



Afrormosia growing scheme at the Compagnie Forestiere et de Transformation (CFT) in Kisangani, DRC.
Axel Fassio/CIFOR

CITES as a tool for sustainable development

Despite progress in tackling international trade in tropical tree species, more needs to be done

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Key messages

- Habitat degradation resulting from land use change and the overexploitation and illegal trade of wild species are driving the current biodiversity crisis.
- Launched in 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), now has 183 contracted state parties and the European Union. The Convention lists species at risk from international trade in one of three appendices, depending on the level of threat.
- Tree species listed by CITES numbered only 18 in 1975; by 2013, more than 350 tree species were listed, around 200 of which are used and traded for timber. The CITES Tree Species Programme was launched in 2017 to ensure that trade in timber, bark, extracts and other products from CITES-listed tree species is sustainable, legal and traceable.
- This brief highlights a new Cambridge University Press book: *CITES As a Tool for Sustainable Development*, with a focus on the governance of tropical timber species.

Introduction

In 1973, a global Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted to prevent the extinction of many species of animals and plants due to international trade. Saving endangered species presents a critical challenge for conservation and sustainability movements and is also a matter of survival, providing livelihoods for many communities worldwide.¹ In 2015, the United Nations through the Sustainable Development Goals (SDGs – notably SDG 15, Life on Land) called for urgent action to protect endangered species and their natural habitats. As Ivonne Higuero told delegates at her first meeting as CITES Secretary-General at the 18th Conference of Parties (CoP) “Humanity needs to respond to the growing extinction crisis by transforming the way we manage the world’s wild animals and plants. Business as usual is no longer an option.” (IISD, 2019).

This feature highlights a new Cambridge University Press book – *CITES As a Tool for Sustainable Development* – edited by Marie-Claire Cordonnier, David Andrew Wardell and Alexandra Harrington. The book focuses on the legal implementation of CITES to aid in achieving the global SDGs. Through interdisciplinary analysis and case studies across jurisdictions, more than 40 contributing authors analyse how CITES can support more sustainable development through international and national law and policy reforms. They consider recent innovations and key intervention points along flora and fauna global value chains, and make recommendations to strengthen CITES implementation, including through global, national and local trade controls of endangered species. The book has attempted to move away from a focus on iconic terrestrial vertebrates – reflecting the biased International Union for Conservation of Nature (IUCN) database of species’ conservation status records, the RED List² – by including plants and aquatic vertebrates.

The biodiversity crisis

According to an Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES) report, we face an extinction crisis with an estimated 75 percent of the Earth’s land surface has been significantly altered and 66 percent of the oceans are exhibiting signs of cumulative human impacts (IPBES 2019). Although habitat degradation associated with large-scale land use changes is a key driver of biodiversity and species loss, the overexploitation of wildlife including the illegal wildlife and plant trades and related biosecurity risks are key threats to the current biodiversity crisis (Anagnostou and Doberstein, 2022; Bashyal et al., 2023; Borsky et al., 2020). The IPBES report concluded that “Human actions threaten more

species with global extinction than ever before. An average of around 25 percent of species in assessed animal and plant groups are threatened suggesting that around 1 million species already face extinction, many within decades, unless action is taken to reduce the intensity of drivers of biodiversity loss” (IPBES, 2019: 11-12). This warning served as a wake-up call and highlighted CITES role in protecting timber, fish and wildlife from overexploitation.

It is estimated that 70 percent of all emerging zoonotic diseases (EZDs) over the past 50 years have originated in wildlife populations (Karesh et al., 2005; Swift et al., 2007). A more recent workshop report by IPBES, ‘Escaping the Era of Pandemics’, identifies wildlife trade as a “particularly important risk factor for disease emergence” (Daszak et al., 2020). As many as 1.7 million unknown viruses are circulating in mammals and birds alone, up to half of which could infect humans and cause the spread of zoonotic disease. Despite this, there are currently no binding obligations within the CITES text that explicitly address the role of the wildlife trade in the spread of EZDs or infectious diseases, although a zoonotic diseases working group was established after the last CITES Conference of Parties (CoP). The overwhelming concern of CITES is to protect species against overexploitation from trade while ensuring that risks to the health and welfare of live wildlife traded are minimized.

CITES functions in all countries where a complex array of local, regional, national and international administrative, civil, criminal and environmental regulations is already in place to implement conservation strategies. The Convention has faced growing pressures to address issues such as habitat loss, EZDs and human-wildlife conflict that CITES is not designed to regulate. The wildlife trade has expanded significantly in the last few decades. Although data are not fully available for domestic trade, the international legal wildlife trade has increased 500 percent in value since 2005, and 2,000 percent since the 1980s (Daszak et al., 2020). An estimated 24 percent (7,638 species) out of the more than 31,500 known terrestrial bird, mammal, amphibian and scaled reptile species are traded globally (Scheffers et al., 2019). CITES also operates within the broader context of transnational organized environmental crime in wild species, which a combined estimate places at an astounding USD 70–213 billion per year. According to a 2014 United Nations Environmental Program (UNEP) report, the international illegal wildlife trade is estimated at between USD 50 and 150 billion per year; illegal fisheries, between USD 10 and 23.5 billion; and illegal logging, between USD 30 and 100 billion (Nellemann et al., 2014). In contrast, global overseas development assistance totals roughly USD 135 billion per year.

CITES: A brief history

Two early attempts were made to regulate the wildlife trade in 1900 and 1933.³ The Convention for the Preservation of

¹ In both the *Bushmeat* and the *Livelihoods* resolutions, parties have acknowledged that the wildlife trade cannot ignore the local communities that continue to see wildlife as integral to food, clothing and cultural practice (CITES Res. Conf. 13.11, supra note 56 and CITES Res. Conf. 16.6, CITES and Livelihoods respectively).

² <https://www.iucnredlist.org/>

³ In addition, the Paris Convention for the Protection of Birds Useful to Agriculture adopted in 1902 classified birds as either useful to humans or as ‘noxious’ seedeaters and predators of insectivorous species, which parties were ‘committed to making efforts to exterminate’.

Wild Animals, Birds and Fish in Africa was the first multilateral conservation treaty signed by European colonial powers in London in May 1900.⁴ It included five sections to protect different categories of animals and encouraged the creation of wildlife reserves to preserve a sufficient supply of wildlife to satisfy the (colonial) hunting community whose “naked utilitarian perspective was made explicit in the preamble” (Bowman et al., 2010: 5). Although it did not enter into force, the 1900 Convention initiated calls for the strict regulation of trade. A subsequent Convention Relative to the Preservation of Fauna and Flora in their Natural State was adopted in London in November 1933, and entered into force in January 1936. The scope of this Convention was extended to include plants and recognized that preservation could best be achieved by the “constitution of national parks, strict natural reserves and other reserves within which the hunting, killing or capturing of fauna shall be limited or prohibited” (Articles 3–7).

What is CITES?

After more than a decade of negotiations and meetings, 25 articles and 4 appendices were finally agreed upon at the Washington Convention in 1973. Two years later, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) came into force for the original 10 signatories (Reeve, 2002). CITES currently has 183 contracted state parties plus the EU and celebrated its fiftieth anniversary in 2023. Parties to CITES are required to adapt their existing national legislation or adopt new legislation to meet specific criteria. In addition, each signatory is expected to designate one scientific and management authority, prohibit trade in violation of the Convention, penalize trade violations, and provide for the confiscation of illegally traded and possessed animals and plants.

The main characteristic of CITES is the listing of species which are at risk from trade, in one of three appendices, for which graduated controls are required depending on the level of threat. By February 2023 there were 704 animals and 395 plants in Appendix I, which are endangered, can only be traded in exceptional circumstances and require both import and export permits. In Appendix II, there were 5,466 animals and 33,764 plants representing species which can be traded subject to regulation often based on agreed annual quotas, and the provision of export permits. Appendix III is a unilateral listing for which trade controls are relatively minimal and includes 372 animals and 134 plants. Hundreds of species are added to the CITES appendices, particularly Appendix II, every three years after each CoP, the most recent of which was in Panama in November 2022.

CITES is a complex and dynamic multilateral environmental agreement. It has been able to adjust and adapt throughout its history as the signatory parties to the convention have used different instruments to rise to new challenges of regulating international wild plant and animal trade (see for example, Wijnstekers, 2011; Oldfield, 2013; Wyatt, 2021; and CITES, 2023).

CITES has been able to do this by revising the text of the Convention, although this can take many years;⁵ the adoption of supportive measures (101 Resolutions and 332 Decisions in effect by July 2020); the National Legislation Project (NLP) to assist parties to adapt national laws and regulations; the establishment of the permanent committees, the budget and work programme of the CITES Secretariat through resolutions and decisions; rules for controlling trade mechanisms integral to implementation and compliance (*inter alia* international action plans, and the Review of Significant Trade for species listed in Appendix II believed to be traded detrimentally); texts establishing long-term compliance processes; and the hundreds of proposed additions or changes to listings (to the three Appendices) following each CoP every 3 years.

How does CITES work?

The book examines the implementation of CITES by considering species and commodity value chains. The selected case studies presented below focus on the governance of tropical timber species. The volume explores many other case studies relating to the overexploitation of fisheries, including the scalloped hammerhead shark (*Sphyrna lewini*); trophy hunting of the markhor (*Capra falconeri*); the protection of the Sumatran orangutan (*Pongo abelii*); as well as several crosscutting themes such as understanding markets in order to conserve CITES-listed species, trade and zoonotic diseases, and CITES as a tool for monitoring and adaptive management.

CITES and timber species

In 1975, when CITES came into force, only 18 tree species were listed under the Convention and therefore subject to international trade controls. Proposals to list commercially traded timber species in the stricter Appendix II (as opposed to Appendix III) often met resistance, particularly from range states. There was a common misconception that listing a species was equivalent to a trade ban; source countries were therefore concerned that it would result in prohibited or restricted use and consumption. In 2007, at CoP 14, this resistance from range states (where a particular species occurs) manifested itself in the defeat of all proposals to list timber species, which had been put forward by the EU. Only one proposal succeeded – the listing of Brazilwood (*Caesalpinia echinata*) in Appendix II, after a range state (Brazil) proposed it in 2014.

Six years later, in March 2013, the Bangkok CITES CoP 16 saw quite a different outcome: more than 350 tree species had been listed, around 200 of which are used and traded for timber. All the proposals that were put forward were unanimously accepted. Madagascar, Belize, Thailand and Viet Nam had proposed the listing of nearly 300 ebonies (*Diospyros* spp.) and rosewoods (*Dalbergia* spp.) in Appendix II –

⁴ France, Germany, UK, Italy, Portugal, Spain and the Congo Free State.

⁵ An amendment allowing the European Union to become a Party to the Convention took 30 years to enter into force.

three from Central America, one from Asia and the rest endemic to Madagascar. Kenya proposed listing East African sandalwood populations (*Osyris lanceolata*), also in Appendix II, was also accepted. This positive shift in attitude, evident between 2007 and 2013, coincided with the launch of a joint collaborative programme under CITES and the International Tropical Timber Organization (ITTO) to support capacity building to strengthen implementation of CITES for timber species. The number of listed timber species continues to expand (Reeve, 2015). Subsequently, a CITES Tree Species Programme, initiated in 2017 (<https://cites-tsp.org>), aims to provide direct financial assistance to Parties in taking conservation and management measures to ensure that their trade in timber, bark, extracts and other products from CITES-listed tree species is sustainable, legal and traceable. Since CoP 16, considerable progress has been made in tackling international trade in tropical tree species, but more needs to be done.

The following examples of CITES-listed tree species are all based on chapters in the book, and illustrate how, and to what extent, CITES has been able to regulate international trade of timber, bark and resins – or not.

African cherry (*Prunus africana*)

Prunus africana is the only wild relative of peaches, plums, cherries and almonds and was listed in CITES Appendix II in 1995 following the destructive trade in its medicinal bark in the mid-1980s. Even with major subsidies from overseas development assistance, the commercial wild harvest of *Prunus africana* continues to be unsustainable, both economically and for the long-term viability of wild resource stocks in, for example, Cameroon and Madagascar. Although it is not the only vulnerable species, it holds useful lessons for assessing CITES as a tool for the promotion of sustainable development. It encompasses a 'northern perspective' that uses trade bans as a pro-conservation tool and a 'southern perspective' to promote sustainable use of wild populations by local communities. In addition, in common with many other valuable natural resources, the trade in *Prunus africana* has been subject to elite capture (rent-seeking behaviour often by local leaders), which has weakened both development outcomes for local communities and undermined decentralized forest management. Interest in the species led to lobbying to continue the trade at national and international levels, which undermined the strong scientific evidence of unsustainable harvesting. However, an import ban was introduced by the European Union (EU) in 2007, harnessing linkages between regional legislation in the EU, as a key market, and international law of a CITES-listed species whose populations were being affected by unsustainable harvesting through trade. In common with other CITES-listed plants, such as orchids and gaharu (*Aquilaria* species), *Prunus africana* has long been cultivated, although until recently few attempts have been made to develop separate supply chains from cultivated stocks.

Policy support from CITES to develop a separate supply chain for cultivated *Prunus africana* bark would have significant conservation

and livelihood benefits. There are precedents for this, even for CITES Appendix I-listed species, with provisions for facilitating trade in commercially captive-bred live animals when it can be shown that this would result in species conservation benefits.⁶ In contrast to lucrative bark exports, livelihood benefits to local harvesters from wild harvest are less than one US dollar a day, owing to a net bark price of USD 0.33 per kg.

As with other CITES cases such as orchids, crocodiles and *Aquilaria* resin, what is needed to supply the current and future markets is to develop separate, traceable *Prunus africana* bark supply chains based on cultivated stocks. In Cameroon, for example, this would create opportunities for more than 3,500 smallholder farmers growing this species in their agroforestry gardens.

Peruvian or bigleaf mahogany (*Swietenia macrophylla*)

The Peruvian or bigleaf mahogany (*Swietenia macrophylla*) is a valuable tropical timber used for panelling, furniture, boats and musical instruments. The United States is the leading importer of mahogany, while Peru is the largest exporter. Fiji, Bangladesh, India, Indonesia and the Philippines are now major exporters of plantation-grown timber. However, the original wild populations have declined significantly and timber from the Neotropics (specifically covering logs, sawn wood, veneer sheets and plywood) was included in CITES Appendix II in November 2003 after a Bigleaf Mahogany Working Group (WG) was established in 2001. The WG was given a new mandate at CITES CoP 12.⁷

CITES listing in Appendix II was useful in reducing harvesting of the species. CITES' follow-up to Peru's non-compliance with CITES between 2003 and 2006 was also instrumental in pressuring the administration to reduce mahogany exports after 2006. The decline in mahogany exports in 2007 reflected the National Institute of Natural Resources (INRENA) decision to enforce a ban on mahogany and cedar proposed by Supreme Decree 047 99 AG.55. This helped to reduce what was until then an unverified trade with high levels of mahogany of illicit origin. A subsequent Environmental Investigation Agency (EIA) study cross-referenced data from the national supervisory body for forest resources and wildlife (OSINFOR) with the documentation for CITES export permits for 100 shipments containing illegally logged CITES wood to the United States between January 2008 and May 2010. Peru's primary exporter, Maderera Bozovich, exported shipments under 152 CITES permits during this time, at least 45 percent of which included wood of illegal origin (EIA, 2012).

Although CITES has played a key role in developing regional management strategies for bigleaf mahogany in the Amazon region, the authors of this chapter argue that a complex synergy of multiple international and national factors explains the policy developments regarding changes in the mahogany

6 CITES Res. Conf. 9.21 and CITES Res. Conf. 12.10.

7 CITES CoP Decision 12.21 (Decision 12.21)

trade in Peru beyond a CITES listing. Factors at the international level included the effects of CITES CoPs, Secretariat and Steering Committee follow-ups, and the impact of United Nations Framework Convention on Climate Change (UNFCCC) annual CoPs, particularly since 2009 with reducing emissions from deforestation and forest degradation, and enhancement of forest carbon stocks (REDD+). At the national level, a wide range of factors were relevant, including a number of forest authority decisions, the EIA, *The Laundering Machine* report (EIA, 2012) the Free Trade Agreements (FTA) with the United States and the EU, and to the efforts of individuals and organizations which have tried to prevent illegal logging.

Beyond the Peruvian specifics, even beyond the forest sector, this case speaks to a problem applicable to the entire international trade in wild species: a stamp on an official document is not sufficient guarantee of something's actual legality in many countries, and despite the CITES requirement for a legal acquisition finding. This is a key issue in the context of laws like the US Lacey Act and EU Timber Regulation, where the buyer is legally responsible for their products' possible illegalities even if they did not set out intentionally to buy illegal goods.

Chilean larch (*Fitzroya cupressoides*)

The Chilean larch (*Fitzroya cupressoides*) or Alerce is the only species of the genus *Fitzroya*, originally named by Charles Darwin for Captain Fitzroy of the H.M.S. Beagle. Darwin made his infamous voyage around the world, which he diarized on the Beagle from 1831–1836. Wood from the tree was widely used during the colonial period for roof shingles, furniture and ship masts. The Chilean larch is the second longest-living vegetal species in the world, with specimens that are more than 3,600 years old. It is a large conifer that has been logged heavily for over 350 years. Its range has been reduced to less than 15 percent of its original area, located mostly in the remote and difficult to access high cordillera of the Andes. The Chilean larch is a species threatened with extinction and is included in Appendix 1, which means that international trade is forbidden except in limited and special situations set out by the treaty and in the domestic laws of the state parties to it.

Logging of *Fitzroya* continued until 1976, when it became forbidden by law with the exception of already dead trees and with the authorization of National Forest Corporation (CONAF). Judicial claims of illegal cutting of Chilean larch have increased, however, over the last 10 years. In 2013, the Chilean Supreme Court ordered the payment of compensation by a forestry company for environmental damage due to the cutting of 3,635 trees protected as a Nature Monument by the State of Chile. It was listed in CITES Appendix I in 1975, although coastal populations of the Chilean larch were re-listed in Appendix II in 1983 before this decision was reversed by an Argentinian proposal in 1987.

CITES entered into force in Chile in 1975 after Decree Law No. 873/1975 and Supreme Decree No. 151/1975 were adopted. A

CITES National Committee was created in 2010, but it took almost 30 years before Ministry of Agriculture Decree No. 70 was introduced to create an administrative (CONAF) and scientific authority (Forestry Institute, or INFOR) to implement CITES. In 2016, 40 years after the entry into force of CITES, Law 20.962. was issued in order to apply CITES provisions and regulate sanctions.

In addition, Supreme Decree No. 490/1976 of the Ministry of Agriculture recognizes the Chilean larch as one of the nation's most important natural heritages, and was declared a "nature monument" in accordance with the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, ratified by Chile in 1967. Two additional laws were adopted in 2008 and 2009: Law No. 20.283 on the Recuperation of Native Forests protects, in general terms, all of the Chilean indigenous forests, and Supreme Decree No. 68/2009 established a list of native tree species *Fitzroya*.

While the larch is protected by CITES and a plethora of domestic laws, these have largely failed to effectively ensure the future conservation of this species. A 2010 Chilean Congress report on compliance with CITES identified several weaknesses associated with domestic implementation. These included deficiencies in audits due to a lack of rigour in inspections carried out by public agencies; incoherence between the legal framework and the actions of state institutions, attributed in part to the ignorance about the regulations; and a lack of coordination between the authorities involved in the inspections.

The effectiveness of CITES is ultimately subject to the technical ability and willingness of member states to implement its decisions, which depends largely on political and institutional factors. In the context of Chile and the Chilean larch, possible steps to move forward are: (i) to unify international and domestic obligations in order to achieve the goal of protecting the Chilean larch; (ii) to strengthen the oversight of institutions and their capacities for control, supervision and monitoring; and (iii) to increase the domestic penalties for illegal trade at international and national levels.

Afromosia (*Pericopsis elata*) and the illegal timber trade in the Democratic Republic of the Congo

Despite a logging moratorium in place since 2002, and a monitoring contract established in 2010 between the government of the Democratic Republic of the Congo (DRC) and the Société Générale de Surveillance, illegal timber and wildlife harvesting continues to occur outside authorized zones. This occurs in several ways: authorized cutting volumes are exceeded, protected species are exported with fake CITES permits, timber is fraudulently marked, mismatches occur between declared and actually exported species, royalties go



Afromosia tree, Yangambi, DRC.

Photo by Axel Fassio/CIFOR

unpaid, and there is often non-compliance with the economic and social compensation commitments made to local communities by forest concessionaires. Moreover, the competent tax administration is not sufficiently involved in cases of non-payment of state taxes and of non-compliance with Article 3 of Ordinance 011, which imposes the issuance of special permits for foreigners exploiting *Afromosia* (*Pericopsis elata*).

CITES has made limited progress to date in addressing illegal and/or unreported trade in *Afromosia* in the DRC despite the species being listed in Appendix II since 1992. In 2001, a negative opinion led to the suspension of trade by the EU with Cameroon and the Republic of Congo. In 2002, *Afromosia* was included – the first time for a timber species – in the Review of Significant Trade (RST) by the Plants Committee. The current RST has been ongoing since 2008. Although the Secretariat recommended in 2012 that parties suspend trade in *Afromosia* with DRC until CITES Article IV (Non-Detriment Findings or NDFs and export quotas) was complied with, no follow-up action was taken.

In June 2014, following receipt of an NDF from the DRC, it was decided to remove *Afromosia* in DRC from the RST, a decision that was strongly criticized by a coalition of non-governmental organisations (EIA, Greenpeace and the Centre for International Environmental Law (CIEL) at the CITES Standing Committee meeting (SC65) in July 2014. A parallel process under Article XIII resulted in the Secretariat briefly introducing a trade suspension affecting all CITES listed species. DRC has been the subject of investigations by EU Timber Regulation authorities since March 2013.

In a country with entrenched governance challenges, the CITES timber legality verification process is inadequate. National capacities of both the scientific and management authorities are weak, and as in many countries, the DRC does not have a fully compliant national CITES implementing legislation. This is essential both for the integrity of CITES but also for the effectiveness of legislation enacted in the European Union, the United States and Australia to exclude imports of illegally logged timber. New approaches may be needed to regulate the timber and wildlife trades in the DRC, such as timber parks at border crossings (Ferrari and Cerruti, 2023) and the use of vouchers to monitor the bushmeat trade (Hart, Omeme and Hart, 2021).

Frankincense (*Boswellia* spp.)

Frankincense is an aromatic resin used in incense and perfumes, obtained from several tree species of the genus *Boswellia* that occur in Africa, the Arabian Peninsula and South Asia. Resin of various grades is produced by tapping the trees two to three times per year. Cheap resin is produced in the Horn of Africa, which is the Roman Catholic Church's major source. The global aromatherapy market is expected to continue to expand rapidly, at a compound rate of 7–15 percent per year. While demand has grown, both the health and the size of several *Boswellia* populations have declined in all producing regions. Resin harvesting does place pressure on harvested trees, but the economic value of the resin trade also protects them from more destructive forms of use (such as fodder, charcoal, firewood) or land conversion.

Boswellia species are currently not listed in CITES but their conservation, status, trade and threats have been under discussion since 2009 with a view to possible listing proposals. Concerns, however, exist that a CITES Appendix II listing could in effect act as a trade ban in major producing areas rather than encourage sustainable trade. Listing could also be problematic in other countries where governance is unstable (Sudan, Mali, Burkina Faso, etc.) or where political sensitivity around the cultural heritage of *Boswellia* makes listing highly sensitive (such as Oman). The ramifications of these potential issues need to be examined from multiple angles.

Gum and resin collection, particularly of *Boswellia* species, is a key source of income for hundreds of thousands of people in the Horn of Africa. Although CITES is not required to consider livelihoods when making a listing decision, which is based on biological criteria concerning a species status and threats to its survival, the potential impact of *Boswellia* listing on the livelihoods of some of the world's most vulnerable people, and the potential consequences for different species in different areas, need to be considered carefully.

There is some evidence of increasing pressure and declining populations in some areas for certain frankincense species. However, given the currently limited quantitative data, political complexities and differential pressures facing different frankincense species, it is unclear in most cases whether CITES Appendix II listing would be a help or a detriment. A listing in Appendix II does not automatically trigger a trade suspension. Somalia has been subject to a general suspension of trade for all CITES-listed species since 2004 but this is not the case for Ethiopia.⁸ Certainly, a genus-wide listing would be inappropriate. While CITES is a powerful tool to regulate international trade, it should be applied with care and in circumstances where such regulation would be of a benefit to the species involved. Therefore, the book advocates, for each of the species, further assessment efforts, consultation with stakeholders and understanding of real-world impacts is essential before considering further interventions.

Conclusions

The overexploitation of wildlife, combined with habitat loss, pollution and climate change, means that “1 million species are facing extinction” (Wyatt, 2021: 15). Although CITES – as this book has illustrated – has made significant contributions to improving the regulation of the international timber and wildlife trade, significant gaps remain (Waeber et al., 2023). It is beyond the scope of this feature to present a detailed discussion of the limitations of CITES, so we shall highlight only a few. Many species, such as shihuahuaco (*Dipteryx micrantha*) in Peru, where it is widely harvested to supply the international trade in parquet, are not listed (Espinosa and Valle, 2020). Domestic trade in listed species is not addressed by the Convention, although this has been addressed in resolutions that have

had some impact for certain species, notably with respect to the trade in ivory and pangolins. CITES, however, fails to accurately monitor supply, particularly where trade is illegal, and it does little to consider the complex nature of demand or contend with changing market dynamics. John Scanlon, a former CITES Secretary General, has advocated incorporating public health concerns to address biosecurity risks and perhaps even to establish a new convention to tackle wildlife crime. Furthermore, one problem applicable to all international trade in wild species is that a stamp on an official document is not sufficient to guarantee actual legality in many countries. This is a key issue in the context of laws like the US Lacey Act and the EU Timber Regulation where the buyer is legally responsible for their products' possible illegalities, even if they did not set out intentionally to buy illegal goods. Last but not least, greater synergies between different Conventions and instruments with similar objectives are needed to obviate the risk of creating new loopholes in regulating international trade, as occurred in 2013 when the EU Timber Regulation was introduced.

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References

- Anagnostou, M. and Doberstein, B., 2022. Illegal wildlife trade and other organized crime: A scoping review. *Ambio* 51: 1615–1631 <https://doi.org/10.1007/s13280-021-01675-y>
- Bashyal, R., Paudel, K., Hinsley, A., and Phelps, J., 2023. Making sense of wildlife and CITES legislation: The example of Nepal's orchids. *Biological Conservation* Volume 280 (April 2023): 109951. <https://doi.org/10.1016/j.biocon.2023.109951>
- Borsky, S., Hennighausen, H., Leiter, A., Williges, K., 2020. CITES and the zoonotic disease content in international wildlife trade. *Environmental and Resource Economics* 76, 1001–1017. <https://doi.org/10.1007/s10640-020-00456-7>
- Bowman, M., Davies, P. and Redgwell, C., 2010. *Lyster's International Wildlife Law*. Cambridge: Cambridge University Press.
- CITES, 2023. Regulation of trade - Sustainability criteria for timber Non-Detriment Findings. Twenty-sixth meeting of the Plants Committee, Geneva, Switzerland, 5–9 June 2023. PC26 Doc.18. CITES Secretariat, Geneva. Daszak, P., das Neves, C., Amuasi, J., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrel, C., Buss, P., Dunderova, H., et al. 2020; Workshop report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services.

⁸ <https://cites.org/eng/resources/ref/suspend.php>

- Environmental Investigation Agency (EIA), 2012. *The Laundering Machine. How Fraud and Corruption in Peru's Concession System are destroying the future of its forests*. EIA, Washington and London.
- Espinosa, T. and Valle, D., 2020. Population evaluation of *Dipteryx micrantha* in the Las Piedras River basin, Madre de Dios (Peru). *Revista Forestal del Peru* 35 (3): 76–85. <http://dx.doi.org/10.21704/rfp.v35i3.1603>
- Ferrari, S. and Cerruti, P.O., 2023. Timber trade in the eastern Democratic Republic of Congo (DRC): Effectiveness of timber parks in tackling tax frauds. *International Forestry Review* 25(2): 177–189. <https://doi.org/10.1505/146554823837244446>
- Hart, J.A., Omeme, O. and Hart, T.B., 2021. Vouchers control for illegal bushmeat transport and reveal dynamics of authorized wild meat trade in central Democratic Republic of Congo (RDC). *African Journal of Ecology*. <https://doi.org/10.1111/aje.12965>
- International Institute for Sustainable Development (IISD), 2019. Summary of the 18th Meeting of the CITES Conference of Parties: 17–28 August 2019; Earth Negotiations bulletin 31 August 2019. <https://enb.iisd.org/cites/cop18/>
- IPBES, 2019. Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. <https://doi.org/10.5281/zenodo.3553579>
- Karesh, W.B., Cook, R.A., Bennett, E.L., and Newcomb, J., 2005. Wildlife trade and global disease emergence. *Emerging Infectious Diseases* 11 (7): 1000–1002 <https://doi.org/10.3201/eid1107.050194>
- Nellemann, C., Henriksen, R., Raxter, P., Ash, N., Mrema, E. (Eds.). 2014. *The Environmental Crime Crisis – Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources*. A UNEP Rapid Response Assessment. United Nations Environment Programme and GRID-Arendal, Nairobi and Arendal, www.grida.no. <https://wedocs.unep.org/handle/20.500.11822/9120>
- Oldfield, S.F., 2013. The evolving role of CITES in regulating the international timber trade. *Review of European, Comparative & International Environmental Law Special Issue CITES +40*. 22 (3): 291–300. <https://doi.org/10.1111/reel.12045>
- Reeve, R., 2015. *The role of CITES in the governance of transnational timber trade*. CIFOR Occasional Paper 130. Bogor, Indonesia: Center for International Forestry Research (CIFOR).
- Reeve, R., 2002. *Policing International Trade in Endangered Species: The CITES Treaty and Compliance*. London: Earthscan.
- Scheffers, B.R., Oliveira, B.F., Lamb, I. and Edwards, D.P., 2019. Global wildlife trade across the tree of life. *Science* 366: 71–76. <https://doi.org/10.1126/science.aav5327>
- Swift, L. et al, 2007. Wildlife trade and the emergence of infectious diseases. *Ecohealth* 4 (1): 25–30. <https://doi.org/10.1007/s10393-006-0076-y>
- Waeber, P.O., Roberts, M.W., Schuurman, D., Wittemeyer, G., Barber, C.V., Innes, J.L., Lowry II, P.P. and Wilme, L., 2023. Gaps in CITES policy underline conservation of threatened species by providing loopholes for illegal trade. *BioScience* 0:1–4 <https://doi.org/10.1093/biosci/biad0404>
- Wijnstekers, W., 2011. The Convention on International Trade in Endangered Species of wild Fauna and Flora (CITES) – 35 years of global efforts to ensure that international trade in wild animals and plants is legal and sustainable. *Forensic Science Review* 23: 1–8.
- Wyatt, T., 2021. *Is CITES Protecting Wildlife? Assessing Implementation and Compliance*. Earthscan from, Routledge, London and New York.



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