, organised crime enterprises.

The plight of the European eel

The European eel (Anguilla anguilla) is possibly the most trafficked species in the world, and one of the most lucrative.

Eels are a popular food in Asia, particularly in Japan, where they are eaten all year around and ritually on Midsummer Day of the Ox. Catches of Japanese eels (Anguilla japonica), which have historically fed the Asian market, have been in decline since the 1960s, leading to a surge in the legal and illegal export of juvenile European eels (known as "glass" eels) to East Asia. This increased consumer demand, alongside other threats such as as hydro-dams that lack working fish-passes, saw European eel populations plummet by 98% since the 1980s. In response, the European Union banned the export of glass eels in 2010, but the illegal trade has continued.

A poacher can haul in between 200-1,000 kilograms of glass eels per night, or around 600-3,000 individuals. Glass eels are typically flown in refrigerated containers - disguised and declared as seafood products - or in luggage refrigerated with frozen bottles and water and cheap insulation material like car windshield sun protectors.

The majority of contraband is generally destined for China, United Nations Office on Drugs and Crime (UNODC) data from 2011-2018 shows, with Thailand the destination for around a fifth of seizures. Glass eels smuggled into China are usually fattened for a year, after which more than half are exported – predominantly to Japan, but also the United States and other markets around the world – where they are grown to maturity before consumption.

The World Wildlife Foundation (WWF) estimates that between 40-60% of eels raised in Japan originate from illegal sources. Smugglers are paid ten cents euro per glass eel. This price rises to one euro per glass eel when landed in Asia and to ten euro per eel after a year's fattening, according to the Sustainable Eel Group.

Recent Europol figures indicate that the level of glass eel trafficking from Europe to Asia is now half that in 2016, thanks in large part to the efforts of the European Commission and Member States in line with the 2016 Action Plan to tackle wild-life crime. However, recent seizures have underlined the need for further action to protect this critically endangered and beguiling species.

Between 2021 and 2022, two complex six-month-long sting operation across 24 countries led to the arrest of 101 eel traffickers. As part of Operations Lake V and Lake VI, law enforcement seized 1,642 kilograms of glass eels in over 85,000 inspections. The contraband was valued at around 3.14 million euros. Since 2016, Operation Lake has seized 18 tonnes of glass eels and arrested 500 individuals.

In February 2022, a Spanish court handed down a 7.2 million euro fine and 15-month sentence to a member of an eel smuggling syndicate. Police estimated the syndicate made net profits of 40 million euros over two years and discovered a warehouse containing 364 suitcases ready to smuggle a further 5,000 kilograms of eels. In September 2022, Spanish police arrested a further 29 suspects in a separate case, after seizing 180 kilograms of eels.

1.6. Counting the cost of IWT

As well as financing organised crime and extremism (see next section), IWT causes numerous harms, from driving species loss and habitat degradation, to threatening biosecurity and diverting legitimate financial flows away from national authorities and local communities, to breeding corruption.

The extinction rate among our world's wildlife is now estimated to be at least 1,000 times the historical average and the worst since the disappearance of the dinosaurs 65 million years ago.

The harms inflicted by IWT are not limited to species loss and biodiversity. The relationship between bushmeat and zoonotic diseases, i.e., diseases that can pass from animals to humans, means that IWT presents a threat to humans, as well as to wildlife. According to the United States Center for Disease Control (CDC), three out of every four new or emerging infectious diseases are zoonotic, which may originate in the illicit transfer of animal products. Such diseases have the potential to cause enormous damage to human society.

Many of the live wildlife species seized by authorities - including birds, reptiles and mammals - are high-risk carriers of zoonotic diseases that would otherwise have ended up in illegal or unregulated

Zoonotic diseases

Avian influenza

Chickens, ducks, turkeys - 2015 outbreak in USA cost the poultry industry USD 3.3 billion and led to death of 48 million birds

COVID-19

Potentially linked to pangolins, bats – to date has led to 6.8 million+ confirmed deaths, with excess deaths likely several times higher

Ebola

Linked to apes, monkeys, bats - 2014 outbreak in Guinea, Liberia and Sierra Leone led to 11,310 deaths and 28,616 cases

MERs

Linked to camels, bats - since September 2012, 27 countries have reported confirmed cases with about 620 deaths

Nipah virus

Linked to pigs, bats - 1998 outbreak in Malaysia caused 100 deaths and USD 670 million economic loss

SARS

Linked to civet cats, bats - economic impact of 2002 outbreak was an estimated USD 41.5 billion, with 8,000 cases and 800 deaths

West Nile virus

Linked to birds, transmitted by mosquitoes - from 1999–2018 USA had 2,330 deaths out of 50,830 diagnosed cases

Zika virus

Linked to apes, monkeys, transmitted by mosquitoes - outbreak in South America in 2015 led WHO to issue declaration about the virus which can cause birth defects

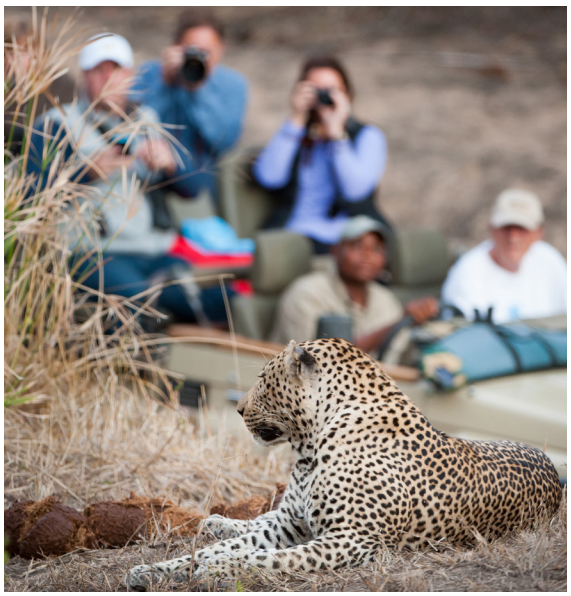
markets around the world. This presents a serious threat to human safety. Bird flu, which is one mutation away from being transmittable to humans, has at minimum a death rate of 20-40% - COVID-19 has so far had an average fatality rate of around 0.2-3.4%, depending on the variant and measuring methodology.

IWT also frustrates legitimate sources of income such as eco-tourism. According to research by Future Market Insights, wildlife tourism reached USD 135 billion in 2022 and is projected to reach USD 220 billion over the next ten years. In some parts of the world, the reliance on wildlife tourism is particularly significant: in Africa, it makes up 36.3% of the travel and tourism sector; in Latin America, it is 8.6% of the sector; and in Asia and the Pacific, it is 5.8%.

Globally, wildlife tourism generates five times more revenue globally than poaching. Eco-tourism can also prevent habitat degradation by creating more sustainable livelihoods for local communities. Jobs as guides, cooks or housekeepers offer alternative income sources to environmentally destructive activities such as logging, slash-and-burn agriculture, quarrying or illegal hunting.

Wildlife, in other words, is worth far more alive than dead.

The COVID-19 pandemic enforced a moratorium on much of the world's wildlife tourism. Although this may have brought some fringe benefits, such as temporary relief for highly pressurised parks, it also jeopardised the integrity of many wildlife tourism programmes, compromising associated conservation work, and creating a vacuum within which poachers could operate more freely. 25% of Garamba National Park rangers lost their jobs during the pandemic.



Indonesia's songbird culture a major biosecurity risk

Indonesia's predicament serves as a microcosm of the wider IWT picture. As one of the world's most biodiverse nations, the country has come to serve as a major source market for IWT. At least 60% of Indonesia's vertebrate animals have disappeared in less than 50 years, according to the World Wildlife Foundation (WWF) Living Planet Report of 2018.

Based on data gathered by WWF-Indonesia, 85% of all traded animals in Indonesia come from nature (i.e., not captive bred) and are the result of illegal hunting. Indonesia's bird markets are particularly notorious for receiving enormous numbers of trafficked rare birds, often sold to tourists in Jakarta or smuggled to other countries.

The rare bird trade is deeply ingrained in Indonesian culture (an estimated one third of all Indonesian households on the main island of Java keep commercially bred and/or wild-caught songbirds), making both the government and conservation NGOs reluctant to tackle the issue. During three days in 2014, TRAFFIC reported that researchers counted more than 19,000 birds for sale in Pramuka and two other bird markets in Jakarta representing more than 200 species.

Pramuka, the largest bird market in Southeast Asia, remains open for business despite presenting a similar biosecurity risk as the Huanan seafood market, where COVID-19 is believed to have first infected humans.

Wildlife poaching and smuggling also breed corruption. Traffickers routinely bribe officials, including park rangers, border guards and police as well as high ranking political figures. In November 2022, a deputy director of wildlife and biodiversity at Cambodia's Forestry Ministry was arrested in the US for smuggling endangered macaques. The Ministry's director general, who was not in the US, was also indicted for his involvement.

A 2018 sting in Zimbabwe led to an investigation into some of the most senior members of the country's political elite, who were suspected of involvement in the illegal ivory trade and of using their status to send packages via Harare airport without checks being undertaken. Undercover Australian wildlife photographer Adrian Steirn found evidence that ivory businesses, legal in Zimbabwe (though exports are restricted), were also involved.

> **"Poaching has increased during the pandemic. Where there used to be controls and tourism, there is now much easier access. Income and jobs have been lost, and poaching has filled the space."**
>
> *Karl Amann, conservationist, wildlife photographer and documentary film producer*

Zimbabwe's Central Intelligence Organisation has been implicated in supplying firearms to poaching syndicates, giving protection to poachers and buying rhino horn from poachers linked to organised criminal groups with operations across the border in South Africa.

IWT & the diplomatic circuit

On occasion, corrupt diplomats have been known to abuse their privileges to engage in IWT. In May 2015, Mozambican police detained two men in the country's capital, Maputo, transporting USD 100,000 in cash and 4.5 kilograms of rhino horn. The suspects were later identified as Pak Chol-jun – the political counsellor at North Korea's Pretoria embassy – and Kim Jong-su.

Pak Chol-jun was given 30 days to leave South Africa or be declared persona non-grata and flew to Pyongyang on December 11, 2016. Kim Jong-su left South Africa in late October or early November 2016, telling acquaintances he was returning home to "visit family". He has not returned.

1.7. IWT, organised crime and extremism

Despite growing evidence to the contrary, there persists a pervasive and stubborn myth of wildlife trafficking as a diffuse activity largely conducted by small-scale poachers and smugglers.

This myth no longer corresponds to reality.

Increasingly, the vast profits generated by IWT are captured not by small-time operators, but by highly organised criminal and extremist networks mainly headquartered in Europe and Asia. Today IWT is one of the most valuable forms of international organised crime, ranking behind only drug trafficking and counterfeit crimes.

> "A highly organised transnational syndicate operates from the Democratic Republic of Congo (D.R.C.) to Uganda, Kenya and even West Africa, most likely using the transport of legal goods to cover their illegal activities. It is a well-connected organisation - the members of this syndicate do not actively task poachers but rely on a large network of small and middle-scale traffickers in D.R.C. to be resupplied. There are indications that these networks diversify their illegal activities, for example, by smuggling stolen cars from South Sudan."
>
> *John Barrett, General Manager at Garamba National Park*

Abalone and the Asian connection

A 2018 TRAFFIC report entitled "Empty Shells: abalone poaching and trade from southern Africa" indicated that international crime syndicates, primarily operating out of Vietnam, now control the trafficking of the South African sea molluscs, as well as the smuggling of rhino horn, cycads and parrots. As the value of abalone has increased, Chinese Triad gangs, long active in South Africa, have also become increasingly involved in the trade. Half of the 5,000 tonnes of abalone exported from the country annually is believed to be poached. The latest update to the IUCN Red List of Threatened Species reveals as much as 44% of all abalone shellfish species are threatened with extinction.

Like any marketplace, especially ones untouched by regulation, IWT continues to tend towards market consolidation as economies of scale reward bigger players and drive smaller players out of business. The march of globalisation, modern digital technologies and weak international law enforcement mechanisms have had the effect of enabling illicit trade actors to exploit vastly larger markets and collude with like-minded organisations in distant locations. Such network convergence can also feature extremist or terrorist groups, as well as organised crime groups.

This ongoing transformation of the IWT landscape has hugely significant consequences for the fate of wildlife populations around the world.

Organised criminal organisations treat their IWT portfolios as a business. That is, they not only seek to maximise profit but do so through strategic re-investment of revenue in "production" (i.e., poaching) and supply chains (i.e., smuggling).

Major IWT syndicates operate at sufficient scale that they not only cater to latent consumer demand for IWT products but play a significant role in creating and shaping that demand. Syndicates carefully control supply as they bet on rising prices (including betting on extinction by sitting on stockpiles) and create new marketplaces for IWT by establishing new trafficking routes.

For these reasons, the net result of IWT's increasing domination by transnational organised crime has been to make the industry an ever more ruthlessly efficient phenomenon.

As well as organised crime, extremism has also come to play an outsized role in IWT. The widespread involvement of extremist and militia groups in IWT is something less than a coincidence. Forests, mountainous regions and other rugged zones are simultaneously a natural refuge for both wildlife and militants alike. Indeed, an estimated 80% of violent conflicts take place in areas of high

biodiversity. The proliferation of armed insurgent groups and organised criminal networks active in IWT destabilises governments and compromises the rule of law, economic development and human rights. These groups also intimidate vulnerable communities in areas where there is little or no government capacity or presence.

Until their fall in 2001 members of the Taliban facilitated hunts of endangered snow leopards and other game for wealthy Middle Eastern hunters, while also selling Saker falcons and Houbara bustards to falconers. Following their takeover of power in Afghanistan, the Taliban have once again given permission for Arab tourists to hunt rare birds, as an income stream for the regime. Islamic State of Khorasan Province, ISIS' Afghan branch, is also known to engage in illegal logging activities.

> "Gangs of ivory poachers and porters cross the border with Cameroon, working directly for larger scale traffickers. A small number of individuals control the large trafficking networks. Some of these feed money to extremist groups."
>
> *Lee White, Minister of Water, Forests, the Sea, and Environment, Gabonese Republic.*

The Nationalist Socialist Council of Nagaland in northeast India, and militant Islamist separatist groups in Bangladesh are also involved in poaching and wildlife trafficking. In August 2020, Indian police accused the Zomi Revolutionary Army, an insurgent group, of involvement in rhino poaching in Kaziranga National Park, in the northeast Indian state of Assam. The park is a refuge for many species, including India's "big five" – greater one-horned rhinos (also known as Indian rhinos), Eastern swamp deer, Bengal tigers, buffalos and elephants.

Maoist rebels in Nepal have not only trafficked

Extremism and the illegal timber trade

It has been a long-standing practice of many militant groups, including the Revolutionary United Front in Sierra Leone and the Khmer Rouge in Cambodia, to use illegal logging to finance their operations. Military activity in the forests of El Salvador has also led to habitat degradation and over-exploitation of wildlife.

The military junta that seized control of Myanmar in February 2021 has been funding its regime by selling off thousands of metric tonnes of illegal timber to international markets, the Environmental Investigation Agency reported in December 2022.

endangered species such as tigers and one-horned rhinoceros but have also captured protected areas and appropriated gate receipts for eco-tourism and trophy-hunting revenues.

Bushmeat and high-value wildlife products – notably "conflict ivory" – have also helped finance conflicts throughout Africa. African extremist groups involved in IWT include the Lord's Resistance Army, al Shabaab, Ahlu Sunnah Wal Jamaah, ISIS, Forces Démocratiques pour la Libération du Rwanda (FDLR), Mai Mai, the Mozambican National Resistance RENAMO, Seleka and the Sudanese Janjaweed, to pick out the most prominent.

Asian crime syndicates and domestic poaching syndicates also operate throughout the region.

> "In northern Cameroon, organized criminal bands that include rebels, ex-rebels, soldiers, former soldiers, transhumant cattle herders and their associated poachers, gather wildlife products and wood from Cameroon, and they smuggle them across the Nigerian border for transport to both Nigerian and foreign markets."
>
> *Richard Ruggiero, Chief, Division of International Conservation at U.S. Fish and Wildlife Service*

The Akasha brothers

The exploits of the Akasha brothers, which were brought to a conclusion in the United States Federal Court in January 2020, are a useful illustration of a modern multi-national crime gang involved in IWT and with links to extremism.

Pic: Kelvin Karani/Maarufu Mohammed

During a lengthy trial, the court heard how Baktash Akasha and his brother, Ibrahim Akasha, presided over a sophisticated international trafficking network based in Kenya for more than 20 years.

Responsible for the manufacture and distribution of tons of narcotics shipments to markets in Europe, the USA and Asia, their drug portfolio included heroin sourced from Haqqani insurgents in Afghanistan as well as illegal arms deals with al-Shabaab militants in Somalia.

Prosecutors also revealed that the Akashas used their well-established and extensive logistics network to smuggle huge volumes of ivory in association with another trafficker Feisal Mohamed Ali. When the brothers encountered legal interference, they would bribe officials - including judges, prosecutors and police officers. Accomplices were arrested in India and London. Investigators recorded members of the gang declaring they could move multi-ton shipments of any illegal commodity by ship or plane, even boasting that they controlled their own airstrip in Tanzania and had deep relationships with high-ranking officials in Kenya.

After both brothers pleaded guilty to drug trafficking charges, Baktash was sentenced to 25 years in prison and Ibrahim to 23 years.

1.8 Poaching tactics

During the same period that the illegal wildlife trade first came to the fore, i.e., from the 1970s onwards, an increasing amount of heavy weaponry also became available across much of the developing world, especially as regimes collapsed and state arsenals were dispersed amongst populations. One of the secondary effects of this trend was to make poaching much more effective and deadly.

In recent years, the rich rewards of IWT have led trafficking syndicates to invest greater sums of money in poaching technologies and employ increasingly sophisticated methods. The best equipped illegal hunters now use night-vision goggles, satellite phones, military-grade helicopters, automatic weapons and advanced tactical gear to hunt their prey.

Such weaponry allows some poachers to operate on an industrial scale. In two separate incidents in South Africa and Botswana in August 2022, 150 critically endangered vultures were poisoned by poachers. For two months in 2014, poachers in the Garamba National Park, D.R.C., employed helicopters, grenades, submachine guns and chainsaws to slaughter 68 elephants. The poachers removed the tusks, brains and genitals. Cyanide was used to kill 300 elephants and other animals in Zimbabwe in 2013.

But while poachers are increasingly well-equipped, they typically receive only a fraction of the price that their products will command in end-markets. The fruits of their poaching must first pass via 'runners' or 'brokers' to dealers, importers/exporters and wholesalers before reaching the retailer. An ivory tusk that retails at USD 1,000 in Asia, for instance, will have earned the poacher less than USD 100.

> "Chinese and Vietnamese networks sometimes work with independent poachers. It has been recorded that these groups come into villages and give locals weapons and money to conduct poaching. These same Chinese and Vietnamese networks are also known to collaborate between themselves – a very worrying trend."
>
> *Trang Nguyen, Executive Director at WildAct*

1.9 Smuggling tactics

The vast majority of the value derived from IWT is extracted not by poachers, but by organised illegal networks that act as middlemen and arrange for wildlife products to be smuggled from regions of origin to high-value markets.

Smuggling tactics range from the simplistic to the highly sophisticated, from so-called "ant trafficking", where individuals act as mules carrying products on their person and in their baggage, to multi-ton consignments disguised as legal product in shipping containers.

The bustling multilateral trade networks that constitute modern globalisation have provided both the infrastructure and the camouflage for industrial scale smuggling.

The sheer quantity of freight passing through the world's major shipping entrepots has made it increasingly easy for IWT products to pass through port facilities undetected.

> "We have seen illegal wildlife products smuggled under tourist buses. Or on ambassadors' private jets."
>
> *Trang Nguyen, Executive Director at WildAct*

According to data published by the United Nations Conference on Trade and Development (UNCTAD), globalisation has caused a steep increase in maritime trade over recent decades, with the total volume carried growing from 4 billion tons in 1990 to more than 11 billion tons in 2021. Container shipping in particular has boomed, with containerized cargo increasing from around 102 million tons in 1980 to about 1.85 billion tons in 2020. Globally, less than one in ten shipping containers is inspected by ship operators. Meanwhile, as little as 2% of freight may be checked by port authorities. Often, wildlife contraband is concealed amongst legal commodities, such as agricultural produce, timber or plastic waste, making detection even more difficult.

A 2020 report by the Environmental Investigation Agency (EIA) entitled "Out of Africa", illustrates how traffickers can further reduce the risk of detection by shipping contraband via an intermediate destination, a process known as trans-shipping. The report cites the example of ivory trafficked from Mozambique to Vietnam via Malaysia.

Ivory is shipped out of Africa via Pemba, Nacala and Beira in Mozambique. After being cleared by corrupt customs officials at Malaysia's Johor Port it is then repackaged and sent to Kuala Lumpur International Airport, after which air cargo is used to deliver the illicit ivory from Malaysia to Wattay International Airport in Laos, where it is then transported overland into Vietnam via the border gates at Nam Phao/Câu Treo. The EIA also found that ivory transits through Cambodia before being transported into Vietnam by truck. Vietnam is itself also considered a major trans-shipping stop. In October 2016, Vietnamese officials found several shipments at Cat Lai port in Ho Chi Minh City. At least one of these was en route from Mombasa, Kenya, to Cambodia. A customs official was quoted as saying: "All that ivory was not just to be consumed in Vietnam. We believe much of it was to be later transferred to the main market, China." In February 2023 600 kilograms of ivory were seized in Vietnamese ports over a single weekend.

As well as commercial freight, traffickers also use passenger routes and so-called "ant trafficking" tactics to transfer wildlife products towards high value markets. In 2019, one million wildlife products were seized at airports around the world, with half of these found in checked baggage. Ivory trafficking routes from Zimbabwe include couriers flying from Harare via Dubai to Hong Kong, with ivory secreted in purpose-made vests and hidden in luggage. Such strategies have become more popular in recent years as traffickers seek to avoid detection by working ivory into smaller pieces before attempting to smuggle the finished products into destination markets.

Cargo services continued to operate throughout the pandemic, while COVID-19 infections meant fewer staff at ports and border posts, making borders more porous. In July 2020, Vietnamese border enforcement intercepted 138 kilograms of rhino horn - representing approximately 50 rhinoceros - at Da Nang port. The haul, the largest seizure of rhino horn since 2015, had been shipped from South Africa.

Travel restrictions due to the pandemic led to a temporary decrease in the use of passenger routes by traffickers, but by no means a complete cessation of so-called 'ant trafficking'.

Illegal fishing and trans-shipping

Greenpeace's "Fishy Business" report (2020) identified 416 operational refrigerated cargo vessels facilitating illegal, unreported and unregulated (IUU) fishing, largely through a practice known as 'transhipping' - offloading catch from one vessel to another away from port. Transhipments are a major obstacle to monitoring and preventing IUU, allowing vessels to offload illegal catches onto vessels carrying otherwise legal fish and thereby infiltrate global supply chains.

By relieving IUU vessels of the need to return to port this practice enables illicit actors to operate largely out of sight. Knotty ownership structures and 'flags of convenience' (where a vessel is registered in a different state to its owners) also allow fleets to operate beyond the reach of the law.

Of the reefers investigated by Greenpeace, 95 were registered to Panama, which in the past has been accused by the E.U. of failing to prevent illegal fishing by ships that fly its flag. IUU practices enable sustained overfishing, leading to dwindling fish stocks, and deprive developing world countries of huge sums through unpaid taxes and depleted resources. As of January 2023, up to 26 million tonnes of fish are caught illegally every year, worth up to 20 billion euros. In 2017, it was estimated that Sierra Leone, Senegal, Mauritania, the Gambia, Guinea-Bissau and Guinea lose USD 2.3 billion a year due to IUU fishing.

In August 2020, 80 cobras and vipers were discovered by customs at an airport in Africa en route to the U.K., stuffed into plastic bottles and bags.

In October 2020, U.K. border force officers seized hundreds of items listed on CITES and products containing endangered plants and animals, including coral, python skin and turtle shell, as well as elephant tusks and ivory objects. In July 2022 a Ukrainian national travelling from Tanzania to Bangkok was caught with 116 tortoises in his luggage, while 109 rare animals were discovered in the possession of two Indian nationals travelling from Thailand to India.

In December 2020, customs officials seized 23.5 kilograms of shark fins from two passengers behaving suspiciously at an airport in Asia. The International Airport Review reported that in March 2021, cargo personnel at Aeropuerto Ecológico Galápagos opened a suspicious suitcase to find 185 endangered baby tortoises bound by plastic wrap and falsely declared as 'souvenirs'.

On February 2, 2022, a man was arrested at OR Tambo International Airport, South Africa, while boarding a flight to Malaysia. Officials discovered 11 rhino horns wrapped in tinfoil and disguised in confectionary and tea boxes. In January 2023, 14 reptiles and four primates were seized at Bangalore International Airport being transported in hold luggage from Thailand.

As international passenger travel gradually returns to pre-pandemic levels, a new surge of IWT 'ant trafficking' is expected.

What lies beneath: Disguised IWT freight

Pic: U.S.Justice Department

The largest seizure of elephant ivory in U.S. history was made at an African curio and antique shop in Philadelphia in 2011. The owner possessed more than an imperial ton of ivory disguised as tribal art using tea and potassium pomegranate.

On the antiquarian's instructions, ivory poached in West Africa had been carved to resemble high-priced statues in catalogues before being exported to New York as antiques. More than two metric tonnes of ivory hidden in bags of sesame seeds were seized in the Port of Mombasa in 2013 in a consignment bound for Turkey In 2014, Hong Kong SAR Customs detected a container which had reportedly originated in Uganda and transited through Kenya and Malaysia.

The container was declared as carrying plastic waste but held some 40 bags totalling one metric tonne of pangolin scales. Six tonnes of ivory were seized by Malaysian authorities on 10 July 2022, discovered behind sawn timber inside a shipping container.

1.10 The digitisation of IWT

Transnational criminal organisations increasingly use online information systems to breach sovereign borders virtually, reducing the need to send operatives abroad to source and transit countries and thereby lowering the risk of detection and imprisonment.

New technologies play an important role in facilitating communication and payments between buyers and sellers for illegal wildlife. In particular, encrypted communication platforms and illegal wildlife marketplaces hosted via social media sites, online vendor platforms and the dark net increase the ease with which wildlife transactions can occur between buyers and sellers. Cryptocurrencies are often used in these transactions, according to Interpol research.

Research published in January 2022 found that private messaging platforms now comprise a significant element of IWT in Brazil. In the same month, Spanish officers arrested and charged nine individuals who had been retailing worked ivory, reptile skins and live reptiles over the internet. Working in tandem with DHL, they intercepted a number of parcels, one of which contained a live African royal python. The investigation was coordinated as part of the Spanish Action Plan against Illegal Traffic and International Poaching of Wild Species (TIFIES Plan), Spain's adaptation of the European Action Plan to combat illegal trafficking.

Online wildlife trafficking escalated during the COVID-19 pandemic as traders shifted away from face-to-face interactions to electronic sales. A December 2020 *National Geographic* article warned that the internet had become a global bazaar for the multibillion-dollar black market in exotic pets

Hiding in plain site

A New York man who sold African wild cats via an open website was sentenced to 18 months in prison after he pleaded guilty on April 28, 2021, to breaking the Lacey Act, the United States' anti-IWT law. According to court documents, Christopher Casacci, 38, of Amherst, was doing business as "ExoticCubs.com," through which he advertised, imported and sold exotic cats. Between February and June 2018, Casacci imported and sold dozens of caracals and servals for up to USD 10,000 each.

Casacci falsely claimed that he was a big cat rescue organisation in an attempt to avoid prohibitions against possessing and selling wild animals. Casacci also falsified transport documents to hide the true species of the cats, instead calling the animals domestic crossbreeds, such as Bengal cats or Savannah cats.

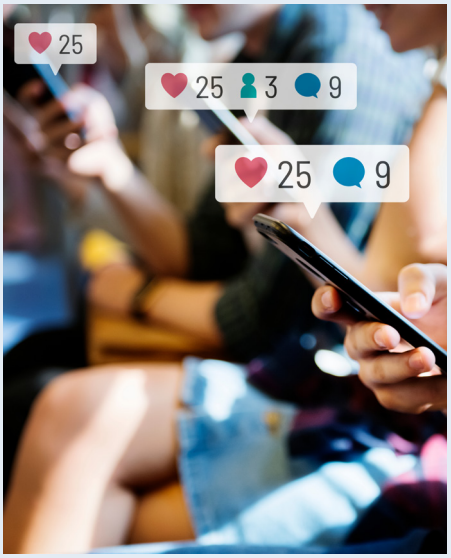
and animal parts, used for everything from curios and medicines to leather boots and skin rugs. Representatives of the Center on Illicit Networks and Transnational Organized Crime (CINTOC) told U.S. legislators in April 2021 that social media platforms are hosting sites offering the sale of rhino horns, elephant ivory tusks, tiger bones, pangolin scales and live animals. Research conducted by the Cheetah Conservation Fund between 2012-2018 found that 77% of the illegal cheetah trade occurred on Instagram and 11% on Youtube.

Research conducted in 2021 found 36 Facebook groups openly selling wild Cuban birds, while a 2022 spot check by campaign group Avaaz found 129 sales posts in two days. A report published by TRAFFIC in December 2021 discovered 44 Singapore-based Facebook groups operating between December 2018 and April 2019 where most of the 662 traders were unlicensed and therefore acting illegally. Although 13 of these groups were subsequently shut down by Singaporean authorities, five had resurfaced by April 2021. Since 2020, WWF Singapore's cyber spotter programme has flagged more than 14,500 illegal wildlife trade listings online.

Gretchen Peters, Executive Director of CINTOC, has said that social media has the same anonymity as the dark web but has a far greater reach, with algorithms helping to connect criminals with would-be consumers.

Meanwhile, outdated laws provide immunity to tech firms, disincentivising them from actively blocking illicit content. According to Peters, "the world's largest markets for wildlife crime are right inside your smartphones".

Influencer culture and IWT



One of the latest trends sees wild animals including otters, meerkats, slow lorises, pygmy marmosets and sugar gliders held in close quarters to service Japan's Exotic Animal Café scene, which in turn has been promoted by YouTube vloggers and Instagram influencers.

The scene has also fuelled the illicit market for exotic pets by spreading misinformation about their suitability as companions.

Toxic connectivity

In August 2015, the United States Fish and Wildlife Service received a tip-off pointing to a China-based reptile hobbyist who was illegally exporting rare and endangered animals to the U.S. An undercover operation revealed that one of the dealers customers, Jackson Roe, was based in Arkansas. A search warrant was executed in August 2017 after officials intercepted a package containing two live Chinese giant salamanders.

Roe admitted meeting a Chinese dealer on Facebook and receiving six Chinese giant salamanders, a Vietnamese leaf turtle, an Indian roofed turtle, and a Chinese big-headed turtle in seven packages shipped from Hong Kong. Roe also admitted to owning a Nile crocodile, a Morelet's crocodile and an American

alligator. In October 2019, the United States Fish and Wildlife Service once again raided Roe's home and found two live and four deceased Chinese giant salamanders, both of which Roe admitted to purchasing in the two years since his original arrest.

Roe pleaded guilty to importing and possessing illegally taken wildlife before a court in Little Rock, Arkansas, on December 15, 2021, and in August 2022 was sentenced to three years probation.

1.11 Illicit financial flows and IWT

Research shows wildlife trafficking syndicates make frequent use of the formal banking system, often using shell and front companies to hide payments and launder illicit revenues.

The Environmental Investigation Agency (EIA) has documented the outfall of 2013 raid on a villa in a suburb of Dar es Salaam which uncovered three Chinese men packing ivory into sacks with seashells and garlic. The haul weighed 1.8 metric tonnes and was valued by the Tanzanian government at USD 2.5 million. Shipping documents discovered at the house led enforcement agents to a consignment in Malindi, Zanzibar, containing a further 1,023 pieces of ivory worth USD 3.4 million.

Two Tanzanian-registered front companies were found to be operating at the address in Dar es Salaam, controlled by Chinese nationals, with financial links to four companies in mainland China and three based in Hong Kong. In one instance, half a million dollars in cash had been paid to one of the front companies across two transactions. The banks concerned raised no red flags.

The Chinese packers and two Tanzanian accomplices who had procured the ivory were convicted and imprisoned, but the Chinese overseers fled shortly after the raid. No money laundering charges were pressed, although a financial investigation did reveal the system of front companies the traffickers had devised to conceal their operation.

In 2016, EIA investigators further uncovered another syndicate of Chinese traffickers operating out of Pemba, Mozambique. They were shipping a consignment of ivory tusks, jointly owned by a Hong Kong-based businessman and a group of Chinese nationals.

The group transferred funds from China - via a money changer based in Tanzania - to a local confidant, who sourced the ivory. The tusks were disguised with plastic pellets, as one of the group owned a

Chart-topping traffickers

A June 2020 Financial Action Task Force (FATF) report cites the case of South African police arresting two Asian men suspected of involvement with IWT. A search of the suspects' homes uncovered USD 6,400 cash and USD 1 million worth of iTunes cards (95 packets containing around 75 cards per packet). One of the suspects admitted that he was selling in excess of 30 kilograms of rhino horn per month (approx. USD 2 million).

The same FATF report cites a case in which a Malaysian national specialising in transporting ivory and pangolin scales from Africa to Vietnam told the EIA how he received payments from his customers into a Malaysian bank account through a money exchange service based in a third country, which he referred to as 'underground banking'. He claimed that the bank account details of the underground bank are valid for one day only and that, once the funds are deposited in the third country, the money is transferred to his bank account in Malaysia within two hours.

plastics production factory in southern China, and shipped via Busan, a port in South Korea. In Busan, a freight agent organised another bill of lading to transport the haul of ivory to Hong Kong. The tusks were then transported to the Chinese nationals' hometown of Shuidong, southern China, and eventually sold to carving factories in Fujian Province. In 2017, a raid by Chinese enforcement agencies on Shuidong town led to the arrest and prosecution of the smugglers.

Criminals often use legitimate import-export industries to validate the legal movement of goods and payments across borders. Some of the vulnerable sectors that criminals use to clear income are breeding facilities, pet shops, zoos and the decor and fashion industries. Illegal funds derived from IWT are transferred to third parties via bank transfers through e-banking platforms, loans or payments, licensed money transfer systems, and banks. Third-party accounts also often use innocent bank 'mules' whose illegal transactions fail to attract notice thus permitting money laundering to take place.

The evolving payment infrastructure for online sales further assists traffickers to evade the attention of financial authorities. Within Africa, where mobile banking systems are used extensively, e-payment platforms (such as M-Pesa) are sometimes misused to transfer payments related to wildlife crime. TRAFFIC has also identified Chinese online payment services as conduits for IWT-linked IFFs. In December 2021, the NGO called on online platforms to implement anti-money laundering approaches to ensure that traffickers do not abuse their services.

Similarly, across Asia and Africa there are examples of criminals misusing prepaid cards or mobile apps to transfer and launder funds from IWT. A 2018 investigation into a known South-East Asian IWT dealer found that for three years the individual in question had used a mobile payment app to sell ivory and other wildlife products to buyers in China and Vietnam. After exchanging photos of the products and agreeing on the price, the dealer would make the payment via the app following which the shipment would take place by regular post.

1.12 Resilience: international framework

Over the course of the twentieth century, it became increasingly clear that the unregulated and legal wildlife trade was unsustainable. This realisation was increasingly reflected in terms of institutional frameworks for monitoring, limiting and preventing certain aspects of the trade.

The first ever international treaty on wildlife conservation, the London Convention for the Preservation of Wild Animals, Birds, and Fish in Africa (1900), brought together the major colonial powers in an attempt to put hunting practices on a sustainable footing. However, as most of the signatory states failed to ratify the treaty, it never came into force.

A further attempt to institutionalise the principles set down in the 1900 London Convention led to the ratification of the London Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933), which afforded varying degrees of protection to certain plants and animals threatened by the international wildlife trade, including some important African species.

According to the terms of the agreement, signatory countries could grant licenses to hunt certain animals for scientific purposes only (e.g., gorillas and white rhinoceroses), while others could be hunted under license for any purpose (e.g., elephants and chimpanzees). However, of the post-colonial

African states that emerged in the second half of the twentieth century, only Tanganyika acceded to the 1933 London Convention.

A crucial step forward was made in 1948 through the creation of the International Union for Conservation of Nature (IUCN), which improved the ability of members to identify species that were becoming vulnerable or endangered. By then, however, it had become apparent that a global treaty was needed to control the export, import and transit of certain plants and animals.

In 1973, 80 countries signed up to the Convention on International Trade in Endangered Species (CITES). The agreement, which came into force in 1975, is amended on an ongoing basis according to latest trends. Today, 182 nations plus the European Union are party to CITES, which gives varying degrees of protection to more than 37,000 animal species and plants.

> "Government to Government cooperation is effective, but all too rare. I have not seen any tangible evidence of an increase in international cooperation on this issue, besides workshops and conferences."
>
> *Lee White, Minister of Water, Forests, the Sea, and Environment, Gabonese Republic*

CITES regulates international trade in wildlife species by listing them in one of three appendices according to the level of protection they require. Species threatened with extinction are listed on Appendix I and international trade in them is prohibited. As soon as a shipment of a species on Appendix I crosses a country border, it is in contravention of CITES. Appendix 2 listed species are considered at risk of becoming endangered and specimens may only be exported under permit, although importation is not restricted. Species listed in Appendix 3 are those considered of local concern and may be traded with appropriate licences. Species that are not listed are not regulated or monitored by CITES at all.

Although a critical development in the battle to preserve endangered wildlife, CITES has a number of obvious weaknesses.

Firstly, there are no reporting mechanisms in place to track the trade of wildlife species not listed in CITES Appendix 1. For animals and plants that fall outside this category, international trade can continue without legal impediment while irregularities, such as trade in excess of quotas, misdeclaration, fraudulent licensing and laundering of prohibited species are not measured and may therefore continue undetected. CITES, in other words, is designed to measure a problem only after it becomes acute.

Secondly, although CITES may impose restrictions on wildlife trade at an international level, it does not have the authority to interfere at a national level. It continues to be each sovereign state's prerogative to decide whether they allow the domestic trade of protected species to continue in parallel with international bans. The fact that many national authorities have decided to allow such trade has created legal confusion, while fuelling demand and diluting the social taboo associated with IWT.

Thirdly, CITES was never designed to deal with criminality, but rather trade matters. In an attempt to fill some of these loopholes, the UN's Commission on Crime Prevention and Criminal Justice in May 2022 adopted a resolution on "strengthening the international legal framework for international cooperation to prevent and combat illicit trafficking in wildlife". While a welcome step, the resolution so far remains exploratory, and has no teeth to enforce a regulatory framework in member countries.

Major anti-IWT legislation: a timeline

1900 The United States passes the Lacey Act, prohibiting inter-state trade in poached animals

1918 The Migratory Bird Treaty Act is implemented between the United States, Great Britain, Mexico, Japan and Russia, protecting migrating birds from being killed, hunted, exported or sold for profit

1933 Convention Relative to the Preservation of Fauna and Flora in their Natural State (London Convention) signed by Belgium, Egypt, Italy, Anglo-Egyptian Sudan, Union of South Africa, the United Kingdom, British India, Tanganyika and Portugal, in an effort to protect African species by prohibiting their hunting, killing and capture, and by regulating internal and international trade in their trophies

1948 International Union for Conservation of Nature (IUCN) established, to encourage international cooperation and provide scientific knowledge and tools to guide conservation action. Sixteen years later, it would publish its first Red List of Threatened Species, now the world's most comprehensive data source on the global extinction risk of species

1961 World Wildlife Fund (WWF) established in Morges, Switzerland

1966 Fur Seal Act is enacted, prohibiting prohibiting the transportation, importing and possession of fur seals and sea otters in North Pacific

1973 CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) is formed – a ground-breaking international agreement to ensure that trade in wild animals and plants does not threaten the survival of the species

1973 The U.S. Endangered Species Act is passed, providing a program for the conservation of threatened and endangered plants and animals in their respective habitats

1977 CITES bans international trade in rhino horn

1989 CITES bans the international trade in ivory

1993 China bans domestic trade in tiger bone and rhino horn

2010 The E.U. places a ban on the import and export of European eels

2013 CITES introduces new restrictions on rosewood trade

2014 UN Environment Programme (UNEP) dedicates most of its first UN Environment Assembly to addressing illegal wildlife trade

2016 Jun 20 — E.U. Council adopts the EU Action Plan against Wildlife Trafficking to address wildlife trafficking within the EU and strengthen its role in the fight against illegal trafficking globally

2016 Jul 6 — The United States bans domestic ivory trade

2016 September — CITES secures an agreement among its 183 member states to ban pangolin trade

2017 Dec 31 — China bans domestic ivory trade

2020 UNEP launches the Wild for Life campaign in cooperation with the United Nations Development Programme (UNDP), the United Nations Office on Drugs and Crime (UNODC) and CITES; enlisting the support of high-profile social media influencers to promote the urgency and importance of combating wildlife trafficking

2022 May 20 – UN Commission on Crime Prevention and Criminal Justice adopts resolution to strengthen the international legal framework to combat IWT

2022 Nov 9 – Brussels adopts revised E.U. Action Plan against wildlife trafficking

2022 Dec 30 – China introduces new wildlife protections and reiterated ban on consumption of wild animals as food

Finally, CITES suffers from a lack of consensus around whether its long-term goal is the total elimination of the wildlife trade or a sustainable regulated model. Many countries around the world have adopted the approach of entirely banning the legal trade in CITES-listed wildlife products. Some countries have gone even further and destroyed stockpiles of seized or nationally-owned wildlife products. In 1989, the year CITES moved the elephant to Appendix 1, Kenya burned its 12,000-kilogram stockpile of ivory so it would never be sold and could not stimulate demand. Since then, at least 20 other countries have voluntarily participated in ivory burns or crushes.

However, other countries have adopted an entirely different approach. Governments on this side of the debate have argued that there is no basis for banning the legal trade of wildlife products sourced from countries where populations are robust and well-managed and that CITES should permit exemptions in these cases. In deference to this point of view, CITES' 1989 ivory trade ban included a clause that would allow countries with growing elephant populations to eventually apply for permission to sell ivory from herds culled by conservation departments.

In line with this, in 1997 CITES permitted Botswana, Namibia and Zimbabwe to make a once-off sale of 50 tons of raw ivory to Japanese traders. A further sale was permitted in 2008, with South Africa also included in the later dispensation. Today, in line with the terms of the 1989 ban, the African bush elephant is split-listed by CITES, with population groups in Botswana, Namibia, South Africa and Zimbabwe (where elephant numbers are robust) listed in Appendix II, while all other population groups are listed in Appendix I.

This and similar exemptions continues to cause considerable controversy. The 1997 ivory auction and the glut of ivory it created on the global market is widely credited with reviving Asia's moribund ivory carving industry and with that the persistence of the modern illegal trade in ivory. Yet, certain countries that have, in their view, successfully managed their own wildlife populations continue to press their case on the international stage.

At the 2022 CITES Conference of the Parties (CoP), Zimbabwe, together with Botswana, Namibia, Cambodia and Eswatini failed in a motion to lift the international ban on ivory trade, seeking to sell stockpiled ivory seized from poachers and dead elephants and highlighting the rapid growth of elephant populations. Following the conference, Botswana threatened to leave the organisation over the ongoing ban.

Zimbabwe's president, Emmerson Mnangagwa, had claimed at the Africa Wildlife Economy Summit, convened by the United Nations Environment Programme (UNEP) and the African Union (AU) that Zimbabwe holds ivory and rhino horn stocks worth over USD 600 million. He stated: "We are gravely concerned, however, by the one-size-fits-all approach. Banning of trade is creeping into the CITES decision-making processes. We call upon the institution to resist the temptation to be a policing institution but instead to be a developmental organisation to promote conservation communities and sustainable utilisation of all wildlife resources."

This ongoing debate, which has consumed the CITES forum since the initial ivory trade ban in 1989, extends far beyond elephants and ivory harvesting. For example, CITES continues to permit an annual export quota of cheetahs from Botswana (5) and Namibia (150), despite the animal being included on Appendix 1 since 1975 and in the context of a flourishing illicit trade in cheetahs that is made easier by the ongoing legal trade in the African big cat.

While there are no simple answers in this debate, it is clear that the current international system is failing to protect endangered wildlife species.

The Namibian model: bottom-up or bottoming out?

Namibia is one of several countries which are party to CITES but none the less permits domestic hunting of certain CITES Appendix 1 listed animals, such as elephants and rhinos, and the sale of wildlife products derived from them. Due to robust populations numbers, Namibia is even permitted a limited but lucrative international trade in certain CITES-listed wildlife products. In 2022, CITES permitted Namibia export quotas of black rhinoceros (5), bush elephant (180) and cheetah (150).

However, unlike South Africa and other countries granted similar dispensations, Namibia devolves most of its hunting rights to local communities.

In 1996, six years after achieving independence from South Africa, Namibia passed the Nature Conservation Act placing a community-based natural resource management (CBNRM) approach at the heart of the country's constitution. Extensive rights over wildlife and tourism were granted to local communities represented by self-governing management bodies called conservancies. Today, more than 80 conservancies cover 20% of Namibia's landmass, added to the country's national park system which covers almost 15%.

The theory behind Namibia's CBNRM system is that it gives local communities a vested interest in the sustainable, long-term management of wildlife resources. The central government grants annual hunting quotas to conservancies, which in turn choose what proportion of their allocation to use hunting for food and how much to sell on to professional hunters who in turn arrange trophy hunting parties for international customers.

The Namibian model has been lauded internationally as the gold standard in community-led conservation and as a case study in sustainable hunting.

However, the system has also drawn criticism from some quarters.

Critics maintain that allowing domestic markets for CITES-listed species to persist only serves to undercut global conservation efforts and fuel the illicit trade. Recently, some have also suggested that Namibia's CBNRM model is not all it seems.

Investigations claim to have found mismanagement in certain conservancies, far more hunting than permitted by the quota system and decreasing wildlife populations. Perhaps most damningly, investigators have suggested that marginalised communities are not benefitting from CBNRM to the extent that has been assumed. The findings of these investigations have been strongly disputed by proponents of the Namibian model, including many Namibian conservationists.

Beyond the specific merits or demerits of the Namibian CBNRM system, there remains no consensus on whether hunting of CITES-listed species is a help or hindrance in global conservation efforts.

1.13 Resilience: national frameworks

The formation of CITES was accompanied by the gradual introduction of national laws that aimed to regulate the rampant wildlife trade. One by one, source countries in Africa legislated to curb the trade and protect their wildlife, including Kenya - which banned private ivory trading in 1973 - Tanzania, where hunting elephants was made illegal the same year, and Zaire, which in 1978 passed a law prohibiting the hunting of elephants and trade in ivory.

Domestic restrictions were also introduced to check demand for wildlife products in destination markets. In 1973, the Endangered Species Act was passed in the United States, prohibiting or regulating the trade in endangered plants and animals across U.S. borders and between states. Vietnam banned domestic ivory sales in 1992, when it ratified CITES, although ivory merchants were still permitted to sell stock obtained before that date.

In recent years, national authorities - representing some of the world's major destination markets for IWT - have taken further steps to tackle IWT.

Major ivory sales bans implemented by the United States (July 2016) and China (December 31, 2017) have depressed demand significantly. The E.U.'s restrictive new guidance issued on December 16, 2021, which places stringent limitations on ivory trading, and Hong Kong's ban on most ivory sales, which came into force on December 31, 2021, are both expected to dampen demand further. The U.K.'s ivory sales ban is hoped to have a similar effect after it was introduced in June 2022.

Since ivory bans have been imposed, its value in supply and transit countries has gradually dropped, according to a Wildlife Justice Commission (WJC) assessment published in August 2020. The price of ivory more than halved in Africa between 2017 and 2020. Nevertheless, the illegal ivory trade is nowhere near collapsing.

Although sales bans in major consumer markets have been rightly heralded as notable steps forward in the fight against IWT, they are not of themselves a silver bullet for the main driver of IWT: demand. Many Chinese nationals have continued to indulge their craving for ivory by visiting neighbouring nations, such as Thailand, Vietnam, Laos and Cambodia, where there are still plenty of outlets trading in the banned products.

> "China's Belt and Road Initiative has provided cover for a great deal of illegal activity. We have found 'offshoring', as China has closed its domestic market for ivory, in hinterland areas where Chinese tourists visit and wildlife crime is permitted to continue. These are areas of territorial ambiguity, offering Chinese people things they can't get at home, like gambling and wildlife products."
>
> *Julian Newman, Campaigns Director at the Environmental Investigation Agency*

During the first seven months of 2020, undercover operatives from Wildlife Justice Commission (WJC) were still offered more than 27,500 kilograms of ivory during investigations in nine African and Asian countries.

Recent moves against the ivory trade notwithstanding, China has in recent years sent out mixed messages about the legal status of wild animal parts. Since 1993, the country has imposed a ban on the trade in rhino horns and tiger parts, both of which are highly valued for their use in Traditional Chinese Medicine. In December 2022, it published its amended Wildlife Protection law, which reaffirmed a ban on the consumption of wild animal products as food, but "encourages and supports the scientific research and utilisation of wild animals".

The loopholes provided by existing legislation in China undermine the efforts of conservationists, with questionable exemptions for medical purposes and research, and weaker protection for wildlife bred in captivity.

> "There have been strong indications that grassroot poachers are being discouraged to poach and sell in ivory because the market has collapsed – however, it would be dangerous to draw conclusions for the market based on this alone."
>
> *John Barrett, General Manager at Garamba*

Vietnam's empty gestures

In some cases, the ostensible commitment of state authorities to tackling IWT has been revealed as flimsy at best. In the run-up to a high-profile international wildlife crime conference in Vietnam in November 2016, the Vietnamese government symbolically burned two metric tonnes of ivory and 70 kilograms of rhino horn, belonging to 330 African elephants and 23 rhinos.

However, the country's commitment to enforcing wildlife crime laws was questioned in an article by *Al Jazeera* which featured an undercover investigation by the WJC showing endangered animals being traded in a village just 50 kilometres from Hanoi, where the conference was held. WJC investigator Pauline Verheij said: "We found several shop signs there which said 'ivory', 'rhino horn', 'tiger', and very clearly advertising these items for sale. A place like this cannot exist without local authorities being in the know and facilitating it."

Following the conference, the government made public attempts to augment its capacity to detect and respond and strengthened penalties for convicted traffickers. The leader of a wildlife crime syndicate, Nguyen Mau Chien, was arrested in April 2017. A letter signed by 30 international groups addressed to Vietnam's prime minister praised Chien's indictment on charges of trafficking large quantities of rhino horn, elephant ivory and pangolin and tiger parts. But the following March, when Chien was jailed for 13 months, there was worldwide criticism of the leniency of the sentence.

Despite issuing a directive to crack down on the illegal wildlife trade in 2020 – including suspending imports of wildlife, and strengthening enforcement – Vietnam remains a hotspot for global wildlife crime. A People and Nature Reconciliation investigation 'In the Maze: An Outlook of Illegal Wildlife Trade before and during the COVID-19 pandemics in Vietnam' (2021) reported the ongoing operation of wildlife markets in the country, as well as the trade in ivory.

A September 2022 Wildlife Justice Commission report noted that Vietnam remains a key smuggling gateway between Africa and China, despite a drop in demand due to Chinese criminal prosecutions.

The Chinese government is not alone in sending out mixed messages about the legal and cultural status of wildlife products. In 2018, the Indonesian government sought to revise its 1990 conservation act to restrict ivory trafficking. But the proposals drew criticism for failing to address other elements of IWT, such as online trafficking and the giving of endangered animal parts as gifts, a long-standing custom in Indonesia.

The latter concern is particularly acute in the case of extravagantly feathered birds, such as various species of birds-of-paradise. Although Governor Lucas Enembe took birds-of-paradise off the market in Indonesia's two provinces of New Guinea in 2017, the failure of national legislators to address the issue has enabled much of the trade to continue unhindered. Meanwhile, it is widely known that some government officials continue to give their feathers as souvenir gifts.

The South African government has also projected mixed signals, with its anti-IWT efforts systematically undercut by a vibrant legal domestic trade in wildlife products, often cited as responsible for creating an enabling culture for IWT and helping to fuel the illegal international trade. In particular, the country's permissive attitudes to commercial farming and 'canned' hunting of endangered animals has stoked controversy. In May 2021, the South African government endorsed a report that could lead to new laws banning lion farming, captive lion hunting, and the commercial farming of rhinos. A government team set up in late 2022 to explore a possible ban is starting its work this year.

> "China continues to pay lip service only. If someone wants these products, they can get them. Enforcement is lax."
>
> *Karl Amann, conservationist, wildlife photographer and documentary film producer*

> "Laws in places such as Vietnam focus on terrestrial species. There is not enough attention on other ecosystems, such as wetlands or marine. The bird trade in Southeast Asia is also enormous, but people don't talk about it enough. And enforcement does not care enough about them."
>
> *Trang Nguyen, Executive Director at WildAct*

Legal Loopholes

The so-called Xaysavang network is testament to the ruthlessness and ingenuity of professional wildlife trafficking syndicates.

Named after Vixay Keosavang, a former Laos military intelligence officer-cum-businessman and leader of the network, the syndicate is thought to have affiliates active in active in South Africa, Mozambique, Thailand, Laos, Malaysia, Vietnam, and China.

Through his front company Xaysavang Trading and other purportedly legitimate enterprises, Keosavang began in the late 1990s to smuggle ivory from Kenya and rhino horn from South Africa as well as many species of reptiles. He also ran a breeding facility that enabled him to use falsified documents and traffic dozens of species, sometimes in shipments of tens of tons at a time - far beyond what a legitimate breeder could produce.

To take advantage of the burgeoning demand for rhino horn, Vixay worked with a Thai colleague, Chumlong Lemtongthai, to arrange phony hunts in South Africa, using prostitutes as ersatz hunters. As South Africa laws permit individuals to shoot one rhino per year, Lemtongthai hired the sex workers to act as sport hunters. The women would be driven to a game farm and made to pose with a rifle beside a dead rhino to obtain export trophies for rhino horn that was then shipped to Laos for subsequent sale. Twenty-six rhinos were killed and trafficked using this scam.

A South Africa court sentenced Lemtongthai to 40 years' jail in 2012 - the longest-ever term for poaching in the country - but he was subsequently released after only six years in 2018. Evidence revealed in Lemtongthai's trial persuaded the United States government to offer a USD 1 million reward for information leading to the dissolution of the Xaysavang network. To date, no one has come forward with evidence.

1.14 The anti-IWT toolkit

As with other varieties of crime, perpetrators of IWT have an inherent advantage when pitted against enforcement authorities, with the former invariably retaining the initiative while the latter is more often than not forced into a reactive role. As the resilience of institutions has improved, whether through the addition of legal tools or investment in anti-poaching programmes, so too has the sophistication of traffickers' methods.

But this is not to say that progress has not been made. To tackle the source of the illegal wildlife trade, game management and other conservation programmes have been instituted worldwide, reinforced by game wardens patrolling as the first line of defence.

With stakes so high, this can sometimes lead to violent confrontations, with hundreds of wardens having lost their lives to armed poachers. In Virunga National Park alone more than 200 rangers have been killed in attacks going back more than a decade.

Game wardens have had to innovate to match the ever- evolving techniques of the poachers. Drones, thermal imaging cameras and advanced DNA technology are some of the new weapons in the conservationists' armoury. State-of-the-art radar, super-sensitive buried microphones and long-range cameras are also now tools of the game warden.

Effective conservation requires detailed understanding of remaining wildlife populations, including population numbers, distribution and migratory habits, as well as poaching rates. The past two decades have seen concerted efforts made by governmental and non-governmental bodies to fill this knowledge gap. Critical information can be gleaned from once off population surveys such as the 2016 Great Elephant Census (which found a 30% decline in elephant populations) and the 2021 giraffe population census conducted across 21 countries and coordinated by the Giraffe

> "Many good investigations and arrests go to nil due to a justice system that dismisses or reduces charges to the point of ineffectiveness. Sometimes this is due to corruption, sometimes due to indifference or even antipathy. Things are improving in this regard, in general, but there is a long way to go."
>
> *Richard Ruggiero, Chief, Division of International Conservation at U.S. Fish and Wildlife Service*

Pic: James Morgan, WWF U.S.

> "Enforcement agents are often not trained adequately. They have no technical skills, including species identification. Corruption is rife. We have to increase enforcement capacity, technology, and knowledge."
>
> *Trang Nguyen, Executive Director at WildAct*

> "Because of difficulties with monitoring we don't have a very robust count of many wildlife populations. We need to improve the technologies we're using. Once resolution improves and costs fall, drone and satellite technology will be the best way to monitor some wildlife species in some locations."
>
> *Isla Duporge, Wildlife Conservation Research Unit, Oxford University*


Pic: James Morgan, WWF U.S.

Conservation Foundation (which found a 20% population increase across all four giraffe species).

Ongoing, continuous monitoring programmes can provide even richer data sets. In this category, the best in class is MIKE (Monitoring the Illegal Killing of Elephants). Established in 1997 by CITES, the MIKE programme operates across 60 participating sites where details of elephant poaching are logged in standardized form, providing an information base to inform CITES decision-making and support elephant conservation efforts in Asia and Africa.

Universities and learning institutions are playing an important role in developing novel technologies that can assist conservation and anti-IWT efforts.

Founded in 1986, Oxford University's Wildlife Conservation Research Unit (WILDCRU) was the first university-based conservation research unit in Europe. Since then it has continued to develop original scientific research geared towards practical conservation solutions designed around its four pillars of research, education, community involvement and implementation.

In 2020, WILDCRU, along with Oxford's Machine Learning Research Group, developed a new technique of conducting elephant surveying using satellites and machine learning. Satellites can capture more than 5,000 square kilometres of imagery in one pass, exponentially improving efficiency as well as discounting the likelihood of human error in aerial counts.

> "In Gabon, we revised the penal code in 2020 to make it much stronger on trafficking of wildlife, minerals, people, arms and drugs."
>
> *Lee White, Minister of Water, Forests, the Sea, and Environment, Gabonese Republic*

> "A big problem with wildlife crime is that even when it is taken to courts, it is not treated seriously."
>
> *Julian Newman, Campaigns Director at the Environmental Investigation Agency*

New technologies are also helping authorities tackle smuggling. Researchers in South Africa are working on a pilot programme to inject rhino horns with radioactive material, a tactic that could discourage consumption and make it easier to detect illegal trade. The Rhisotope Project involves injecting low-grade radioactive isotopes, smaller than the tip of a ballpoint pen, into a rhino's horn. The aim is to devalue the horns and enable their detection in transit. There are about 10,000 radiation monitors

at harbours, airports and land borders across the world which are equipped to detect radioactive material in shipping containers, diplomatic pouches and passenger luggage. Other methods of discouraging poaching, including poisoning, dyeing and removing the horns, have met with a variety of opinions as to their virtue and efficacy.

National and international efforts to stamp out IWT have continued to be hampered by low detection and prosecution rates combined with lenient sentencing. Even developed countries such as the United Kingdom (U.K.), which boasts a sophisticated judicial system, leniency is the rule rather than the exception. In December 2021, the UN Office on Drugs and Crime (UNODC) published a report suggesting that existing U.K. wildlife crime legislation was scattered and that most crimes were punishable with only a fine and/or short custodial sentence. The report goes on to say that "the absence of any sentencing guidelines across the entire country means that sentencing practice does not appear to present any sort of deterrent".

The internet represents another critical battleground between traffickers and authorities. In 2018, WWF, TRAFFIC and IFAW launched the Coalition to End Wildlife Trafficking Online in response to calls for intelligence-led wildlife cybercrime enforcement and co-ordinated policy responses across e-commerce, search and social media companies. In September 2021, the Coalition (which boasts 47 companies including Facebook, Instagram, Pinterest, Tencent and Weibo), reported removing or blocking 11,631,819 endangered species listings from their platforms as well as isolating 2,500-plus suspicious code words.

Critics say that internet giants have not gone far enough and that the online trade has increased since they committed to self-regulation. Proposed U.S. legislation targets a decades-old law that protects online companies' content as free speech on their platform. Advocates say wildlife crime is not speech, that online companies lack the regulation that other "real-life" companies must follow and that algorithms used by companies such as Facebook actively promote the trade by helping participants connect with each other.

While there has been some progress in recent years in tackling illegal financial flows in relation to wildlife crime - including incorporating the wildlife trade into anti-money laundering laws - actual financial investigations, prosecutions and convictions are few and far between.

In its National Risk Assessment for the Financial

Frustrated justice in Uganda

In 2019, Ugandan authorities seized 3,299 kilograms of elephant ivory – the largest in Ugandan history – and 424 kilograms of pangolin scales. Four Vietnamese individuals were arrested under the East African Community Customs Management Act and the newly minted Uganda Wildlife Act (2019). The operation was a significant victory for Ugandan authorities, but they were to be let down by an inept court system which failed to assign interpreters or court officials to the case. The suspects subsequently absconded from the country after being released on bail and Uganda has failed to pursue them through Interpol. Three years later, still no justice has been served.

A slap on the wrist for criminals, a slap in the face for wildlife

According to evidence gathered by the U.K. National Crime Agency, one Gilbert Khoo coordinated the illegal export of more than 5 million baby eels from the U.K. to Hong Kong. In the course of 16 consignments Khoo is estimated to have smuggled eels with an estimated value of more than GBP 5.3 million and an eventual retail value of more than GBP 53 million. Despite the scale of his illegal export operation, Khoo was sentenced to just two years imprisonment, suspended for two years, and 240 hours unpaid work.

Action Task Force (FATF), Malawi reported that even in the small number of cases where wildlife traffickers were charged with money-laundering, sentences did not typically fit the crime.

A 2017 joint report by the United Nations Office on Drugs and Crime (UNODC) and Asia Pacific Group, 'Enhancing the Detection, Investigation and Disruption of Illicit Financial Flows from Wildlife Crime', found that in 45 countries surveyed - 86% of which reported being affected by wildlife crime - only 1% of wildlife crime cases involved money laundering investigations, charges or prosecutions.

Ending wildlife trafficking requires not only dismantling retail markets for illicit goods, but also generating alternative livelihoods for local communities.

There have been innovative projects with communities in several countries to enhance people's livelihoods by developing wildlife-supported economies that will discourage poaching.

In Assam, India, the International Rhino Foundation (IRF) established a small-grants programme for

> "The effect of the COVID-19 pandemic has been difficult to analyse. There has been a reduction in cross-border trade. But domestically, wildlife crime has not decreased at all - and may have even increased."
>
> *Trang Nguyen, Executive Director at WildAct*

on-the-ground organisations that support community development and awareness campaigns. These programmes help address food security and support IRF's initiative to establish a network of informants to help prevent rhino poaching and identify poachers and traders working in the area. In the Amaltari Buffer Zone, Nepal, 287 volunteers with the Community-Based Anti-Poaching Unit help keep endangered wildlife safe. From 2010 to 2022, the number of tigers in Nepal has almost tripled, and the number of tourism and hospitality businesses has increased as well.

In Cambodia, ecotourism is motivating communities to conserve critically endangered bird species, such as the giant ibis and white-shouldered ibis.

In Rewa, Guyana, poor job security led villagers illegally to harvest and trade wild animals. As a result, wildlife species such as arapaimas, giant river turtles and giant otters were beginning to disappear. In 2005, the village opened a community-run eco lodge to improve livelihoods while protecting its ecological diversity. By employing community members as sport fishing guides and boat captains, the lodge allows villagers to maintain rainforest-based livelihoods without causing damage to the ecosystem.

Pic: James Morgan, WWF U.S.

Thanks to tourism, arapaimas, turtles and otters are now common in the Rewa River. Visitors contribute far more money to the local economy than wildlife exploitation did.

Steps have also been taken to defend whistleblowers of wildlife crime. The Platform to Protect Whistleblowers in Africa (PPLAAF) is an example of an organisation defending, litigating and advocating on behalf of NGOs, media and governments speaking out against injustices.

One whistleblower supported by the PPLAAF was Johanes Stefansson. In the "Fishrot revelations", Stefansson revealed how one of the largest fishing companies in the world bribed high-level Namibian officials for trawling rights. As the country's law stipulates that only Namibian majority-owned companies can benefit from fishing quotas, the company had paid millions of dollars in "quota fees" to the presidential party, as well as officials and business people.

The scandal resulted in the resignation of a number of high ranking officials, including Minister of Fisheries Bernhard Esau and the Minister of Justice Sacky Shanghala.

1.15 COVID-19 and the future of IWT

While the world has been massively disrupted by COVID-19, it is feared that the pandemic has exacerbated the conservation crisis caused by IWT.

> "A large number of prisoners housed at Beni prison [a jail in eastern D.R.C.] were released in order to allow for social distancing, and we suspect that wildlife related offenders were among them. This highlights the need to take wildlife crime more seriously by upskilling prosecutors and educating communities to the risks involved in poaching, consumption, or trading in wildlife products."
>
> *John Barrett, General Manager at Garamba National Park*

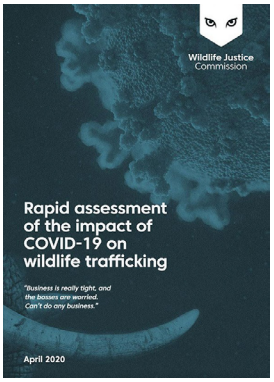
In April 2020, Wildlife Justice Commission (WJC) published a report – 'Rapid assessment of the impact of COVID-19 on wildlife trafficking' – indicating that COVID-19 travel constraints had forced illegal traders to stockpile ivory and rhino horn in Vietnam, Laos and Cambodia due to the difficulties in transporting it to markets in China.

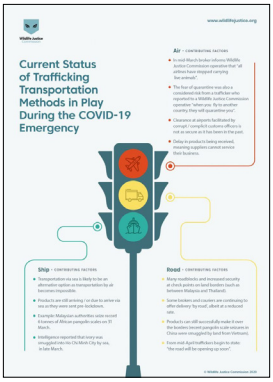
Cargo is still being transported around the world while the manpower needed to monitor it may have been reduced. A decrease in reported wildlife seizures may be due in part to the reduction of passenger flights in lockdown as well as decreased enforcement capacity and resources. At the height of the first wave in March 2020, international passenger flights dropped by 95%.

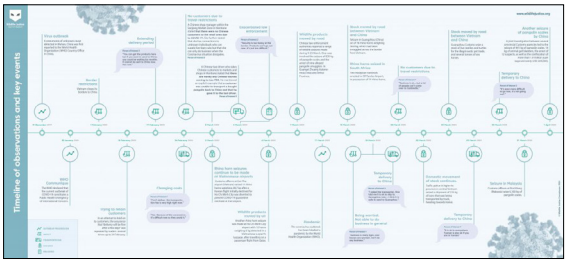
Although Vietnam stopped all inbound flights aside from repatriation travel, the country's customs authorities still found three rhino horn deliveries via air cargo and passenger flights from Africa, according to state media.

Restrictions have hindered the usual collection of data, but evidence suggests the progress made against poaching through initiatives sponsored by wildlife tourism has been thrown into reverse by the pandemic. Struggling local communities are hunting endangered animals to survive and anti-poaching patrols cannot cope. A new generation of opportunist poachers are using primitive snares to trap endangered animals to eat.

India, Nepal and Pakistan and several African countries all reported a spike in poaching. A June 2020 study by TRAFFIC found that poaching in India more than doubled in the first six weeks of lockdown, including the killing of nine leopards. In early January 2022, Indian police seized two leopard skins in Odisha, bringing to 30 the number of leopard pelts discovered in the north-eastern Indian state over the previous two years.







In the U.K., there have also been reports of an uptick in wildlife crime. As plants and fungi - including mushrooms and bluebells - as well as fish were targeted, convictions for wildlife crime fell away. Wildlife charities said that COVID-19 measures reduced the capacity of enforcers and prosecutors; while many more people turning to the British countryside – owing to the shutdown of urban amenities and international travel – may have also had an effect.

However, a report published by the Royal United Services Institute in January 2022 found that only £2,500 worth of IWT-related seizures were made by U.K. officials in the whole of 2020.

Several wildlife protection programmes have been curtailed due to the abrupt halt in tourism revenue as a result of COVID-19, leaving endangered animals more vulnerable to slaughter. Lockdown restrictions have also limited the ability of conservationists and rangers to monitor many poaching hot spots.

> "Across large swathes of protected areas in Africa, domestic and international tourism (and sport hunting) are the main revenue streams. Travel restrictions highlighted the need to diversify revenue sources that are more resilient to stochastic events. These could include access to carbon markets, endowment funds and emergency bonds."
>
> *John Barrett, General Manager at Garamba National Park*

In Queen Elizabeth National Park, Uganda's top wildlife reserve, 60 poachers were arrested between March and May 2020. In June, an endangered silverback gorilla was killed by poachers in the Bwindi Impenetrable National Park - the first such incident in nine years.

In response to the global COVID-19 pandemic, the government of China placed a temporary ban on the consumption of wild animals. On February 19, 2020, the National People's Congress Standing Committee began a process to amend the Wildlife Protection Law to criminalise permanently the use of wildlife as food. The move was made in recognition of the possible link between human disease and the consumption of wildlife and the spread of novel diseases in humans. However, the new rules still allowed wildlife to be used for other purposes such as Traditional Chinese Medicine (TCM), a major exception.

In June 2020, the Chinese government raised the pangolin's protection level, meaning that illegal trafficking of pangolins can now be punished by up to ten years in prison. However, once again important exceptions were written into the new law, with the legal trade allowed to continue under 'special circumstances' and where it serves 'heritage protection' (e.g. TCM). Perhaps more promisingly, also in June 2020, China removed pangolins from the section on TCM ingredients in its official pharmacopoeia, a measure that may yet diminish consumption significantly if backed up by reinforcing messages from the government.

> "As long as demand for wildlife and wood products remains high, the motivation to poach and traffic remains high. This is still the case. Demand is the most important factor that is the beginning of the chain"
>
> *Richard Ruggiero, Chief, Division of International Conservation at U.S. Fish and Wildlife Service*

In further evidence that the Chinese government had begun to take IWT more seriously, more than 15,000 people were prosecuted for wildlife crimes in the first nine months of 2020, up 66% from the same period a year earlier, according to state prosecutors.

On balance, however, it seems that China has not yet reached a watershed moment in terms of both public and governmental attitudes to IWT.

The Environmental Intelligence Agency (EIA) has reported that traders exploited concerns about COVID-19 to baselessly promote endangered wildlife products, such as tiger bone glue and treatments containing rhino horn, as a means of staying healthy during the pandemic. Similarly, the Chinese government has promoted bear bile injections to treat COVID-19.

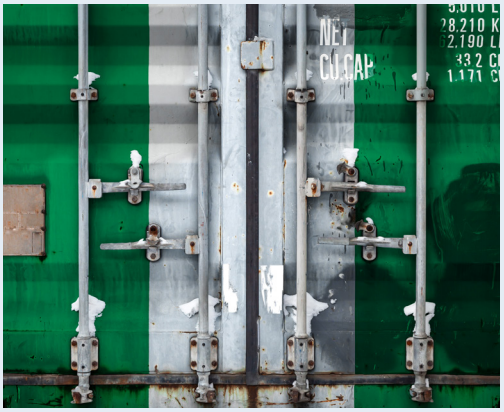
While government's continue to send out mixed messages about IWT, criminals involved in the trade continue to adapt and become more sophisticated.

With some traffickers increasingly relying on online platforms during the pandemic, the EIA has expressed concern that traders are widening their customer base which, in turn, will increase pressure on endangered species.

It is a cruel reality that dwindling wildlife populations actually serve to drive-up prices further as demand outstrips supply, giving traffickers a direct material interest in driving wildlife towards extinction. Indeed, conservationists believe that certain criminal gangs are deliberately stockpiling wildlife products anticipating that the extinction of these species will drive up the value of their hoard.

In an article in *The Independent* on February 19, 2021,

Stowaways



In January 2021, customs officials in Lagos were inspecting a shipping container marked as "furniture supplies". Hidden behind a load of timber, they found 162 sacks of pangolin scales, weighing more than 9.5 tons and representing thousands of killed pangolins.

Another 57 sacks contained various other wildlife parts, including elephant ivory and lion bones, an increasingly popular substitute in Traditional Chinese Medicine for harder-to-find tiger bones. The shipment was bound for Haiphong, Vietnam.

Steve Galster, chairman of Bangkok-based conservation charity Freeland, warned that traffickers are treating animals as "future commodities", a trend that has not subsided during the pandemic:

"I am worried that stockpiling and speculation of rhino horns, pangolin scales, elephant tusks, and big cat skeletons has increased during COVID, as traffickers look beyond the pandemic to when they can sell and make up for their losses. We saw evidence of this recently in Thai tiger farms where large refrigerators were stocked with tiger carcasses."

In late January 2022, a rebel group operating in Virunga National Park in the D.R.C. took hostage a rare giant ground pangolin specimen. The group sent photos of the animal to conservationists while demanding a ransom fee for its safe release.

A recent month-long police and customs cross border operation conducted between September 14 and October 11, 2021, revealed the extent to which IWT traffic has remained robust during the pandemic.

As part of the operation Cameroon customs officers seized 187 elephant tusks found in a truck on the Cameroon-Gabon border, Mexican officers recovered an adult female white tiger, a jaguar and fourth-month old lion cub in Sinaloa, Zimbabwean police intercepted the transfer of 32 live chimpanzees from the D.R.C and Indian law enforcement agents seized an 18-imperial ton shipment of red sandalwood destined for the U.A.E. In total, 1.3 imperial tons of ivory were seized, in addition to more than 1,700 pangolins-worth of scales, 56,200 kilograms of marine products, 15,878 plants and 87 truckloads of timber. "More than 45,500 live animal and plant specimens were recovered during the operation, including 1,400 turtles and tortoises and 6,000 turtle or tortoise eggs, 1,160 birds and 1,800 reptiles," according to Interpol.

> "As the world trade system reboots there is scope for wildlife trade to flourish again."
>
> *Julian Newman, Campaigns Director at the Environmental Investigation Agency*

Hong Kong Customs seized more than 4,000 kilograms of CITES Appendix II listed red sandalwood, with an estimated market value of about $20.7 million, at Hong Kong International Airport yesterday between January 6-7, 2022. In mid-January 2022, Vietnamese customs officials discovered 456 kilograms of ivory and 6.2 metric tons of pangolin scales in a container shipped from Nigeria to Tien Sa Port in Da Nang.

These seizures expose the rude health of IWT even during a pandemic that has hobbled much of the global economy. The prospect that wildlife traffickers might emerge from the last few years even stronger than before should serve as a reminder - if any were necessary - of the urgent need to combat the threat posed by the illegal wildlife trade.

Pics: Interpol

PART 2: AFRICA & THE IVORY TRADE

In December 2022, two rangers were killed in Virunga National Park in eastern Democratic Republic of Congo (D.R.C.) by suspected members of the M23 rebel group. M23 is just one of a number of armed groups fighting for control of the abundant natural resources found in eastern D.R.C., including the Democratic Forces for the Liberation of Rwanda (FDLR) and the Mai-Mai.

In July 2022, Anton Mzimba, the Head Ranger of Timbavati private game reserve near Kruger National Park, was shot dead by armed militants as he left his home. His killers are believed to be linked to poaching syndicates and had reportedly been sending the ranger death threats.

In April 2021, conservationist Rory Young, CEO and co-founder of Chengeta Wildlife, an organization supporting anti-poaching efforts on the ground in Africa, was killed by jihadists while conducting an anti-poaching patrol in Arly National Park in Burkina Faso. Also murdered were two young Spanish journalists, David Beriain and Roberto Fraile, who were making a documentary about how authorities in Burkina Faso are tackling poaching. A member of the Burkinabe armed forces also went missing in the ambush. Jama'at Nasr al-Islam wal Muslimin (JNIM), a coalition of several al-Qaeda affiliates operating in West Africa, subsequently claimed responsibility for the attack. The Islamic militant organisation has taken advantage of the unfolding chaos in Mali to expand its operations throughout the Sahel region, where along with illegal gold mining and livestock rustling, wildlife poaching represents an important revenue stream.

These attacks highlight the deadly perils faced by those standing on the frontline against wildlife trafficking. Sadly, they are not outlier events but rather illustrate the toxic convergence of political instability, biodiversity hotspots, ruthless exploitation of wildlife resources by illegal organisations and conservationists' desperate attempts to guard species from extinction, patterns that are increasingly common in certain parts of the world, not least Africa.

Wildlife trafficking is prevalent on every continent and, as argued in Part One of this report, consumer demand for wildlife products is a global phenomenon that must be considered every bit as important as poaching. These observations notwithstanding,

the African continent is seen by many as the ground zero of modern wildlife trafficking.

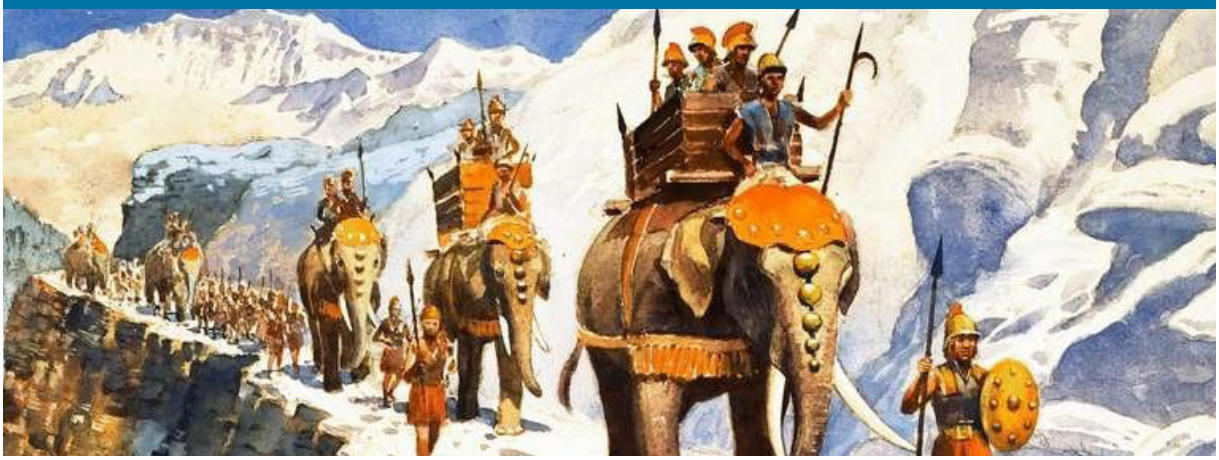
Home to some of the world's most iconic mega-fauna – including the elephant, rhino, cheetah, giraffe, gorilla and lion – swathes of Africa have also experienced prolonged periods of political turmoil, in some cases lasting decades without respite. From this vacuum of good governance has emerged a host of paramilitary and extremist groups, hungry for resources to fuel their deadly campaigns.

Meanwhile, numerous international organised crime syndicates have also descended to ransack the continent's wildlife resources, leading many species to the brink of extinction.

In what follows we will explore the long history of wildlife exploitation for profit on the African continent, as seen through the lens of the elephant. We will seek to understand how we have arrived at the point we now find ourselves.

Following this, we will look beyond the elephant to highlight some of the most threatened species on the African continent, as well as the extremist groups which exploit them.

The elephant and the long history of wildlife exploitation on the African continent



2.1 The long history of the ivory trade

Of three living species of elephant, two are found in Africa. While the African forest elephant (Loxodonta cyclotis) has historically traditionally ranged through much of West and Central Africa, the African bush elephant (Loxodonta africana) – the largest terrestrial animal on earth – was formerly resident throughout much of East and Southern Africa.

Today, ivory poaching has greatly reduced both species in terms not only of geographic distribution but also total population. Less than 400,000 African elephants remain in the wild compared to more than 27 million in the pre-colonial era. While habitat loss and climate change have played their part, the wildlife trade has been the main cause of this destruction.

The international trade in African elephants and their constituent parts, especially ivory, has ancient roots. Such was the Roman Empire's appetite for North African elephants (prompted by Hannibal's invasion of Italy with war elephants in 217 BC), which were used in combat as well as for their ivory, that this subspecies of the African bush elephant was driven to extinction in the fourth century AD.

A resurgence of the ivory trade from about 800 AD, and especially as European navigators began to explore the full extent of the African coastline from the 1400s onwards, caused a considerable decline of forest elephant populations on the West African coast.

With fewer navigable rivers on which to transport ivory, which weighs approximately 120lbs (54 kilograms) per cubic foot, East and Central African elephant population groups were less ripe for exploitation.

However, as European demand for ivory as well as human slaves began to grow, powerful Central African authorities, such as the Lunda empire, forged trading relationships with coastal trading posts, helping to open up the African interior. These long-distance trading routes were largely operated by human porters, often slaves.

As violence in north central Africa increased in the course of the nineteenth century, more and more ivory was sought in order to purchase guns and ammunition from European traders.

2.2 The scramble for African ivory

The arrival of the colonial powers in the late nineteenth century transformed the economics of Africa's wildlife trade.

In both the French Congo, a colony spanning what would later become Chad, the Republic of Congo and the Central African Republic (C.A.R.), and King Leopold II's Congo Free State, covering what is now the Democratic Republic of Congo (D.R.C.), sweeping concessions were granted to private companies giving them monopolies over certain resources, including rubber, timber and ivory. This concessionary model incentivised industrial-scale exploitation of natural resources as well as innumerable cruelties.

The British government similarly granted the Imperial British East Africa Company (IBEAC) the right to control the ivory trade through hunting licenses. In 1894, IBEAC introduced a £25 big game hunting licence and placed a 15% duty on ivory. Following the dissolution of IBEAC and the establishment of the East Africa Protectorate in 1895, the British empire assumed direct control over its East African territories, including the ivory trade.

In 1897, British authorities passed a law restricting hunting by indigenous peoples. Further laws stipulated that privately harvested ivory had to be sold through official auctions while all natural-mortality ivory be handed over to state authorities for a small fee.

This highly regulated system turned ivory into a major revenue stream for the colonial government.

Ivory accounted for half the British Kenyan government's tax revenue in 1902 and 75% of protectorate trade income. Similar laws were also passed in German Tanganyika, where licensed hunters were required to hand over one tusk from every slaughtered elephant.

Colonial authorities were not the only ones capitalising on ivory. Equipped with high-calibre rifles and aided by the development of railway lines leading deep into the African interior, a new class of professional colonial hunters emerged to pillage Africa's big game on an unprecedented scale. These professionals were joined by a procession of wealthy sport hunters, such as Winston Churchill, Theodore Roosevelt and Ernest Hemingway.

The cult of the safari was not restricted to those that could afford to travel to Africa. As European and North American middle-classes grew in purchasing power, ivory was increasingly sought after as a status symbol and for use in luxury goods such as piano keys, billiard balls and cutlery handles.

Between 1860 and the turn of the century, exports of ivory from the African continent had grown fivefold. From a population of 26 million in 1800, by 1900 African elephant numbers had fallen to 10 million.

2.3 The post-colonial ransacking

The end of the colonial period brought little respite to Central Africa's wildlife populations, as cash-strapped independent states, often governed by venal strongmen, continued where colonial authorities left off.

Authoritarian African leaders, such as Jean-Bedel Bokassa, President of the C.A.R. (1966-76) and subsequently Emperor of the Central African Empire (1976-9), as well as Mobutu Sese Seko, President of the D.R.C. (1965-71) and later of Zaire (1971-97), viewed ivory as a means to bolster their power and line their pockets.

Bokassa granted a monopoly of the ivory trade to La Couronne, a privately owned company controlled by the President and members of his family, ensuring that few profits ever reached public coffers. Mobutu similarly exploited his own country's elephant population with ruthless intent. According to ivory trade expert Ian Parker, under Mobutu's rule, 100 tons of ivory were exported in 1969 alone. From 1979 to 1988, 705 tons were legally exported with declared stocks of 1,500 tons.

Beside the legally sanctioned, state-driven wildlife trade, chronic instability in the second half of the twentieth century also created widespread opportunities for illegal trafficking.

As well as encouraging heightened elephant hunting throughout the C.A.R., La Couronne also worked with rebel groups in neighbouring countries to systematically launder vast amounts of illegally poached ivory and supply a growing global market. According to La Couronne's own figures for 1977, only 1% of the company's official exports were derived from elephants sourced in the C.A.R., while 20% came from Sudan and 79% from Zaire. Although these foreign imports were primarily illegal in origin, this did not prevent La Couronne from certifying them as fit for legal export.

Militants operating in the D.R.C./Zaire during Mobutu's rule used ivory as a means to raise funds to sustain their campaigns. From 1967 onwards, a succession of rebel groups operating in eastern Congo and led by Laurent Kabila, later President of the D.R.C. (1997-2001), supported themselves by trafficking ivory, gold and diamonds through Tanzania.

This pattern repeated itself for the next two decades. Throughout the 1970s, huge amounts of ivory were smuggled out of Zaire through the C.A.R., Burundi, Zambia and Sudan or laundered in Antwerp. Between legal and illegal hunting, it is believed that as many as 400,000 elephants were killed in Zaire in the decade before 1989.

Conflicts between African states and civil wars also created opportunities for illegal poaching.

From the mid 1960s, the Chadian civil war introduced massive numbers of modern firearms into the country, compounded by the Libyan and French intervention in 1979. Eyewitnesses reported military personnel gunning down whole herds of elephants using helicopters and vehicle-mounted anti-aircraft guns. Pre-1979 Chadian elephant numbers stood at around 15,000. By the mid-1980s, the population had dwindled to between 2,000 and 3,000. Mounted Chadian poachers armed with automatic weapons also operated in the borders of the C.A.R. during this period. In the D.R.C., similarly equipped Sudanese raiders inflicted enormous damage on

the elephant population, which declined by 60% between 1976 and 1983.

During the Ugandan-Tanzanian conflict of 1978-79, military forces on both sides used their occupation of national parks to engage in extensive ivory trafficking. Much of this ivory was funnelled to the Ugandan illicit market, but it is believed that at least some proportion was removed to Tanzania where it was used to pay down the country's debt to China for the Tanzania-Zambia Railway Authority (TAZARA) railroad. Uganda's six-year civil war in the 1980s, leading to the rise of current President Yoweri Museveni, created cover for further illegal trafficking. Elephant numbers in Uganda dropped accordingly from an estimated 30,000 in the 1960s to just 2,000 in the 1980s, while giraffe numbers fell by 90% leaving only 100 animals remaining by the early 1990s. Uganda's lion population is also thought to have declined precipitously during this period.

Insurgencies and civil wars in Southern Africa also provided heavier weaponry and opportunities for poaching in this region. Modern weapons could be obtained from guerrilla bases in Zambia throughout the 1970s and '80s, including the Zimbabwe African People's Union, South Africa's National Congress, and the Namibian South West African People's Organization. At the end of the Liberation War in Zimbabwe, special forces massacred many hundreds of elephants using machine guns and automatic weapons.

Even national governments without an indigenous elephant population joined in on the exploitation.

Cash-strapped and lacking in resources, the newly independent Burundian state turned a blind eye to or actively participated in vast laundering operations, including such commodities as gold, coffee and ivory. Burundian officials systematically sourced poached ivory from Tanzania, Zambia, Zaire, Gabon and Mozambique, and subsequently certified the trafficked goods as legal for export. Between 1965-1986, the former Belgian colony was able to ship 130 tons of ivory, equivalent to 12-13,000 elephants, despite having no native elephant population within its borders.

2.4 National-level attempts to curb the ivory trade

With elephant populations in freefall and as international outcry began to increase, several African governments passed national-level legislation aimed either at limiting or completely eliminating the ivory trade.

However, in the absence of properly resourced anti-poaching measures and with many of the same governments remaining complicit in the ivory trade despite their official stance, poaching and smuggling continued almost unabated. In the case of the C.A.R., for example, the revocation of La Couronne's monopoly following the fall of Jean-Bedel Bokassa merely led to an explosion of poaching and smuggling. Newly empowered President David Dacko (1979-81), whose government passed a ban on ivory hunting and trading in 1980, allowed his confidants to continue trafficking ivory unhindered by the state. Dacko subsequently lifted the ban in 1981, leading to a new surge in official ivory exports. Tanzania similarly reversed its 1973 ban on elephant hunting in 1978, while Mobutu Sese Seko's 1978 ban did nothing to stop his regime, including both senior and junior officials, from continuing to pillage Zaire's remaining stock of elephants.

These numerous reversals were greatly encouraged by an international marketplace that placed an ever-higher value on ivory.

National level ivory bans

1973 **Kenya** bans private ivory trading

1973 **Tanzania** bans hunting elephants

1978 **Zaire** bans hunting of elephants and trade in ivory

1979 **Uganda** bans all hunting of game

1980 The **C.A.R.** bans elephant hunting and ivory trading

1982 **Zambia** ban on elephant and rhino hunting and all exports of ivory

1984 **Sudan** bans export of raw ivory

2.5 International attempts to curb the ivory trade

Unstable monetary values in the 1970s and turmoil on international markets encouraged investors to divest of currency and invest in assets, including ivory. Increased demand, especially from China, Hong Kong and Japan, helped to drive up the price of ivory from USD 6.17 per kilogram in 1969, to USD 79.37 in 1973.

So long as the international ivory trade continued to thrive the temptation for impoverished African states and corrupt administrations to cash-in would be great. However, early attempts to curb the trade at an international level repeatedly foundered.

This changed in 1973 with the United Nations Convention on International Trade in Endangered Species of Wild Fauna and Flora (commonly known as CITES), which initially attracted 82 signatory parties, rising to 182 plus the European Union today.

Although several African species, including the rhinoceros, were immediately placed in CITES Appendix 1, elephants were not. As a consequence, CITES initially did little to prevent the further haemorrhaging of elephant populations. It is estimated that half of all remaining elephants were lost in the decade between 1979-89.

In July 1989, to pressurise CITES into taking stiffer action, the Kenyan government burned 12 metric tonnes of stockpiled ivory, sending out a strong signal elephant tusks should hold no value.

Finally, in December 1989, CITES secured an agreement among its member states to ban the international trade in ivory. However, as part of the deal, a clause was included that would allow countries with growing elephant populations to eventually apply for permission to sell ivory from herds culled by conservation departments - a fateful caveat that continues to cause controversy to this day.

The CITES ban had a rapid and significant impact on ivory poaching. In the ensuing decade, Africa's elephant population rebounded from 600,000 to one million. Although 60,000 elephants were killed in the D.R.C. between 1989-2007, this represented just one fifth of the numbers lost between 1978-89.

2.6 Extremism and paramilitary involvement

Although a highly positive development, the 1989 CITES ivory ban had the unwelcome secondary effect of inviting criminal and extremist organisations to fill the void once occupied by legal traders.

Ongoing political instability in regions with resident elephant populations further enhanced opportunities for exploitation.

As well as creating the political conditions in which unrestricted elephant hunting could take place, Central Africa's chronic instability also fuelled ivory trafficking by making military hardware widely available to civilians, professional poachers and paramilitaries. Replacing the use of bush fires, spears and primitive guns, modern firearms including the AK-47 began to proliferate. Although hunters on horseback remained, poachers also began driving large trucks and, later, using helicopters, satellite phones and thermal imaging goggles.

Equipped with this enhanced firepower, militant and extremist groups were able to conduct poaching on such a scale as to become a mainstay of their war economies. Groups involved in the trade include the Lord's Resistance Army (LRA), which poached elephants in Uganda, South Sudan and the Congo, and the Janjaweed Arab militia of Sudan, who have been accused of butchering thousands of elephants in Cameroon, Chad and the C.A.R. The Muslim Seleka rebels in the C.A.R., which includes Sudanese combatants in its ranks, have similarly been accused of poaching in Dzanga-Ndoki National Park. The Resistência Nacional Moçambicana (RENAMO) also traded in rhino horn and ivory during Mozambique's civil war (1977-1992), much of it derived from Gorongosa National Park, which suffered enormous loss of wildlife and is only recently recovering. In Angola, UNITA (União Nacional para a Independência Total de Angola) killed thousands of elephants for bushmeat and ivory.

Today, both the Democratic Forces for the Liberation of Rwanda (FDLR), linked to the Rwandan genocide, and the Coalition of Patriotic Resistance (PARECO) continue to poach extensively in the eastern reaches of the D.R.C. The Congolese national army has also been accused of involvement.

Garamba National Park


Pic: Garamba National Park Facebook

Garamba National Park in the north-east of the Democratic Republic of Congo is considered to be one of the most notoriously hostile national parks in Africa due to its 261-kilometre shared border with South Sudan.

The park held more than 22,000 elephants in the 1970s. Poaching reduced the number to fewer than 1,300 in the early 2000s, along with the extinction in the wild of the Northern White Rhinos (Ceratotherium simum cottoni). Roving bands of the Janjaweed, Lord's Resistance Army (LRA), Sudanese militias, SPLA soldiers, Congolese soldiers (FARDC), the March 23 Movement (M23), Allied Democratic Forces (ADF), civilian Congolese poachers and Mbororo pastoralists have all been implicated in illegal poaching within the park.

Today, poaching levels are at their lowest in decades thanks to a number of interventions.

2.7 New century, new markets

As the millennium approached, the rise of Asia's middle classes transformed the dynamics of the global wildlife trade in much the same way that European and North American middle classes had fuelled the wildlife trade at the turn of the twentieth century.

Increased Asian demand has disproportionately affected Africa's wildlife populations, not least since the two continents are home to a number of shared animal families, including various species of pangolin, rhino and elephant. As Asian wildlife populations have dwindled, traffickers have sought to supplement their supply chains with products derived from African animals of the same family.

Pangolin scales and rhino horn, both coveted as ingredients for traditional medicines, saw soaring prices during this period. Pangolin scales went from USD 17 in the 1990s to USD 200 in 2007. Meanwhile, African rhino horn wholesale prices peaked at USD 60,000–65,000 per kilogram in 2012.

Demand for ivory also began to rise steeply in the early 2000s. Between 2001-14, the wholesale price of raw ivory on the Chinese market tripled to USD 2,100 per kilogram. This rising demand can be at least partly attributed to CITES' decision to allow Botswana, Namibia and Zimbabwe to make a once-off sale of 50 tons of raw ivory to Japanese traders in 1997. A further sale was permitted in 2008, with South Africa also included in the later dispensation. The glut of ivory created by these sales is widely credited with reviving Asia's moribund ivory carving industry.

Poaching driven by increased demand led to a 60% decline in Central African forest elephants between 2002 and 2011. This renewed ransacking was facilitated by ongoing political turmoil in Central Africa, such as the various insurgencies and conflicts which have ravaged the D.R.C. from the late 1990s to the present day, enabling professional poachers and extremist groups to target nominally protected species with little fear of retribution.

Much of the ivory poached in the D.R.C. and the C.A.R. (both landlocked and lacking the developed infrastructure required to handle large freight) was smuggled at this time into neighbouring countries, especially Uganda and South Sudan, before being transhipped to destination markets. Former Sudanese ivory traders have testified that ivory from the D.R.C. and the C.A.R. moved through sparsely populated Darfur, then to Omdurman, allegedly with the collusion of corrupt Sudanese officials. Meanwhile, elephant and hippo ivory (teeth), as well as pangolin scales, from as far afield as West Africa, were transported to airports in Juba and Entebbe as trans-shipping points.

As forest elephant populations in Central Africa dwindled, poachers increasingly turned their attention to the bush elephants of East Africa, especially in Kenya, Tanzania and Mozambique. East Africa's bush elephant populations had already been hammered in the period leading up to the CITES ban. From 275,000 in the late 1970s, Kenya's elephant population had fallen to just 16,000 in 1989. The decade that followed offered some respite (the 1990s was the first decade in which elephant numbers did not decline nationally) but the 2000s saw a

Zakouma National Park,

In 2006, 120 elephant carcasses were found with tusks removed in the vicinity of Zakouma National Park in southeastern Chad. The park's elephant population was shown to have declined from 3,800 in 2006 to just over 600 in 2009. Sudan, which remains outside CITES to this day, continues to be a large illegal market for ivory, with invidious effects for elephant populations in neighbouring countries.

In 2011, a satellite phone was taken from Sudanese elephant poachers in Zakouma. The phone memory was found to contain contact numbers as well as multiple logged calls to and from an import-export firm near Khartoum. The poachers carried Sudanese military identification cards. On July 26, 2012, the president of Chad sent military troops to find and arrest elephant poachers and ivory smugglers.

return of pre-ban levels of poaching. Between 2003 and 2008, a CITES-led elephant monitoring programme, Monitoring the Illegal Killing of Elephants (MIKE), showed a continuous year-on-year increase in poaching rates results in Kenya's Samburu and Laikipia national reserves.

While forest elephants in Central Africa declined by 60% between 2002 and 2011, a third of all remaining East African bush elephants were lost between 2007-14. In Samburu National Reserve in central Kenya, 31% of elephants were illegally killed 2008-12. By 2013, Tanzania was losing 30 elephants a day to poachers. In the Niassa National Reserve in northern Mozambique, the elephant population fell from an estimated 12,000 in 2011 to around 4,440 animals in 2014.

East Africa not only provided poachers with a fresh supply of target species, its superior transport infrastructure and underfunded customs capacity allowed for mass-scale trafficking.

Throughout the 2000s and early 2010s, Mombasa port rose to become the global hub of ivory trafficking, with tusks poached in Tanzania, Mozambique, the D.R.C., Uganda, Zambia and South Sudan all funnelled through the facilities in Kilindini harbour. An estimated 170 tons of ivory were seized by authorities in Mombasa between June 2009 and June 2014 (representing 230,000 elephants). Likewise, between 2009 and 2015, over 10,000 unique pieces of ivory were seized at Tanzanian seaports. Other items seized have included leopard skins, shark fins, rhino horn and pangolin scales.

2.8 From East to West Africa

In the 2010s, with elephant numbers reaching a critically low threshold together with a growing awareness of the extent and severity of the issue, East African governments made renewed efforts to clamp down on the illegal trade. In 2013, the number of large seizures of ivory made in Africa for the first time exceeded seizures made in Asia. Three African countries – Kenya, Tanzania and Uganda – accounted for 80% of those seizures, a milestone seen as a tipping point by some experts. In 2014, Tanzania established a National Elephant Action Plan, a National Ivory Action Plan, and a national strategy to combat the illegal wildlife trade.

Renewed pressure by East African authorities forced ivory traffickers to seek out less challenging jurisdictions, particularly in West Africa, which since 2014 has emerged as a major source of and transit hub for ivory trafficking on the continent.

West Africa, which had lost more than 90% of its elephants during the twentieth century (10 million - 1 million) has seen continual decline over the past two decades. Today, as few as 8,000 elephants are thought to remain in the region.

According to an April 2021 report by the Royal United Services Institute for Defence and Security Studies (RUSI), countries in West Africa now account for a significant proportion of all global forest elephant ivory seizures, as well as the world's largest seizures of African rosewood (Pterocarpus erinaceus) and pangolin scales. Most of the products illegally exported from West Africa are sourced from neighbouring biodiversity hotspots, particularly Cameroon, Gabon, the Republic of Congo, the D.R.C. and the C.A.R.

Between 1998 and 2014, the top two countries associated with ivory seizures had been Tanzania and

Kenya, at 87.1 and 59.4 tons respectively. Over the next four years, however, Nigeria and the D.R.C. climbed to the top of the list, at 30.5 and 21 tons.

In that same period (2014-18), Nigeria was connected to 167.6 tons of pangolin scale seizures (more than four times than the D.R.C.), despite the fact that most pangolins are sourced in Central Africa. In September 2019, Reuters reported that within that year Hong Kong and Singapore intercepted three shipments of pangolin scales (weighing 33.9 metric tonnes) from Nigeria, worth more than USD 100 million based on the estimated value in Singapore.

In December 2020, the Environmental Investigation Agency (EIA) published research suggesting that corrupt Nigerian customs and security officials, as well as the ease of transferring millions of dollars through the country's banks, has facilitated its growing role in global IWT. According to the same research, Cameroon, which lost 70% of its elephants between 2000-2015 and still permits a domestic ivory trade, has also emerged as a major trafficking hub. The country's growing trade links with Vietnam have provided cover for illegal transfers of ivory as well as timber. Shipments of raw logs (which is technically illegal under Cameroonian law) to Vietnam more than doubled from 2013 to 2016.

2.9 New monitoring and anti-poaching technologies, and end-market solutions

Elephant conservation hinges on the accurate monitoring of population numbers and their distribution. Inaccurate data misrepresents the extent of species decline and can lead to the misallocation of precious conservation resources. Historically, population estimates have been unreliable, with inadequate data and dubious survey techniques.

To better understand the illegal wildlife trade, concerted efforts have been made to improve monitoring of elephant populations and poaching rates. In 1997, CITES established the international collaborative programme MIKE (Monitoring the Illegal Killing of Elephants), an information base to support elephant conservation efforts in Asia and Africa. The details of elephant poaching at over 60 participating sites are logged in standardized form, analysed by MIKE and inform CITES decision-making.

Technological developments have also helped to record smuggling practices. A 2015 *National Geographic* investigation used artificial elephant tusks embedded with GPS trackers to expose the mechanics of illegal supply chains leading through Central and Northern Africa. The fake tusks were initially planted in a small village on the C.A.R.'s southern border with the D.R.C., before smugglers transported them northwards and over the border to Sudan. The operation allowed considerable insight into an important smuggling route, known to be operated by the Lord's Resistance Army, a brutal extremist group which has terrorised parts of Uganda, the D.R.C. and the C.A.R. since 1987 and which remains active today.

In 2020, Australian scientists at Flinders University, Adelaide unveiled a new forensic DNA technology to track smuggled ivory. In the past, it has been notoriously difficult to identify the origin of ivory due to its minimal DNA content. Using this new technique, enforcers can pinpoint where poachers are operating and distinguish smuggled elephant tusks from legally traded ivory in countries such as Thailand, where possession of Asian ivory is permitted but trading in ivory from Africa is illegal. Blind testing 304 samples of ivory, the team at Flinders University found that their method was 100% accurate. Similar research by Washington University has already

been able to track shifting geographic patterns in the trade.

Accurate reporting of seizures has also improved our understanding of the illegal wildlife trade. Since 2016, United Nations (UN) Sustainable Development Goals have stipulated that member states must submit data about seizures of smuggled wildlife. From 2010 to 2017, the annual average number of documented elephant tusk seizures was 128, representing nearly a 200% increase from 2005-9. In 2019, more than 42 metric tonnes of ivory were seized and documented by CITES member states, the fourth largest annual tally since 1989. As the UN reported, since poaching levels appeared to be down the tally suggested vastly improved rates of interdiction. Seizures dropped significantly during the pandemic, to around five tonnes, recovering to around 13 tonnes in 2022.

In October 2022, the partner states of the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) - Angola, Botswana, Namibia, Zambia and Zimbabwe - launched a coordinated aerial elephant survey, in a concerted effort to conserve and manage the area's elephant population. This is the first-ever KAZA-wide survey - a positive sign of international cooperation.

This comes amid wider efforts to shut down end markets and suppress demand for ivory.

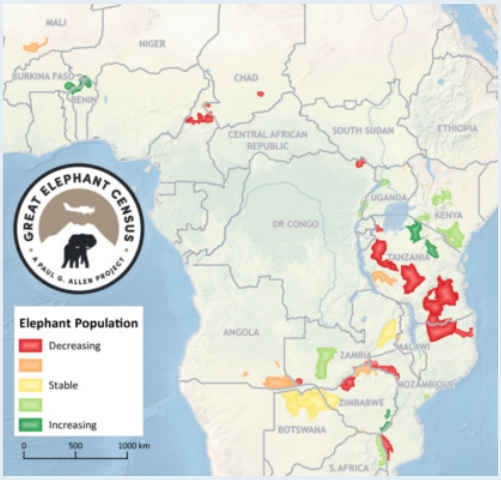
In 2015, China President Xi Jinping and U.S. President Barack Obama announced that the two countries had agreed to "nearly complete" bans on their domestic ivory markets. The U.S. ban, which came into force in July 2016, made exception only for the trade in certified antique items and those that contained a very small amount (de minimis) of legally imported ivory. Following years of lobbying and attempts by the international conservation community to sensitise Chinese consumers, China's ivory ban took effect on December 31, 2017. In response to public outcry and probably influenced by the ban in mainland China, the Hong Kong government also moved to ban its domestic and export ivory trade in June 2017. The bill banned the import and export of worked and raw ivory, including banning the possession and sale of all ivory obtained before 1990, and came into force on December 31, 2021. Taiwan implemented its own ban in 2020.

In 2017, the U.K. was still the world's largest exporter of legal antique ivory, according to research conducted by the Environmental Investigation Agency (EIA). In 2018, Parliament passed an act to ban the import, export and sale of ivory. Despite delays, first due to a legal challenge (since defeated) and later due to technical issues around how it should be enacted, the ban came into effect in June 2022.

In 2017, the European Union (E.U.) published guidance suspending the re-export of raw ivory. On December 16, 2021, adopted revised guidance suspending trade in raw ivory except for the exclusive purpose of repairing objects containing ancient ivory (i.e. pre-1947) as well as intra-E.U. trade in worked ivory. These moves have been widely viewed as taking the E.U. one step closer to an all-out ivory ban.

Legislative efforts such as these have led to significant falls in ivory prices worldwide. In 2018, ivory typically fetched between USD 210-225 per kilogram in West Africa. By 2020, this had decreased by 50% to USD 115 per kilogram. In Southern Africa, ivory prices declined from USD 200 to USD 75 per kilogram between 2017 and July 2020. In February 2020, the cost of ivory in Laos had plunged by 80% in the space of just two years.

The Great Elephant Census



The 2016 Great Elephant Census was a significant milestone in conservation efforts. A pan-African elephant census had not been conducted for over 35 years. To gather the data, Mike Chase, the leader of the aerial count, oversaw a team of 90 scientists and 286 crew members across 18 countries over the course of two years.

The census was released at the IUCN World Conservation Congress and sparked global dismay – the 30% decline in elephant populations reported in surveyed countries and total figure of 352,271 was far lower than had been previously gauged.

2.10 A future for elephants?

Despite technological advances, which have aided park rangers, conservationists, customs officials and anti-organised crime bodies, elephants today continue to be poached at levels that outstrip the natural fertility rate of existing herds.

In 2022, World Wildlife Foundation estimated that 17,000 elephants were still being poached annually, equivalent to 47 every day.

In March 2021, for the first time, the International Union for the Conservation of Nature (IUCN) listed the African forest elephant as critically endangered. It listed the African savanna elephant as endangered. The number of forest elephants has fallen by more than 86% over a 31-year period, while the population of savanna elephants dropped by more than 60% over a 50-year period, according to the IUCN.

During the pandemic there is believed to have been a temporary decline in poaching due to the impact on transportation routes, offering a respite for some population groups Africa's remaining elephants. However, in some places, such as Uganda, poaching may have actually increased. Globally, a return to pre-pandemic levels is expected, with poachers adjusting their trafficking routes and taking advantage of new opportunities.

In December 2021, Cameroon's Forestry and Wildlife ministry reported that elephant poaching was on the rise after COVID-19 restrictions saw a drop in the number of killings. With eight elephants killed in a single week, Cameroon deployed military forces against dozens of armed poachers on its eastern border with the C.A.R. According to three of the poachers arrested by the Cameroon military, the harvested ivory was being transported via Nigeria to Asia.

In January 2023, Kenyan authorities seized 54 kilograms of elephant tusks in two separate arrests. The six smugglers included a police officer. In February, Vietnamese customs officials discovered 600 kilograms of ivory in the ports of Haiphong and Lach Huyen, with one consignment found hidden among cow horns.

However, there are some signs of hope amidst the gloom. Although 2019 was a record year in terms of seizures, with just five seizures alone yielding over 30 tons, this is believed to have been the product either of improved interdiction or smugglers offloading stockpiles, as poaching levels were known to have decreased in that year. Both South Africa and Zimbabwe have reported significant population growths up to 2021.

By far the most critical question for policymakers concerned with saving elephants from extinction is whether to pursue a total global ban on ivory retail or to permit a regulated market.

Today, in line with the terms of the 1989 ban, the African bush elephant is split-listed by CITES, with population groups in Botswana, Namibia, South Africa and Zimbabwe (where elephant numbers are robust) listed in Appendix II, while all other population groups are listed in Appendix I. This arrangement continues to be a source of controversy, with some believing that split-listing creates an environment where ivory sourced illegally from endangered populations groups will be "laundered" by legal operators, while others believe that placing the entire species in Appendix I would unduly punish countries that have managed their wildlife resources properly and discourage others from doing similarly.

Whatever the answer to this question, there can be no doubt that the present system is not working. If no remedy is found, ours will be the last generation to share the planet with the African elephant.

PART 3: AFRICA'S IWT INDEX

3.1 Africa's most trafficked wildlife

Of the five species of rhinoceros, two – the white rhino and black rhino – are native to Africa.

There are a further two subspecies of white rhinoceros, the northern white rhinoceros and southern white rhinoceros, while there are four subspecies of black rhino, including the South-Central, the South-Western, East African and West African.

Poaching has taken a terrible toll on all species and subspecies of African rhinoceros, with just 25,000 remaining in the wild.

Big game hunting in the nineteenth and twentieth decimated African rhinoceros populations. Dutch and English settlers hunted rhinos for sport and bushmeat, driving the southern white rhinoceros to the brink of extinction. Less than 100 southern white rhinos survived in the wild in the early 1900s, contained within a single South African game reserve. The black rhinoceros was also imperilled by hunting, together with increasing habitat destruction for the purposes of agriculture and settlement. In 1970, the population stood at 65,000, down from as many as 1 million at the start of the century.

In the early 1950s, then chairman of the Chinese Communist Party Mao Zedong spearheaded a patriotic campaign to promote Traditional Chinese Medicine, over and above Western medical practices. Powdered rhino horn was one of the touted remedies, reported to treat fever, arthritis and gout, among other ailments.

In the 1970s and '80s, the expansion of the oil industry in the Middle East led to precipitous economic growth in the region. As Arab middle classes grew in purchasing power, janbiyas – traditional daggers with rhino horn handles, considered a status symbol – became increasingly sought after, especially in Yemen.

These two developments lead to an explosion in rhinoceros poaching in the second half of the twentieth century. From a population of 70,000 in 1970, poaching had reduced black rhino numbers to just 2,410 in 1995.

While demand from the Middle East began to shrink by the end of the twentieth century, demand from Asia continued to grow into the twenty-first century.

The last reported sighting of a West African black rhinoceros was in northern Cameroon in 2006. It is thought that poachers claimed the lives of the last members of the species, which was officially declared extinct in 2011. The northern white rhino is also considered effectively extinct, with just two females left living under 24-hour guard in the Ol Pejeta Conservancy in Kenya.

Factfile: Rhino

Population
Global = 28,000 (at most)
African = 22,000 (at most)

Trafficked from
South, East and Central Africa

Trafficked to
Southeast Asia, China

Trafficked for
Traditional medicine, ornament

In November 2022, researchers at the University of Helsinki published findings that rhino horns have become shorter over the last century, as a result of poachers targeting larger prizes.

The Wildlife Justice Commission estimates that 7.5 tonnes of rhino horn had been seized in the decade prior to 2022. A report by the IUCN SSC African and Asian Rhino Specialist Groups and TRAFFIC estimates that 2,707 rhinos were poached in Africa between 2018 and 2021, which represents a decline from earlier peaks, but still caused a drop in the rhino population of 1.6% per year.

South Africa, home to some 75% of remaining African rhinoceros, has been the hardest hit. Although just 13 rhinos were poached in the country in 2007, by 2013 that number had increased 7,700%. In 2014 and 2015, 1,215 and 1,349 South African rhinos were killed respectively. Although numbers consistently decreased over the following years, with 349 poaching incidents lodged in 2020, they have since rebounded to 451 in 2021 and 259 in the first six months of 2022 alone.

At the same time, conservation programmes have helped to grow select rhinoceros populations. Protection and management efforts have seen the number of black rhinos more than double since 1995, to over 6,000 individuals. From the brink of extinction, southern white rhinos now thrive in

protected sanctuaries and private game reserves – with close to 16,000 individuals – though their numbers are still believed to be decreasing and their range is restricted to just four countries (South Africa, Zimbabwe, Namibia and Kenya).

As in the case of certain other highly trafficked animals, such as elephants, tigers and bears, the role played by commercial farming in driving the illegal trade in wild rhinos continues to cause significant controversy and disagreement. While commercial farms have played a part in helping numbers of some rhino species to recover, critics believe that this conveyor belt of legally supplied horn diminishes the taboo associated with consumption and stokes demand. Meanwhile, legal supply chains are routinely infiltrated by illegally poached horns.

Market research published in November 2021 investigating Vietnamese consumer preferences revealed that individuals actively seek out and are willing to pay more for rhino horn taken from wild or semi-wild animals, believing that these have more potent medicinal properties. Such findings add further weight to arguments against commercial farming.

Although rhinoceros poaching rates in Africa have decreased since 2015, the situation is still critical. According to the World Wildlife Fund, on average one rhino is slaughtered every day. In South Africa, rhinoceros poaching numbers are still some 3,000% times higher than their pre-2008 levels. In Kruger National Park, white rhinoceros numbers have plummeted by 75% in the ten years between 2011-20. Only around 310 rhinoceroses remain in Botswana, with numbers in the wild so low that poachers reportedly no longer consider the country a worthwhile hunting ground.

African rhino horn wholesale prices peaked at USD 60,000–65,000 per kilogram in 2012, but with prices today still reaching USD 20,000 per kilogram there is more than enough incentive for poachers to continue to focus their efforts on the animal.

With 80% of the world's rhinos now found in South Africa, the country has become the nerve centre of African rhino poaching. Johannesburg O.R. Tambo International Airport is a key transit hub for rhino horn, helping to connect traffickers in South Africa, Namibia, Mozambique, Eswatini and Zambia to markets in Southeast Asia. In 2020, a single consignment of rhino horn intercepted by officials at O.R. Tambo was valued at more than USD 7 million. On February 2, 2022, a man was arrested while boarding a flight to Malaysia. Officials discovered 11 rhino horns wrapped in tinfoil and disguised in confectionary and tea boxes. In October 2022, Singapore authorities confiscated 34 kilograms of rhino horn from a smuggler arriving from South Africa.

Most poached horns find their way into the illegal market in Vietnam, where law enforcement is weak and criminal networks grind up the horns to sell for use in traditional medicines or sell them whole as a high-value gift item. Rhino horn has become a party drug, a health supplement, and a hangover cure. In Vietnam, there is also a newly emerged belief that rhino horn cures cancer. China also continues to be an important consumer market as well, where rhino horn enters art and antique markets and is sometimes acquired as an investment purchase.

African rhinos faced fresh threats from poaching in the wake of the COVID-19 pandemic. The United Kingdom's Environmental Investigation Agency found that sellers in China and Laos were peddling a North Korean-produced Chinese medicine containing rhino horn, following Chinese health officials' inclusion of the medicine on a list of recommended treatments for COVID-19. In the Chinese product, buffalo horn has replaced rhino since the late twentieth century.

Globally there are eight species of pangolin, a small, reclusive scaly mammal, four of which are found in Asia, four in Africa. African pangolins have long been hunted as a source of bushmeat, as well as for use in West African traditional medicine, but today most pangolin products are sourced for export to China and Southeast Asia.

In Asia, pangolins are mainly valued for their scales, which are used in traditional Asian medicine, even though they are made of keratin – the same substance as human fingernails and hair. Scales are sometimes used for decorations in rituals and jewellery, according to a report by the World Animal Protection (WAP) published in 2018, while pangolin meat is also considered a delicacy in Asia.

Pangolins are thought to be the most trafficked mammal in the world, with over one million animals taken from the wild and traded since 2000. Despite CITES banning the international trade in pangolins in 2017, the market is still expanding according to a 2020 report by the United Nations Office on Drugs and Crime (UNODC). From 2014 to 2018, global seizures of pangolin scales increased tenfold, with an estimated 200,000 pangolins poached every year. Despite a sharp dip during the pandemic, growing confiscations suggest that the trade is again in full swing.

The explosion in pangolin smuggling is thought to have been driven by the recent decline in illegal ivory prices, which more than halved in China between 2014 and 2018. As the profitability of the ivory trade has dropped, criminal networks have increasingly incorporated pangolin smuggling into their operations, with mixed consignments of ivory and pangolin scales doubling in number and tripling in volume from 2017 to 2018. In January 2021, Nigerian authorities seized an 8.8 tonne shipment of elephant tusks and pangolin scales. In July 2022, Malaysian authorities confiscated a similar shipment worth USD 18 million.

With Asian pangolin populations plummeting due to over-exploitation (Chinese and Sunda pangolin populations have shrunk by 94% and 80% respectively), the bulk of this illegal trade now originates in Africa. In February 2020, the Wildlife Justice Commission (WJC) reported that more than half of global seizures of pangolin scales between 2016 and 2019 originated in Nigeria. As pangolins have already been hunted to near extinction in Nigeria, it is likely that the country is acting as a trading hub for pangolin poachers operating in neighbouring countries, including Cameroon, the D.R.C., and Gabon. Research published in December 2021 found that 0.8 million pangolins have been either poached in or trafficked through Nigeria between 2010-2021.

Factfile: Pangolin

Population
Unknown

Trafficked from
East, West, South and Central Africa

Trafficked to
Southeast Asia, China

Trafficked for
Traditional Asian medicine, jewellery, decoration

TCM and African pangolin smuggling

Research conducted in 2016 showed that pangolin was listed as an ingredient in 66 Traditional Chinese Medicines approved by the state for domestic manufacture, produced by over 200 Chinese pharmaceutical companies. Officially, pangolin parts were sourced from government stockpiles.

Yet with the Chinese market demanding an estimated 200,000 animals a year and lacking pangolin breeding facilities, it is likely that illegal imports of African pangolins were producers' main supply. At the same time, traders were able to launder smuggled pangolins through legitimate channels such as licensed websites.

In February 2020, researchers at South China Agricultural University identified the pangolin as a possible intermediary host of the novel coronavirus but even this has not curbed the trafficking of the animals. On April 1, 2020, customs authorities in Malaysia made one of their biggest ever seizures of African pangolin scales, recovering six tons of the contraband in a container at the country's busiest port. The shipment is believed to have originated in Nigeria.

China was linked to 192 cases of pangolin smuggling between 2010 and 2021, representing over 74.5 tonnes of scales. In June 2020, the Chinese government raised the pangolin's protection level, meaning that illegal trafficking of pangolins can now be punished by up to ten years in prison. However, this in and of itself does bring about the end of the legal pangolin trade, as exceptions may still be granted for 'special circumstances' and 'heritage protection' (e.g. Traditional Chinese Medicine). Also promising

was China's removal of pangolins from the section on TCM ingredients in its official pharmacopoeia in June 2020. However, the adoption of amendments to its Wildlife Protection Law in December 2022 is undermined by various exemptions and a refusal to close domestic markets in pangolins.

Factfile: Great apes

Population
630,000 (global, at most)
515,000 (Africa, at most)

Trafficked from
West and Central Africa

Trafficked to
Europe, Southeast Asia, China, the Middle East

Trafficked for
Pets, commercial entertainment

Three species of great ape are native to Africa, including the bonobo, chimpanzee and gorilla. All three are routinely targeted by poachers.

According to a 2018 report by Global Financial Integrity, "Thousands of bonobos, chimpanzees, and gorillas are killed each year to fill the demand for pets and attractions, bushmeat, and ceremonial body parts, generating significant revenue for those who make up the illicit supply chains."

West and Central Africa are the hotspots of ape poaching. The primary markets for great apes and products derived from apes are Africa, Eastern Europe, the Middle East and China, where they are used as pets, displays of wealth and commercial entertainment. The pet trade is primarily in Gulf countries, Russia and Eastern Europe.

The commercial trade mainly serves China and Southeast Asia, especially Thailand. There is additional demand for baby chimpanzees in Africa at hotels and village cafés, and as pets for wealthy families. Experts believe there may be around 50-100 orphan chimpanzees kept as pets by affluent families in Gabon.

The Last Great Ape Organization (LAGA) estimates that 900 great ape skulls were trafficked in Africa in 2015. Even during the pandemic years, over 100 great apes were seized in trafficking incidents. Witch doctors in Cameroon, Senegal and Guinea seek the heads, hands and feet of the animal. Body parts from chimpanzees and gorillas are also transported to Nigeria, China and the United States. The

belief that consuming gorilla parts passes on their strength includes a practice of burning and grinding their bones to make a traditional "vaccine".

Chimpanzees - which have the largest population of the three great ape species - dominate the live ape trade. Both chimpanzees and bonobos face high mortality rates during trafficking, and poachers kill numerous adults for every baby they capture for the live trade. According to Global Financial Integrity, the global market for live infants and juvenile apes has a value of USD 2.1 million to USD 8.8 million.

Presenting easy targets for hunters and with low reproductive rates, gorillas face the greatest threat to their survival of the three ape species. Gorillas are sought after as pets or trophies and for their body parts, which are used in medicine and as magical charms. Yet they are most at risk from the commercial trade in bushmeat. In some cases, gorillas are specifically targeted to supply high-end demand for meat in urban centres, where the consumption of ape meat is considered prestigious among the wealthy elite.

Prices for great ape bushmeat are especially high in Switzerland where they are around 10-times those in Cameroon. Experts estimate that 40 tons of bushmeat arrives at Geneva and Zurich airports every year. The figure from Charles de Galle in Paris may be 270 tons per year. It is unclear how much of this is great apes versus other wild species.

Rafiki the silverback

A UNESCO World Heritage Site near Uganda's border with the D.R.C, Bwindi Impenetrable Forest National Park is home to about half the world's remaining population of roughly 1,000 mountain gorillas. In July 2020, a Ugandan court sentenced a poacher to 11 years in prison for killing Rafiki, a 25-year-old 'silverback' (pack leader).

Demand in the Middle East for exotic cats is endangering the cheetah. The planet's fastest land animal has vanished from approximately 90% of its historic range in Africa, and is extinct in Asia except for a single, isolated population of some 50 individuals in central Iran.

With only 7,100 cheetahs left in the wild, the IUCN has classified the species as 'vulnerable', but after a recent study indicated steep population declines, scientists have called for cheetahs' conservation status to be reclassified as 'endangered'. In North Africa and Asia, cheetahs are recognised as critically endangered. However, although the animal has been included in CITES Appendix 1 since 1975, an annual export quota of cheetahs is permitted from Botswana (5) and Namibia (150). As in other instances where CITES permits an exception, this limited legal trade creates difficulties when it comes to discerning illegal trafficking from the CITES-compliant trade.

Hunting of cheetahs for their skins contributes to population decline. Cheetah cubs are poached from Ethiopia, northern Kenya, Somalia and Somaliland and smuggled to the Arabian Peninsula, mostly via Yemen. The Cheetah Conservation Fund (CCF) estimates that 300 cheetahs are trafficked each year from the Horn of Africa alone.

Traders capture cheetah cubs when they are just a few months old by killing their mothers. The infants are often held in captivity for several months and fed on a starvation diet consisting primarily of camel milk before shipment. Fewer than 20% survive, the CCF estimates. When cubs are saved from traffickers, just 50% survive the trauma, according to the CCF.

Every year, approximately 300 cheetah cubs are trafficked through Somalia to Middle Eastern countries such as the United Arab Emirates and Saudi Arabia, where their owners often brag about them on social media, in spite of laws forbidding their ownership. Prices for a live cheetah on the black market can reach up to USD 15,000, which is 50 times the amount illegal traders in Africa receive (anywhere from USD 200-300).

In recent years conservation groups have also raised concerns about an emerging and increasing trade in African lion parts and derivatives, both domestically in African countries and internationally to Asian markets.

Africa's lion population has declined from 500,000 to 20,000-30,000 since 1950 with most remaining individuals now residing in East and Southern Africa. Those remaining in Middle Africa are expected to decline by another 50% before 2035.

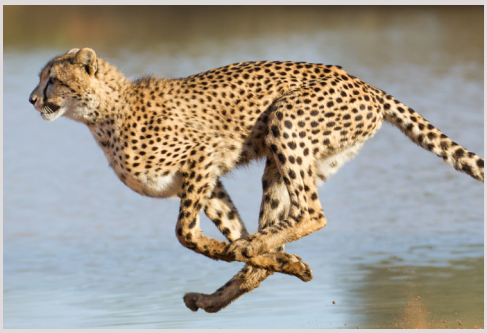
Factfile: Big cats

Population
African Lion (20,000), Cheetah (7,100), Leopard (700k in Africa)

Trafficked from
Africa

Trafficked to
Middle East, Southeast Asia, China

Trafficked for
Pets, pelts, hunting trophies, bushmeat



Although African lions are classified as Vulnerable by the IUCN Red List assessment, an alarming decline in lion numbers in West, Central and East Africa meets Endangered criteria. In parts of Africa, such as Uganda, lion body parts are prized both for use in traditional medicines and as status symbols. Live lions are also traded internationally to be used as exotic pets. A recent police and customs cross border operation coordinated by Interpol conducted between September 14 and October 11, 2021, led Mexican officers in Sinaloa state to discover the trafficking of a fourth-month old lion, as well as an

adult female white tiger and a jaguar. In February 2023, Israeli authorities retrieved an illegally held lion cub that had become a social media sensation.

In West Africa, not only have lions suffered a devastating decline from both habitat loss and poaching, but hunters supplying local bushmeat markets have depleted lions' prey-base. Just 400 individuals now survive in the region, down to about 1% of its historic range. Unregulated and ill-managed trophy hunting has also contributed to the decline in Africa's lion population. Trophy hunting quotas are awarded based on limited data in countries such as Namibia, where authorities have no indication of the numbers or distribution or breeding-age lions. Large male breeding-age lions are overwhelmingly targeted by trophy hunters, reducing male/female lion ratios and leading to destructive in-fighting (and killing of cubs) by other male lions in the territory.

A series of studies led by Craig Packer, director of the University of Minnesota's Lion Research Center, identified overhunting as a preeminent cause of Tanzania's declining lion numbers. The country is Africa's lion hunting capital, averaging 243 wild lion trophies annually between 1996 and 2006 compared to Zimbabwe's 96 per year and Zambia's 55. From 1996 to 2014, Tanzania's lion population fell by 66%.

With 40% of the world's lions, Tanzania has also become a 'trade hotspot' for lion parts, according to a report by TRAFFIC published in 2021. Lion skin, tail, fat and claws are all sought after products in the domestic market. The Ruaha-Rungwa and Selous regions of central and southern Tanzania have been identified as particularly at risk from poaching. Yet poaching data for Tanzania is generally deficient, and lion poaching mortalities are likely to be underestimated.

In Mozambique, figures are even more concerning, with lion parts in high demand both domestically and internationally. Teeth and claws from both Mozambique and Tanzania are commonly traded on the international market, the most prolific destination being Vietnam. Poaching rates are high, especially in the Niassa and Limpopo National Parks, where poachers target lions for their claws, teeth and skin.

South Africa likewise remains a major source of lion parts, with 260 captive-breeding facilities as of 2021, amid apparent confusion between various government departments about the legality of their export.

Leopards once roamed most of sub-Saharan Africa and parts of North Africa. Today leopards have disappeared from 40% of their original range, their populations isolated and shrinking. Poachers target leopards for their meat as well as valuable pelts and parts such as teeth and bones, which are used for ceremonial purposes.

Cecil the Lion

In 2015, 13-year-old lion Cecil was killed in Zimbabwe by Walter Palmer, an American recreational big game hunter, having been lured out of his sanctuary by bait tied to the hunting party's car. Despite international outcry, Palmer was not charged, and charges of illegal hunting faced by two Zimbabweans were dismissed by a high court. The hunters justified the act by maintaining that Cecil was past breeding-age, yet two years later Cecil's son Xanda was killed at the prime age of 6. The hunter responsible, Richard Cooke, wilfully misreported Xanda's status as a pride male with cubs. In 2015, Cooke supervised the slaughtering of another of Cecil's sons, aged four.

In southern Africa, 800 leopards are killed annually for their fur. Members of the region's Shembe church, for example, traditionally don leopard skins to signify pride and royalty. In 2016, it was estimated that some 21,000 church followers wore leopard pelts – in comparison to an estimated 3000-5000 leopards in South Africa – driving poaching not only in South Africa but across the continent, including Mozambique, Zambia, Zimbabwe and Malawi.

In recent years, Shembe followers have received some 18,500 faux fur mantles from the conservation group Panthera, leading to a 50% drop in demand for real skins in the Church.

Leopard skins and teeth are also traded domestically in Central and West Africa, for use in traditional rituals, with parts being sold openly in urban markets.

Inadequate management of trophy hunting in east and southern Africa has further impacted leopard numbers. In Tanzania, it is only legal to hunt male leopards, yet records show that from 1995 to 1998 nearly a third of the country's leopard trophies were female.

3.2 Extremist groups and illegal wildlife trafficking

Al-Shabaab

Taxonomy Salafi Jihadism
Founded 2006
Following 7,000–12,000
Wildlife portfolio Ivory, timber

Emerging as a radical youth wing of the Union of Islamic Courts, the organisation then in control of Mogadishu, al-Shabaab was designated a terrorist group by the United States in 2008 and declared allegiance to al-Qaeda in 2012.

The group has also reportedly formed links with other African militant groups, including Islamic State West Africa Province (ISWAP) and al-Qaeda in the Islamic Maghreb (AQIM). Among numerous atrocities committed by the group, in 2015 al-Shabaab gunmen stormed a Kenyan public university, massacring 148 people and targeting Christian students.

According to a report by the Elephant Action League (EAL) published in 2013, 'ivory serves as one of the lifelines of al-Shabaab'. The EAL calculated that the group pockets USD 200,000-600,000 – as much as 40% of funds to pay its soldiers – from elephant poaching in northern Kenya, ivory obtained from Somali poachers operating in Kenya, and taxing illegal ivory as it is transported through areas the group controls. But al-Shabaab's illicit ivory income is dwarfed by its share in the illegal charcoal trade: the group earns some USD 7 million a year smuggling charcoal to Gulf nations, with a past estimate suggesting the group pulls in USD 38-68 million annually from the sale and taxation of charcoal.

Janjaweed

Taxonomy Arab militia
Founded 1987
Following 5,000–6,000 (as of 2014)
Wildlife portfolio Ivory

A sporadic armed group formed out of Sudanese-Arab nomadic communities, the Sudanese government recruited the Janjaweed for their counterinsurgency campaign in Darfur, on Sudan's western border, in 2003.

Since then, around 500,000 people have been killed in the region, and Humans Right Watch has declared the conflict an act of genocide. Government-sponsored Janjaweed militias have committed numerous attacks on the Fur, Masalit and Zaghawa ethnic groups, displacing some three million people and destabilising Central Africa and the Sahel.

Janjaweed elements have been heavily involved in elephant poaching in the Central African Republic (C.A.R.) since the 1980s, and in the 1990s militias expanded their operations into the Democratic Republic of the Congo (D.R.C.). In January 2012, the group was involved in the massacre of between 300 and 450 elephants in Cameroon's Bouba N'Djida National Park.

Recently, the Janjaweed have targeted elephant populations in the Garamba and Bili complexes of the D.R.C. and the Chinko Nature Reserve in the C.A.R. There is evidence that the Janaweed have also turned their weapons on other big game, including bongo, buffalo and hippopotamus.

Seleka

Taxonomy Rebel militia alliance
Founded 2012
Following Uncertain
Wildlife portfolio Ivory

After the brutal rule of this mainly Muslim coalition of rebel groups in the Central African Republic (C.A.R.) was brought to an end in 2013, ex-Saleka factions carved out areas of control in the region, supported by local poachers and armed Sudanese and Chadian groups. They have since terrorised civilian communities.

In May 2014, members of the Seleka stormed a church in Bangui, hurling grenades and shooting indiscriminately. A year later, the group was involved in a string of attacks on communities in the C.A.R., killing at least 22 people and kidnapping several villagers. Janjaweed elements, which are thought to have assisted Seleka to acquire power and territory, have subsequently been permitted by the Central African group to poach in the C.A.R.

Since then, Saleka factions have established smuggling routes into Darfur, where ivory and other commodities like diamonds are transported to Khartoum by way of Nyala, the state capital of South Darfur.

Boko Haram

(and its iteration as Islamic State West Africa Province (ISWAP))

Taxonomy Salafi Jihadism
Founded 2002
Following 4,000–5,000
Wildlife portfolio Ivory, timber

Established in opposition to western education and with the goal of creating an Islamic state in Nigeria, Boko Haram (now also known as Islamic State West Africa Province (ISWAP) began guerrilla operations in 2009 and six years later declared a caliphate in northeastern Nigeria. Around 350,000 people have lost their lives in the conflict, while 3 million have been displaced in the Lake Chad Basin.

In 2014, Boko Haram sparked international outrage when its gunmen abducted 276 girls from a school in Borno State, Nigeria. Boko Haram allegedly uses the illegal ivory trade to fund its activities.

In 2018, Professor Lee White, Gabon's Minister of Water, Forests, the Sea, and Environment, said that there is 'compelling evidence' that ivory smuggled out of the country through Cameroon to Nigeria was profiting the militant group. The African forest elephant is particularly vulnerable to this trafficking route. Gabon's forests harbour one of the largest remaining populations of this critically endangered species.

A 2014 report by the conservation groups Born Free and the Center for Advanced Defense Studies found that Boko Haram was poaching elephants in Cameroon itself, where it is also suspected that the group is benefiting from the illegal trade in timber. In 2017 alone, over 1.4 million illegally sourced rosewood logs, valued at around USD 300 million, were smuggled to China through Nigeria, whose own timber resources have been badly depleted.

Lord's Resistance Army

Taxonomy Heterodox Christian militia
Founded 1987
Following 200 fighters
Wildlife portfolio Ivory

Founded by Joseph Kony – the Ugandan rebel wanted on 12 counts of crimes against humanity and 21 counts of war crimes – the Lord's Resistance Army (LRA) has led a savage bush war against the government and people of Uganda, displacing hundreds of thousands of people in northern Uganda, killing thousands, and abducting over 30,000 children for use as soldiers and sex slaves.

In recent years, the group has dwindled, partly due to pursuit from Ugandan and U.S. troops. Despite this, LRA fighters remain a threat, not least to Central African wildlife. The group has traditionally lined its pockets with income from smuggled ivory, slaughtering elephants in parts of the Democratic Republic of the Congo (D.R.C.), South Sudan, and the Central African Republic (C.A.R.).

Tusks were routinely transported by the LRA through the borders of the D.R.C. and C.A.R. to Kafia Kingi, Sudan, where they were supplied to merchants or the Sudanese army in exchange for food and ammunition. LRA poaching contributed to the devastating decline of the elephant population in the D.R.C.'s Garamba National Park. By 2004, there was an estimated total of under 2,000 elephants in the park, from over 20,000 in the 1970s.

Democratic Forces for the Liberation of Rwanda (FDLR)

Taxonomy Hutu rebels
Founded 2000
Following 5,000 (as of 2015)
Wildlife portfolio Timber

Rwandan rebels operational during the Second Congo War (1998-2003) and the Kivu conflict (2004-), the FDLR is currently active in the Virunga mountains of East Africa. The armed group has been implicated in child soldier recruitment, rape and looting, and in 2009 is believed to have been responsible for terrorist attacks on two villages in the eastern D.R.C., massacring hundreds of civilians.

In April 2020, FDLR militiamen ambushed a convoy of civilians in Virunga National Park, D.R.C., killing at least 12 park rangers. That is not the only threat the group poses to conservation efforts, reportedly felling precious forestry to supply to the illegal charcoal trade. Despite UN efforts to convince the rebels to return to Rwanda, the FDLR has refused to leave Virguna, whose rich jungles are home to over half of the world's remaining mountain gorillas.

Mai-Mai

Taxonomy Community-based militia
Founded 2011
Following 3,000 (Kata Katanga only)
Wildlife portfolio Ivory

Mai-Mai are community-based militia of the Democratic Republic of the Congo, typically formed to counter invading Rwandan forces in league with Congolese rebel groups. Mai-Mai Kata Katanga is one such group. At its peak in 2013, Kata Katanga comprised 3,000 soldiers fighting for the independence of the southeastern Congo's Katanga Province.

The militia's leader, Gédéon Kyungu Mutanga, escaped from prison in 2011, where he had been incarcerated for crimes against humanity and sentenced to death. Kata Katanga are one of the Mai-Mai groups that have taken over parts of Upemba National Park. Armed groups outgun park staff and hunt elephants indiscriminately for ivory. Poaching in Upemba gained momentum when in 2012 Atamato Madrandele, the park's Chief Warden, was ambushed and killed by Mai-Mai soldiers.

PART 4: CONCLUSION & RECOMMENDATIONS

BY DR HANS-JAKOB SCHINDLER

Since 2020, the world has struggled with the impact of the pandemic. During the same period, human society has become increasingly alarmed by the visible impact of climate change, ecosystem collapse and species extinction.

Public and official interest to tackle the illegal wildlife trade has never been stronger, just as the need to take action has never been more imperative. If action is not taken urgently, and collectively, the chances for impactful future action will diminish significantly.

It is within our collective power to divert the Anthropocene extinction, but there is no more time to waste.

We set out a range of recommendations and potential mechanisms that could be implemented as a holistic strategy to significantly reduce illegal wildlife trade.

1. **Build the knowledge base**
2. **Guard the guardians**
3. **Take on traffickers**
4. **Cut off trafficking in transit**
5. **Take the fight to the international stage**
6. **Stamp out demand**
7. **Draw a line in the sand**

This plan is detailed in the pages below.

4.1 Build the knowledge base

Survey to save

Halting the flow of IWT begins with improving knowledge about remaining wildlife populations. Surveys and monitoring programmes can provide critical information about the status of key species, while also assisting targeted anti-trafficking efforts.

- Countries with resident populations of highly trafficked wildlife should institute, maintain and fund comprehensive longitudinal monitoring programmes to provide data rich understanding of key species, helping to map population numbers over time, track animal movements and identify migratory corridors.

Collaborate, share, support

The success of the CITES' Monitoring the Illegal Killing of Elephants (MIKE) programme has shown the benefits of an international, collaborative approach to wildlife monitoring - but similar programmes for other highly trafficked species, such as pangolins and the European eel, either do not exist or are insufficient to the task.

- High risk countries in the developing world must be supported by the developed world to conduct monitoring programmes, through direct state-aid, capacity building exercises and grants directed to non-governmental organisations.
- Information gathered should be publicly accessible, while methodologies and best practices should be made transparent to aid knowledge transfer.
- It is crucial that the data collected is interoperable in order to enable sharing of large quantities of data between various receiving and sending systems in multiple jurisdictions for cross-checking and further analysis.

Enlist local support

Involving local communities in monitoring programmes can help compensate for any deficits of institutional capacity or political will while also giving local actors agency in conservation efforts.

- Both governmental and non-governmental monitoring exercises should be integrated with community-driven 'citizen science' monitoring systems and complemented by local knowledge modalities.
- It could also be explored how to involve crowd sourcing information from tourists visiting source countries, as has already been piloted in the United States via mobile phone applications.

Track the trade

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has no reporting mechanisms in place to track the trade of wildlife species not listed in its highest category of protection (i.e. Appendix 1). CITES, in other words, is designed to measure a problem only after it becomes acute.

- CITES should be updated to include reporting mechanisms that track the trade of wildlife species not listed in CITES Appendix 1, and be funded appropriately to do so.
- Governments should explore the possibility to establish a small analysis unit for CITES in order to enable the management of the reported data and ensure distribution to CITES parties in a timely and effective manner.

Report seizures systematically

Across the world, public reporting of wildlife product seizures by enforcement authorities is patchy, inconsistent, siloed and not designed with a mind to improving future practice. As a consequence, a wealth of critical information about patterns of poaching and smuggling is routinely lost.

- State authorities, international enforcement agencies and the transport industry should - as a matter of urgency - adopt standardised public reporting procedures, capturing information such as seizure location and transport itinerary, transport methods, concealment tactics and detailed descriptions of seized products. This information must be public, standardised, transparent and ultimately housed in an internationally centralised database.
- Governments could explore mandating a new specialised Interpol database to receive, analyse and distribute seizure reports to ensure that information is available to law enforcement authorities in a timely manner, including analysis of changing tactics and methods of criminal groups, networks and individuals involved in IWT.
- Governments should explore encouraging Interpol to highlight the issue of IWT with additional special operations to encourage law enforcement authorities to further report methodologies and tactics, including money laundering methodologies of IWT emerging from investigations. Furthermore, government should encourage Interpol to make diligent use of Interpol Notices to distribute such methodologies and tactics to law enforcement authorities globally in order to enable these to better disrupt the IWT.

Follow the DNA

Because IWT products often follow convoluted itineraries en route to consumer markets, it is often difficult for authorities to be confident about the origins of IWT. This knowledge gap hinders effective mapping of IWT traffic which could otherwise inform conservation and enforcement strategies.

- DNA testing of seizures should be made standard practice, with information logged in standardised format and made available on publicly accessible databases.

4.2 Guard the guardians

Support activists, journalists and the third sector

Support activists, journalists and the third sector: The illegal wildlife trade thrives in the shadows. Over the past few decades, activists, investigative journalists and NGOs have helped shine a light on IWT, helping to raise public awareness, rouse governments to action and put traffickers behind bars. Operating on shoestring budgets, this work often involves significant personal risks and, as outlined in this report, several murders have occurred.

- Governments should further promote and resource secure platforms for whistleblowing and information sharing. These platforms should also include adequate technical means to ensure confidentiality, in particular as far as the identity and personal details of the whistleblower is concerned, until the respective investigations have concluded.
- Non-governmental organisations which investigate aspects of IWT - such as the Environmental Investigation Agency and WildAct to name but two - should be promoted and supported by major international donors to a level commensurate to their social value. In order to ensure continuing operations, multi-year funding cycles should be a priority consideration for donors.

4.3 Take on traffickers

Confront the poachers

Park rangers and other frontline defenders face increasingly well-equipped poachers while also dealing with reduced budgets stemming from COVID-19 restrictions. While reflexive 'securitisation' can create new challenges where not executed appropriately, it remains essential that park rangers operating in highly dangerous zones receive the training, support and equipment they require to fight back against poachers.

- Countries faced with well-equipped and violent trafficking enterprises should be encouraged to allocate suffcient resources to equip frontline defenders such as park rangers, who are too often left understaffed and out-gunned. International donors could explore additional programs and funding in this regard.
- Lessons learned from the pandemic show that robust long-term funding is required that can survive economic and political turbulence. Poachers have shown themselves to be flexible and able to adapt to changing conditions, and rangers must be provided with the necessary resources to be equally adaptable and innovative.
- Countries with relevant institutional knowledge, in particular within law enforcement and specialised military units, should explore the possibility to allocate additional resources in order to provide training programmes to high-risk- low-resource countries. Wherever possible, in addition to controlled environment training exercises and background logistical support, capacity building programmes should involve 'real world' joint exercises.

Innovate to deescalate

In addition to increasing the capacity of park rangers, effective anti-poaching technology is a second indispensable element of any holistic strategy for countering IWT. For example, drones and light aircraft can assist wildlife monitoring and early poaching detection systems. Innovation hubs such as Oxford University's Wildlife Conservation Research Unit (WILDCRU) and programmes such as South Africa's Rhisotope Project - which involves injecting low-grade radioactive isotopes into a rhino's horn to deter consumption and aid detection - can help turn the tide against traffickers who continue to evolve and force enforcement authorities on the back foot.

- State departments and major global learning institutions should be encouraged to institute multidisciplinary wildlife protection innovation hubs that work in collaboration with local partners to identify problems and develop solutions that will make a difference on the ground.
- Furthermore, donors could explore the possibility to fund networked projects, connecting individuals and research institutes working on these issues in order to better enable joined-up research and exchange of experience in order to avoid research silos and duplication of efforts.

Bring local communities on board

Supporting local communities that live in proximity to vulnerable wildlife populations carries a multiplier effect for anti-trafficking efforts: whereby individuals who might otherwise engage in poaching and smuggling are converted into frontline defenders. Such programmes can also mitigate potential effects of state graft.

- Countries with vulnerable wildlife populations should be encouraged and supported to embed community-driven action at the heart of their wildlife protection plans.
- International donors should consider embedding local communities partnerships at the heart of development strategies.

Deter bad actors

Around the world, legal loopholes, judicial corruption and comparatively light sentencing are more often the rule and not the exception, meaning poachers, traffickers and corrupt state-embedded actors are not sufficiently deterred from engaging in IWT.

- National laws should be amended and, where appropriate, additional legislative and administrative measures should be developed with a view to strengthening the deterrence effect of legal mechanisms. In particular, sentencing guidelines should be formulated to enable stricter sentencing.
- Relevant national and international enforcement agencies should routinely publicise information regarding arrests and convictions to increase public awareness about the potential consequences of criminal behaviour in connection with IWT.
- Seizure press releases should be routinely updated to include information about trial proceedings and convictions.

Go after kingpins

Targeting small-scale poachers is far less effective than taking down mid- to high-level traffickers and corrupt state-embedded actors. Whereas individual poachers can usually be easily replaced, knocking out those further up the value chain can have outsized, longer-term impact. This, however, requires an entirely different set of tools.

- Governments should encourage the establishment of specialist investigative task forces in particular in source, transit and destination countries. These should be adequately resourced so that they can focus on mid- to high-level traffickers and corrupt state-embedded actors. This would enable disruption at a systemic level rather than at a tactical level.
- Transnational crime syndicates should be tackled by strengthening mutual legal assistance between nations and international law enforcement cooperation (e.g. evidence exchange and data-sharing).
- As outlined in this report, the volume of finances generated by the IWT requires the misuse of the formal financial sector by IWT networks. Therefore, those governments that have not yet done so should be encouraged to establish mechanisms that allow for the effective exchange of information and analysis on money laundering tactics deployed by IWT networks between the private sector and government authorities. A promising practice here is the Joint Money Laundering Intelligence Taskforce (JMLIT) of the United Kingdom.
- In order to ensure continued awareness of the changing money laundering tactics and spillover of IWT into the area of terrorism financing, governments could encourage the Financial Action Task Force (FATF) to continue highlighting the issue of financial crimes connected to IWT and to update its 2020 report on this issue. This would also ensure early awareness of any regulatory changes that may be required to tackle this issue, in particular in light of the increased use of new technologies, including cryptocurrencies in the financing of the IWT.

4.4. Cut off trafficking in transit

Train up transport officers

Traffickers and the wildlife products they trade in are most exposed to enforcement authorities while they are in transit between jurisdictions. Across the world, however, transport hub inspection infrastructure is weak and IWT is often not a priority.

- Port, airport and border crossing personnel should be given dedicated anti-IWT training and international donors should be encouraged to establish respective projects. These could for example build on the Container Control Program of the United Nations Office on Drug and Crime (UNODC)-World Customs Organization (WCO) and its Joint Port Control Units (JPCUs).
- The developing world should enlist international support to develop dedicated anti-IWT training programmes for transport inspection officers. Methodologies and learnings should be published to aid international best practice. This specialised training could be integrated in the training programme for JPCUs and governments should encourage those countries that have not yet done so to explore the possibility to establish JPCUs.

Use passenger data to tackle 'ant-trafficking'

As outlined in this report, in addition to large scale trafficking via sea and land, 'ant-trafficking' via passenger routes on commercial airlines continues to play a role. The use of Advanced Passenger Information (API) and Passenger Name Record (PNR) data transmitted by commercial airlines prior to the departure of international flights to the authorities at the arrival country has been successfully used by border control and customs authorities to establish passenger profiles in the area of the illegal drug trade, to disrupt the travel of foreign terrorist fighters and in some countries to tackle IWT.

- Those governments that have not yet done so, should be encouraged to explore the possibility to use API and PNR data to establish passenger profiles to target ant-trafficking of wildlife products. This would enable border control and customs authorities to more effectively target those passengers that have a high likelihood of being involved in IWT.

Bring in independent supervision

Corruption is one of the main reasons why existing transport hub inspection infrastructure fails to more effectively intercept IWT products in transit.

- Those international donors that have not yet done so, should explore the possibility to include third-party independent monitoring of existing inspection infrastructure in critical transport nodes with large volumes of trafficking as part of their project structure.

Invest in detection technology

Given the scale of modern global trade and passenger travel, manual human inspection cannot hope to intercept more than a fraction of total IWT traffic.

- Automated detection and other emerging inspection technologies should be developed, piloted and, ultimately, implemented on a global scale. This should be part of the research agenda of international institutes working on the issue of IWT tracking (see above section 4.3.)

Secure private sector cooperation

Private sector transport operators have a significant role to play in developing robust IWT detection systems. At present, however, the private sector typically lacks incentives to enhance capacity while existing capabilities are often developed without coordination with state-operated detection systems.

- Private sector logistics operators should be incentivised to build IWT detection capacity in coordination with government authorities based on shared best practices.
- Similarly to information exchange mechanisms for the financial industry (see 4.3.), governments should be encouraged to establish public-private partnership mechanisms in this regard. A promising practice could be the ammonium nitrate tracking system setup by the government of Australia, which involves close coordination and cooperation between private sector stakeholders and government authorities to ensure the safe import, production, transport and use of ammonium nitrate. In this system, which is driven by the private sector, public and private stakeholders work as an integrated system, exchanging information on a continuous basis.

4.5. Take the fight to the international stage

Forge a new convention

CITES, which came into force in 1975, remains the only international convention addressing IWT. For all the benefits it has delivered, CITES was designed to cover the legal trade in wildlife and not to tackle criminal activity.

- Governments should - with all due haste - spearhead a new international convention to specifically address the criminal dimension of IWT.

Increase the use of global sanctions mechanisms

The report highlights the close connection between IWT and armed conflict, including the financing of terrorism in conflict zones. Many of the source countries experience domestic unrest, which the United Nations Security Council (UNSC) attempts to manage also via global sanctions regimes. In the sanctions regime established according to UNSC resolution 751 (1992) concerning Somalia, the involvement of al-Shabbab in the illegal charcoal trade is regularly highlighted. Given the clear connection between the IWT as a financial resource for conflict parties, the involvement in the IWT could be highlighted as separate listing criteria as part of the asset freeze sanctions measure. Given the connection between several ISIS and al-Qaeda affiliated groups with IWT as one of their funding streams as outlined in this report, this issue could also be highlighted as part of the listing criteria under the 1267/2253 sanctions regime of the UNSC.

- Governmnents should be encouraged to highlight the role proceeds from the IWT play in the financing of conflict parties, including terrorist networks and to push for highlighting this issue as part of the already established asset freeze measures against listed individuals and entities on the relevant UNSC sanctions lists, including the ISIS and al-Qaeda sanctions list.

Follow the money

Illicit Financial Flows (IFFs) represent one of the most effective means to deprive transnational criminal enterprises of resources and target major players within these syndicates. Despite this, IFFs remain one of the most neglected aspects of anti-trafficking efforts.

- Governments should be encouraged to explore the possibilities to strengthen existing and, where appropriate, establish new targeted sanctions regimes that focus individuals and entities involved in the IWT. This can be done by enacting 'Magnitsky'-style sanctions regimes to punish those that engage in wildlife trafficking. Named after Sergei Magnitsky, who was imprisoned by Russian authorities for investigating massive tax fraud, denied critical healthcare and subsequently died under suspicious circumstances, the Magnitsky Act authorizes the United States to impose sanctions on foreign individuals who have committed human rights abuses or are involved in significant corruption. Following the example set by the U.S. Congress, which enacted the Magnitsky Act in 2012 and expanded its remit in 2016, Canada, the European Union, United Kingdom and many other countries have since adopted similar sanctions regimes. Similar legal instruments should be mobilised against wildlife traffickers and their accomplices.
- Multilateral organizations, such as the European Union (E.U.), and the African Union (AU) should be encouraged to explore strengthening their already existing restrictive measures/ sanctions regimes focused on IWT. Relevant other multilateral organisations such as the Association of Southeast Asian Nations (ASEAN) should be encouraged to explore the development and implementation of restrictive measures against individuals and entities involvedin the IWT.

Keep a list

Many convicted traffickers continue to ply their trade after completing desultory prison sentences, aided not least by poor inter-jurisdictional awareness of their past misdemeanours.

- An appropriate international body should take responsibility for housing an international registry of IWT offenders to be shared among national law enforcement agencies.

Tame the digital frontier

The digital domain has become a major thoroughfare for IWT, while enabling criminals to coordinate their activities remotely and conduct the transfer of financial assets, including through the use of cryptocurrencies. Although voluntary action from certain Big Tech companies has yielded some limited results, only significant legislative initiatives that increase liability risks for internet service providers and stakeholders in the emerging global cryptocurrency industry will enable and encourage those stakeholders to effectively increase their internal monitoring and defensive mechanisms against the misuse of their services for IWT.

- Significant regulatory reforms, such as the 2022 Digital Services Act (DSA) in the European Union and the reform of Section 23 of the Communication Decency Act in the United States have the potential to increase industry cooperation and strengthen their internal and proactive monitoring and defensive mechanisms. Therefore, governments should be encouraged to highlight the harmful effects the misuse of such services for IWT produces and include this issue in the category of harmful content as well as new regulation concerning algorithmic amplification of harmful content.
- Governments should be encouraged to explore new legislative and regulatory initiatives to increase the liability of online payment platforms if their services are misused for money laundering and terrorism financing, including when connected to IWT.
- Governments, including in the United States and at the level of the European Union, should be encouraged to continue to develop legislation and regulatory standards for the cryptocurrency industry and include the misuse of this technology for IWT in these efforts.
- Governments should be encouraged to develop clear transparency, due diligence and know your customer standards for the cryptocurrency industry, building on the existing standards and best practices developed through the FATF to ensure better internal monitoring and defensive mechanisms of stakeholders within the cryptocurrency industry against the misuse of their services for IWT.
- Given the growing importance of new technologies, including social media platforms and messenger services as well as cryptocurrencies for the operations of the global IWT, governments should be encouraged to establish or further develop internal investigative capabilities and capacities, including the development of the appropriate technical expertise and the availability of appropriate technical tools for effective investigations among their investigative, audit and regulatory authorities.

4.6 Reduce demand

Understand consumer behaviour

Demand is the single most important driver of IWT, but is too often overshadowed by supply side concerns, with limited understanding of what underpins consumption.

- Countries with significant consumer markets should be encouraged to conduct further studies focused on consumer behaviour and to conduct additional research to inform targeted consumer-side interventions. The results of these exercises and the methodologies that underpinned them could be publicised in expert journals, to inform international best practice.

Educate consumers

As important as conservation and enforcement interventions may be in reducing IWT, continuing reduction of demand remains a key issue when it comes to significantly reducing the illegal trade. If significant behavioural changes can be made to further reduce demand, traffickers will be left with no market for their products.

- Countries with significant consumer markets should be encouraged to design and launch major consumer education campaigns highlighting the damaging effects of IWT and the dangers to human society caused by the trade. Widespread concern about the spread of zoonotic disease will likely result in increased buy-in from consumers.

4.7 Consistent progress is crucial

Plan to succeed

Since the latter half of the twentieth century, governments have continuously attempted to tackle the IWT, if often in an inconsistent fashion. Political messages calling for the protection of wildlife are too often not backed up by action. The current situation can be characterised as the advanced stages of a human-driven extinction crisis, resolute and consistent action is necessary. National governments should be encouraged to take bold steps in their efforts to significantly and sustainably reduce IWT to prevent further deterioration of the earth's ecosystems and reduce IWT as a financial driver of conflict and terrorism.

- Governments should be encouraged to develop, implement and properly fund national multi-year anti-trafficking strategies. These integrative strategies should take in all diverse aspects of the IWT into consideration, including wildlife monitoring, seizure reporting, empowerment of local communities, strengthening of legal instruments, resourcing of enforcement agencies, developing tools for disrupting international criminal enterprises, accountability of government agencies, anti-corruption drives, education and public awareness campaigns.
- Recent efforts to achieve this, such as the EU's revised 2022 Action Plan against Wildlife Trafficking, show a clear understanding of the need for multilateral cooperation between governments and other stakeholders, as well as removing the economic basis for IWT. A step in the right direction, its success will still depend on proper implementation and consistent enforcement over the coming years.

Consistent action is key

Many governments continue to permit a domestic trade in wildlife products that are known to originate from unsustainable and illegal harvesting practices. Countries with major domestic consumer markets for endangered wildlife have a particular responsibility to take firm action.

- Countries that are party to CITES should - at a bare minimum - enforce regulations set out in the international convention through domestic laws.
- China should take firm action to end unsustainable practices in Traditional Chinese Medicine that are directly related to the IWT, including a categorical ban of the pangolin scales trade.
- Japan should follow the example set by the United States, China and Hong Kong and immediately close down its ivory market.
- The Japanese government should purge trafficked eel from domestic supply chains through law enforcement measures while launching a major public awareness campaign to discourage consumption until a sustainable market has been achieved.
- The United States and European governments have a special role and responsibilities. For most of the twentieth century they were the primary destination markets for wildlife products. Therefore, they should be encouraged to increase their efforts to purge IWT from their own territories while working with countries around the world to quickly, significantly, effectively and sustainably reduce a trade that began on their shores.

BIBLIOGRAPHY

- Africa Times. (2021). *U.S. arrests 2 from DR Congo for illegal wildlife trafficking.* https://africatimes.com/2021/11/09/u-s-arrests-2-from-dr-congo-for-illegal-wildlife-trafficking/
- Africa Times. (2022). *Malaysia's $18m illegal wildlife seizure traced to Africa.* https://africatimes.com/2022/07/18/malaysias-18m-illegal-wildlife-seizure-traced-to-africa
- Agence France-Presse (2022). *Poachers poison, kill at least 150 critically endangered vultures.* Daily Sabah. https://www.dailysabah.com/life/environment/poachers-poison-kill-at-least-150-critically-endangered-vultures
- Agence France-Presse. (2014). *Zulu false dawn: Shembe faithful swap leopardskin for faux fur*. The Guardian. https://www.theguardian.com/world/2014/feb/19/zulu-shembe-leopardskin-south-africa
- Agence France-Presse. (2022). *Two rangers killed in attack in famed DR Congo reserve*. News24. http://news24.com/news24/africa/news/two-rangers-killed-in-attack-in-famed-dr-congo-reserve-20221224
- Akile, E. (2023). *40 poachers arrested in Juba, 5,000 kg of bush meat seized.* Eye Radio. eyeradio.org/40-poachers-arrested-in-juba-5000-kg-of-bush-meat-seized/
- Al Jazeera. (2021). *Bear paws, pangolin scales: Wildlife trade flourishing in Mekong.* https://www.aljazeera.com/news/2021/6/4/bear-paws-pangolin-scales-wildlife-trade-flourishing-in-mekong
- Al Jazeera. (2021). *Nigeria: 7 years after Chibok mass abduction, still no solution.* https://www.aljazeera.com/news/2021/4/14/nigeria-7-years-after-chibok-mass-abduction-still-no-solution
- Al Jazeera. (2021). *Southern African nations agree to deploy forces to Mozambique.* https://www.aljazeera.com/news/2021/6/23/southern-african-nations-agree-to-deploy-forces-to-mozambique
- Al Jazeera. (2022). *Malaysian extradited to US for alleged rhinoceros horn smuggling.* aljazeera.com/news/2022/10/8/malaysian-extradited-to-us-over-alleged-rhinoceros-horn-smuggling
- Alim, A. N. (2020). *Corruption in central and west Africa allows elephants and pangolins to be illegally hunted, investigators say*. The Independent. https://www.independent.co.uk/climate-change/news/wildlife-trafficking-research-report-africa-asia-b1780840.html
- Alim, A. N. (2021). *West Africa stopping poachers but not flow of money from illegal wildlife trade, study finds*. The Independent. https://www.independent.co.uk/stop-the-illegal-wildlife-trade/wildlife-trade-west-africa-poachers-money-b1858560.html
- Allan, C., & Fischer, S. (2021). *Combatting wildlife trafficking – protecting biodiversity and beyond.* International Airport Review. https://www.internationalairportreview.com/article/158332/combatting-wildlife-trafficking/
- Allen, K. (2021). *Drones and Violent Nonstate Actors in Africa. Africa Center for Strategic Studies* . https://africacenter.org/spotlight/drones-and-violent-nonstate-actors-in-africa/
- Amu TV. (2023). *Arabs pay Taliban top dollar to hunt rare birds in Afghanistan.* https://amu.tv/en/32150/
- Andersson, A., Tilley, H., Lau, W., Dudgeon, D., Bonebrake, T., & Dingle, C. (2021). *CITES and beyond: Illuminating 20 years of global, legal wildlife trade. Global Ecology and Conservation*. https://www.sciencedirect.com/science/article/pii/S2351989421000056
- Andimile, M., & Floros, C. (2021). *Bushmeat Trade in Urban Centres in Tanzania*. TRAFFIC. https://traffic.org/publications/reports/bushmeat-trade-in-urban-centres-in-tanzania-an-analysis-from-dar-es-salaam-morogoro-mbeya-arusha-and-manyara/
- Asala, K. (n.d.). Somalia: *At least nine dead in Al-Shabaab suicide car bombing*. Africa News. https://www.africanews.com/2021/07/10/somalia-at-least-nine-dead-in-al-shabaab-suicide-car-bombing/
- Assanvo, W. (2021). *Terrorism and violence in Côte d'Ivoire spark fears of home-grown extremism*. Daily Maverick. https://www.dailymaverick.co.za/article/2021-06-15-terrorism-and-violence-in-cote-divoire-spark-fears-of-home-grown-extremism/
- Assignon, C. (n.d.). FDLR rebels blamed for killing of Italian ambassador to DR Congo. DW. https://www.dw.com/en/fdlr-rebels-blamed-for-killing-of-italian-ambassador-to-dr-congo/a-56663028
- Associated Press. (2022). *Cambodian wildlife official among eight charged in US with smuggling endangered monkeys.* The Guardian. theguardian.com/world/2022/nov/17/cambodian-wildlife-official-among-eight-charged-in-us-with-smuggling-endangered-monkeys

- Aung, M. M. (2019). *Using Myanmar as major transit point, illegal wildlife trade spreads in region*. Myanmar Times. https://www.mmtimes.com/news/using-myanmar-major-transit-point-illegal-wildlife-trade-spreads-region.html
- Awori, D. (2021). *Ugandan held in Kenya over smuggling ivory.* Daily Monitor. https://www.monitor.co.ug/uganda/news/national/ugandan-held-in-kenya-over-smuggling-ivory-3398852
- Baldus, R. D. (2001). *Wildlife Conservation in Tanganyika under German Colonial Rule.* Internationales Afrikaforum. http://www.wildlife-baldus.com/download/colonial.pdf
- Basel Institute on Governance. (2021). *Wildlife crime-understanding risks, avenues for action Part 1: Illegal wildlife trade and financial crime.* https://baselgovernance.org/sites/default/files/2021-04/Part 1 Wildlife crime.pdf
- Basquill, J. (2020). *Banks on alert as soft commodities trade targeted by wildlife traffickers.* Global Trade Review. https://www.gtreview.com/news/global/banks-on-alert-as-soft-commodities-trade-targeted-by-wildlife-traffickers/
- BBC News. (2014). CAR Seleka rebels kill many in Bangui church attack. https://www.bbc.co.uk/news/world-africa-27614401
- BBC News. (2014). *Will FDLR rebels ever leave Congo and return to Rwanda?* https://www.bbc.co.uk/news/world-africa-26121995
- BBC News. (2017). *Who are Somalia's al-Shabab?* https://www.bbc.co.uk/news/world-africa-15336689
- BBC News. (2018). *Joseph Kony - child kidnapper, warlord, "prophet."* https://www.bbc.co.uk/news/world-africa-17299084
- BBC News. (2020). *The million-dollar trade in trafficked rosewood trees*. https://www.bbc.co.uk/news/av/world-africa-51774704
- BBC. (2016). *Who are Nigeria's Boko Haram Islamist group?* https://www.bbc.co.uk/news/world-africa-13809501
- BBC. (2019). *Burkina Faso's war against militant Islamists.* https://www.bbc.co.uk/news/world-africa-39279050
- BBC. (2020). *Endangered tigers making a "remarkable" comeback.* https://www.bbc.co.uk/news/newsbeat-53581028
- Bega, S. (2020). *Wildlife trafficking soars as illegal dealers use unchecked hubs in southern Africa.* IOL. https://www.iol.co.za/saturday-star/news/wildlife-trafficking-soars-as-illegal-dealers-use-unchecked-hubs-in-southern-africa-46980261
- Blanc, J. J., Thouless, C. R., Hart, J. A., Dublin, H. T., Douglas-Hamilton, I., Craig, C. G., & Barnes, R. F. W. (2003). African ElephantStatus Report 2002.
- Boyle, L. (2020). *Coronavirus pandemic poses fresh threats for endangered wildlife.* The Independent. https://www.independent.co.uk/climate-change/news/wildlife-endangered-species-rhinos-elephants-pangolins-jaguars-giraffes-a9644756.html
- Boyle, L. (2020). *Stop the wildlife trade: Illegal ivory trafficking shifts to Cambodia after crackdown in China.* The Independent. https://www.independent.co.uk/climate-change/news/stop-the-wildlife-trade-ivory-trade-china-cambodia-animal-trafficking-a9562941.html
- Brazeau, N.F., Verity, R. et. al. (2022). E*stimating the COVID-19 infection fatality ratio accounting for seroreversion using statistical modelling.* Communications Medicine 2. nature.com/articles/s43856-022-00106-7
- Brian, L. (2022). *Impact of COVID-19 on Poaching and Illegal Wildlife Trafficking Trends in Southern Africa*. Institute of Development Studies. https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/17179
- Briggs, H. (2019). *Global wildlife trade higher than was thought.* BBC News. https://www.bbc.co.uk/news/science-environment-49904668
- Brink, H., Smith, R. J., Skinner, K., & Leader-Williams, N. (2016). *Sustainability and Long Term-Tenure: Lion Trophy Hunting in Tanzania*. PLOS ONE, 11(9), e0162610. https://doi.org/10.1371/JOURNAL.PONE.0162610
- Britannica. (2021). *Central Africa - Exploitation of ivory* https://www.britannica.com/place/central-Africa/Exploitation-of-ivory
- Brown, M. B., Bolger, D. T., & Fennessy, J. (2019). *All the eggs in one basket: A countrywide assessment of current and historical giraffe population distribution in Uganda*. Global Ecology and Conservation, 19, e00612. https://doi.org/10.1016/J.GECCO.2019.E00612
- Bunting, I. (n.d.). *Lord's Resistance Army. Britannica*. Retrieved September 13, 2021, from https://www.britannica.com/topic/Lords-Resistance-Army
- Business of Fashion. (2021). *Op-Ed | Luxury Fashion's Link to the Illegal Wildlife Trade* https://www.businessoffashion.com/opinions/luxury/op-ed-luxury-fashions-link-to-the-illegal-wildlife-trade

- Butler, G. (2022). *Rhino Horns, Tiger Teeth and 6 Tonnes of Ivory Seized in $18M Record Bust.* Vice. vice.com/en/article/y3pvdx/malaysia-biggest-ever-ivory-seizure
- Bwana, J. (2021). *Mombasa man and sons linked to Liberian smuggling suspect.* The Standard. https://www.standardmedia.co.ke/coast/article/2001413728/mombasa-man-and-sons-linked-to-liberian-smuggling-suspect
- Campbell, J., & Rotberg, R. (2021). *The Giant of Africa Is Failing.* Foreign Affairs. https://www.foreignaffairs.com/articles/africa/2021-05-31/giant-africa-failing
- Capital News. (2019). *Balala urges UN to support Kenya war on ivory trade through Mombasa.* https://www.capitalfm.co.ke/news/2019/10/balala-urges-un-to-support-kenya-war-on-ivory-trade-through-mombasa/
- Catling, L. (2021). *Irish "wildlife hero" and two Spanish documentary makers killed in "terror attack" in Burkina Faso*. Daily Mail. https://www.dailymail.co.uk/news/article-9518029/Irish-wildlife-hero-two-Spanish-documentary-makers-killed-terror-attack-Burkina-Faso.html
- CCF Staff. (2019). *Cheetah Conservation Fund Receives Emaciated Cubs Intercepted From Wildlife Traffickers By Somaliland Government in Record-Breaking Seizure.* Cheetah Conservation Fund. https://cheetah.org/press-releases/cheetah-conservation-fund-receives-emaciated-cubs-intercepted-from-wildlife-traffickers-by-somaliland-government-in-record-breaking-seizure/
- Challender, D. W. S., Harrop, S. R., & MacMillan, D. C. (2015). *Understanding markets to conserve trade-threatened species in CITES*. Biological Conservation, 187, 249–259. https://doi.org/10.1016/J.BIOCON.2015.04.015
- Cheng, N. (2021). *Case of seized lion bones moving forward, NGO says.* The Phnom Penh Post. https://www.phnompenhpost.com/national/case-seized-lion-bones-moving-forward-ngo-says
- China Biodiversity Conservation and Green Development Foundation. (2016). *An Overview of Pangolin Data: When Will The Over-Exploitation of the Pangolin End?* http://www.cbcgdf.org/English/NewsShow/5011/6145.html
- China Plus. (2020). *Global tech companies take down 3M online listings for trafficked wildlife.* http://chinaplus.cri.cn/recommended/1661/429945
- Chong, E. (2023). *Will China's refusal to close its domestic markets for pangolins mean the end of the species?* Environmental Investigation Agency. https://eia-international.org/blog/will-chinas-refusal-to-close-its-domestic-markets-for-pangolins-mean-the-end-of-the-species
- Chung, C. (2021). *2 Ivory Smugglers Captured in International Operation, U.S. Says*. The New York Times. https://www.nytimes.com/2021/11/12/us/ivory-rhino-congo-trafficking.html
- CITES. (2021). *Record weights of ivory seizures in pre-pandemic data remains of concern, but also indicates promising signs of enhanced enforcement work amid continued illegal trade*. https://cites.org/eng/ETIS_reports_record_ivory_seizures_2019_CITES_TRAFFIC_24032021
- The Citizen. (2019). *Behind bars: Why jailing of ivory kingpins matters*. https://www.thecitizen.co.tz/News/Behind-bars--Why-jailing-of-ivory-kingpins-matters/1840340-4992144-1ep1kr/index.html
- Claire, E. (2021). *New bill seeks to end Hong Kong's days as an illegal wildlife trade hub*. Mongabay. https://news.mongabay.com/2021/05/new-bill-seeks-to-end-hong-kongs-days-as-an-illegal-wildlife-trade-hub/
- Coalition To End Wildlife Trafficking Online. (2021). *2021 Progress Report*. https://www.endwildlifetraffickingonline.org/2021-progress-update
- Coffin, B. (2013). *Gone from our sight*. The Free Library. https://www.thefreelibrary.com/Gone+from+our+sight.-a0338457192
- Connelly, B. (2021). *Taking off: Wildlife Trafficking in the Latin America and Caribbean Region*. www.routespartnership.org
- Connolly, T. (2020). *Jama'at Nasr al-Islam wal Muslimin: a merger of al-Qaeda affiliates*. Foreign Brief. https://www.foreignbrief.com/africa/jamaat-nasr-al-islam-wal-muslimin-a-merger-of-al-qaeda-affiliates/
- Counter Extremism Project. (2021). *Boko Haram Confirms Death Of Terror Leader Abubakar Shekau.* https://www.counterextremism.com/press/boko-haram-confirms-death-terror-leader-abubakar-shekau
- Cowan, C. (2022). *Turtle DNA database traces illegal shell trade to poaching hotspots.* Mongabay. https://news.mongabay.com/2022/07/turtle-dna-database-traces-illegal-shell-trade-to-poaching-hotspots/
- Culbertson, A. (2021). *Mozambique conflict: Why will one million people have been forced to flee their homes?* Sky News. https://news.sky.com/story/mozambique-conflict-why-have-500-000-people-been-forced-to-flee-their-homes-12209615
- Daily Maverick. (2023). *Vietnam seizes 600 kg of ivory smuggled from Africa.* dailymaverick.co.za/article/2023-02-06-vietnam-seizes-600-kg-of-ivory-smuggled-from-africa/

- Daily Sabah. (2019). *Police seize hundreds of animal parts in Istanbul.* https://www.dailysabah.com/investigations/2019/10/30/police-seize-hundreds-of-animal-parts-in-istanbul
- Daily Sabah. (2020). *Global lockdowns spur worrying uptick in wildlife poaching.* https://www.dailysabah.com/life/environment/global-lockdowns-spur-worrying-uptick-in-wildlife-poaching
- Dalton, J. (2020). *South Africa traffics thousands of endangered wild animals to China in 'corrupt and growing' trade, investigation finds.* The Independent. https://www.independent.co.uk/news/world/africa/china-wildlife-trade-coronavirus-south-africa-illegal-rhino-lion-bat-ems-a9513226.html
- David, N. (2022). *Rhino horns have become shorter in past century, study finds.* The Guardian. theguardian.com/science/2022/nov/01/rhino-horns-have-become-shorter-in-past-century-study-finds
- Dembassa-Kette, C. (2015). *At least 22 dead in Central African Republic village attacks.* Reuters. https://www.reuters.com/article/us-centralafrica-violence-idUSKCN0T21S120151113#O3I1uJmw1ZWMbUdd.99
- Dettre, M. (2020). *DNA sleuths targeting ivory poachers.* Save the Elephants. https://www.savetheelephants.org/about-elephants-2-3-2/elephant-news-post/?detail=dna-sleuths-targeting-ivory-poachers
- Dixon, R. (2015). *The hidden consequences of hunting Africa's lions*. Los Angeles Times. https://www.latimes.com/world/africa/la-fg-south-africa-lions-20150822-story.html
- Dube, M. (2022). *Rhino Poaching Way Down in Botswana.* Voice of America. https://www.voanews.com/a/rhino-poaching-way-down-in-botswana-/6837159.html
- Ebersole, R. (2020). *How the internet became a major channel for illegal exotic pets and wildlife parts*. National Geographic. https://www.nationalgeographic.com/animals/article/how-internet-fuels-illegal-wildlife-trade
- ECFR. (2022). Katibat Macina. *Mapping Armed Groups in Mali and the Sahel.* https://ecfr.eu/special/sahel_mapping/katibat_macina
- The Economist. (2021). *The pandemic is a gift to poachers in Africa.* https://www.economist.com/middle-east-and-africa/2021/03/31/the-pandemic-is-a-gift-to-poachers-in-africa
- Ekklesia. (2019). *International task force to target money laundering in illegal wildlife trade.* http://old.ekklesia.co.uk/node/29002
- The Enough Project. *Lord's Resistance Army*. https://enoughproject.org/conflicts/lra
- Environmental Investigation Agency. (2021). *Huge ivory and pangolin scale bust in Nigeria is a chance to disrupt wildlife crime networks*. https://eia-international.org/news/huge-ivory-and-pangolin-scale-bust-in-nigeria-is-a-chance-to-disrupt-wildlife-crime-networks/
- Environmental Investigation Agency. (2022). *Our investigation into pangolin trade from Uganda to China exposes serious legal loopholes*. https://eia-international.org/news/our-investigation-into-pangolin-trade-from-uganda-to-china-exposes-serious-legal-loopholes
- Environmental Investigation Agency. (2022). *Traders defy the law to import more teak into the USA from Myanmar than before the coup*. https://eia-international.org/news/traders-defy-the-law-to-import-more-teak-into-the-usa-from-myanmar-than-before-the-coup
- Espley, S. (2017). *The BIG LIE about lion trophy hunting - Africa Geographic*. Africa Geographic. https://africageographic.com/stories/trophy-hunting-wild-lions-big-lie-sustainability/
- European Commission (2022). *Revision of the EU action plan against wildlife trafficking.* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A581%3AFIN&qid=1667989438184
- European Commission. (2019). *Study on the interaction between security and wildlife conservation in sub-Saharan Africa*. https://op.europa.eu/en/publication-detail/-/publication/53ed0515-de76-11e9-9c4e-01aa75ed71a1/language-en
- European Commission. (2023). Fight against illegal fishing: Commission identifies Cameroon as a non-cooperating country. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7890
- EUROPOL. (2022). *49 individuals across Europe arrested in major blow to eels trafficking*. https://www.europol.europa.eu/media-press/newsroom/news/49-individuals-across-europe-arrested-in-major-blow-to-eels-trafficking
- Evening Standard. (2022). *World Elephant Day: why are elephants endangered?* standard.co.uk/news/world/world-elephant-day-why-are-elephants-endangered-b1018268.html
- Everatt, K. T., Kokes, R., & Lopez Pereira, C. (2019). *Evidence of a further emerging threat to lion conservation; targeted poaching for body parts.* Biodiversity and Conservation, 28(14), 4099–4114. https://doi.org/10.1007/S10531-019-01866-W

- Fisher, J. (2022). *Top fashion designer featured on Sex and the City is charged with smuggling endangered crocodile skin purses worth up to $10,000 to the US by using a network of couriers who pretended they were gifts.* Mail Online. https://www.dailymail.co.uk/news/article-10998583/Fashion-designer-featured-Sex-City-charged-smuggling-10-000-crocodile-handbags.html
- Flint, J., Rone, J., & Lefkow, L. (2004). *Darfur Destroyed: Ethnic Cleansing by Government and Militia Forces in Western Sudan*. Human Rights Watch. https://www.hrw.org/report/2004/05/06/darfur-destroyed/ethnic-cleansing-government-and-militia-forces-western-sudan
- Florida International University. (2022). *Researcher earns global recognition for combating illegal wildlife trade.* https://news.fiu.edu/2022/researcher-earns-global-recognition-for-combating-illegal-wildlife-trade
- Fobar, R. (2019). *Interpol's Operation Thunderball is the most widespread wildlife crime raid ever.* National Geographic. https://www.nationalgeographic.com/animals/article/interpol-wildlife-seized-most-countries
- Forgotten Parks Foundation. (2021). *Upemba National Park, DR.Congo.* https://forgottenparks.org/project/upemba/
- Funk, W. H. (2016). *Poaching in Africa becomes increasingly militarized*. Mongabay. https://news.mongabay.com/2016/09/poaching-in-africa-becomes-increasingly-militarized/
- Future Markets Insight. (2022). *Wildlife Tourism Market Snapshot (2022-32)*. https://www.futuremarketinsights.com/reports/wildlife-tourism-sector-outlook-and-analysis
- Gervais Ondoua Ondoua, Eustache Beodo Moundjim, Jean Claude Mambo Marindo, Rémi Jiagho, Leonard Usongo, & Liz Williamson. (2017). *Poaching and Wildlife trafficking in the Garamba-Bili-Chinko landscape.* Traffic. https://www.traffic.org/publications/reports/poaching-and-wildlife-trafficking-in-the-garamba-bili-chinko-landscape/
- Ghana Guardian. (2021). *West Africa records over 700 terrorist attacks between 2020 and 2021*. https://www.ghanaweb.com/GhanaHomePage/NewsArchive/West-Africa-records-over-700-terrorist-attacks-between-2020-and-2021-ECOWAS-1290502
- Ghosh, N. (2021). *Organised crime a threat to authority of states*. The Straits Times. https://www.straitstimes.com/world/organised-crime-a-threat-to-authority-of-states-experts
- Gissibl, B. (2016). *The nature of German imperialism : conservation and the politics of wildlife in colonial East Africa.*The Environment in History-Series, Vol. 9"
- Global Conflict Tracker. (n.d.). *Boko Haram in Nigeria*. Council on Foreign Relations. https://www.cfr.org/global-conflict-tracker/conflict/boko-haram-nigeria
- Global Initiative Against Transnational Organized Crime. (2020). *Are Mozambique's insurgents closing in on illicit trafficking profits?* Daily Maverick. https://www.dailymaverick.co.za/article/2020-05-08-are-mozambiques-insurgents-closing-in-on-illicit-trafficking-profits/
- Global Times. (2020). *East China province cracks down on largest ivory smuggling case*. https://www.globaltimes.cn/content/1196067.shtml
- Gomez, L., & Krishnasamy, K. (2019). *A Rapid Assessment on the Trade in Marine Turtles in Indonesia, Malaysia and Viet Nam.* TRAFFIC. https://www.traffic.org/site/assets/files/12524/se-asia-marine-turtle-trade.pdf
- Goñi, U. (2021). *Hundreds of fishing fleets that go 'dark' suspected of illegal hunting, study finds*. The Guardian. https://www.theguardian.com/environment/2021/jun/02/fishing-fleets-go-dark-suspected-illegal-hunting-study?CMP=Share_AndroidApp_Other
- Grobler, J. (2020). *'They Are Finishing the Trees': Chinese Companies and Namibian Elites Make Millions Illegally Logging the Last Rosewoods.* OCCRP. https://www.occrp.org/en/investigations/chinese-companies-and-namibian-elites-make-millions-illegally-logging-the-last-rosewoods
- The Guardian. (2021). *Russian conservationists hail rare sighting of Amur leopard with cubs.* https://www.theguardian.com/world/2021/mar/26/russia-hails-rare-sighting-of-amur-leopard-mother-with-cubs
- Gupta, A. (2020). *China removes pangolins from traditional Chinese medicine list*. CGTN. https://news.cgtn.com/news/2020-06-10/China-removes-pangolins-from-Traditional-Chinese-Medicine-list-RcGUcWdvMI/index.html
- Gwema, A. (2021). *The pandemic has slowed animal poaching down – but now we need to rehabilitate those who do it*. The Independent. https://www.independent.co.uk/climate-change/opinion/poaching-wildlife-africa-coronavirus-b1800983.html
- Hajost, S. (2020). *Data From Marist Whistleblower Poll Supports Passage Of The Wildlife Conservation And Anti-Trafficking Act.* Whistleblower Network News. https://whistleblowersblog.org/opinion/marist-poll-supports-passage-of-the-wildlife-conservation-and-anti-trafficking-act/

- Hall, J. (2019). *Bushmeat, explained.* National Geographic. https://www.nationalgeographic.com/animals/article/bushmeat-explained
- Hanlon, J. (n.d.). *How Mozambique's smuggling barons nurtured jihadists.* BBC News. https://www.bbc.co.uk/news/world-africa-44320531
- Harding, T. (2020). *Elephant poaching and gems trade provide revenue for growth of ISIS hotspots.* The National. https://www.thenationalnews.com/world/elephant-poaching-and-gems-trade-provide-revenue-for-growth-of-isis-hotspots-1.1101402
- Harding, T. (2020). *ISIS operating on a military scale in Africa as it aims for territory and riches.* The National. https://www.thenationalnews.com/world/isis-operating-on-a-military-scale-in-africa-as-it-aims-for-territory-and-riches-1.1101363
- Harding, T. (2021). *West Africa a magnet for illicit animal trade linked to extremist terrorism.* The National. https://www.thenationalnews.com/world/africa/west-africa-a-magnet-for-illicit-animal-trade-linked-to-extremist-terrorism-1.1213777
- Harvey, F. (2021). *Key species at risk if planet heats up by more than 1.5C, report finds.* The Guardian. https://www.theguardian.com/environment/2021/jun/02/key-species-at-risk-if-planet-heats-up-by-more-than-15c-report-finds?CMP=Share_AndroidApp_Other
- Hasht-E Subh Daily. (2022). *Taliban to Raise $42 Million From Lifting Hunting Ban on Rare Birds for Arab Royals.* https://8am.media/eng/taliban-to-raise-42-million-from-lifting-hunting-ban-on-rare-birds-invites-arab-royals-to-hunt/
- Hegazi, F., Krampe, F., & Smith, E. (2021). *Climate-related Security Risks and Peacebuilding in Mali.* SIPR https://www.sipri.org/publications/2021/sipri-policy-papers/climate-related-security-risks-and-peacebuilding-mali
- Help Net Security. (2019). *New EU-funded project aims to disrupt wildlife cybercrime*. https://www.helpnetsecurity.com/2019/06/17/wildlife-cybercrime/
- Holland, M. (2020). *Africa's rhinos face new poaching threat with traditional Chinese medicine touting horn as coronavirus cure*. The Coronavirus Pandemic. https://www.scmp.com/magazines/post-magazine/long-reads/article/3095321/impact-coronavirus-africas-rhinos-wildlife
- Holmes, H. (2019). *Nairobi Terror Group Funded By $7 Million of Illegal Charcoal.* Organized Crime and Corporate Corruption (OCCRP). https://www.occrp.org/en/daily/9137-nairobi-terror-group-funded-by-7-million-of-illegal-charcoal
- Hosken, G. (2021). *In fight against poaching, rhinos get a nuclear deterrent.* Sunday Times. https://www.timeslive.co.za/sunday-times/news/2021-05-16-in-fight-against-poaching-rhinos-get-a-nuclear-deterrent/
- Human Rights Watch. (2021). *Mozambique: Civilians Prevented from Fleeing Fighting.* https://www.hrw.org/news/2021/08/06/mozambique-civilians-prevented-fleeing-fighting
- Husted, F.H. (2022). *Boko Haram and the Islamic State West Africa Province.* Congressional Research Service. https://sgp.fas.org/crs/row/IF10173.pdf
- Indraswari, K., Leupen, B., Nguyen, M., & Phassaraudomsak, M. (2020). *Illicit ivory trade in Indonesia, Thailand and Viet Nam.* TRAFFIC https://www.traffic.org/publications/reports/illicit-ivory-trade-in-indonesia-thailand-and-viet-nam/
- International Environment Library Consortium. (2021). *Population & Conservation Status - African and Asian Lions* (Panthera leo) https://ielc.libguides.com/sdzg/factsheets/lions/population
- International Rhino Foundation. (2022). 2022 *State of the Rhino Report.* https://rhinos.org/wp-content/uploads/2022/09/IRF-State-of-the-Rhino-2022.pdf
- INTERPOL. (2022). *Global crackdown on illegal wildlife and timber trade: INTERPOL and World Customs Organization join forces*. interpol.int/en/News-and-Events/News/2022/Global-crackdown-on-illegal-wildlife-and-timber-trade-INTERPOL-and-World-Customs-Organization-join-forces
- INTERPOL. (2022). *Stepping up the global fight against wildlife crime through a united response.* https://www.interpol.int/en/News-and-Events/News/2022/Stepping-up-the-global-fight-against-wildlife-crime-through-a-united-response
- IUCN. (2016). *Poaching behind worst African elephant losses in 25 years*. https://www.iucn.org/news/species/201609/poaching-behind-worst-african-elephant-losses-25-years-—-iucn-report
- IUCN. (2022). *Rhino poaching and illegal trade decline but remain critical threats – new report*. http://iucn.org/press-release/202208/rhino-poaching-and-illegal-trade-decline-remain-critical-threats-new-report
- Jeffrey, J. F. (2020). *Part 1: The Future of ISIS.* Wilson Center. https://www.wilsoncenter.org/article/part-1-future-isis
- Jones, S. (2022). *Spanish police seize smuggled baby eels worth €270,000.* The Guardian. theguardian.com/environment/2022/sep/30/spanish-police-seize-smuggled-baby-eels

- Kahiye, M. (2012). *Al-Shabab Threatens to Disrupt Upcoming Somali Elections.* Voice of America. https://www.voanews.com/africa/al-shabab-threatens-disrupt-upcoming-somali-elections
- Kariuki, J. (2020). *Kenya: Co-Op Bank Joins Team in Illegal Wildlife Trade Fight.* Daily Nation. https://allafrica.com/stories/202008210915.html
- Keju, W. (2020). *Chinese internet companies join fight against illegal wildlife trade.* China Daily. http://global.chinadaily.com.cn/a/202010/21/WS5f8f8871a31024ad0ba7fed0.html
- Kindzeka, M. E. (2021, December 6). *Cameroon Deploys Military to Assist Rangers as Poaching Increases.* VOA News. https://www.voanews.com/a/cameroon-deploys-military-to-assist-rangers-as-poaching-increases/6341052.html
- Kishtwari, S. (2021). *Tale of two traffickers is a rare spell of Congolese conservation convictions.* Mongabay. https://news.mongabay.com/2021/05/tale-of-two-traffickers-is-a-rare-spell-of-congolese-conservation-convictions/
- Klein, D. (2022). *Wildlife Experts: Rhino Horn Trafficking is on the Rise Worldwide.* OCCRP. http://occrp.org/en/daily/16953-wildlife-experts-rhino-horn-trafficking-is-on-the-rise-worldwide
- Knott, K. (2021). *Hong Kong's leading role in the global extinction crisis, as hub of illegal wildlife trade, and the legal amendment that could change that.* South China Morning Post. https://www.scmp.com/lifestyle/article/3130438/hong-kongs-leading-role-global-extinction-crisis-hub-illegal-wildlife
- KTVZ. (2019). *Senate panel passes Merkley bill to fight wildlife trafficking*. https://ktvz.com/news/2019/09/26/senate-panel-passes-merkley-bill-to-fight-wildlife-trafficking/
- Kurdoghlian, K. (2021). *Stern targets future pandemics with wildlife-trafficking bill.* The Signal. https://signalscv.com/2021/03/stern-targets-future-pandemics-with-wildlife-trafficking-bill/
- Kurohata, M. (2020). *Effect of the CITES trade ban on preferences for ivory in Japan.* Environmental Economics and Policy Studies 2020 22:3, 22(3), 383–403. https://doi.org/10.1007/S10018-019-00261-7
- Lakhani, N. (2022). *Wildlife trafficking thrives on Facebook despite pledge to fight illegal trade.* The Guardian. theguardian.com/environment/2022/apr/13/wildlife-trafficking-facebook-avaaz-endangered-species
- Landi, M. (2021). *TikTok joins campaign to stop online wildlife trafficking*. Irish Examiner. https://www.irishexaminer.com/lifestyle/people/arid-40254680.html
- Ledger, E. (2020). *Stop The Illegal Wildlife Trade: Poachers taking advantage of Covid crisis are threatening a global catastrophe for wildlife.* Evening Standard. https://www.standard.co.uk/news/stop-wildlife-trade/stop-the-illegal-wildlife-trade-covid-crisis-a4498831.html
- Lemieux, A. M., & Clarke, R. V. (2009). *The International Ban on Ivory Sales and its Effects on Elephant Poaching in Africa*. The British Journal of Criminology, 49(4), 451–471. https://doi.org/10.1093/BJC/AZP030
- Lewis, D., McNeill, R., & Shabalala, Z. (2019). *Exclusive: Gold worth billions smuggled out of Africa.* Reuters. https://www.reuters.com/article/us-gold-africa-smuggling-exclusive/exclusive-gold-worth-billions-smuggled-out-of-africa-idUSKCN1S00IT
- LIONS.Org. (2022). *Leopards in the Wild Today - Threats to leopards, Illegal hunting and poaching.* http://www.lions.org/leopards/leopards-in-the-wild-today.html
- Losh, J. (2021). *Central African Republic: A disputed election and a strange rebel alliance.* BBC News. https://www.bbc.co.uk/news/world-africa-55558642
- Macau Business. (2021). *Kenyan extradited to US over wildlife trafficking charges*. https://www.macaubusiness.com/kenyan-extradited-to-us-over-wildlife-trafficking-charges/
- Magill, T. (2021). T*ourists' bloody find sparks questions whether insiders killed rhino in Kruger National Park.* News 24. https://www.news24.com/news24/southafrica/news/tourists-bloody-find-sparks-questions-whether-insiders-killed-rhino-in-kruger-national-park-20210521?utm_source=24.com&utm_medium=email&utm_campaign=_3781_+_35179656_+_61185_&utm_term=https%3A%2F%2Fwww.news24.com%2Fnews24%2Fsouthafrica%2Fnews%2Ftourists-bloody-find-sparks-questions-whether-insiders-killed-rhino-in-kruger-national-park-20210521
- Majani, F. (2013). *Tanzania's elephant killing fields*. Mail & Guardian. https://mg.co.za/article/2013-08-08-00-tanzanias-elephant-killing-fields/
- Makoni, A. (2021). *Illegal wildlife trade: Experts fear stockpiling of wildlife may increase during Covid.* Evening Standard. https://www.standard.co.uk/news/stop-wildlife-trade/illegal-wildlife-trade-wildlife-china-vietnam-criminal-gangs-pandemic-b920079.html
- The Maritime Executive. (2020). *Southeast Asia's Wildlife Trafficking Problem Needs New Game Plan.* https://www.maritime-executive.com/article/southeast-asia-s-wildlife-trafficking-problem-needs-new-game-plan
- Maron, D. F. (2021). *Wildlife seizures are down—and an illicit trade boom may be coming.* National Geographic. https://www.nationalgeographic.com/animals/article/wildlife-seizures-dropped-in-2020-but-an-illicit-trade-boom-may-be-coming

- Martin, E., & Stiles, D. (2003). *The Ivory Markets of East Asia. Save the Elephants*. https://www.traffic.org/site/assets/files/4194/ivory_markets_of_east_asia.pdf
- Mathieson, K. (2016). *Elephants on the path to extinction - the facts.* The Guardian. https://www.theguardian.com/environment/2016/aug/12/elephants-on-the-path-to-extinction-the-facts
- McCain, N. (2021). *Syndicates launch new poaching offensive, targeting SA's succulents, says Cape Nature.* News24. https://www.news24.com/news24/southafrica/news/syndicates-launch-new-poaching-offensive-targeting-sas-succulents-says-cape-nature-20210714
- McCoy, T. (2022). *The Killing of Dom and Bruno.* The Washington Post. https://www.washingtonpost.com/world/interactive/2022/amazon-brazil-bruno-dom/
- McIntosh, K. (2023). *COVID-19: Clinical Features.* UpToDate. https://www.uptodate.com/contents/covid-19-clinical-features
- McNeish, H. (2014). *$213bn illegal wildlife and charcoal trade "funding global terror groups" | Illegal wildlife trade*. The Guardian. https://www.theguardian.com/environment/2014/jun/24/illegal-wildlife-charcoal-trade-funding-global-terror-groups
- Millar, A. (2020). *Time's up: Wildlife trafficking in Tanzania and through its ports*. Ship Technology. https://www.ship-technology.com/features/wildlife-trafficking-in-tanzania/
- Miranda, S. (2022). *There are 40% more tigers in the world than previously estimated.* NPR. npr.org/2022/07/23/1113186725/tigers-population-numbers-endangered-species
- Mishra, I., & Azad, S. (2021). *YouTube comments led to biggest raids for wildlife trafficking this year*. The Times of India. https://timesofindia.indiatimes.com/india/youtube-comments-led-to-biggest-raids-for-wildlife-trafficking-this-year/articleshow/83160760.cms
- Mkandawire, M. (2020). *US hails conviction of Chinese citizen in Malawi.* Malawi 24. https://malawi24.com/2020/07/05/us-hails-conviction-of-chinese-citizen-in-malawi/
- Mole, K., & Newton, D. (2021). *Lions in Tanzania and Mozambique.* TRAFFIC. https://www.traffic.org/site/assets/files/14555/african_lion_trade_-_an_assessment_of_trade_mortalities_and_anthropogenic_threats_facing_lions_in_tz_mz-1.pdf
- Morcatty, T. Q., Bausch Macedo, J. C., Nekaris, K. A. I., Ni, Q., Durigan, C. C., Svensson, M. S., & Nijman, V. (2020). *Illegal trade in wild cats and its link to Chinese-led development in Central and South America.* Conservation Biology, 34(6), 1525–1535. https://doi.org/10.1111/COBI.13498
- Morris, C. (2019). *Moazu Kromah and the Case of the West African Ivory Cartel*. International Policy Digest. https://intpolicydigest.org/moazu-kromah-and-the-case-of-the-west-african-ivory-cartel/
- Morris, C. (2020). *Kenya Needs to Get the Surur Extradition Right*. International Policy Digest. https://intpolicydigest.org/kenya-needs-to-get-the-surur-extradition-right/
- Morris, C. (2021). *A Spectre of Corruption: The 'Shetani' Ivory Case*. International Policy Digest. https://intpolicydigest.org/a-spectre-of-corruption-the-shetani-ivory-case/
- Morton, O., Scheffers, B. R., Haugaasen, T., & Edwards, D. P. (2021). *Impacts of wildlife trade on terrestrial biodiversity.* Nature Ecology & Evolution 2021 5:4, 5(4), 540–548. https://doi.org/10.1038/s41559-021-01399-y
- Mukpo, A. (2021). *Nigeria emerges as Africa's primary export hub for ivory, pangolin scales*. Mongabay. https://news.mongabay.com/2021/01/nigeria-emerges-as-africas-primary-export-hub-for-ivory-pangolin-scales/
- Munshi, N. (2021). *Instability in the Sahel: how a jihadi gold rush is fuelling violence in Africa.* Financial Times. https://www.ft.com/content/8ff4c2ca-7ac3-4f3b-96ba-6fb74bbb60d5
- Murdock, E., & Pepper, E. (2021). *ARP Provides Strong Start to Enhanced Anti-Trafficking Funds.* NRDC. https://www.nrdc.org/experts/elly-pepper/arp-provides-strong-start-enhanced-anti-trafficking-funds
- Mutsaka, F., & Magome, M. (2021). *Africa's elephants now endangered by poaching, habitat loss.* AP News. https://apnews.com/article/world-news-animals-elephants-forests-africa-d01e1b8a441743d0ff02d64a1e1a16f5
- Mwangi, W. (2020). *Wanted US fugitive arrested at Mombasa Airport*. Nation. https://nation.africa/kenya/counties/mombasa/wanted-us-fugitive-arrested-at-mombasa-airport--1907790
- Nair, N. (2022). *Posthumous award for Timbavati game ranger 'killed in hit'.* TimesLIVE. https://www.timeslive.co.za/news/south-africa/2022-09-19-posthumous-award-for-timbavati-game-ranger-killed-in-hit/
- Namibia Broadcasting Corporation. (2021). *Wildlife report indicates that pangolin is the most trafficked high-value protected species*. http://the-eis.com/elibrary/sites/default/files/downloads/literature/NAM_2021_04_Wildlife report indicates that pangolin is the most trafficked high_value protected species_NBC.pdf

- Namwaya, O., & Abdulkadir, K. (2021). *The EAC risks becoming irrelevan*t. African Arguments. https://africanarguments.org/2021/04/the-eac-risks-becoming-irrelevant/
- National Geographic. *The History of the Ivory Trade* | National Geographic Society. (n.d.). https://www.nationalgeographic.org/media/history-ivory-trade/
- National Trust for Nature Conservation. (2021). *752 one-horned rhinos in Nepal determined by the National Rhino Count 2021* https://ntnc.org.np/news/752-one-horned-rhinos-nepal-determined-national-rhino-count-2021
- Nelson, A. (2020). *Elephant poaching has dramatically decreased in Mozambique's Niassa National Reserve, once an epicentre of the illegal trade*. https://www.researchgate.net/publication/340950262_Elephant_poaching_has_dramatically_decreased_in_Mozambique%27s_Niassa_National_Reserve_once_an_epicentre_of_the_illegal_trade
- News 24. (2020). *OR Tambo customs officials seize rhino horns worth R117m*. https://www.news24.com/news24/southafrica/news/or-tambo-customs-officials-seize-rhino-horns-worth-r117m-20200714
- News24. (2022). *Singapore seizes South African rhino horn worth R15 million from smuggler.* news24.com/fin24/climate_future/environment/singapore-seizes-south-african-rhino-horn-worth-r15-million-from-smuggler-20221005
- Ngema, T. (2021). *'Seized trafficked rhino horns under lock and key.'* IOL. https://www.iol.co.za/dailynews/news/seized-trafficked-rhino-horns-under-lock-and-key-c51f7099-428b-4e74-b1b4-b955fe51f0f2
- Nguyen Thuy Hang. (2021). *Illegal wildlife trade does not show any decline in Vietnam* . PanNature. https://www.nature.org.vn/en/2021/06/illegal-wildlife-trade-does-not-show-any-decline-in-vietnam/
- Nuwer, R. (2020). *Illegal trade in pangolins keeps growing, as criminal networks expand.* National Geographic. https://www.nationalgeographic.com/animals/article/pangolin-scale-trade-shipments-growing
- OCCRP. (2019). *The Great Gambia Heist*. https://www.occrp.org/en/greatgambiaheist/
- Ocharo, B. (2021). *Kenya: Nine Kenyan Suspects Linked to Notorious Liberian Ivory Smuggler.* Daily Nation. https://allafrica.com/stories/202105260501.html
- Ojewale, O. (2021). J*oint effort needed by Cameroon, Nigeria in stamping out illicit timber trade.* Daily Maverick. https://www.dailymaverick.co.za/article/2021-07-15-joint-effort-needed-by-cameroon-nigeria-in-stamping-out-illicit-timber-trade/
- Ojewale, O. (2022). *Congo Basin's wildlife guardians in firing line from terror groups and poachers.* The Journal of African Elephants. africanelephantjournal.com/congo-basins-wildlife-guardians-in-firing-line-from-terror-groups-and-poachers/
- Oluoch, F. (2019). *Illicit arms flow fuelling terror, poaching, conflict in the region*. The East African. https://www.theeastafrican.co.ke/news/ea/Illicit-arms-flow-fuelling-terror-poaching-conflict/4552908-5256210-bcgspz/index.html
- Ombati, C. (2021). *Al shabaab kills three workers in Dhobley, Garissa*. The Star. https://www.the-star.co.ke/news/2021-07-02-al-shabaab-kills-three-workers-in-dhobley-garissa/
- Ombati, C. (2023). *Cop arrested with 21kg tusks worth Sh2.1m in Meru.* The Star. https://www.the-star.co.ke/news/2023-01-30-cop-arrested-with-21kg-tusks-worth-sh21m-in-meru/
- Opperman. (2018). *OP-ED: Is northern Mozambique faced with an emerging extremist threat?* Daily Maverick. https://www.dailymaverick.co.za/article/2018-05-31-is-northern-mozambique-faced-with-an-emerging-extremist-threat/#.WxgqqiAuCUl
- Osborne, S. (2017). *Cecil the lion's son Xanda shot dead by big game hunters.* The Independent. https://www.independent.co.uk/news/world/africa/cecil-lion-son-xanda-shot-dead-trophy-big-game-hunters-zimbabwe-hwange-national-park-a7851246.html
- Osman, O. (2021). *The Kenyans robbed of their families by al-Shabab*. Al Jazeera . https://www.aljazeera.com/features/2021/7/22/kenyans-robbed-off-their-families-al-shabab
- Panthera. (2021). *Furs For Life.* https://www.panthera.org/furs-for-life
- Paudel, K., Potter, G. R., & Phelps, J. (2020). *Conservation enforcement: Insights from people incarcerated for wildlife crimes in Nepal*. Conservation Science and Practice, 2(2). https://doi.org/10.1111/CSP2.137
- Peter, P. (2023). *Wildlife smugglers land at Bengaluru Airport with four primates, 14 snakes including pythons from Bangkok*. The Times of India. https://timesofindia.indiatimes.com/city/bengaluru/wildlife-smugglers-land-in-bengaluru-airport-with-four-primates-14-snakes-from-bangkok-kempegowda-international-airport-karnataka-forest-department-wildlife-smuggling-bannerghatta-biological-park/articleshow/97381769.cms
- Pieterse, C., & Berg, K. van der. (2021). *Alleged rhino poaching kingpin "Mr Big" shot and killed in Hazyview.* Lowvelder. https://lowvelder.co.za/733921/alleged-rhino-poaching-kingpin-mr-big-shot-and-killed-in-hazyview/

- Pinnock, D. (2020). *How the Coronavirus changes poaching strategies*. Daily Maverick. https://www.dailymaverick.co.za/article/2020-05-07-how-the-coronavirus-changes-poaching-strategies/
- Pinnock, D. (2021). *CITES has failed the natural world. Here's how it can be fixed.* Our Burning Planet. https://www.dailymaverick.co.za/article/2021-07-04-cites-has-failed-the-natural-world-heres-how-it-can-be-fixed/
- Pinnock, D. (2021). *Unwanted lions: Vietnam sting operation suggests slaughter of farmed lions in South Africa is under way*. Our Burning Planet. https://www.dailymaverick.co.za/article/2021-07-19-unwanted-lions-vietnam-sting-operation-suggests-slaughter-of-farmed-lions-in-south-africa-is-under-way/
- Placek, M. (2022). *Container shipping - statistics & facts.* Statista. https://www.statista.com/topics/1367/container-shipping/#topicOverview
- Platt, J. (2013). *How the Western Black Rhino Went Extinct.* Scientific American. https://blogs.scientificamerican.com/extinction-countdown/how-the-western-black-rhino-went-extinct/
- PoachingFacts. (2022). *Leopard Poaching Statistics.* https://www.poachingfacts.com/poaching-statistics/leopard-poaching-statistics/
- Premium Times. (2021). *Nigeria Customs intercepts huge haul of pangolin scales, ivory*. https://www.premiumtimesng.com/news/top-news/438878-nigeria-customs-intercepts-huge-haul-of-pangolin-scales-ivory.html
- Princewill, N., Busari, S., & Cassidy, A. (2021). *Gunmen in Nigeria abduct children from Islamic school in latest kidnapping raid*. CNN. https://edition.cnn.com/2021/05/31/africa/gunmen-abduct-children-nigeria-intl/index.html
- Prinsloo, H. (2020). *Scaling up: The Rapid Growth in the Industrial Scale Trafficking of Pangolin Scales*. Wildlife Justice Commission www.wildlifejustice.org
- Raj, A.R. (2022). *For Nepal, 2022 was a roaring Year of the Tiger.* Mongabay. https://news.mongabay.com/2022/12/for-nepal-2022-was-a-roaring-year-of-the-tiger
- Ratner, B. (2020). *Kenya elephant numbers more than double in 1980-2018: tourism minister.* Reuters. https://www.reuters.com/article/us-kenya-conservation-elephants-idUSKCN2582B2
- Reals, K. (2021). *How airlines stepped up to tackle wildlife trafficking.* Flight Global. https://www.flightglobal.com/flight-international/how-airlines-stepped-up-to-tackle-wildlife-trafficking/142877.article
- Republic of South Africa Department of Forestry, Fisheries and the Environment. (2022). *Rhino Poaching in South Africa in 2021.* https://www.dffe.gov.za/mediarelease/rhinopoaching_2021
- Republic of South Africa Department of Forestry, Fisheries and the Environment. (2022). *259 rhino poached in South Africa in first six months of 2022*. dffe.gov.za/mediarelease/creecy_259rhinopoached
- Reuters. (2015). *Cecil the lion: Zimbabwe will not charge US dentist over killing.* The Guardian. https://www.theguardian.com/environment/2015/oct/12/zimbabwe-will-not-charge-us-dentist-killing-cecil-lion
- Reuters. (2019). *Singapore seizes record haul of pangolin scales enroute to Vietnam*. https://www.reuters.com/article/us-singapore-wildlife-trafficking/singapore-seizes-record-haul-of-pangolin-scales-enroute-to-vietnam-idUSKCN1RG17X
- Reuters. (2020). *Eastern Congo militia ambush kills 16, including 12 park rangers.* Reuters. https://www.reuters.com/article/us-congo-violence-idUSKCN2262LA
- Reuters. (2020). *Illegal ivory trade shrinks while pangolin trafficking booms, U.N. says*. https://www.reuters.com/article/us-un-wildlife-crime-idUSKBN24B10I
- Reuters. (2021). *At least 55 killed in eastern Congo massacres, U.N. says.* https://www.reuters.com/world/africa/least-50-killed-eastern-congo-massacres-research-group-2021-05-31/
- Reuters. (2023). *Vietnam seizes 600 kg of ivory smuggled from Africa*. reuters.com/world/asia-pacific/vietnam-seizes-600-kg-ivory-smuggled-africa-2023-02-06
- RFI. (2021). *Along the mighty Niger River, fewer fish and more jihadists.* https://www.rfi.fr/en/along-the-mighty-niger-river-fewer-fish-and-more-jihadists
- Roelf, W. (2021). *EXCLUSIVE S.Africa to push for military action against Mozambique insurgents.* Reuters. https://www.reuters.com/world/africa/exclusive-safrica-push-military-action-against-mozambique-insurgents-2021-05-21/
- Rogers, K. (2015). *American Hunter Killed Cecil, Beloved Lion Who Was Lured Out of His Sanctuary.* The New York Times. https://www.nytimes.com/2015/07/29/world/africa/american-hunter-is-accused-of-killing-cecil-a-beloved-lion-in-zimbabwe.html

- Rosen, T. (2020). *The Evolving War on Illegal Wildlife Trade*. IISD. https://www.iisd.org/system/files/2020-10/still-one-earth-wildlife-trade.pdf.
- Salzman, A. (2021). *Tooth and Nail: The Fight for Species in a World of Wildlife Crime.* Harvard Political Review. https://harvardpolitics.com/tooth-and-nail/
- Save the Rhino International. (2021). *Poaching Numbers.* https://www.savetherhino.org/rhino-info/poaching-stats/
- Save the Rhino. (2013). *Western black rhino declared extinct in 2011 - journalists reporting news two years later. Save the Rhino*. https://www.savetherhino.org/rhino-species/black-rhino/western-black-rhino-declared-extinct-in-2011-journalists-reporting-news-two-years-later/
- Save the Rhino. (2023). *Rhino populations*. https://www.savetherhino.org/rhino-info/population-figures/
- Schaub, C. (2019). A*nti-poaching fight: hope for the lions, elephants and giraffes of West Africa.* Libération. https://www.liberation.fr/france/2019/02/26/lutte-anti-braconnage-espoir-pour-les-lions-elephants-et-girafes-d-afrique-de-l-ouest_1710756/
- Scheffers, B. R., Oliveira, B. F., Lamb, I., & Edwards, D. P. (2019). *Global wildlife trade across the tree of life*. Science, 366(6461), 71–76. https://doi.org/10.1126/SCIENCE.AAV5327
- Schiffman, R. (2014). *Ivory poaching funds most war and terrorism in Africa.* New Scientist. https://www.newscientist.com/article/mg22229692-700-ivory-poaching-funds-most-war-and-terrorism-in-africa/
- Sengendo, H. M. (2019). *Dubai Police intercept 1,346kg of ivory.* Gulf Today. https://www.gulftoday.ae/news/2019/04/17/dubai-airports-seize-2272-ivory-pieces
- Sharife, K. (2022). *Inside South Africa's Brutal Lion Bone Trade*. OCCRP. occrp.org/en/investigations/inside-south-africas-brutal-lion-bone-trade
- Simmons, K., de Vos, S., & Austin, H. (2020). *Demand for cheetahs as pets is leading to their extinction.* NBC News. https://www.nbcnews.com/news/world/demand-cheetahs-pets-leading-their-extinction-n1235462
- Smil, V. (2015). *The Deaths of Elephants.* IEEE Spectrum. https://spectrum.ieee.org/the-deaths-of-elephants
- Somerville, K. (2016). *Ivory: power and poaching in Africa*. C Hurst & Co Publishers Ltd
- Spong, G., Hellborg, L., & Creel, S. (2000). *Sex ratio of leopards taken in trophy hunting: Genetic data from Tanzania.* Conservation Genetics, 1(2), 169–171. https://doi.org/10.1023/A:1026543308136
- The Standard. (2020). *"Steps to combat illegal wildlife trade improve."* https://www.standardmedia.co.ke/eastern/article/2001370953/steps-to-combat-illegal-wildlife-trade-improve
- The Standard. (2021). *Inside dark, impenetrable world of illicit trade in wildlife trophy.* https://www.standardmedia.co.ke/the-standard-insider/article/2001417852/inside-dark-impenetrable-world-of-illicit-trade-in-wildlife-trophy
- Stannard, M. (2019). *China's wénwan drives a deadly mix-and-match of endangered wildlife.* Mongabay. https://news.mongabay.com/2019/11/chinas-wenwan-drives-a-deadly-mix-and-match-of-endangered-wildlife/
- Starkey, J. (2017). *Oxford University researchers accuse game hunters of lying about how they shot son of Cecil the lion.* The Times. https://www.thetimes.co.uk/article/oxford-university-researchers-accuse-game-hunters-of-lying-about-how-they-shot-son-of-cecil-the-lion-rjfghqhs2
- Starkey, J., & Pohle, R. (2018). *British troops join the war on ivory poachers linked to terror.* The Times. https://www.thetimes.co.uk/article/british-soldiers-helping-the-fight-to-save-gabons-elephants-f3nrd57fc
- Strangio, S. (2021). *Chinese Casino Magnate's Empire Set to Expand in Laos*. The Diplomat. https://thediplomat.com/2021/04/chinese-casino-magnates-empire-set-to-expand-in-laos/
- Strangio, S. (2022). *Cambodian Forestry Official Arrested in US Over Alleged Monkey-Smuggling Scheme.* The Diplomat. https://thediplomat.com/2022/11/cambodian-forestry-official-arrested-in-us-over-alleged-monkey-smuggling-scheme/
- Tan, J. (2021). *Eye in the Sky: Tech makes satellite imagery increasingly attractive for wildlife surveys.* Mongabay. https://news.mongabay.com/2021/02/eye-in-the-sky-tech-makes-satellite-imagery-increasingly-attractive-for-wildlife-surveys/
- Tarantola, A. (2021). *PAWS anti-poaching AI predicts where illegal hunters will show up next*. Endadget. https://www.engadget.com/paws-anti-poaching-ai-predicts-where-illegal-hunters-will-show-up-next-203614412.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAACRXvQZtK_TfFPuyJJOJ2j2nYtQJw-c14PL3O8GSAZw6TgA86WStNCtZjlGGXUV5C-w6ueu1iB8s5SWV4TBKTMkDDN7ECj2s3uDM1bSsNYIw5DrU6dpqf-Pl9F-nIOpxR-m-ElCJF6F1SX41ipB2O6wCrp32kvtyeHrEvgyFD1trL5
- Tehran Times. (2021). *DOE, Interpol to cooperate on fighting wildlife trafficking.* https://www.tehrantimes.com/news/460505/DOE-Interpol-to-cooperate-on-fighting-wildlife-trafficking

- Tian, E. (2021). TRAFFIC to Help Africa Fight Against Illegal Wildlife Trade. OCCRP. https://www.occrp.org/en/daily/14966-traffic-to-help-africa-fight-against-illegal-wildlife-trade
- TRAFFIC. (2022). *New Indonesian seizure of helmeted hornbill casques shows trade ongoing, targeted investigations needed*. https://www.traffic.org/news/new-indonesian-seizure-of-helmeted-hornbill-casques-shows-trade-ongoing-targeted-investigations-needed
- TRAFFIC. (2022). *Seizures at Thailand's main airport signal resurgence of wildlife smuggling via air.* traffic.org/news/seizures-at-thailands-main-airport-signal-resurgence-of-wildlife-smuggling-via-air/
- Tsavo Trust. (2022). *Are Africa's Elephant populations increasing or decreasing?* https://tsavotrust.org/are-africas-elephant-populations-increasing-or-decreasing
- Tyra, E. (2023). A "Pandemic-Adjusted" World. *Wildlife Seizure Trends in 2022*. C4ADS. https://c4ads.org/commentary/a-pandemic-adjusted-world-wildlife-seizure-trends-in-2022
- Uganda Wildlife Authority. (2021). *Four arrested over the death of lions in Queen Elizabeth National Park*. https://www.ugandawildlife.org/news-events/news/four-arrested-over-the-death-of-lions-in-queen-elizabeth-national-park
- UN Environment Programme. (2022). *On the frontline against wildlife poaching in Uganda*. unep.org/news-and-stories/story/frontline-against-wildlife-poaching-uganda
- UN News. (2021). *From the Field: Taming the illegal wildlife trafficking trade.* https://news.un.org/en/story/2021/03/1086082
- United Kingdom Department for Environment, Food & Rural Affairs. (2022). *Ban on dealing in elephant ivory:* artwork. https://www.gov.uk/government/publications/the-ban-on-dealing-in-elephant-ivory-guidance-artwork
- United Nations Conference on Trade and Development. (2022) *Handbook of Statistics 2022.* Maritime Transport. https://maritimecyprus.com/wp-content/uploads/2022/12/UNCTAD-2022-Maritime-Transport-statistics.pdf
- United States Attorney's Office, Southern District of Florida. (2022). *Cambodian Officials and Six Co-conspirators Indicted for Taking Part in Primate Smuggling Scheme*. justice.gov/usao-sdfl/pr/cambodian-officials-and-six-co-conspirators-indicted-taking-part-primate-smuggling
- UNODC. (2020). *World Wildlife Crime Report 2020*. https://www.unodc.org/unodc/en/data-and-analysis/wildlife.html
- UNODC. (2022). *Wildlife*. https://dataunodc.un.org/content/wildlife
- USAID Wildlife Asia. (2021). *Counter Wildlife Trafficking Digest: Southeast Asia and China, 2020*. https://www.usaidrdw.org//resources/reports/inbox/cwt-digest-2020
- Van Hagen, I. (2021). *Myanmar Military Leaders Looking to "Fund Coup" with Auction of Illegal Timber.* OCCRP. https://www.occrp.org/en/daily/14475-myanmar-military-leaders-looking-to-fund-coup-with-auction-of-illegal-timber
- Vries, S. de. (2022). *Wildlife Trafficking: Is a Fourth Protocol to UNTOC the Answer?* The International Centre for Criminal Law Reform and Criminal Justice Policy. https://icclr.org/2022/07/19/wildlife-trafficking-is-a-fourth-protocol-to-untoc-the-answer/
- Wagner, K. (2019). *Wildlife Traffickers Use Facebook, Instagram to Find Black-Market Buyers*. Bloomberg. https://www.bloomberg.com/news/articles/2019-07-11/wildlife-traffickers-use-facebook-instagram-to-find-black-market-buyers
- WCS News. (2017). *Ivory Kingpin Arrested in Mozambique*. https://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/10414/Ivory-Kingpin-Arrested-in-Mozambique.aspx
- Webb, J.A. (2022). *Arkansas man sentenced for importing illegal giant salamanders, reptiles from China*. ABC 15. https://wpde.com/news/nation-world/arkansas-man-sentenced-for-importing-illegal-giant-salamanders-reptiles-from-china-united-states-fish-and-wildlife-service-jackson-roe-critically-endangered-animals-turtles-crocodiles-alligators
- Webster, N. (2022). *Chimp genetic mapping could close off African trafficking routes.* The National. thenationalnews.com/uae/2022/06/06/chimp-genetic-mapping-could-close-off-african-trafficking-routes/
- Weston, M. (2022). *Suppressed by the COVID pandemic, the illegal wildlife trade is now getting back into full swing*. Environmental Investigation Agency. https://eia-international.org/blog/suppressed-by-the-covid-pandemic-the-illegal-wildlife-trade-is-now-getting-back-into-full-swing/
- Wetzel, C. (2022). *Elephant Tusk DNA Exposes Illegal Poaching Networks.* Smithsonian Magazine. smithsonianmag.com/smart-news/tracing-elephant-tusk-dna-can-expose-illegal-poaching-networks-180979639/
- WildCats Conservation Alliance. (2021). *Amur Leopard Facts.* https://conservewildcats.org/resources/amur-leopard-facts/
- WildCRU. (2020). *Spotting elephants from space: a satellite revolution* https://www.wildcru.org/news/spotting-elephants-from-space-a-satellite-revolution/

- Wildlife Act. (2022). *Leopard (Panthera pardus)* https://wildlifeact.com/about-wildlife-act/wildlife-species/leopard-panthera-pardus/
- Wildlife Justice Commission. (2022). *Ah Nam: The Downfall of Vietnam's of Wall Street*. https://wildlifejustice.org/wp-content/uploads/2022/10/Ah-Nam-Report-SEP2022-V09-Spreads.pdf
- Wildlife Justice. (2016). *Scaling up: The Rapid Growth in the Industrial Scale Trafficking of Pangolin Scales*. www.wildlifejustice.org
- Wildlife Justice. (2020). *Rapid Assessment of the Illegal Ivory Trade in 2020*. (2020). https://wildlifejustice.org/wp-content/uploads/2020/08/WildlifeJusticeCommission_Rapid-Assessment-Of-The-Illegal-Ivory-Trade-in-2020_August2020_Spreads.pdf
- Wilson Center. (2017). *Criminal Elements: Illegal Wildlife Trafficking, Organized Crime, and National Security.* https://www.wilsoncenter.org/event/criminal-elements-illegal-wildlife-trafficking-organized-crime-and-national-security
- Wong, R., Krishnasamy, K. (2022). *Skin and Bones: Tiger Trafficking Analysis from January 2000–June 2022*. TRAFFIC. https://www.traffic.org/publications/reports/skin-and-bones-report-2022/
- World Health Organisation. (2022). *14.9 million excess deaths associated with the COVID-19 pandemic in 2020 and 2021*. who.int/news/item/05-05-2022-14.9-million-excess-deaths-were-associated-with-the-covid-19-pandemic-in-2020-and-2021
- World Without Genocide. (2021). *Sudan – Darfur: World Without Genocide - Making It Our Legacy*. http://worldwithoutgenocide.org/genocides-and-conflicts/darfur-genocide
- WWF. (2021). *African rhinos*. https://wwf.panda.org/discover/knowledge_hub/endangered_species/rhinoceros/african_rhinos/?
- WWF. (2022). *Pangolin*. https://www.worldwildlife.org/species/pangolin
- WWF. (2022). *White Rhino.* https://www.worldwildlife.org/species/white-rhino
- Xinhua Net. (2019). *Nearly 7.5 tonnes of smuggled ivory tusks seized in Guangdong - Xinhua*. http://www.xinhuanet.com/english/2019-06/02/c_138110768.htm
- Xinhua. (2021). *Al-Shabaab attack kills at least three Kenyans in border town.* Garowe Online. https://www.garoweonline.com/en/world/africa/al-shabaab-attack-kills-at-least-three-kenyans-in-border-town
- Xu, L. (2022). *Chinese authorities cracked down on nearly 12,000 wildlife crime cases in three months*. TRAFFIC. https://www.traffic.org/news/chinese-authorities-cracked-down-on-nearly-12-000-wildlife-crime-cases-in-three-months/
- Xuejiao, C. (2020). *17 Sentenced in China's Largest Ivory Smuggling Case.* Sixth Tone. https://www.sixthtone.com/news/1006645/17-sentenced-in-chinas-largest-ivory-smuggling-case
- Yahoo. (2021). *Huya Inc. Joins the Coalition to End Wildlife Trafficking Online, Leveraging Power of Livestreaming for Public Welfare.* https://finance.yahoo.com/news/huya-inc-joins-coalition-end-123100176.html
- Yang, W. (2021). *Stop the Illegal Wildlife Trade: How China's overseas Special Economic Zones risk helping traffickers*. The Independent. https://www.independent.co.uk/stop-the-illegal-wildlife-trade/china-sezs-illegal-wildlife-trade-b1827128.html
- Yeoh, G. (2022). *In the underbelly of e-commerce sites, 'cyber spotters' are hunting down illegal wildlife listings*. Channel News Asia. channelnewsasia.com/singapore/wwf-singapore-cyber-spotter-illegal-wildlife-trade-nparks-3092856
- Yeung, P. (2022). *The 'timber detectives' on the front lines of illegal wood trade.* National Geographic. https://www.nationalgeographic.com/environment/article/the-timber-detectives-on-the-front-lines-of-illegal-wood-trade
- Zimmerer, M. (2019). *Terror in West Africa: a threat assessment of the new Al Qaeda affiliate in Mali.* Critical Studies on Terrorism, 12(3), 491–511. https://doi.org/10.1080/17539153.2019.1599531
- Zoological Society of London. (2021). *West African elephant.* https://www.zsl.org/west-african-elephant
- ZSL. *Forest elephant conservation*. (n.d.). https://www.zsl.org/conservation/regions/africa/forest-elephant-conservation