IMPLEMENTATION OF CITES DECISION 17.228: REVIEW OF IMPLEMENTATION OF RESOLUTION CONF. 12.5 (REV. COP17) ON *CONSERVATION OF AND TRADE IN TIGERS AND OTHER APPENDIX I ASIAN BIG CATS*

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With additional support from WWF

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Executive Summary

Review process

Pursuant to Decision 17.228, this review examines efforts to implement aspects of Resolution Conf. 12.5 (Rev. CoP17) on *Conservation of and trade in tigers and other Appendix-I Asian big cat species.* This report continues the previous review of implementation of Resolution Conf. 12.5 (Rev. CoP16) completed in 2014 (Document SC65 Doc. 38 Annex 1), as required by Decision 17.228 and the consultant's Terms of Reference (ToR). Due to time constraints, the consultant decided to limit the review period to approximately two years following the previous review (2015-mid-2018), although as relevant matters which occurred outside this time period are also discussed.

First, after the Introduction (section 1) and Methodology (section 2), this report presents background information on the conservation status of Appendix-I Asian big cats and illegal trade threats, based on the consultant's literature review (section 3.1). Information from several sources on seizures (Party annual illegal trade reports for 2016, contributed by the CITES Secretariat to inform this report, as well as contributions requested by the consultant from the ten focal Parties and NGOs) is presented in section 3.2. Next, while seeking to avoid duplication of ongoing CITES work on these topics, and as required by the consultant's ToR, the report addresses legislative and regulatory measures (with Parties which adopted new legislation during the review period receiving the greatest attention) (section 4.1), national law enforcement (section 4.2), demand reduction (section 4.3), and education and awareness (section 4.4). Finally, findings on best practices and continuing challenges are presented in section 5, based on the material presented in the two previous sections.

While to a limited extent this report covers all Appendix-I Asian big cat range and consumer States (section 3), given time constraints a subset of focal Parties was selected by the consultant for detailed analysis in sections 3.2, 4 and 5. The process employed was a review of four key sources among those identified as source materials or primary activities in the consultant's ToR: 1) the CITES Secretariat's report to the 69th meeting of the Standing Committee on national laws for implementation of the Convention (Documents SC69 Doc. 27 [Rev. 1] and SC69 SR); 2) the report of the Standing Committee on Asian Big Cats to the 17th Conference of the Parties to CITES (Document CoP17 Doc. 60.1); 3) UNODC World Wildlife Crime report of 2016 (UNODC 2016a and Document CoP17 Inf. 8); and 4) a literature review carried out by the consultant. A total of 22 Parties were identified as a priority or of elevated concern, but the focal group for this review was narrowed to ten Parties identified in two or more of the sources: China, India, Indonesia, Lao People's Democratic Republic (PDR), Malaysia, Myanmar, Nepal, Thailand, the United States of America (US) and Viet Nam.

According to the Decision and the consultant's Terms of Reference (ToR), this review was undertaken in consultation with Appendix-I Asian big cat range States and consumer States, in particular States affected by illegal trade, as well as with International Governmental Organization (IGO) Partners in the International Consortium on Combating Wildlife Crime (ICCWC) and other experts and organizations known to the consultant as key sources of reliable information over the course of her thirty-year membership in the IUCN SSC Cat Specialist Group.

Consultation took place in two stages. The ten focal Parties were contacted by the consultant in March 2018 and asked a brief series of questions, as well as soliciting any additional information they wished to contribute to inform the review. Five Parties responded and contributed information which was incorporated into the first draft of the review: India, Indonesia, Nepal, Thailand and the US (summarized in Annex 1). Twenty experts and non-governmental organizations (NGOs) with relevant expertise were also contacted by the consultant and asked to contribute information pertaining to the ten focal Parties for the review; 17 responded with information that was also incorporated into the first draft (Table 1).

After incorporating comments received from the CITES Secretariat on the first draft of the review report, a second draft of the report was shared by the consultant in May 2018 with 38 Parties -- Appendix-I Asian big cat range States (Table 2) and consumer States particularly affected by illegal trade (identified by the consultant's literature review) -- and ICCWC Partner IGOs. Comments received from India, Myanmar, Thailand, the United Arab Emirates, the United Kingdom and the United States as well as the Chair of the CITES Cheetah intersessional Working Group were incorporated into the final version of the report.

Review findings

Section 1. Introduction: This review concentrates on specific areas recently identified as particularly challenging, with the primary informational basis being the deliberations of the intersessional Working Group on Asian big cats (WG) established at the 65th meeting of the Standing Committee (SC65, Geneva, 2014) and chaired by China. The WG's email correspondence, report to SC 66 (document SC66 Doc. 44.2) and recommendations following in-session deliberations at SC66 (documents SC66 Com. 11, SC66 SR and CoP17 Doc. 60.1) informed the selection of the following aspects of the four topics for this review (section 4):

Section 4.1. Legislative and regulatory measures: that these are adequate to implement CITES controls on international trade in Asian big cats and their parts, derivatives and products; the extent to which Parties have "voluntarily prohibit[ed] internal trade" (Resolution Conf. 12.5 [rev. CoP17])[1] and that such prohibitions are "comprehensive" (document SC65SR),[2] concentrating on differences between wild and bred-in-captivity[3] specimens and treatment of non-native big cat species and subspecies;[4]

Section 4.2. National law enforcement: the extent to which Parties have enforced trade restrictions at the points of supply (both wild and captive[5] populations), and against traffickers and consumers, as well as prosecutions involving Asian big cat crime;

[1] Although this language goes beyond the Convention and minimum requirements to national laws for its implementation, Article XIV acknowledges the right of Parties to adopt stricter domestic measures (such as internal trade prohibitions), and Decision 14.69 has shown that Parties consider such measures appropriate for tigers.

[2] The 65th meeting of the CITES Standing Committee encouraged "Parties to review all relevant national legislation to ensure that national measures restricting internal and international trade in Asian big cats and their parts and derivatives are comprehensive in that, recalling Decision 14.69, parts and derivatives obtained from specimens bred in captivity are included" (document SC65 SR).

[3] This review will complement the work being done under Decision 17.226, in that it examines trade restrictions for bred-in-captivity specimens, but it does not delve into the subject of management of captive facilities.

[4] Protecting non-native species (and subspecies) was flagged as a key issue by the intersessional Asian Big Cats Working Group established at the 65th meeting of the CITES Standing Committee as well as UNODC (2016a and document CoP17 Inf. 8)

[5] This review will complement the work being done under Decision 17.229, in that it examines recent actions to enforce of relevant trade restrictions at captive facilities, but it does not delve into the number and composition of such facilities, nor the level of legal and illegal trade from such facilities.

Section 4.3. Demand reduction: review poacher and consumer motivations for hunting and buying Asian big cats, and recent developments toward reducing consumer demand;

Section 4.4. Education and awareness: review recent campaigns targeting groups described in the Resolution: rural and urban communities; traditional medicine communities, practitioners and users; and enforcement, prosecution and judicial authorities.

Section 2. Methodology: As described in the Review Process section above, this report is based on the consultant's literature review and consultation with Parties, ICCWC Partners, and experts and non-governmental organizations, as appropriate.

Section 3.1. Conservation status and illegal trade threats (literature review): A comprehensive re-assessment of felid species categorization on the IUCN Red List was completed in 2017, and all Asian big cats are included in the top three threat categories, with the tiger Endangered, and the remaining species Vulnerable. The conservation status of the leopard deteriorated since 2008, with the species moving from Near Threatened to Vulnerable, and although the snow leopard moved from Endangered to Vulnerable, this was a non-genuine change due to a change in methodology for estimating the number of mature individuals. While the consultant's literature review finds that all Appendix-I Asian big cats are threatened by illegal trade, the tiger continues to be most at risk, with the strongest signs of consumer demand (section 4.3) and organized commercial poaching (section 4.2.1.1), the largest numbers of seizure cases according to all review sources (section 3.2), and surveys conducted during five years prior to the Red List reassessment in 2015 detecting no tigers in parts of Cambodia, China, India, Lao PDR, Russian Federation, Thailand and Viet Nam where they were previously thought to be present (Figure 3). Based on their own research as well as that of other NGOs, the Wildlife Justice Commission identified two parallel supply routes for illegal tiger trade, a trans-Himalayan route for wild and a Southeast Asian route for captive as well as wild, with the primary destinations China and, to a lesser extent, Viet Nam (Figure 6). Other Asian big cats are trafficked through these routes (Figure 10), and evidence is growing that Asian demand is also being supplied by big cats outside the region: illegally by leopards from Africa and jaguars from Bolivia, and legally by captive-bred lions from South Africa, with a TRAFFIC study for the 30th meeting of the CITES Animals Committee noting that "the lion bone trade is considered to be closely linked to the farming and trade of tigers," with much of it illegally traded as tiger both within and between Asian countries (document AC30 Inf. 15) (section 3.1.5).

Section 3.2. Seizures (Party and NGO contributions): In response to the consultant's request for information from the ten focal Parties, Thailand contributed a table of tiger trafficking cases for fiscal years 2014-2018, totaling 13 live tigers and 73 carcasses in 16 cases (Table 5). The US reported a large volume of big cat seizures, with 451 cases from 2015-2017 (Table 6): medicines were the most numerous product seized, especially for the tiger and leopard. China was identified by US law enforcement officials as the country of origin for medicines reportedly containing cheetah, lion and the vast majority of leopard medicines, and for tiger medicines, China and Viet Nam were most frequently identified as the countries of origin for both the products and the shipments (attempted illegal import) to the US (Table 7). From the 2016 annual illegal trade report data compiled by the CITES Secretariat, one quarter (25%) of the 55 Parties which submitted reports had 132 cases of Asian big cat seizures in 2016 (Figure 16). These continue to show a trend described in the previous review for widespread seizures, mainly outside of range States, of medicinal derivatives claiming to contain tiger and leopard (Figure 17), with law enforcement officials reporting the countries of origin primarily as China, followed by Viet Nam and Cambodia (Table 9). For the ten focal Parties, NGOs provided a total of 196 seizure cases of Asian big cat specimens for the period 2015-2017 from open sources. In these data sets (Figures 18-19 and Tables 11-12), most reported seizures were of bodies or body parts including skins, bones, claws and teeth. Tiger

seizures were the most numerous (111 seizure cases), and 2/3s of them were estimated to be wild tigers.

Section 4. Implementation of Resolution Conf. 12.5 (Rev. CoP17) in the ten focal Parties, 2015-mid-2018: The findings in this section are based on the consultant's literature review and information provided by focal Parties and NGOs to inform the report. The findings are summarized below and the basis for them is described in detail in the relevant text sections of the report.

Section 4.1. Legislative and regulatory measures: All ten focal Parties either enacted amendments to national legislation governing international and internal trade in Asian big cats or announced that they were in the process of doing so. China, Lao PDR, Myanmar, Nepal and Viet Nam enacted the most consequential measures and are covered in the most detail. All ten focal Parties require some form of permit, generally issued only for non-commercial purposes, for both international and internal trade in Asian big cats and their parts and products. However, China, Lao PDR and Myanmar have legislative and regulatory measures allowing some types of internal (and perhaps, in the case of Lao PDR, international) trade which appear to meet the CITES definition of primarily commercial (Resolution Conf. 5.10 [Rev. CoP15]. When it comes to non-native big cats, only three Parties (Myanmar, Nepal and the United States) offer the same level of internal trade protection to all CITES-listed big cat taxa (Table 14.1). Resolution Conf. 12.5 calls on Parties to prohibit "products labelled as, or claiming to contain, [Asian big cat] parts and derivatives… as provided for in Resolution Conf. 9.6 (Rev. CoP16)," but only three Parties (Myanmar, Peninsular Malaysia and the US) have incorporated the definition of "readily recognizable" from Resolution Conf. 9.6 into their legislative and regulatory measures.

International trade controls under CITES prohibit commercial trade in Appendix-I Asian big cats, but there are exemptions for bred-in-captivity specimens. No commercial breeding operations for Asian big cats are registered with the Secretariat, but specimens and/or parts of Appendix I Asian big cats bred for non-commercial purposes may be traded commercially, in accordance with Article VII paragraph 5 of the Convention (Tables 13A [CITES trade requirements] and B [International trade in bred-in-captivity *Panthera* specimens 2010-2016). Nine of the focal Parties, however, generally have the same internal trade controls for wild and captive Asian big cat specimens (Table 14.1). Lao PDR is the sole exception, with second (F2) generation wildlife allowed to be sold from facilities that are licensed to breed for business purposes; however, in May 2018 the Prime Minister prohibited trade in protected species including tigers and other native Asian big cats, and ordered that existing breeding operations should be transitioned away from farming. Although not, at this time, applied to Asian big cats, six focal Parties have legislative and regulatory measures which allow for less restrictive trade controls for bred-in-captivity specimens of some species: China, Indonesia, Myanmar, Nepal, Thailand and Viet Nam. Although China has not moved any big cats to this less restrictive trading regime, along with Lao PDR, it is the only one of the focal Parties known to have issued permits allowing some entities to engage in internal trade in both Asian and non-native big cat parts and products. China is also the only one of the focal Parties which lacks a statutory basis for regulating possession of protected species (apart from licensing requirements for captive breeding).

Concerning penalties for illegal internal trade, only Parties with relatively recently amended legislation have maximum financial penalties of USD10,000 or more (China, Malaysia, Nepal, US, and Viet Nam). India has very low financial penalties, but a high maximum prison term (seven years). Of all ten Parties, only the US does not have a maximum prison penalty term of at least four years under its primary wildlife legislation, although higher prison terms are possible under other laws and if criminally prosecuted. However, a number of Parties have no minimum financial or prison penalties, giving substantial leeway to prosecutors and judges

to impose less than the maximum penalty allowed by law. Only half have increased penalties for repeat offenders (Table 14.3).

Section 4.2. National law enforcement: Resolution Conf. 12.5 (Rev. Cop17) and numerous experts have urged greater use of intelligence-led enforcement for Asian big cats. Intelligence provided by the public, including NGOs, can be of great assistance to capacity-limited enforcement authorities, particularly as illegal trade continues a trend of becoming more covert. In terms of intelligence-led anti-poaching protection for wild tiger populations, however, one survey found that only 14% of sites have implemented these procedures (and none in Southeast Asia), although 52% of sites reported that they are in the process of developing this capacity (Figure 28).

Despite increasing evidence that bred-in-captivity specimens are entering into illegal trade (e.g., the sharp rise in the seizure of parts suspected to be from captive tigers found by TRAFFIC's most recent analysis, growing from 2% of the total in the early 2000s to 30% in 2012-2015: section 3.1.2), only one Party (Thailand) is known to have taken recent enforcement action against captive facilities. In the biggest case, in June 2016 over 500 officers participated in a raid which seized numerous parts and derivatives (including 1,000 amulets containing tiger skin), and 130 tigers were confiscated from one facility and relocated to approved shelters (Figure 32). Although charges were filed against 22 suspects, as of May 2018 the case had yet to reach the prosecution stage.

Several Parties took enforcement actions against leaders of major criminal wildlife trading networks in 2015-mid-2018, including India, Malaysia, Thailand, the US and Viet Nam: these operations should be sustained as the initial arrests and prosecutions provide a means to continue investigations and dismantle entire international criminal networks. There is sufficient intelligence of illegal trade in Lao PDR and Myanmar to provide grounds for enforcement, but despite some recent enforcement action some of their border towns continue to serve as hotspots of "wildlife trade tourism," particularly for Chinese tourists. Greater cross-border cooperation with Chinese authorities would enhance the ability of law enforcement to target the China-based counterparts of major traders under investigation in neighboring countries as well as potentially deter illegal cross-border movement of prohibited wildlife items by tourists.

While buying and possession are criminalized in almost all of the ten focal Parties, few recent examples of enforcement against consumers could be found, despite its potential to serve as a deterrent and reduce demand for illegal big cat products. The potential for such cases to receive maximum publicity and have a strong educational effect is shown by the viral campaign in Thailand calling for justice against a billionaire caught inside a national park dining on soup made from a poached black leopard (Figure 36).

Most focal Parties prosecuted Asian big cat cases in 2015-2017, with the exceptions of Lao PDR and Myanmar. China, in particular, meted out sentences in accordance with the maximum penalties permitted by law, and Thailand used anti-money laundering legislation to prosecute one of the biggest asset forfeitures worldwide against a tiger and other wildlife criminal trading network (USD36.5 million).

Section 4.3. Demand reduction: At the 66th meeting of the Standing Committee (SC66, Geneva, 2016), the Committee encouraged research into the motivations of both poachers and consumers (document SC66 SR). Most poaching of Asian big cats appears to be driven by financial gain (e.g., Figure 39), although big cats killed for other reasons (such as wildlife-human conflict) often wind up in illegal trade: snow leopard experts estimated that 39% of non-trade related killings result in an attempt to sell (Figure 44). In this sense illegal trade in wild cat specimens will remain supply-driven to some extent, and captive breeding is also growing the potential supply of big cat products for consumer markets.

Concerning consumer motivations, new research on consumption and attitudes toward tiger products has been conducted in China (USAID 2018a,b) and Thailand (USAID 2018c,d). One thousand people were surveyed in each country: 4% of Chinese people said they had purchased tiger products (primarily bone preparations or skins) in the past 12 months, whereas 1% of Thai people said they owned or had purchased tiger products (primarily spiritual items and amulets) in the past three years. Whereas older research in China and Viet Nam, which forms a baseline for comparison, indicated that medicinal consumption is largely favored by older people, according to more recent research in China consumption is significantly linked to youth and high education and income levels (Figure 54). Younger people in China appear more motivated by social prestige considerations, and although health reasons are still among the top drivers of tiger medicine consumption, there appears to be a shift away from the idea that tiger bone is a disease-curing substance (which is unlikely to be borne out according to modern standards of evidence-based medicine) and more a luxury promoter of well-being which is socially gifted and consumed. A new trend toward big cat tooth and claw jewelry (usually described as tiger but probably consisting also of other species, including African lion) is especially evident among young men in Viet Nam (Figure 53), based on the research of two NGOs analyzing social media posts. Overall, there is a wide variety of big cat products, with uses ranging from consumptive to decorative to companionable (pets) (Figure 47), and the latter two are likely to have few repeat consumers. For example, in Thailand 64% of tiger amulet owners said they had bought it only once, whereas 69% of Chinese tiger users (who primarily consume tiger bone products) said they planned to buy it again. Broadly speaking, there are two groups of consumers (with some overlap): "hard" consumers who deliberately seek out big cat products (which can be difficult to obtain, given their illegality) and "soft" consumers who opportunistically purchase, and may not have known they wanted the item before encountering it (Figure 51). Law enforcement has a key role to play in demand reduction by targeting the criminal trade networks which supply underground trade, and policing physical and online markets to reduce buying opportunities (Figures 48-50).

There is only one known successful example (based on market surveys by NGOs) of a dramatic reduction in demand for Asian big cat products: the collapse of a fashion trend in China's Tibet Special Autonomous Region (SAR) in the mid-2000s for cloaks trimmed with tiger and leopard skin. This example has several unique characteristics which will be difficult to replicate elsewhere: people were actively seeking big cat skins primarily to wear in a public setting to convey status (Figure 57), and that social acceptability was up-ended by a particularly influential spokesperson. And it should be noted that NGO researchers have found that illegal sale of big cat skins continues in China's Tibet SAR (Figure 58), but the main form is whole skins for home decoration, and based on traders' statements to NGO researchers involves a different consumer demographic. There are other examples of societies which used to be major consumers of tiger products but appear to have almost completely stopped, for reasons which have little to do with efforts to educate consumers and reduce demand. Japan, South Korea and Taiwan (Province of China) used to be major importers of tiger bone, and had medicinal industries manufacturing these products. Once these practices were prohibited after 1993, the industries were closed down and, perhaps crucially, none of the authorities permitted commercial-scale breeding of tigers or other Asian big cats. In other words, reducing supply can be a major factor in reducing demand. Continued availability of big cat products through channels which appear to consumers to be legal – including tiger farms and unpoliced "wildlife trade tourism" markets in Lao PDR and Myanmar – is likely to counteract demand reduction messaging. The use of other big cats as substitutes for tiger not only poses a threat to these species but also continues to grow demand for tiger products.

Section 4.4. Education and awareness: There have been numerous education and awareness campaigns which have emphasized conservation values and trade illegality (Table 19). While they have no doubt helped foster positive public attitudes toward big cat conservation, and can be an important tool for demand reduction, they may not necessarily

influence willingness to buy or consume big cat products. Studies have found that consumption behavior is frequently independent of attitudes toward consumption (Table 18); for demand reduction, the key is to change behavior, and changing attitude may not necessarily accomplish this.

Section 5. Best practices and continuing challenges. In summary, this review has identified the following primary trade-related threats to Asian big cats: poaching is largely driven by illegal international trade which may be escalating, especially through online channels, and illegal trade is also supplied by conflict-killed wild cats, bred-in-captivity specimens, and parts and derivatives of lookalike non-native species. This review identified a number of best practices and continuing challenges in terms of meeting goals set out in Resolution Conf. 12.5 (Rev. CoP17), other CITES documents, and based on issues arising from this research.

Legislative and regulatory measures: Best practices include incorporation of stricter domestic measures requiring a finding of conservation benefit (in the CITES context of Resolution Conf. 12.5 [Rev. CoP17] and Decision 14.69, which recommend internal trade prohibitions, although such recommendations go beyond the purview of the Convention) before permitting any commercial trade in wild or captive specimens; trade controls which offer equivalent protection to non-native big cat taxa; ensuring international and internal trade controls are comprehensive in terms of prohibited activities; prohibition of the consumption of big cats as food and health tonics and of private ownership of big cats as pets; incorporation of the definition of a "readily recognizable" part or derivative from Resolution Conf. 9.6 (Rev. CoP16) into legislation and regulations to criminalize claiming to contain; and adoption of stricter regulatory guidance and allowance of public access and input to Asian big cat trade permitting decisions. In addition, Parties which have more lenient internal trade controls for bred-in-captivity specimens could allow public input before taking any decision to transfer any big cat to this regime. Parties could also revise their national legislation to more fully implement CITES and increase penalties to a level adequate to deter illegal trade. Finally, China's measures to close its ivory market should be studied by Parties seeking to implement the recommendation of Resolution Conf. 12.5 (Rev. CoP17) that internal trade in Asian big cat parts and derivatives should be voluntarily prohibited.

National law enforcement: Best practices include intelligence-based anti-poaching programs, particularly community-based ranger and informant networks. Recent intelligence-led investigations also led to the apprehension and prosecution of leaders of major criminal trafficking networks, and these successes could be built on to further dismantle their networks. Multidisciplinary and innovative best practices include application of the full set of legal tools against traffickers, especially anti-money laundering laws, engagement of intelligence agencies in the fight against wildlife crime, and collaboration with Internet companies to increase their self-policing activity. Parties where Asian big cat medicinal products have been produced could provide CITES with a complete list of these products and participate in the Czech Republic's project to develop DNA recovery tools for processed parts and derivatives; Parties could support further development of this research and other identification techniques and expand them to include all big cat species, as they have for elephant ivory and substitutes (Decision 17.162). India and Thailand's development of national tiger identification databases and Nepal's sharing of seizure photos have led to positive identification of the origin of tigers in illegal trade, and could be expanded to other countries and species such as the snow leopard. Viet Nam's road map to end bear farming is a best practice for preventing illegal trade from captive facilities. A continuing challenge is the lack of full enforcement of laws against consumers, including buying and possession.

Demand reduction: Although different Asian big cat products are likely to have different consumer markets, the success of demand reduction in China's Tibet SAR is an inspiring example that such efforts can work quickly under the right circumstances. A best practice in

developing demand reduction strategies is working interactively with consumers and key nodes in the trading network to discover what they feel would be acceptable alternatives. Demand reduction is best coupled with efforts to reduce supply (e.g., from captive facilities) and with law enforcement to deter consumption.

Education and awareness: Active campaigning is a best practice, soliciting public reporting of Asian big cat crime, and providing tools and training to local people living near big cats. A continuing challenge is to ensure that campaigns actually result in illegal trade reduction and behavioral change.

Figure 1. Asian big cats (Fig. 1 Photos 2018)

<table>
<tr>
<td> 
Tiger – Indonesia</td>
<td> 
Snow leopard – China</td>
<td> 
Clouded leopard -Malaysia</td>
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<td> 
Leopard - Thailand</td>
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Cheetah - Iran</td>
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Lion - India</td>
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1. Introduction

The four main topics required under the consultant's Terms of Reference for this review of the implementation of Resolution Conf. 12.5 (Rev. CoP17) on *Conservation of and trade in tigers and other Appendix-I Asian big cat species* (legislative and regulatory measures, national law enforcement, demand reduction, and education and awareness) are already the subject of intensive and ongoing work by CITES. The adequacy of national legislation for CITES implementation is regularly assessed through the National Legislation Project (www.cites.org/legislation, Resolution Conf. 8.4 (Rev. CoP15), and Decisions 17.58-64) and Wildlife Trade Policy Reviews (Resolution Conf. 15.2). A study of domestic controls in consumer markets for specimens of CITES-listed species for which international trade is predominantly illegal has been undertaken according to Decisions 17.87-88. Enforcement and compliance matters are reported on by the Secretariat at each CoP and Standing Committee meeting as required by Resolution Conf. 11.3 (Rev. CoP17), with Parties recently focusing on specific issues including corruption (Resolution Conf. 17.6, Decision 17.83 and document SC69 Doc. 31.1), money-laundering (Decision 17.83, UNODC 2017), forensics (Decisions 17.83-85), verification of the legal acquisition of CITES-listed species to be exported (Decisions 17.65-69) and wildlife cybercrime (Decisions 15.57 and 17.92-96). One of the Parties selected for this review (Lao People's Democratic Republic (PDR) has been the subject of compliance measures under Article XIII (documents SC Doc. 29.2.1. and SC69 Sum. 10 [Rev. 1]), and has developed an action plan to implement Standing Committee recommendations (CITES Secretariat in litt. March 2018). Demand reduction strategies and awareness building in Parties that are destinations for illegal wildlife trade are being studied, evaluated and shared (Resolution Conf. 17.4, Decisions 17.44-48 and document SC69 Doc.

15). Education and awareness for rural communities in the immediate vicinity of conservation areas is the subject of an ongoing study led by the IUCN Sustainable Use and Livelihoods Specialist Group (Decisions 16.85, 17.86 and document SC69 Doc. 15). Furthermore, Decisions 17.22-25 call for a rapid assessment of the conservation status and legal and illegal trade in Appendix I species, and Decisions 17.226 and 17.229 address management of Asian big cats in captivity. This review thus generally excludes these aspects.

In order to keep the focus of this review tightly on Asian big cats, it also excludes recommendations of Resolution Conf. 12.5 (Rev. CoP17) concerning actions of broader relevance beyond Asian big cats; many of these originated from the Tiger Resolution Conf. 9.13 adopted in 1994. One example is the call for cooperative bilateral and multi-lateral agreements for the management of shared wildlife species and protected habitats. Another is the recommendation that all range and consumer States take measures to increase awareness of wildlife crime and illicit wildlife trade among their enforcement, prosecution and judicial authorities. It is likely that CITES experience wrestling with the problem of illegal tiger trade over the past several decades has helped to inform its expanded interest in these four topics generally.

In response to the previous review of implementation of Resolution Conf. 12.5 in 2014 (document SC65 Doc. 38 Annex 1; described henceforth as "the previous review"), the Standing Committee adopted a number of recommendations (documents SC65 Doc. 38 and SC65 SR), some of which requested Parties to submit reports for the 66th meeting of the Standing Committee (SC66, Geneva, 2016). These are summarized by the Secretariat in document SC66 Doc. 44.1 and this information will generally not be recapitulated in this review which, while focused on the subsequent time period of 2015-2017, seeks to avoid repetition or pre-emption of ongoing work. This review opens with a review of current information on Asian big cat conservation status and illegal trade threats (section 3).

In the next two sections (sections 4 and 5) dealing with the four main topics, this review concentrates on specific areas recently identified as particularly challenging, with the primary informational basis being the deliberations of the intersessional Working Group on Asian big cats (WG) established at the 65th meeting of the Standing Committee (SC65, Geneva, 2014) and chaired by China. The WG's email correspondence, report to SC 66 (document SC66 Doc. 44.2) and recommendations following in-session deliberations at SC66 (documents SC66 Com. 11, SC66 SR and CoP17 Doc. 60.1) informed the selection of the following aspects of the four main topics for this review (section 4):

Legislative and regulatory measures: that these are adequate to implement CITES controls on international trade in Asian big cats and their parts, derivatives and products; the extent to which Parties have "voluntarily prohibit[ed] internal trade" and that such prohibitions are "comprehensive" (document SC66 Doc. 44.2), concentrating on differences between wild and bred-in-captivity[6] specimens and treatment of non-native big cat species and subspecies[7]

National law enforcement: the extent to which Parties have enforced trade restrictions at the points of supply (both wild and captive[8] populations), and against traders and consumers, as well as prosecutions involving Asian big cat crime;

[6] This review will complement the work being done under Decision 17.226, in that it examines trade restrictions for bred-in-captivity specimens, but does not delve into the subject of management of captive facilities.

[7] Protecting non-native species (and subspecies) was flagged as a key issue by the intersessional Asian big cats Working Group as well as UNODC (document COP17 Inf. 8)

[8] This review will complement the work being done under Decision 17.229, in that it examines recent actions to enforce of relevant trade restrictions at captive facilities, but does not delve into the number and composition of such facilities, nor the level of legal and illegal trade from such facilities.

Demand reduction: review poacher and consumer motivations for hunting and buying Asian big cats, and recent developments toward reducing consumer demand

Education and awareness: review recent campaigns targeting groups described in the Resolution: rural and urban communities; traditional medicine communities, practitioners and users; and enforcement, prosecution and judicial authorities

Resolution Conf. 12.5 (Rev. CoP17) addresses itself at various times to range States, consumer States, and all Parties, and requires the Secretariat, when reporting on implementation, to employ information provided by the range States and "relevant countries." As shown in Table 2, there are 33 range States, although in two there have been no recent confirmed records and the species (*Panthera pardus*) may be extirpated. The category of consumer States could be interpreted broadly to include many Parties. The consultant's Terms of Reference narrowed the focus to "in particular, Parties affected by illegal trade." Decision 17.228 also required consultation with range and consumer States in the production of this review. Due to time constraints, it was decided to narrow the focus of this review to range and consumer Parties affected by illegal trade which were identified as a priority or of elevated concern by more than one of the recent sources as follows:

1. Documents SC69 Doc. 27 (Rev.1) and SC69 SR (National laws for implementation of the Convention: report of the Secretariat):[9] India, Kazakhstan, Lao PDR, Uzbekistan

2. Document COP17 Doc. 60.1 (Asian big cats: report of the Standing Committee): China, India, Lao PDR, Myanmar, Nepal, Thailand and Viet Nam

3. UNODC World Wildlife Crime report (UNODC 2016a and document CoP17 Inf. 8: Map 1, States with high seizures of big cat skins): China, India, Indonesia, Malaysia, Thailand, Turkey, United Arab Emirates, United States, Viet Nam

4. Literature review (Parties particularly affected by illegal trade): Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Islamic Republic of Iran, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Russian Federation, Tajikistan, Thailand, United States, Viet Nam

Twenty-two Parties were identified according to the four sources as being of elevated concern, but the focal list for this review was narrowed to ten Parties identified in two or more of the sources: China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Thailand, Viet Nam and the United States. Recent developments in the focal Parties from 2015-mid-2018 are described for the four main topics, concentrating on the specific areas identified as particularly challenging, as relevant, in section 4. Best practices and continuing challenges are summarized in section 5. Additional information contributed by five focal Parties and additional information collected by the consultant on China's legislative and regulatory measures is included in Annex 1.

2. Methods

The following methods were employed for this review.

[9] Although Pakistan is included among the 20 priority Parties identified by the Secretariat in this document, it was also one of the five which had adopted and submitted new legislation to the Secretariat for analysis which is ongoing. Since the Secretariat reported significant legal progress for Pakistan, it is not included in the list of range and consumer Parties of elevated concern from this source.

Consultation with CITES Parties, ICCWC Partner organizations, non-governmental organizations (NGOs) and experts

According to the Decision and the consultant's Terms of Reference (ToR), this review was undertaken in consultation with Appendix-I Asian big cat range States and consumer States, in particular States affected by illegal trade, as well as with International Governmental Organization (IGO) Partners in the International Consortium on Combating Wildlife Crime (ICCWC) and other experts and organizations known to the consultant as key sources of reliable information over the course of her thirty-year membership in the IUCN SSC Cat Specialist Group.

Consultation took place in two stages. The ten focal Parties were contacted by the consultant in March 2018 and asked a brief series of questions, as well as soliciting any additional information they wished to contribute to inform the review. Five Parties responded and contributed information which was incorporated into the first draft of the review: India, Indonesia, Nepal, Thailand and the US (summarized in Annex 1). Twenty experts and non-governmental organizations (NGOs)[10] with relevant expertise were also contacted by the consultant and asked to contribute information pertaining to the ten focal Parties for the review; 17 responded with information that was also incorporated into the first draft (Table 1).

Table 1. Parties, IGOs and NGOs contributing information to this review

Focal Parties	**IGO and NGO**
India	Brookings Institute
Indonesia	Eco-Activists for Governance and Law Enforcement (EAGLE)
Nepal	Environmental Investigation Agency (EIA)
Myanmar	Fauna and Flora International (FFI)
Thailand	Forum Harimau Kita
United Arab Emirates	Freeland
United Kingdom	Global Tiger Forum (GTF)
United States	International Fund for Animal Welfare (IFAW)
	S.P.E.C.I.E.S.
	Sintas Indonesia Foundation
	TRAFFIC
	UNDP/GEF Indonesia
	Wildlife Conservation Society (WCS)
	Wildlife Justice Commission (WJC)
	Wildlife Protection Society of India (WPSI)
	World Wide Fund for Nature (WWF)
	Zoological Society of London (ZSL)

After incorporating comments received from the CITES Secretariat on the first draft of the review report, a second draft of the report was shared by the consultant in May 2018 with 38 Parties -- Appendix-I Asian big cat range States (Table 2) and consumer States particularly affected by illegal trade (identified by the consultant's literature review) -- and ICCWC Partner IGOs. Comments received from India, Myanmar, Thailand, the United Arab Emirates, the United Kingdom and the United States as well as the Chair of the CITES Cheetah intersessional Working Group were incorporated into the final version of this report.

[10] NGO affiliations are listed rather than the names of individual experts

Literature review

Internet searches were conducted focusing on news articles, government and nongovernmental organization websites. Google Scholar, the IUCN Cat Specialist Group's Digital Library, and the Snow Leopard Network's Snow Leopard Bibliography were also searched for recent publications on Asian big cats and aspects of wildlife crime control.

3. Asian big cat conservation status and illegal trade threats

3.1. Asian big cat conservation status and illegal trade threats: literature review

3.1.1. Overview

From 2014-2017 a full re-assessment of all Felidae species was carried out for the IUCN Red List, and all Asian big cats are included in the categories denoting higher extinction risk, with the tiger Endangered, and the remaining species Vulnerable. The current category is shown in Table 2 (following page) along with color-coded national population estimates; re-assessment rationales and criteria are discussed in more detail in the species sections below, along with recent information about illegal trade. Color-coding was employed not only to simplify the status table, but also because most macro-scale estimates of big cats have potentially large errors and cannot be considered definitive.

Table 2. Status of Asian big cats* in Asian range States

Key to fill colors for population: **<50**; **50-250**; **>250**, **extant, no estimate**; **known or likely extirpated**[11]

Asian range State	**Tiger *Panthera tigris***	**Snow leopard *Panthera uncia***	**Clouded leopards** ** ***Neofelis nebulosa, diardi***	**Leopard *Panthera pardus*** **	**Lion *Panthera leo*** **	**Cheetah *Acinonyx jubatus*** **
Global Red List category	**EN**	**VU**	**VU**	**VU**	**VU**	**VU**
Afghanistan		50-200				
Armenia						
Azerbaijan				7-10		
Bangladesh	106					
Bhutan	103	79-112				
Cambodia				44-132		
China	>7	4,500		400		
Georgia						
India	2,226	516-524		12-14,000	383	
Indonesia	371-1,273		****	363-525		
Iraq						
I.R of Iran				550-850		<50
Israel				*****		
Kazakhstan		100-120				
Kyrgyzstan		300-400				
Lao PDR	2					
Malaysia	250-340		****	282-847		
Mongolia		1,000				
Myanmar				223-670		
Nepal	163-235	301-400		<1,000		
Oman				44-58		
Pakistan		250				
Russian Fed.	433	70-90		67		
Saudi Arabia				<100		
Sri Lanka				700-950		
Tajikistan		250-280				
Thailand	189-252			416-832		
Turkey						
Turkmenistan						
UAE						
Uzbekistan		30-120		10		
Viet Nam	<5					
Yemen						

Table 2 References: Tiger – Goodrich et al. (2015), WWF (2016a); Snow leopard – McCarthy et al. (2015); Clouded leopards - Grassman et al. (2015), Hearn et al. (2015); Leopard – Jacobson et al.

[11] No known records in the last ten years

(2016), Rostro-Garcia et al. (2016), Govt. of Israel (2017); Lion – Asiatic Lion Inf. Ctr. (2018), Singh (2017); Cheetah – Khalatbari et al. (2017), Rosen (2017)

**Cubs not included, although these numbers generally define adult less restrictively than the "mature individuals" definition used on the IUCN Red List (individuals "known, estimated or inferred to be capable of reproduction.") When the range of estimated populations straddles two categories of abundance shown in this table, the estimate is color coded into the category in which the majority of the estimated range falls.*

***The IUCN SSC Cat Specialist Group's revised taxonomy of the Felidae (Kitchener et al. 2017) splits the clouded leopard into two species: N. nebulosa on the Asian mainland and N. diardi on the islands of Borneo and Sumatra. However, CITES Appendix I includes both as a single species N. nebulosa.*

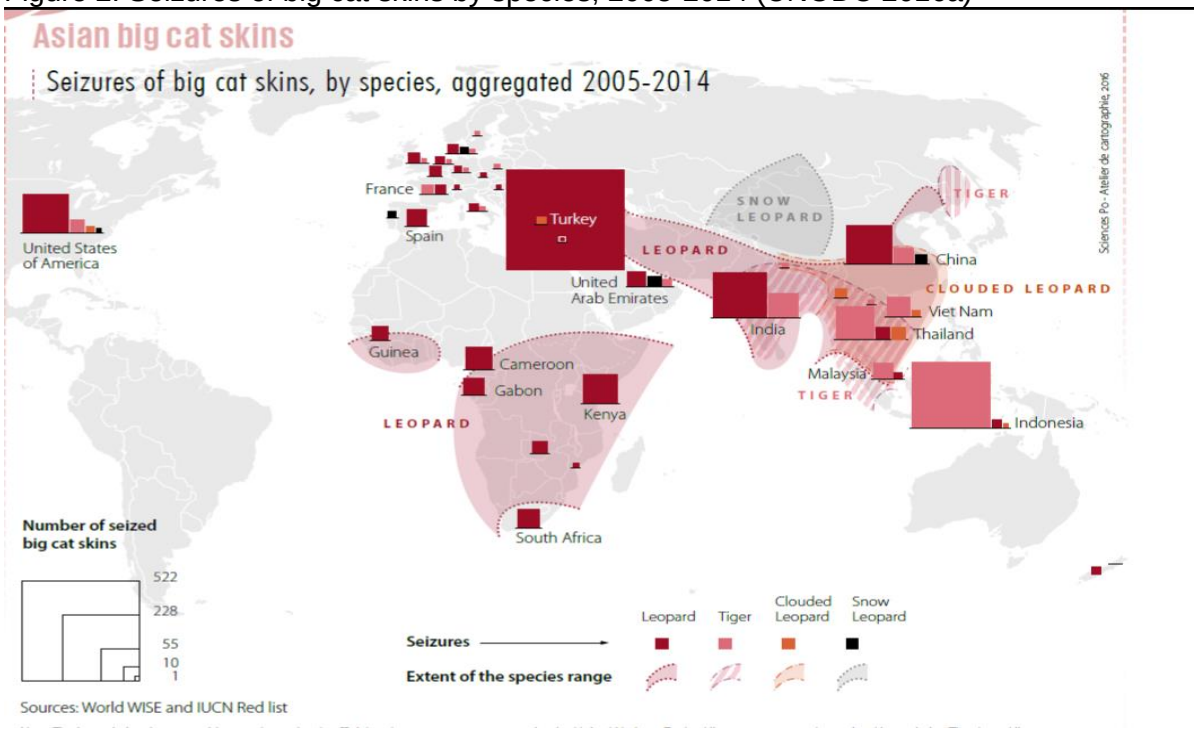
**** Africa comprises the majority of these species ranges. Asian subspecies were last assessed in 2008: A.j. venaticus CR (Jowkar et al. 2008) and P.l. persica EN (Breitenmoser et al. 2008). P.l persica is no longer considered a valid subspecies by the IUCN SSC Cat Specialist Group and has been subsumed in the subspecies P.l. leo with North African lion populations (Kitchener et al. 2017)*

***** Hearn et al. (2015) estimated 730 on Sumatra and 3,800 on Borneo (Indonesia and Malaysia) for N. diardi; N. nebulosa also occurs in Peninsular Malaysia*

****** Population estimated at "a few individuals": Jacobson et al. (2016), Govt of Israel (2017)*

The 2016 UNODC World Wildlife Crime report on trafficking of protected species (UNODC 2016a) analyzed its World Wildlife Seizure Database (World WISE) for seizures of skins of big cats occurring in Asia from 2005-2014 (Figure 2). This review highlighted high numbers of skins seized especially in China, India, Indonesia, Malaysia, Thailand, Turkey, United Arab Emirates, the United States and Viet Nam. The report noted that "World WISE includes 380 tiger skin seizures between 2005 and 2014, worth only about US$4 million. But [given the small number of tigers] left in the wild, the ecological impact of these 380 skins is much more than their monetary value." The report noted that Asian big cat skins are used for ornamental purposes: sold as rugs for luxury home décor and purchased as prestigious gifts. Stuffed and mounted tigers are also favored as luxury items and status symbols. The report found that international illegal trade in Asian big cat skins reflects many of the characteristics indicative of organized criminal activity, noting that since 1999, the CITES Secretariat has highlighted the role of organized criminal activity in the trade. Finally, while the report focused on illegal trade in skins, it noted that the seizure database contains claws, fat, genitals, hair, heads, oil, teeth, whiskers, medical preparations and derivatives, and other products.

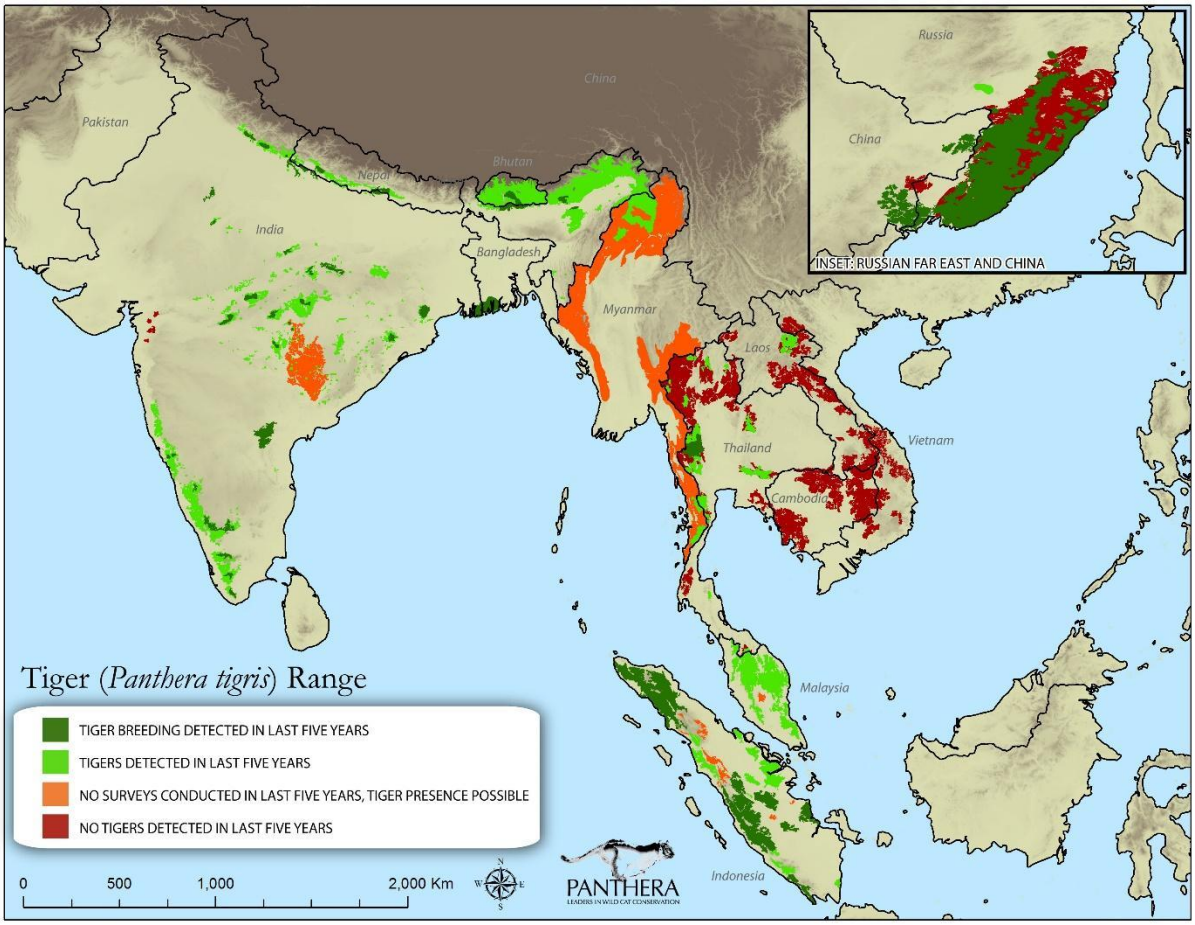
Figure 2. Seizures of big cat skins by species, 2005-2014 (UNODC 2016a)



3.1.2. Tiger *Panthera tigris*

The tiger was re-assessed in 2014 as Endangered A2abcd;C1 (Goodrich et al. 2015), with a range loss of more than 50% over the last three generations (21 years) and with possibly fewer than 2,500 breeding adults. Overall, new national census estimates in which non-breeding and sub-adults are included totaled 3,890 in 2016, using only the lower bounds of estimates shown in Table 2 (WWF 2016a). In comparison to previous estimates, tiger numbers were higher in Bhutan, India, Nepal and the Russian Federation, but in India and Nepal the increase reflects more extensive and accurate survey efforts in these countries (WWF 2016b, Harihar et al. 2017), and the baseline for comparisons in Bhutan and the Russian Federation are weak (Harihar et al. 2017). Estimated numbers were lower in Malaysia, and surveys in the past five years detected no tigers in parts of Cambodia, China, India, Lao PDR, Russian Federation, Thailand and Viet Nam where they were previously thought to be present (Goodrich et al. 2015: Figure 3).

Figure 3. Tiger range map based on survey effort from 2009-2014 (Goodrich et al 2015)



The area likely occupied by tigers was comprehensively mapped in 2006 (Dinerstein et al 2007) and 2014, and declined by 42% (Goodrich et al. 2015). Only a small portion of this can be attributed to habitat loss: a separate exercise found that 7.7% of tiger habitat was destroyed from 2000-2014 (potentially representing the loss of 400 tigers) (Joshi et al. 2016). It can be very difficult to collect data on tiger mortality, and even more so to clarify to what degree the earlier map was in error and the extent to which poaching is responsible for the absence of tigers where they would be expected to occur. For example, India is the only range State to publish its data on tiger mortality (tigernet.nic.in), but for most tiger deaths cause cannot be

ascribed definitely, and a separate effort to monitor tiger poaching by the NGO Wildlife Protection Society of India (WPSI) is presented for comparison in Table 3.

Table 3. All tiger deaths and tiger poaching in India 2015-2017 from two separate sources

	TigerNet	WPSI
Year	All deaths	Poaching
2015	70	26
2016	100	50
2017	98	38

Sources: www.tigernet.nic.in and Figure 7

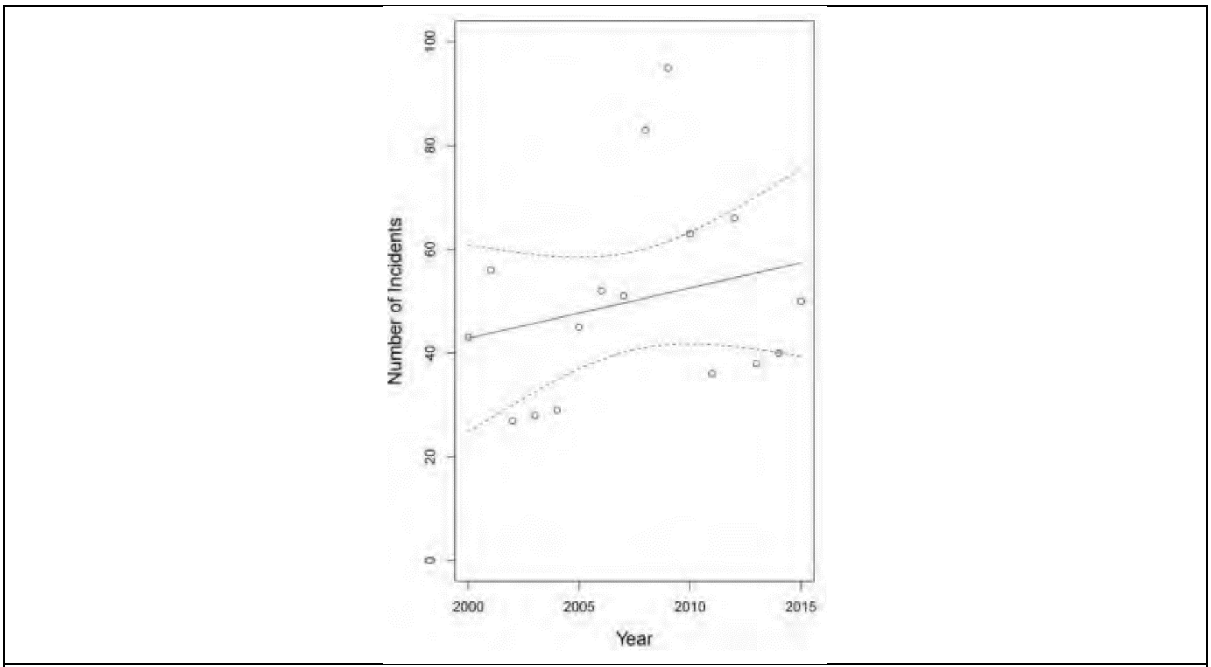
The best method of ascertaining cause-specific mortality is from intensive monitoring of known and radio-collared individuals. The tiger population in Russia's Far East is one of the longest studied. For 57 radio-collared animals from 1992-2012, poaching and suspected poaching were the leading cause of tiger deaths, with poaching mortality remaining relatively constant since 2005, and responsible for the loss of 17-19% of the population each year (Robinson et al. 2015). It is notable that this population suffers relatively little human-wildlife conflict in comparison to other parts of tiger range, and illustrates the substantial trade-driven poaching pressure this species faces. In mid-2018 five tiger skins were seized (along with 867 bear paws and other wildlife products) from three Chinese and two Russian nationals attempting to cross the border from Russia into China on foot (Siberian Times 2018: Figure 4). According to the news report, Customs, the Border Service and the regional Federal Security Service arrested the suspects and launched an investigation. Two of the tigers were killed within the last three years, and two very recently; the smugglers had gathered the large haul of wildlife products over a lengthy period of time, and a Russian government spokesman called it the biggest ever tiger seizure, saying a major smuggling network had been uncovered. At least 36 tigers have been seized in the Russian Federation's Far East region since 2010 (EIA 2018).

Figure 4. Five tiger skins were among the biggest-ever wildlife seizure on the Russian-Chinese northeast border (Siberian Times 2018)

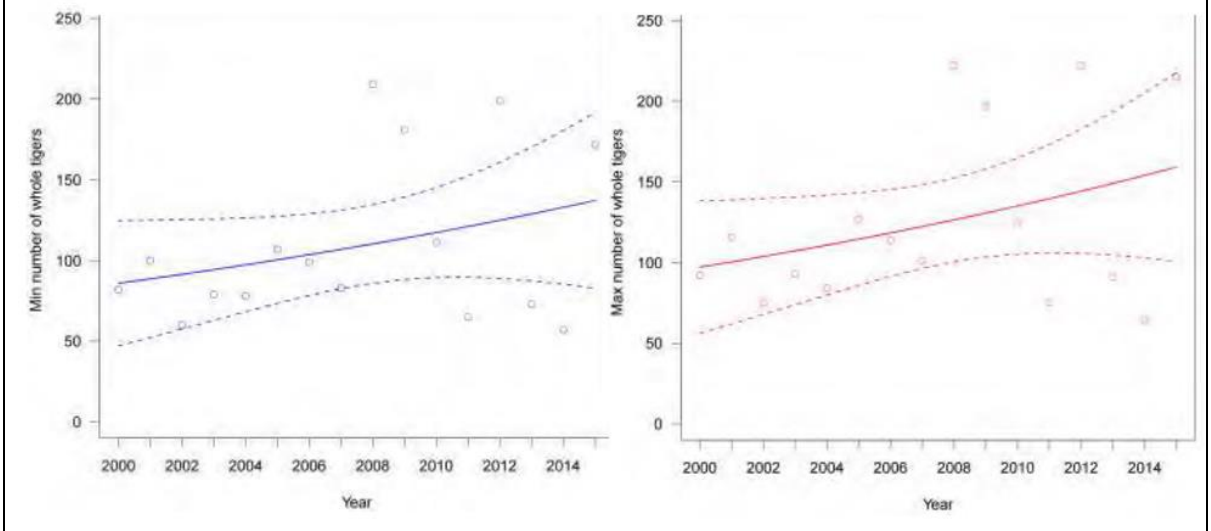
In 2016 TRAFFIC published its most recent analysis of seizures in tiger range countries (a briefing document for CoP17 in September [Stoner and Krishnasamy 2016] and a full analysis in November [Stoner et al. 2016]) from 2000-2015, breaking down results into four four-year

periods. While the period 2008-2011 had the largest number of tiger seizures in comparison to the other periods, linear regression analysis showed a consistent increasing annual trend in the number of tiger seizures from 2000-2015 (with recent levels since 2010 of 30-60 annual tiger seizures) and number of tigers seized (with recent levels since 2010 ranging from 50 to over 200 tigers seized annually) (Figure 5). While most tigers were seized in India, the largest tiger range State, its proportion of all tigers declined significantly over time, showing that illegal trade is growing in other range States. There has been a sharp rise in the seizure of parts suspected to be from captive tigers, growing from 2% of the total in the early 2000s to 30% in 2012-2015, with most occurring in Lao PDR, Thailand and Viet Nam. Seizures of skins significantly decreased over time, but those of live tigers, whole bodies, tiger teeth, bone and tiger bone wine (the latter primarily in China and Viet Nam) increased.

Figure 5. Linear regression analysis shows increasing number of tiger seizure incidents and minimum and maximum numbers of whole tigers seized 2000-2015 (Stoner et al. 2016)



Trend in number of tiger seizure incidents (solid line); 95% confidence intervals (dashed lines); data points (circles)

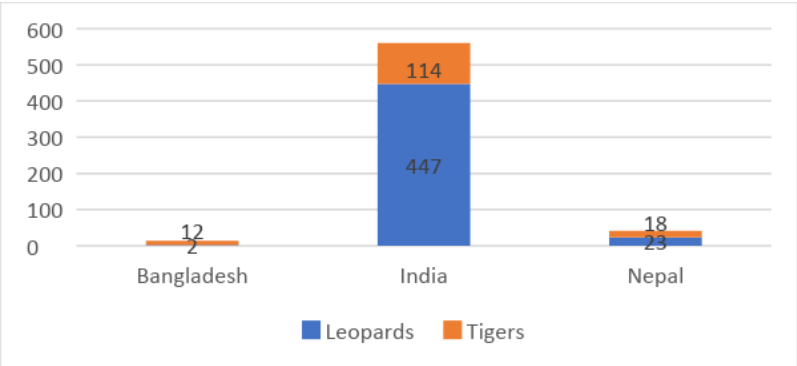


Trend in minimum (left) and maximum (right) number of whole tigers estimated to be represented in seizures (solid lines); 95% confidence intervals (dashed lines); data points (circles)

Investigative work by EIA and WJC have identified two major illegal tiger trade flows in Asia, with the primary destinations being China and Viet Nam (Figure 6). The "trans-Himalayan" route consists of wild tigers (as well as the other Asian big cats) from South Asia: India (primarily), as well as Bangladesh, Bhutan and Nepal (Figure 7). Wild tigers also are taken from Indonesia, Malaysia, Myanmar and Thailand and, although not shown in Figure 6, wild tigers also enter China from the Russian Federation, as described above, and North Korea has emerged as a major source of tiger bone wine (if these wines do actually contain tiger bone, then it is from captive tigers), as described below. Indonesia has a largely underground (compared to the mid-2000s: Shepherd and Magnus 2004, Ng and Nemora 2008) domestic market for tiger skins, canines, claws and whiskers (WCS in litt. 2018). The Indochinese trade flow consists largely (but not entirely) of captive tigers: captive tigers from Thailand have been used to stock farms in Lao PDR and service demand in China and Viet Nam (WJC 2016). Lao PDR captive tigers primarily serve China and visiting Chinese tourists, and captive tigers within China and Viet Nam are also used, largely illegally, for domestic consumption.

Figure 6. Illegal trade flows for wild and captive tigers in Asia (WJC 2016)

Figure 7. Seizures of leopards and tigers in South Asia 2015-2017 (EIA and WPSI in litt. 2018)



**Figures for India include both poaching (50 tigers and 155 leopards) and seizure cases (WPSI in litt. 2018), whereas the remaining countries show only seizures; Bhutan's seizure of one tiger in 2015 not shown (EIA in litt. 2018)*

NGOs including EIA, IFAW and TRAFFIC have reported multiple findings of online advertisements for wines both labelled as and suggestively claiming to contain tiger bone (EIA, IFAW in litt. 2018; Xiao et al. 2017). Reported countries of manufacture include China, Lao PDR, Myanmar and North Korea, and examples of such wine have been found in physical locations in China and Lao PDR as well (EIA in litt. 2018; Figure 8). In addition, online searches have revealed multiple instances of advertisements for tiger bone wine supposedly manufactured before China's 1993 domestic trade ban, and since August 2017, EIA has come across six news articles advertising "valuation" events to which owners of pre-1993 tiger bone wine could receive appraisals and sell their wine to dealers (EIA in litt. 2018). It is not known if any of these products actually contain tiger, or if they were actually produced when and where sellers claim.

Figure 8. Examples of wine claiming to contain tiger bone from Lao PDR (shop in Vientiane), Myanmar, North Korea and Viet Nam (Chinese social media advertisements) (EIA in litt. 2018)

<table>
<tr><th>Lao PDR</th><th>North Korea</th></tr>
<tr><td>  </td><td> 
</td></tr>
<tr><td>Chinese label reads "Tiger bone wine" (in gold box) on a product sold in Vientiane in 2016; a bone from the same premises was DNA-tested and found to be tiger. Information was provided to Lao PDR authorities (and copied to the CITES Secretariat and INTERPOL), but the same wine was seen by journalists in December 2017 (Knowles 2017)</td><td>North Korea now appears to be the most common source of tiger bone wines posted on Chinese social media and auction sites. This product has labels in Korean, English and Chinese. On Weibo, many claimed they have business connections in North Korea, and that the wines were brought back from their relatives to be sold in China. One post in a local discussion forum claimed this wine was brewed by Pyongyang University Medical School.</td></tr>
<tr><th>Myanmar</th><th>Viet Nam</th></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>Seen on Chinese social media site Weibo, with the Chinese text label suggesting it is produced in Myanmar</td><td>Advert on Weibo for "Viet Nam Tiger Bone Wine;" product is named Tiger Bone Wine in Chinese labelling</td></tr>
</table>

Tiger bone is not only used in wines, but also made into powder, gelatin and broth, with the first two forms most common among ethnic Chinese (Figure 8 and Nowell 2000) and the latter two among ethnic Viet Namese (documents SC66 Doc. 51.1 Annex 6 and AC30 Inf. 15, WJC 2016, Czech Republic Management Authority via CITES Secretariat in litt. 2018, ENV pers. comm. 2018). There is growing evidence that tigers bred in captivity in the Czech Republic are entering illegal trade, with illegal production of processed medicinals for illegal export to Viet Nam (document SC66 Doc. 51.1 Annex 6, WJC 2016, Czech Republic MA via CITES Secretariat in litt. 2018), and the Czech Republic has launched a cooperative project to improve DNA diagnostic tools for heat-processed tiger medicinals, described in section 3.2.1 of this review.

3.1.3. Snow leopard *Panthera uncia*

The snow leopard was re-assessed in 2016 as Vulnerable C1 (McCarthy et al. 2017), with a population of more than 2,500 but fewer than 10,000 mature individuals and a projected future decline of at least 10%. Two sets of new country population estimates were published in the Elsevier Academic Press book *Snow Leopards* (McCarthy and Mallon, 2017): 7,463-7,980 (with approximately 4,500 in China) and 4,678-8,745 (estimated numbers in the best areas of habitat). However, for the re-assessment the most conservative global estimate of 4,000 (McCarthy and Chapron 2003; Jackson et al. 2010) was used, with mature individuals (>2 years of age) estimated by a modeling exercise to comprise 68% of the total population, with output scenarios producing numbers of mature individuals ranging from 2,710-3,386. The re-assessment produced a category change from Endangered C1 (Jackson et al., 2008), but it was not classified as a genuine improvement in status because the estimation method used for the number of mature individuals in the earlier assessment (fewer than 2,500, which is the threshold between EN and VU) is no longer allowed under IUCN guidelines.[12] "Therefore, the species should have been listed as Vulnerable in 2008." (McCarthy et al., 2017).

In 2016 TRAFFIC published a comprehensive analysis of illegal trade in snow leopards (Nowell et al. 2016). The study employed two data sets: a snow leopard crime database comprising seizures and observations of illegal trade, and a survey of 42 snow leopard experts. The number of snow leopards in seizures was relatively low (17 in 2015 and 11 in the first six months of 2016), and very few were observed in illegal trade in comparison to earlier years. But based on the average number of cases known to experts over the average of nine years spent working in their geographic areas of knowledge, 221-450 snow leopards were estimated to have been poached annually since 2008. Aryal (2017) wrote in *Nature* that this figure may be underestimated since limited information is available from much of the snow leopard's remote range and retaliatory killing by livestock owners often goes undetected. And indeed, the TRAFFIC report acknowledged that with the average rate of poaching detection estimated by experts at less than 38%, these numbers could be substantially higher. Over 90% of annual snow leopard poaching was estimated to occur in five range countries: China (103-236), Mongolia (34-53), Pakistan (23-53), India (21-45) and Tajikistan (20-25).

Of the cases of snow leopard poaching known to experts, 55% were killings in retaliation for livestock depredation, 21% for trade and 18% taken by non-targeted methods such as snares. Although retaliatory killing is estimated to account for roughly half of snow leopard poaching (55%), experts estimate that there is a 50-50 chance that a poaching attempt will take place after a depredation incident. On average, experts estimate that 60% of retaliatory and non-targeted poaching incidents result in an attempt to sell the animal or its parts; accounting for

[12] The 2008 Endangered assessment used a genetic approximation (Ne, effective population size) for the proportion (50%) of the estimated population of 4,080 that could be considered mature individuals capable of reproduction; effective population size was ruled an invalid estimation method by the revised *Red List Guidelines* (IUCN 2017: 24).

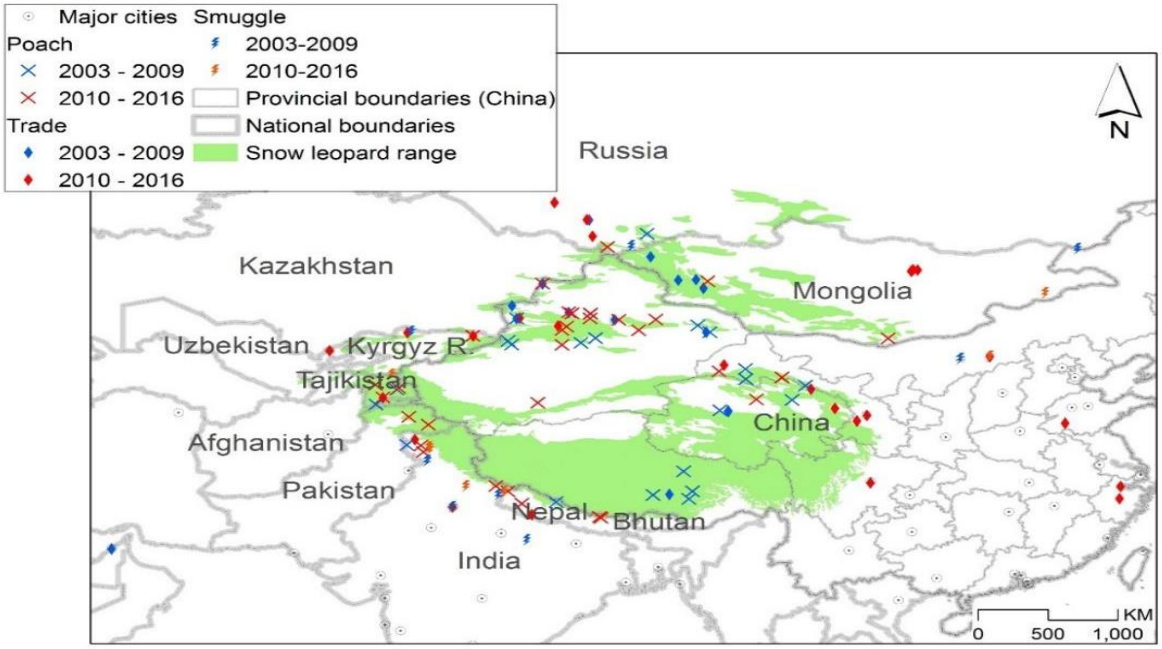
differences in this estimate between countries, a total of 108-219 snow leopards potentially enter into illegal trade each year.

With skins being the main snow leopard product type in trade (78%)[13], the primary motive for buyers appears to be for display, with some observations of skins hanging on walls in homes and restaurants, as well as stuffed taxidermy specimens. Priced in the thousands of US dollars, skins have been described as a "symbol of wealth and power." However, there probably exists very little in the way of a definable consumer segment deliberately seeking out such items. Many (but not all[14]) snow leopard skins are most likely purchased opportunistically – "impulse buys" – and most consumers probably only buy one in their lifetime. Once in a home, the illegal possession has very low probability of detection, and the purchase itself also has a low probability of detection, as indicated by the sharp decline in observed numbers of snow leopard skins being offered for sale (Nowell et al. 2016, Figure 48). While growing personal wealth in Asia has been highlighted as a primary driver of illegal wildlife trade, poverty is also recognized as a driver, and illegal snow leopard trade may be more driven by rural people in snow leopard habitat attempting to make money and make up for livestock losses to predators than by wealthy people placing orders for luxury household decorations. However, in recent years more seizures have occurred in distant cities (particularly in China, Mongolia and the Russian Federation) far from snow leopard range (Figure 9), a warning that demand for luxury items may be sufficient to drive traders to take the risk of smuggling snow leopard products long distances (Li and Lu 2014, Li et al. 2016).

[13] Other items include claws, teeth, meat and bones, generally in unprocessed form, but snow leopard was recently detected using sophisticated genetic techniques (Coghlan et al., 2015) in traditional medicine capsules manufactured by a Chinese company (Smith, 2016), purchased in Australia, of unknown age. China has stated that for the snow leopard "no permits have been issued for commercial purposes," and that "there are no legal industries using snow leopard fur or bone for commercial purposes" (GSLEP 2013: Table 5). Only plant materials were listed in the English language list of ingredients approved by the Australian government (ARTG, 2016), but the company's same product sold in China lists "Os Pardis" (leopard bone) in the ingredients (EIA in litt., 2016), which could refer to other big cats. Although snow leopard bone is mentioned in ancient Chinese medicinal texts (Alexander et al., 2016), it is not known to have ever been listed as an approved ingredient in manufactured Chinese medicines (Gaski and Johnson 1994).

[14] In China, NGO investigators were shown snow leopard skins by illegal traders only after they asked if they were available (EIA in litt. 2018), suggesting that some consumers do actively seek them out.

Figure 9. Map of poaching, smuggling and illegal trade seizures (based on the reported circumstances of interception) superimposed on snow leopard range (Nowell et al. 2016)



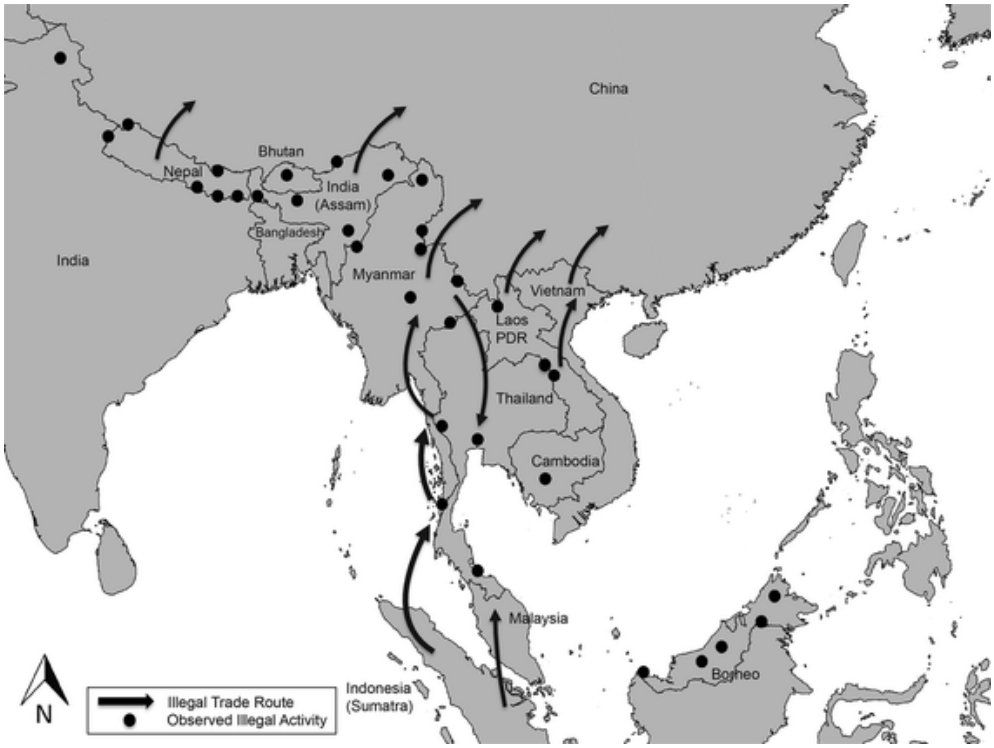
3.1.4. Clouded leopards *Neofelis nebulosa* and *Neofelis diardi*[15]

Both clouded leopard species were re-assessed as Vulnerable (A2cd), with suspected declines of at least 30% over the past three generations, due to habitat loss and exploitation (Hearn et al. 2015, Grassman et al. 2016). In addition, a future decline of at least 30% is projected for the mainland clouded leopard N. nebulosa (A3cd), and the Sunda clouded leopard of Borneo and Sumatra is estimated to number fewer than 10,000 mature individuals (C1). Clouded leopards have generally received less research attention than other Asian big cats, and fewer population estimates have been made (Table 2).

In 2015 the first major review of clouded leopard trade was published (Cruze and MacDonald, 2015). Study methods included CITES Database analysis, literature review, and expert interviews. The study documented illegal trade in skins most commonly, but also bones, meat and live animals, and was reported most frequently from range countries, with China was most frequently identified as a destination (Figure 10). The experts surveyed on average believed that illegal trade was increasing and having a medium-high negative impact on the status of wild populations. However, analysis of wildlife trade survey data from two Myanmar border towns (Tachilek on the Myanmar-Thailand border and Mong La on the Myanmar-China border) found that, while clouded leopards over time were the most frequent big cat in illegal trade (482 individuals seen in a total of 26 surveys from 1991-2014), trade volume had decreased in Tachilek, and had not increased in Mong La, although the number of shops offering felid items had (Shepherd and Nijman 2015). A major seizure of wild animal parts from the Chinese Chamber of Commerce in Phnom Penh, Cambodia in October 2014 included 19 clouded leopard skins along with two tiger skins, three leopard skins and others (Soenthrith 2014).

Figure 10. Map of illegal trade routes in Asia and sites of observed illegal clouded leopard trade activity (live animals and derivatives) sourced via available literature and a survey of expert opinion (Cruze and Macdonald, 2015)

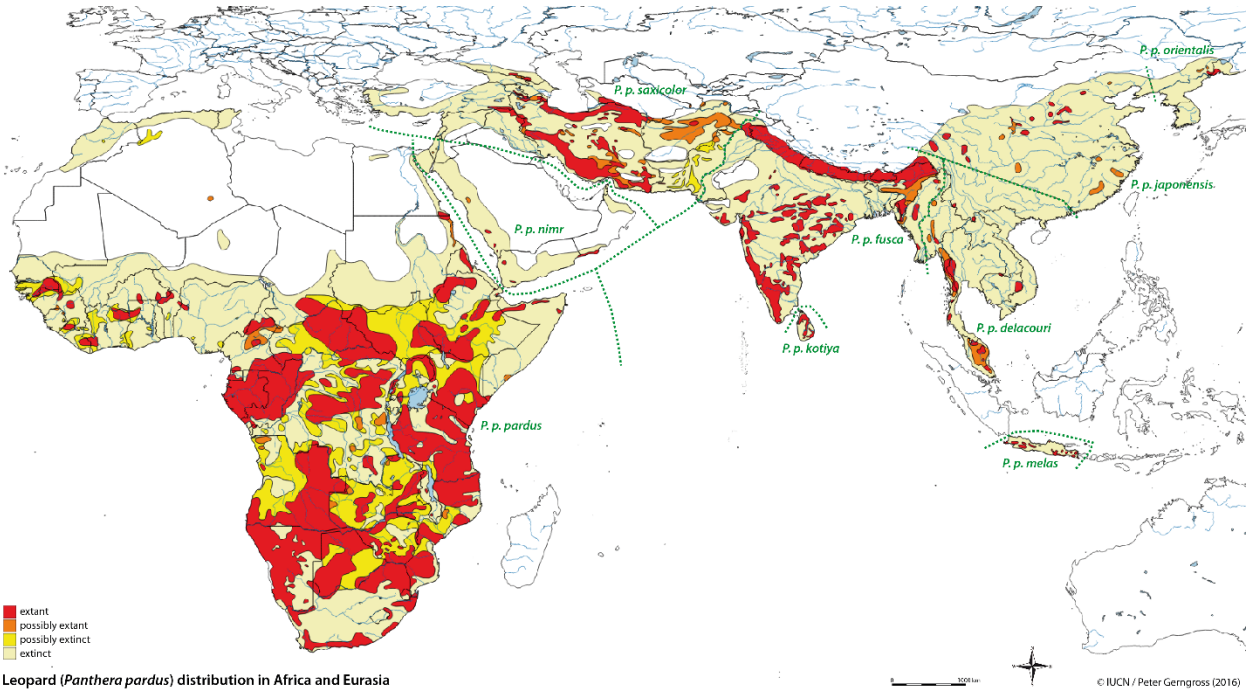
[15] The IUCN SSC Cat Specialist Group's revised taxonomy of the Felidae (Kitchener et al. 2017) splits the clouded leopard into two species: *N. nebulosa* on the Asian mainland and *N. diardi* on the islands of Borneo and Sumatra. However, CITES Appendix I includes both as a single species *N. nebulosa*.



3.1.4. Leopard *Panthera pardus*

The leopard was re-assessed in 2015 as Vulnerable A2cd (Stein et al. 2016), with an estimated >30% decline over the past 22 years (three generations), based on range loss, prey declines and illegal exploitation. This is a change from the previous category of Near Threatened (2008 assessment), and unlike the snow leopard is classified as a genuine change (for the worse) in status. Indeed, the leopard is the only large felid to have deteriorated significantly in conservation status in recent years, and this has spurred a greater focus on conservation and prevention of illegal trade (e.g., IUCN 2016). The Red List assessment group noted particularly strong declines in Asia, and in Southeast Asia a separate study of "leopard range collapse" (based on wildlife surveys over the past 20 years) found evidence of leopards in only 2.4% of their historic range. The leopard has likely been extirpated from Lao PDR and Vietnam, nearly extirpated in Cambodia and China, and has greatly reduced range in Malaysia, Myanmar and Thailand (Rostro-Garcia et al. 2016). Figure 11 shows the new map developed for the Red List re-assessment, illustrating how leopards have disappeared from large parts of their historic range in Asia.

Figure 11. Leopard distribution based on analysis of over 2,500 records collected from over 1,000 publications (Gerngoss 2016)



Leopard (*Panthera pardus*) distribution in Africa and Eurasia

Illegal trade in leopard parts and derivatives was flagged by experts as particularly of concern in Afghanistan, Cambodia, China, India, Lao PDR, Myanmar, and Nepal (Jacobson et al. 2016). The Wildlife Protection Society of India documented over four times as many leopards (447) poached compared to tigers in India from 2015-2017 (Figure 7, section 3.2.2.2). As with the snow leopard and, to a lesser extent, the tiger, poaching is in part linked to human-wildlife conflict. In an agricultural landscape in Maharashtra, India, 87% of leopard prey biomass consisted of domestic animals, primarily dogs (Athreya et al., 2016). A similar pattern can be found in protected areas where wild prey is scarce: for example, researchers working in Pakistan's Ayubia National Park found remains of domestic animals, primarily livestock, in 95% of 57 leopard fecal samples analyzed (Shehzad et al., 2015). Human-wildlife conflict has been a major factor driving leopard decline in Asia (Jacobson et al., 2016), and is particularly of concern where leopards are most rare, including Southwest Asia and the Caucasus region (Babrgir et al., 2015). Researchers across leopard range have recommended a number of different site-specific modifications to optimize herding practices and minimize predation opportunities. Leopard attacks on people still occur frequently in India and Nepal. While not every attack on livestock or people results in an illegal attempt to kill the leopard and sell its parts or derivatives[16], this is still likely a major factor affecting the supply for illegal trade.

However, there are concerns that leopard parts are increasingly being sought by crime syndicates involved in the illegal tiger trade in India (Sharmal, 2017). While skins still appear to be the most common item seized (based on recent seizures in India and Nepal), there is growing evidence of interest in leopard bones, particularly from Viet Nam. Poachers interviewed in Cambodia's Eastern Plains Landscape (the only part of the country found to still harbor a viable leopard population) reported that Vietnamese traders are offering relatively high prices (USD $55-60 per kg) for leopard bone (Rostro-Garcia et al., 2016). In China, leopard bone has been used as a substitute for tiger bone, although until recently there seemed little awareness of leopard among consumers. In 2010, 2% of Chinese surveyed by

[16] For example, in 2016-17 there were several reports of leopards which had attacked people subsequently burnt alive in Rajasthan, India (2016: https://timesofindia.indiatimes.com/city/jaipur/Leopard-stoned-tortured-and-burnt-alive-in-Udaipur-village/articleshow/52708356.cms and http://www.bbc.com/news/world-asia-india-37870877; 2017: https://timesofindia.indiatimes.com/city/jaipur/angry-villagers-burn-killer-leopard-to-death-in-sariska/articleshow/57712873.cms, Sharma and Gupta 2017)

Wasser and Jiao (2010) reported having consumed tiger bone medicinal products within the past year, but none said they had had any leopard products. But Chun (2018) reported that a wine that lists leopard bone in its ingredients, HongMao wine, is widely advertised and has a high sales volume of 20,000 bottles per month on just one online medical store (Ali Health), yet does not carry the required permit mark under Chinese regulatory measures which allowed manufacturers only to use stocks of leopard bone which existed in 2006; however, in March 2018 the company may have been permitted to purchase 1,230.5 kg of leopard bone by the government of China (EIA 2018b; see section 4.1.2.). Altogether, 35 medicinal products that appear to be manufactured and traded within China which claim to contain leopard bone[17] have been identified through online research (EIA 2018a and in litt. 2018). And in 2018, the first known case of leopard bones being processed into gelatin cake (gao, the most common form of tiger bone medicine in Viet Nam [Nowell, 2000]) was reported from Africa (Ivory Coast: EAGLE in litt. January 2018, Figure 47). Indeed, with big cat parts from Africa and South America now headed for Asian markets (particularly Viet Nam and China), it appears that consumer demand is a stronger driver of illegal leopard trade than human-wildlife conflict.

3.1.5. Asiatic lion (*Panthera leo persica*), Asiatic cheetah (*Acinonyx jubatus venaticus*) and non-Asian big cat populations with illegal trade to Asia

The lion and cheetah are mainly distributed in Africa, but both have small highly threatened populations in Asia: the lion in India (with the subspecies listed on CITES Appendix I) and the cheetah in the Islamic Republic of Iran (Table 2). Both were the focus of intensified governmental conservation planning efforts announced in 2018 (Iran FT 2018, Jyoti 2018). Although illegal trade has not been implicated in the decline of these populations, nor is it considered a leading threat, there is the potential for these populations to be affected by Asian demand which is impacting African populations of these two species.

The concern that other species were being drawn into the illegal tiger trade prompted CITES to replace Resolution Conf. 9.13, which focused solely on tigers, with the Asian big cats Resolution Conf. 12.5 in 2002, but it is increasingly clear that species at risk are not limited to the continent of Asia and that traffickers of Asian ethnicity are involved in smuggling big cats in Africa and Latin America. In South America, the jaguar Red List assessment group noted increasing reports of Asian nationals seeking out jaguar parts, including bone (Quigley et al. 2017). In an editorial published to mark the big cat-themed World Wildlife Day in March 2018, the Director General of CITES and the President of the NGO Panthera described recent seizures of jaguar canines in Bolivia, and wrote, “Experts worry that as tiger parts become harder to obtain, a new illicit trade in jaguar parts will take hold” (Launay and Scanlon 2018).

It is not unlikely that African big cats are being drawn into the massive illegal wildlife trade from Africa to Asia (AC30 Inf. 15 Box 1). The leopard seizure in Ivory Coast described in section 3.1.4 (and shown in Figure 47) was part of a major confiscation including 600 kg each of African elephant ivory and pangolin scales (Anon. 2018a). In May 2017, an individual was apprehended at Tan Son Nhat International airport in Viet Nam with three leopard skins along with ivory and other elephant parts (Quoc 2017). Unspecified quantities of lion canine teeth and claws have been seized together with large amounts of ivory and rhino horn in Africa in recent years (2017 Senegal ivory seizure: Anon 2017a; 2016 Mozambique rhino horn seizure: AC 30 Inf. 15 p. 75). Public source reports collected by the NGO EIA show ten incidents of African lion seizures in Asia from 2010-2016 (EIA in litt. 2018), and a TRAFFIC analysis of lion seizures from 1999-2018 shows substantial seizures in Asia of 789 claws and teeth, 17 skeletons, 47 kg of bones and four bodies (document AC30 Inf. 15 Figure 9).

[17] The Chinese word 豹骨 [bao gu] is a generic term, and could refer to leopard (*Panthera pardus*), snow leopard (*Panthera uncia*), clouded leopard (*Neofelis nebulosa*) or possibly cheetah (*Acinonyx jubatus*).

Asian legal and illegal trade in African lion parts is reviewed in detail in a TRAFFIC study for the Animals and Standing Committees (documents AC30 Doc. 25 and Inf. 15). A primary finding of this study is that African lion bone trade "is considered to be closely linked to the farming and trade of tigers." The study found only a limited amount of lion products openly for sale in the Asian countries which have imported lion bones (China, Lao PDR, Thailand and Viet Nam), in comparison to tiger parts and products, and concluded that the majority of skeletal parts of captive-bred South African lions, imported legally under CITES in a trade that has grown since 2008, appears to either be substituting for or supplementing consumer demand for tiger products. From seizures and other information collected by the study, there appears to be subsequent substantial illegal trade between these four Asian countries of the legally imported lion parts. The study finds it likely that there is low consumer and trader awareness of the substitution of lion for tiger parts and products (although there are indications of a growing demand for lion products in Viet Nam), and it is noteworthy that 26% of Chinese surveyed by USAID (2018a) considered lion bones an alternative to tigers, a higher percentage than those that named leopard (19%) or cheetah (17%) bones and teeth.

Progress in halting illegal trade in cheetahs will be further discussed at the 70th meeting of the CITES Standing Committee (CITES Secretariat and Chair of CITES intersessional Cheetah Working Group in litt. 2018; Decisions 17.124-130). The illegal exotic pet trade, largely consisting of cheetah cubs from northeast Africa smuggled to the Gulf States of the Arabian peninsula, was flagged as an important potential threat to Critically Endangered Asian cheetahs in the Islamic Republic of Iran by document SC65 Doc. 39 (Rev. 2). There is only a single unverified report of an attempt to traffic a live Iranian cheetah cub out of the country in recent years (document SC65 Doc. 39 [Rev. 2]), but the document included two verified reports of poachers keeping captured cubs "with perhaps vague intentions to sell," and in December 2017 Iranian authorities seized a cheetah cub which had been kept in captivity by a man in Tehran for several months who allegedly purchased it for nearly USD$50,000 (Iran Press TV 2018). Iranian authorities announced that three suspects "involved in the smuggling" have been arrested and a fourth is wanted; the case has been referred to judicial authorities and more details will be released once the investigation is complete (Iran FT 2017). So far there is no verified evidence that any Gulf State is the intended destination for live-captured Iranian cheetah cubs, although it is unclear if the captured cubs were intended solely for illegal domestic trade. In 2015 Iran increased financial penalties for poaching cheetahs (from IRR 200 million [USD6,000] to IRR 1 billion [USD 30,000]), as well as leopards (from IRR 50 million [USD1,500] to IRR 800 million [USD24,000]) (Iran FT 2015). Progress has been made in some of the Gulf States: for example, in January 2017 a new Law 22 entered into force in the United Arab Emirates (UAE) prohibiting private ownership of "predatory, dangerous and semi-dangerous animals," the list of which includes all non-domestic felid species. Only licensed facilities may own, trade, possess or breed big cats. Penalties are steep (with fines ranging up to AED500,000 [USD136,125], and a minimum fine of AED50,000 [USD13,152] for possession for trafficking purposes) (UAE 2016), and there have been no cheetah seizures in the UAE since the new law was passed (UAE CITES MA in litt. 2018).

3.2. Seizures: Party and NGO contributions

When reviewing the following data on seizures and poaching, it should be borne in mind that these detections likely only reflect a small fraction of the total volume of illegal activity (Wellsmith 2011).

3.2.1. Party contributions and 2016 annual illegal trade reports

Thailand's CITES Management Authority (the Department of National Parks, Wildlife and Plant Conservation) contributed a summary of tiger trafficking cases in recent years to inform this report (Table 5), see section 4.2.2.2 for discussion of one case that involved most of the tiger carcasses in 2016.

Table 5. Tiger trafficking cases reported by Thailand CITES MA for fiscal years 2014-2018 (Thailand CITES MA in litt. 2018)

Tiger Trafficking Cases
(FY 2014 - 2018)

	Year					Total
	2014	2015	2016	2017	2018	
Total Cases	4	3	7	2	-	16
Total Suspects	5	4	2	1	-	12
Live Tiger	2	-	8	3	-	13
Tiger carcasses	2	3	67	1	-	73

The US Fish and Wildlife Service's Office of Law Enforcement contributed a spreadsheet of all felid seizures from 2015-2017 from their Law Enforcement Management Information System (LEMIS) (US CITES MA in litt. 2018) to inform this report. There were 451 seizures over three years, including all Asian big cats except clouded leopard, as well as lion, cheetah and jaguar (Table 6). Seizures of tiger specimens were most numerous, followed by leopard (most of which, except for medicines, originated from Africa, as did the lion seizures). Most seizures involved carriage of prohibited items for personal use, although 16% were for commercial purposes, including 18% of medicinal seizures.

Overall, medicines were the most numerous product type seized by the US (209 seizures, 46% of the total), especially for the tiger. Table 7 shows reported countries of origin for both the seized product and for the shipment (attempted illegal import) for tiger medicines seized by the US, by number of seizure cases. For the cheetah, lion, and the vast majority of the leopard medicines, China was reported as the country of origin and attempted import. For the tiger medicinals, Viet Nam was most commonly the country of attempted import, while China and Viet Nam were most frequently identified as the countries of origin of the products.

Table 6. US big cat seizures 2015-2017 (US CITES MA in litt. 2018)

	Tiger	Leopard	Snow leopard	Lion	Cheetah	Jaguar	Panthera spp.
Number of seizures	203	175	1	52	5	15	2
Bodies	1			1			
Bones (number)	1	4		8			
Bone carvings				1			
Bone pieces (number)	3						
Claws	19	5		24			3
Cloth (number)		1					
Extract (number)	2						
Food (number)						1	
Garment		5	1			1	
Genitalia	1						
Hair		3		50			
Hair products		1				1	

Jewelry				6			
Leather products		2				3	
Medicines (gram)	7733	1935					
Medicines (ml)	236						
Medicines (number)	16,408	2,561		16	2		
Oil (number)	1						
Powder (number)	36						
Rug		2		2			
Shoes		4				2	
Skins		10		1	2	5	
Skin pieces	2	9			5		
Skull	1	6		3		1	1
Specimen	3	1		835			
Teeth	38	12		63		5	
Trophies	3	58		28			
Unspecified (ltr)	1						
Unspecified (number)	2						

Table 7. Reported countries of origin and attempted illegal import for tiger medicines seized by the US from 2015-2017, by number of seizure cases (US CITES MA in litt. 2018)

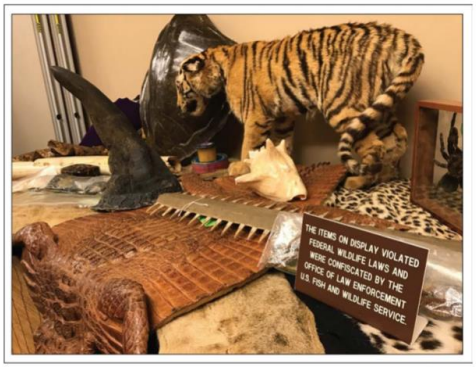
	Origin of seized product	**Origin of attempted illegal import into the US**
China	28	16
Cambodia	2	3
Lao PDR	1	4
Myanmar	1	1
Mexico	1	9
Malaysia	3	
Thailand	2	5
Viet Nam	24	57
Spain		1
Hong Kong		7
Kenya		1
So Korea		2
Peru		1
Philippines		1
Taiwan (prov. China)		1
US		1

The CITES Secretariat compiled a spreadsheet of data on Asian big cats from the first submission of annual illegal trade reports mandated by Resolution Conf. 11.17 (Rev. COP17) to inform this report. Fourteen Parties (Figure 16) (25% of 55 which submitted reports) provided information on 132 separate seizures.[18] The Secretariat's guidelines for the preparation of these reports, which were shared with Parties in May 2017 (Notification 2017/040), before the submission deadline for the 2016 report (31 October 2017) and finalized in January 2018, state that they "should include information on all seizures for violations involving CITES-listed species, irrespective of whether the seizure was made at an international border, or at domestic level for example during the search of a private or business

[18] Fourteen records referring to illegal trade in African leopard trophies were excluded from this total; some of the included leopard incidents may refer to specimens of African origin, but these were retained given the previously mentioned concern about non-Asian big cats being drawn into illegal trade destinations for Asian big cats.

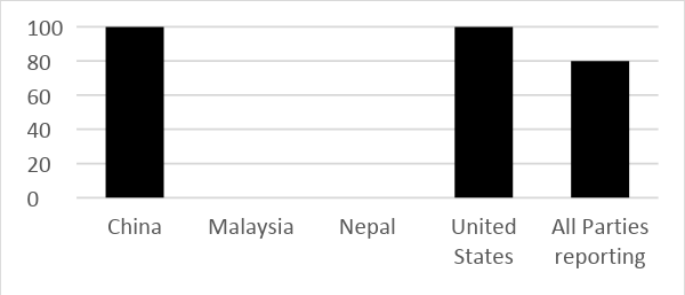
property or during inspections at domestic markets" (Notification 2018/009 Annex A). Most of the seizures reported in 2016 for Asian big cat species were international in nature, involving seizures at airports, land and sea ports of entry, and by Customs authorities (Figures 14 and 15). This may in part reflect uncertainty among Parties as to whether domestic incidents should be included, or it could indicate that, as UNODC (2016a) concluded, that "seizure data show that most enforcement activities to combat international wildlife trafficking take place at ports of entry, rather than in domestic markets, and thus Customs agents form the front line of enforcement in many parts of the world." However, Asian big cat range States, except China, differed markedly, with all their 2016 illegal trade reports consisting of internal incidents of poaching and or illegal trade.[19] Only two seizures resulting from incidents of online illegal trade were reported (both by Austria, involving advertising offers for one tiger skin and one tiger medicinal).

Figure 14. Wildlife products seized by the US Fish and Wildlife Service at the port of Miami



Source: US GAO (2017)

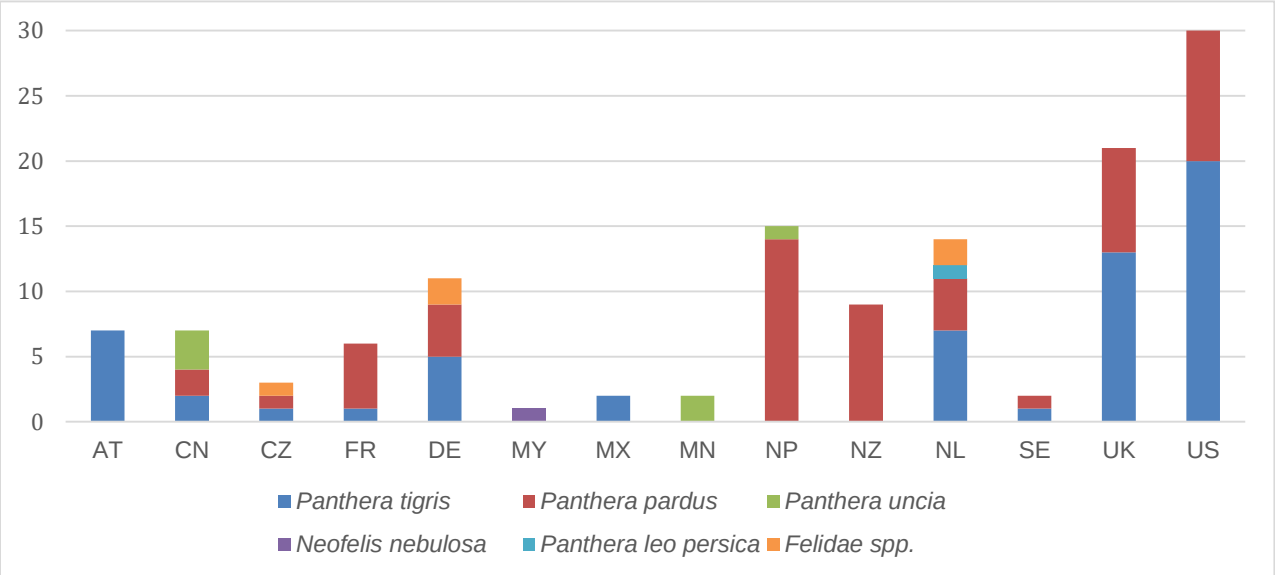
Figure 15. Percentage of seizures detected at airports, other ports of entry and by Customs authorities: comparison of four reporting focal Parties with all 14 Parties reporting in the 2016 annual illegal trade reports (CITES Secretariat in litt. 2018)



A total of 132 seizures of big cat specimens were reported by Parties for 2016. Figure 16 breaks down the number of seizures reported by species. Tigers and leopards were most commonly involved, with all Parties combined reporting 45% of incidents for each, with just 10% involving other or indeterminate species.

[19] Only five Asian big cat range States reported illegal trade incidents involving Asian big cat species: China, Malaysia, Mongolia, Nepal and Pakistan, with the latter reporting two incidents (both involving leopard – one poaching and one illegal trade) from the year 2015 which were not included in the analysis. France also reported mainly internal incidents (four out of six). Other Asian big cat range States reported no illegal trade in big cats in 2016: Georgia, Thailand, Turkey, United Arab Emirates, Uzbekistan and Viet Nam. However, Thailand separately reported seven cases of tiger trafficking for this review (Table 5).

Figure 16. Number of big cat seizure cases by species included in the 2016 annual illegal trade reports of 14 Parties (CITES Secretariat in litt. 2018)



Country codes: AT – Austria, CN – China, CZ – Czech Republic, FR – France, DE – Germany, MY – Malaysia, MX – Mexico, MN – Mongolia, NP – Nepal, NZ – New Zealand, NL – The Netherlands, SE – Sweden, UK – United Kingdom, US – United States of America

Table 8 breaks down the type of specimen involved in illegal trade. For leopards and tigers a range of specimen types were involved, but medicines were the most numerous item seized.[20] Most seizures involved only one type of specimens. Some differences are evident when comparing seizures of the four focal Parties to the ten other Parties which reported illegal Asian big cat trade in 2016 (Figure 17). The ten non-focal Parties seized mainly medicines (42% of reported incidents), followed by skins (26%). For the four reporting focal Parties, however, only the United States reported illegal medicinal trade incidents, whereas China and Nepal mainly seized skins, and Malaysia reported seizure of a live clouded leopard.

Table 8. Numbers and description of big cat specimens seized included in the 2016 annual illegal trade reports of 14 Parties, by species (CITES Secretariat in litt. 2018)

Species	Body parts	Bones	Claws	Live	Meat	Medi-cine*	Skins, pieces & products	Skull	Speci-men	Teeth	Trophy
Panthera tigris	2	5	44	1		1669	8		1	8	3
Panthera pardus	2	65		1		754	28	1		10	
Panthera uncia	1	1			1		4				
Neofelis nebulosa				1							
Panthera leo						100					
Felidae spp.			1				1			25	

**Totals for medicines include only those where the unit was given in numbers (see footnote 20 for uncertainty over the quantity these numbers represent); two tiger seizures given in other units (.03 liters and .25 kilograms) were excluded.*

[20] There is no standardized reporting for units of medicine, so it is unclear if the numbers refer, for example, to the number of individual pills in a package, or the number of packages of pills. Numbers involved per incident ranged from 1 to 500.

Figure 17. Percentage of seizures involving medicines, skins and other types of specimen (annual 2016 illegal trade reports of 14 Parties, CITES Secretariat in litt. 2018)

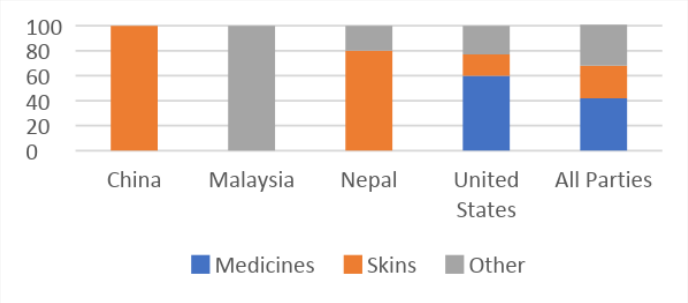


Table 9 shows the reported origin[21] of interdicted Asian big cat medicinals: although most were of unknown origin, the majority of known origin were reported as being from China, including all purporting to contain leopard and lion, followed by Viet Nam and Cambodia (for tiger medicinals). Only one Party (New Zealand) included the name of some of the products seized (for five out of seven incidents), and all had Chinese names, all purportedly containing leopard. One of the products seized by New Zealand is included in the EU's checklist of Chinese traditional medicines possibly containing protected species (leopard) (EU 2009). In 1993 China's Ministry of Health ordered manufacturers using tiger bone in their preparations to replace it with leopard bone as a substitute, but in March 2006 the State Food and Drug Administration ruled that manufacturers could only use their existing stocks of leopard bone for medicines meant for human consumption and could not obtain any new stocks, and manufacturers using it for medicines intended for external application (such as plasters) were ordered to cease using leopard with immediate effect (document COP14 Doc. 52 Annex 1). It is possible that these medicines intercepted in 2016 pre-date the ten-year old prohibitions reported by China to CITES, or are counterfeit, but the sheer volume and wide international dispersion of these products suggests that manufacturing is ongoing. In 2014 China's Ministry of Culture and Tourism approved a brand of leopard bone wine as "intangible cultural heritage," and in 2018 China's State Forest Administration apparently sanctioned the purchase of 1,230.5 kg of leopard bone to produce it (EIA 2018b, see section 4.1.2). It is notable that in its various reports to CITES, China has reported very few seizures of manufactured Asian big cat medicinals (nine boxes and 20 bottles of tiger bone liquor were reported seized in 2010 (document COP16 Doc. 50 [Rev. 1] Annex 3b), with most seizures consisting of live animals and body parts, similar to other range States (Stoner et al. 2016).

Table 9. Reported origin of seized Asian big cat medicinal products (by reported number* of items) in the 2016 annual illegal trade reports of 14 Parties (CITES Secretariat in litt. 2018)

Origin	China	Viet Nam	Cambodia	Indonesia	Netherlands	Unknown
Panthera tigris	271	275	182	40	5	974
Panthera pardus	733					21
Panthera leo ssp.	100					

**See legend for Table 8*

Although the 2016 annual illegal trade report of the Czech Republic included just one tiger seizure (a tiger medicinal seized at the Václav Havel Prague Airport, destined for Viet Nam), Czech authorities reported at the 36th meeting of the European Union's Wildlife Trade Enforcement Group that seizures of tiger skeletal body parts and especially processed

[21] Origin may refer to origin of the specimen or origin of the shipment; there is a separate data field for nationality of offenders, but no Party identified nationalities for any of the illegal trade incidents.

medicinals are increasing, with the majority seized on attempted illegal export to Viet Nam, and the tigers being of suspected captive origin (Czech Republic Management Authority via CITES Secretariat in litt. 2018). Noting the difficulty of making species identification, the Czech Republic has launched the TigrisID project to develop reliable DNA diagnostic tools for processed medicinals (document SC69 Doc. 73.4). Preliminary results revealed tiger DNA in medicinals in powdered and liquid broth form (with the liquids described as "containing macerated pieces of biological material," with the maceration agent determined through chemical analysis to be ethanol). However, no DNA could be recovered from gelatin products, presumably because "long-term boiling causes the breakdown of proteins and nucleic acids," and presumably the liquids were prepared without long-term heating of the substances (Votrubova et al. 2017). The TigrisID project is focusing on developing a technique to recover DNA from gelatin, broth and other products prepared with heating, and has offered to analyze such samples provided by other Parties at no cost. The Czech Republic also held a bilateral meeting in April 2018 with Viet Nam to discuss the illegal tiger trade issue and the DNA analysis project, and a memorandum of cooperation was signed (Czech Republic MA via CITES Secretariat in litt. 2018). Further development of DNA analysis techniques to identify tigers as well as other big cat species in processed medicinals is recommended as a best practice in this review.

Origin of skins and other body parts were less frequently identified than for medicines. Table 10 shows the number of items for the countries which were identified, with only incidents involving international illegal trade shown. The table is color-coded by species as described in its legend.

Table 10. Origin (when reported) of seized Asian big cat items, by number of items and species (color coded), included in the 2016 annual illegal trade reports of 14 Parties (CITES Secretariat in litt. 2018)

	BO	CN	ET	ID	JP	KY	MM	MN	NG	SR	TH	US	VN
Skins		1	1	1	2	1	1	3	2				
Teeth	14									12	1	1	1, 1
Claws													1

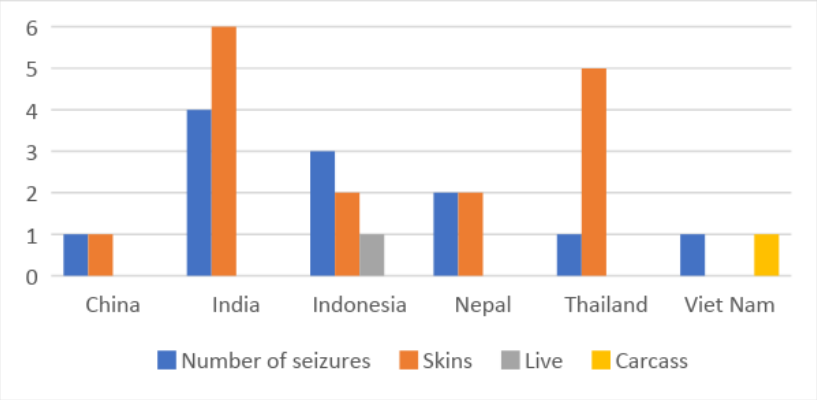
Country codes: BO – Bolivia, CN – China, ET – Ethiopia, ID – Indonesia, JP – Japan, KY – Kenya, MM – Myanmar, MN – Mongolia, NG – Nigeria, SR – Suriname, TH – Thailand, US – United States, VN – Viet Nam. Color codes: red – tiger, black – leopard, brown – snow leopard, green – Felidae spp.

3.2.2. NGO contributions: seizures in the ten focal Parties 2015-2017

EIA, TRAFFIC, WJC and WPSI all contributed seizure data collected from online news media reports (and, in WPSI's case, their own investigations) to inform this report. The data was checked for duplicates and combined for the ten focal countries for the period 2015-2017. Illegal trade in Asian big cats was included for four focal Parties which did not submit an annual illegal trade report for 2016: India, Indonesia, Lao PDR and Myanmar. A total of 196 seizures of Asian big cat specimens were contributed by the NGOs (the actual number of cases is lower because some seizures involved multiple species, which are counted as separate incidents in the tables and figures below). Because of the varying level of detail for each incident, it was not possible to merge this dataset with the information from the focal Parties which did submit reports, but it appears that only the United States reported many more seizures than were found by NGOs in open source searches, and the remaining focal Party illegal trade reports appear to be incomplete. News articles which were the basis for many of the cases in the NGO seizure dataset tend to originate from announcements by the authorities, but may not be accurate in terms of numbers, species, and type of specimens seized.

Clouded leopard: In 2015-2017 six focal Parties seized clouded leopard products according to the NGO seizure dataset (Figure 18). One of the Indian cases, led by the Wildlife Crime Control Bureau, involved both clouded and common leopard bone and skins seized from the baggage of two people attempting to cross the northern border on foot. Three persons were later arrested by the same unit attempting to smuggle a second skin. In Thailand, five clouded leopard skins were seized from a hotel room, and they were detected by an intelligence operation of online trading, which also included two leopard skins (WJC in litt. 2018).

Figure 18. Clouded leopard seizures in focal Parties in 2015-2017 (NGO open source seizure compilation)



*****_Bone was also seized along with one of the skins in India, and one of the skins in Indonesia was a stuffed taxidermy mount_

Snow leopard: Three Parties seized snow leopard products in 2015-2017 (Figure 19). One of the seizures was very large: 20 snow leopard skins (along with two tiger skins, two leopard skins, a clouded leopard skin and other wildlife products) by the Anti-Smuggling Bureau of Lhasa, Tibet Autonomous Region, in China in October 2016 (Figure 20). This seizure was not included in China's 2016 annual CITES illegal trade report. In February 2017 one suspect was arrested (TRAFFIC in litt. 2018), and was convicted in October 2017 of illegally selling protected wildlife, and sentenced to six and a half years imprisonment and a fine of CNY50,000 (USD7,527) (China Judgements Online 2017).

Figure 19. Snow leopard seizures in focal Parties 2015-2017 (NGO open source seizure compilation)

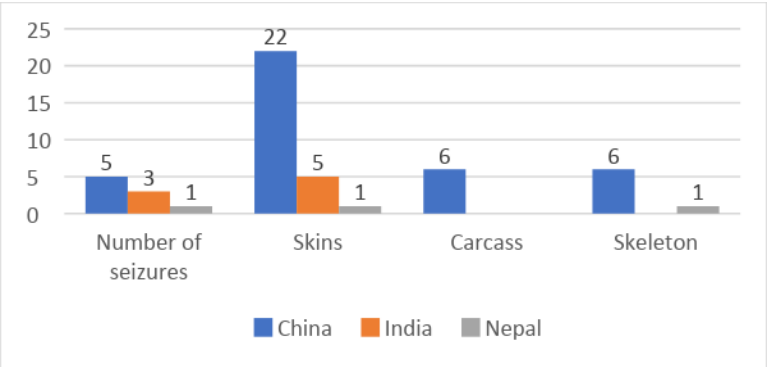


Figure 20. Asian big cat skins seized in Lhasa, Tibet A.R., China in October 2016

Photo: China Customs (EIA in litt. 2018)

Leopard: Leopard products were seized in five countries from 2015-2017, with India having the most cases and largest number of skins seized (Table 11), followed by Nepal. These were also the only two Parties where bone seizures were found to have occurred.

Table 11. Leopard seizures in focal countries 2015-2017 (NGO open source seizure compilation)

	Number of seizures	Bones (kg)	Car-cass	Claws	Paws	Skele-ton	Skins and skin pieces	Skull	Stuffed	Teeth
China	4		1				5			4
India	54	110		77	8	3	270	2		27
Indonesia	2						1		2	
Myanmar	1						4			
Nepal	19	30					22			
Thailand	1						2			
Viet Nam	1						3			
Totals	82	140	1	77	8	3	308	2	2	31

**Seizures in China, India and Nepal also included unspecified numbers of skins, bones, claws, teeth meat and skulls*

Tiger: Tiger specimens were the most numerous of the Asian big cat seizures provided by NGOs (Table 12). The large number of live tigers seized in Thailand stem mainly one

enforcement case against a captive facility, and were not reported by Thailand in Table 5 because they were classified as government property, as discussed in section 4.2.2.2. The large number of derivatives from Thailand also were from that one seizure (amulets containing skin pieces: Figure 47), and otherwise China, Lao PDR and Viet Nam were the only Parties in the dataset to have seized wine or processed derivatives, in small quantities. Viet Nam stands out for the large number of frozen bodies seized, and in Malaysia one of the seizures apparently bound for Viet Nam included 17 tiger claws and eight tiger teeth among other wildlife parts. India had by far the largest number of tiger seizures, and another large seizure in Malaysia (August 2015) indicated a trade route from India (WJC 2016), and included five skins, 471 claws, 309 skin pieces and 17 paws. In Nepal, four of the skins seized in 2015 were found by DNA testing to have originated from Nepal's Bardia National Park. Indonesia stands out for the frequency there of stuffed taxidermy mounts (tiger, leopard and clouded leopard). Except for the tiger bone seized in China and Viet Nam, the other Parties with bone seizures (India, Indonesia and Nepal) all have substantial wild tiger populations, showing that the illegal trade in tiger bone is not limited to captive sources. Not including the abovementioned 137 live tigers seized in a single case in Thailand in 2016, EIA (in litt. 2018) estimated that 34% of the seizures in the ten focal Parties were likely bred-in-captivity specimens.[22]

Table 12. Tiger seizures in ten focal Parties 2015-2017 (NGO open source seizure compilation)

	Number of seizures	Bones Kg	Carcass	Claw	Derivatives	Head or Skull	Live	Paw	Skeleton	Skins & skin piece	Teeth	Whiskers	Wine bottles	Taxidermy mount
CN	9	33	1	4					7*	7	28		18	
IN	31	372 kg + 187 pcs		51				8	1	18	9	77		
ID	19	29	1			8			1	21	20			4
LA	2		3							2				
MY	5		1	488			2	17		316	44			
MM	2		1							1				
NP	15	113	1							16				
TH	6		71		1000		149			2	11			
US	4						4							
VN	18	14	21		3 kg	2	1		1	1	2			
Tot	111	>532	100	543	>1000	10	156	25	10	384	114	77	18	4

Country codes: CN – China, IN – India, ID – Indonesia, LA – Lao PDR, MY – Malaysia, MM – Myanmar, NP – Nepal, TH – Thailand, US – United States, VN – Viet Nam. India also seized 2 bottles of tiger fat and 4.6 kg of meat, along with one jaw bone and one skull. China, India, Indonesia, Lao PDR all also seized unspecified quantities of tiger bone, claws, fat, skins and skin pieces, teeth, whiskers, and wine bottles.

[22] For suspected captive-source tigers, methodology is as follows: Unless certified by DNA, captive-source (traded through/from a facility) is 'suspected' in circumstances including: tiger is seized from a specific facility; tiger is seized outside a facility but intelligence links it to a specific facility or with suspect individuals connected to a facility and known to trade in captive-source tigers; historical and contemporary information indicates captive trade from the specific seizure location, or through the specific trafficking location; DNA results show tiger sub-species is not endemic to location; quantity and form (e.g., whether live or dead) recovered is vastly disproportionate to wild population in country. Additional criteria suggesting suspected captive source, when the circumstances fulfil one or more of the above criteria, include: high quantity and diversity of species of live/carcasses intercepted; frozen carcasses, indicating that the tiger has passed through or been sourced from or via a facility and has been frozen for onward transport (SSN/ENV 2014).

In addition, in India WPSI (in litt. 2018) reported that two Asiatic lions were poached in two cases in 2016 and 2017, and two Asiatic lion claws were seized in 2015.

4. Implementation of Resolution Conf. 12.5 in the ten focal Parties, 2015-mid-2018

4.1. Legislative and regulatory measures

4.1.1. Summary of international and internal trade controls in the ten focal Parties

The 65th meeting of the CITES Standing Committee encouraged "Parties to review all relevant national legislation to ensure that national measures restricting internal and international trade in Asian big cats and their parts and derivatives are comprehensive in that, recalling Decision 14.69, parts and derivatives obtained from specimens bred in captivity are included" (document SC65 SR). At COP15, the Secretariat reported intelligence that illegal trade from facilities with captive tigers in several range States is growing (document COP15 Doc. 43.1), and noted that the previous review of Resolution Conf. 12.5 (Rev. COP16) further supported that conclusion (document COP17 Doc. 60.1). In addition to legal treatment of trade in parts and derivatives from bred-in-captivity specimens, the intersessional Working Group on Asian big cats established at SC65, in its report addressing the Standing Committee's recommendation of ensuring comprehensive national measures (document SC66 Doc. 44.2) also addressed the issue of non-native big cats, noting "circumstances in which restrictions apply only to native species and subspecies of Asian big cats and not to non-native species and subspecies. This loophole presents a serious obstacle for effective law enforcement, with authorities possibly having no legal basis to investigate, conduct seizures or prosecute cases involving trade in products derived non-native big cat species."[23] As described in the Introduction, this section gives particular attention to these two issues.

National management practices and controls for captive facilities with Asian big cats are the subject of a separate Decision (17.226), with Parties requested to report them to the Secretariat. In addition, Decision 17.229 requires a separate study of Asian big cat captive facilities, including legal and illegal trade from or through such facilities. This review was required to cover legislative and regulatory measures and, focusing on trade controls, includes those for bred-in-captivity specimens, but does not delve into controls and licensing procedures for captive facilities in a detailed manner, except as relevant to the subject.

The CITES National Legislation Project analyzes the laws of Parties implementing the minimum requirements of the Convention; this work is not duplicated here. Instead, the focus is on internal (domestic) trade controls, as Resolution Conf. 12.5 (Rev. CoP17) urges Parties to "voluntarily [prohibit] internal trade." Although this language goes beyond the Convention and minimum requirements to national laws for its implementation, Article XIV acknowledges the right of Parties to adopt stricter domestic measures (such as internal trade prohibitions), and Decision 14.69 has shown that Parties consider such measures appropriate for tigers.

[23] An example of this was discussed in the previous review of implementation of Resolution Conf. 12.5 (document SC65 Doc. 38 Annex 1 p. 34): A problem particular to Indonesia has been identified in that leopards are protected as a species under 1990 environmental legislation (although only the Javan subspecies *P.p. melas* is native to the country), while tigers are listed by subspecies (Sumatran *P.t. sumatrae* and Javan *P.t. sondaica*; the latter is now extinct). When a tiger skin and stuffed leopard were seized in 2012, charges were only brought for the leopard, as forensic testing was inconclusive as to the tiger subspecies (Stoner and Pervushina 2013). Many captive-bred cats are a mixture of subspecies, and the Siberian tiger subspecies is also relatively common in captivity (IUCN Cat SG in litt. 2014), and as such Indonesian legal restrictions would not seem to apply to such trade, thus creating a potential loophole for traders of tigers and tiger parts to exploit.

As a preamble, it is worthwhile to examine CITES controls on international trade in bred-in-captivity specimens, to evaluate to what degree internal controls in the ten focal Parties are similar. According to the fundamental principles of the CITES Convention (Article II paragraph 1), trade in Appendix-I specimens "must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances. Bred-in-captivity specimens, however, are subject to different trade rules than wild specimens. CITES defines "bred in captivity" as specimens born in a controlled environment, from breeding stock obtained in compliance with CITES and relevant national laws in a manner not detrimental to the survival of the species in the wild that is maintained without the introduction of specimens from the wild and has produced second generation (F2) or subsequent offspring (Resolution Conf. 10.16 [Rev.]). To inform the report on the different treatment of international trade in wild and bred-in-captivity specimens, the CITES Secretariat contributed Table 13A, which illustrates the documents and findings required for specimens from wild and the different categories of captive sources, including whether import for primarily commercial purposes is allowed. Due to concern over the inter-mingling of exports of bred-in-captivity African lion (Appendix II) parts from South Africa into illegal internal tiger trade in Asia (document AC30 Inf. 15), the table covers both Appendix I and Appendix II specimens for source code C, the code used for the vast majority of South Africa's exports since 2008 (Williams et al. 2017a).

Table 13A. Documents and findings required for issuance of CITES permits for wild and bred-in-captivity big cat specimens, including whether import for primarily commercial purposes is allowed (CITES Secretariat in litt. 2018)

Source code#	App.	Document(s) required	Non-detriment finding needed?	Legal acquisition finding needed?	Import for primarily commercial purposes allowed?	Provision of the Conv.
C	**I**	**Certificate of captive breeding**	**NO***	**NO***	**YES**	**Art. VII. 5**
	II	**Certificate of captive breeding**	**NO***	**NO***	**YES**	**Art. VII. 5**
D	**I = II**	**Export permit**	**YES**	**YES**	**YES**	**Art. VII. 4**
F	**I**	**Export & Import permit**	**YES**	**YES**	**NO**	**Art. III**
W	**I**	**Export & Import permit**	**YES**	**YES**	**NO**	**Art. III**

** Although not needed for the actual specimens in trade, these must be made for the parental stock of the facility by virtue of Resolution Conf. 10.16 (Rev.).*
 # Definition of source codes: C (Bred in Captivity) – animals bred in captivity in accordance with Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof, exported under the provisions of Article VII,paragraph 5; D (Captive-Bred Animal) - Appendix-I animals bred in captivity for commercial purposes in operations included in the Secretariat's Register, in accordance with Resolution Conf. 12.10 (Rev. CoP15); F (Born in Captivity) - animals born in captivity (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof; W (Wild) – specimens taken from the wild.

Article VII, paragraph 4, of the Convention provides that specimens of Appendix-I animal species bred in captivity for commercial purposes shall be deemed to be specimens of species included in Appendix II, and must adhere to the rules governing trade in Appendix II species. No import permit is required, but imports for primarily commercial purposes should be limited to specimens produced by operations in the Secretariat's Register (Resolution Conf. 12.10 [rev. COP15]). The Resolution recommends that such trade in such specimens be permitted only if they are marked in accordance with relevant CITES Resolutions and the type and number of the mark are indicated on the document authorizing trade. As of February 2018, the only registered operations for Appendix-I big cats were two facilities for cheetah (*Acinonyx*

jubatus) in South Africa; no facilities are registered to breed any Appendix-I Asian big cats for commercial purposes.

Therefore, import of bred-in-captivity specimens of Asian big cats (or their parts and derivatives) for primarily commercial purposes is allowed only for specimens that meet the definition of source code C: bred in captivity in accordance with the definition in Resolution Conf. 10.16 (Rev.) given above. This includes a responsibility upon the exporting government to have determined that the parental stock was lawfully acquired in a manner not detrimental to the survival of the species in the wild, and is maintained without the introduction of specimens from the wild (CITES 2017). In practice, this means that commercial international trade in Appendix-I Asian big cats may take place from breeding facilities that are not registered as commercial operations with the Secretariat; in other words, specimens and/or parts of Appendix I Asian big cats bred for non-commercial purposes may be traded commercially, in accordance with Article VII paragraph 5 of the Convention.

Parties may thus transact commercial international trade in captive-bred Appendix-I big cats both from registered commercial operations and from non-registered non-commercial operations. A search of the CITES Trade Database was conducted for the genus *Panthera* from 2010-2016 using the purpose code T (commercial) and the bred-in-captivity source codes (C, D and F), resulting in a comparative tabulation of 174 transaction entries. There having been no registered commercial operations (D), all specimens in trade should have originated from non-commercial operations and should have been identified as source code C. Only two entries were coded F: a live jaguar exported from Armenia to Bahrain in 2015, and two live *Panthera* hybrids exported from the US to the United Arab Emirates the same year. These are not included in Table 13B, which shows that tigers were the most frequently traded Appendix I *Panthera* species, particularly live animals, but also a substantial number of bodies and skins (39). China was the main importer of both tiger bodies (21, 53% of the total) and skins (19, 49% of the total). For all *Panthera* specimens, the major exporters were EU countries (129 entries, 74% of the total) and South Africa (26 entries, 15% of the total). Importing Parties were more varied, with EU countries again dominating, but to a lesser degree (44 entries, 25% of the total). Most importers were in Asia (92 entries, 53% of the total), with China the major importer (33 entries, 36% of Asian imports). In Africa, major importers were Egypt (12 entries) and South Africa (8 entries).

Table 13B. International commercial trade in captive-bred (source code C) Appendix I *Panthera* cats 2010-2016 (CITES Trade Database)

Taxon	Bodies	Live	Skeletons	Skins	Specimens	Skulls	Trophies
Panthera hybrid		3					
*Panthera leo persica**	1		48		1		
Panthera onca	3	18					
Panthera pardus	8	25			1		3
Panthera tigris	40	138		39		3	5

**The skeletons were exported from South Africa to Lao PDR and Viet Nam, a likely coding error representing Panthera leo (Appendix II): see section 3.1.6. The other two entries involved China and EU countries (Germany and Italy)*

Table 14 summarizes the primary legislation (and associated regulations and other laws, where relevant) governing international and internal trade in Asian big cats in the ten focal Parties for comparative purposes. Legislative and regulatory approaches of the focal Parties to online trading, which is recognized as becoming a major source of illegal advertising and offers, are covered to the extent of available information, and Parties were asked by the author of this review to provide information on this subject. Legal treatment of possession is also included as it is mentioned in Article VIII paragraph 1 of the Convention for Parties to penalize

possession of specimens obtained in violation of CITES,[24] although stricter domestic measures defining possession may be applied.

Also included in Table 14 and illustrated in Figures 21A and B are two issues highlighted in Resolution Conf. 12.5: that Parties prohibit "products [1] labelled as, or [2] claiming to contain, [Asian big cat] parts and derivatives… as provided for in Resolution Conf. 9.6 (Rev. CoP16)."[25] Article I of the Convention defines specimen as including "readily recognizable parts and derivatives," and Parties agreed in Resolution Conf. 9.6 to define recognizable "to include any specimen which appears from an accompanying document, the packaging or a mark or label, or from any other circumstances, to be a part or derivative of an animal or plant of a species included in the Appendices." The original Tiger resolution (Resolution Conf. 9.13), which was the genesis of Resolution Conf. 12.5, urged Parties to "treat any product claiming to contain tiger as a readily recognizable derivative," because "proving that tiger bone exists in a sample of [traditional] medicine can be impossible" (Mainka 1994), even with today's improving (but complex and expensive) forensic analytical techniques. In China, medicines labelled as containing other felids (lion) have been represented by sellers as actually containing tiger, as discussed in the previous review and by Nowell and Xu (2007), and now a new trend is evident whereby products are not labelled as containing any felids at all, but are claimed by sellers to contain tiger, such as Sanhong company's Real Tiger Wine (Figure 21), as described in the previous review and by EIA (2013). Such a situation is not analogous to the Tiger Beer brand of alcoholic beverage made by Asia Pacific Breweries, because consumers are led to think that Real Tiger Wine really was made from tigers. EIA (in litt. 2018) also documented several examples of "bone strengthening" wines with labels suggestive of tiger contents, including a wine made by Sanjiang Laos Co., Ltd. which changed its label from "tiger bone wine" to "strong bone wine." Thus, it is increasingly necessary to have legislative or regulatory measures which allow for treating any form of "claiming" to be or to contain as subject to relevant trade controls for the species. Only three Parties specifically treat labeled as containing as evidence of containing in their legislative and regulatory measures (although it is considered to apply in several others through interpretation), and only three specifically incorporate the definition of "readily recognizable" from Resolution Conf. 9.6 (Rev. CoP16) into their legislation (Myanmar and Peninsular Malaysia) or regulations (United States), although it is interpreted to apply in Nepal, and other laws concerning counterfeit goods may apply in Viet Nam (Table 14).

In section 4, Asian and non-native big cats are referred to as "protected" if covered by relevant national trade control legislation, and "unprotected" if not. The country sections go into detail only when new amendments or regulations have been enacted or announced as being drafted since the previous review in 2014. China, Lao PDR, Myanmar, Nepal and Viet Nam enacted the most consequential measures and thus receive the most coverage, particularly pertaining to internal (domestic) trade, which is the primary focus of this section, as described in the third paragraph of this section.

[24] The importance of prohibiting possession of illegally traded specimens of CITES species in national legislation is also reflected in Decision 17.60 and document CoP17 Doc.22. Prohibiting possession was flagged as a priority by participants in the Africa-Asia Pacific Symposium on Strengthening Legal Frameworks to Combat Wildlife Crime (UN Inter-Agency Task Force on Illicit Trade in Wildlife and Forest Products, 2017), which noted, "In theory, CITES parties could detain those in possession of questionable Appendix I products, but, in most, the burden would remain on the state to demonstrate these products were imported illegally. It is possible, however, to reverse the onus, and to require those in possession of Appendix I species to maintain documented proof of their legality through, for example, retention of a copy of the import documentation, or registration in a national database."

[25] Numbers inserted by the consultant for clarity as "claiming to contain" is broader than "labelled as" (Figure 21)

Figure 21. Images of medicinal wine showing the difference between “labelled as containing” and “claiming to contain” tiger

Wines with names or ingredients including tiger	**Wines which from packaging and other circumstances appears to contain tiger**
 This wine is named “Tiger Bone Wine” (in Chinese) and was seen for sale in two locations in Lao PDR in 2016 and 2017 (EIA in litt. 2018)	 This wine is named “Real Tiger Wine” and is produced in China; it does not list tiger bone as an ingredient but company documents and representatives state that it does (EIA 2013)
 This wine lists tiger bone as an ingredient on its label in Chinese (EIA in litt. 2018)	 This wine is called “Bone Strengthening Wine” and appears to be made in Myanmar (EIA in litt. 2018)
 The second jar on the right says “tiger wine” in Chinese, while the rightmost jar just shows a picture of a tiger. Photographed in 2016 in Boten SEZ on the Chinese border in the north of Lao PDR (Krishnasamy et al. 2018)	

Table 14.1. Primary legislation, applicability of internal trade controls as to species and source, and international prohibitions without a permit in the ten focal Parties (see Table 14.4. for alphabetic bracketed Notes, e.g. [f])

Party (CITES NLP Cate-gory)	Primary wildlife trade control legislation	Status	Applicability of internal trade controls			International prohibitions without permit	
			Native species or subspecies	Apply to bred-in-captivity speci-mens?	Apply to non-native felids?	Import	Export Re-export
China (1)	Wildlife Protection Law	Amended 2016	*P. tigris, P. uncia, P. pardus, N. nebulosa*	Yes	Yes[f]	Yes	Yes
India (2)	Wild Life (Protection) Act, 1972	Amended 2006	*P. tigris, P. uncia, P. pardus, P. leo persica, N. nebulosa*	Yes	Yes[mm]	Yes	Yes
Indonesia (1)	Law on Conservation of Living Resources and Ecosystems	1990[s]	*P. tigris sumatrae & sondaica, P. pardus, N. nebulosa*	Yes[w]	No[t]	Yes	Yes
Lao PDR (3)	Wildlife and Aquatics Law [ttt]	2007[x]	*P. tigris, P. pardus, N. nebulosa [dd]*	Yes[y]	No[jjj]	Yes	Yes[aa]
Malaysia (1)	Wildlife Conservation Act [bbb]	2010[yy]	*P. tigris, P. pardus, N. nebulosa*	Yes	Yes[zz]	Yes [ccc]	Yes [ccc]
Myanmar (3)*	Biodiversity and Conservation of Protected Areas Law	2018[ee]	*P. tigris corbetti & tigris, P. pardus, N. nebulosa [ff]*	Yes[gg]	Yes[ppp]	Yes[ii]	Yes
Nepal (3)*	The Control of International Trade in Endangered Wild Fauna and Flora* and the National Parks and Wildlife Conservation Act	2017	*P. tigris, P. uncia, P. pardus, N. nebulosa*	Yes[nnn]	Yes	Yes	Yes
Thailand (1)	Wild Animal Reservation and Protection Act (WARPA)	Amended 2014[i]	*P. tigris, P. pardus, N. nebulosa [j]*	Yes[k]	No[i]	Yes	Yes[z]
US (1)	Endangered Species Act	Amended 2004[n]	N/A	Yes	Yes	Yes	Yes
Viet Nam (1)	Law on Forestry [ss]	Amended 2017	*P. tigris, P. pardus, N. nebulosa [d]*	Yes[tt]	Yes[h]	Yes	Yes

* Myanmar and Nepal recently enacted new national laws to implement CITES (Nepal CITES 2017, Myanmar BCPAL 2018); their legislation is referred to as draft in CITES NLP (2017), and their current categorization of 3 (as of December 2017) may change

	Table 14.2. Activities prohibited internally without a permit (see Table 14.1. for applicability of internal trade controls)											
Party	**Hunt &/or Kill &/or Wound**	**Capture &/or Harrass**	**Buy &/or Ex-change**	**Sell &/or Ex-change**	**Utilise &/or Con-sume &/or Process**	**Possess &/or Keep &/or Store**	**Trans-port &/or Carry &/or Post**	**Adver-tise &/or Offer &/or Display**	**Online trading**	**Products labelled as contain-ing**	**Fake parts &/or products &/or Claiming to contain**	**Attempted violations &/or Obstruction**
China	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes[a]	Yes[b]	No
India	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[kk]	Yes[ll]	No	Yes
Indonesia	Yes	Yes	Yes	Yes[v]	No	Yes	Yes	Yes	Yes	No	No	No
Lao PDR	Yes	Yes	Yes[zz]	Yes	Yes	Yes	Yes	No	Yes[bb]	No[uuu]	No	Yes[pp]
Malaysia	Yes	Yes	Yes[aaa]	Yes[aaa]	Yes	Yes	Yes	Yes	No[yy]	Yes	Yes	Yes
Myanmar	Yes	Yes	Yes[jj]	Yes	Yes[qqq]	Yes[rrr]	Yes	No	No	Yes	Yes	Yes
Nepal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[ooo]	Yes[nn]	Yes[ooo]	Yes[ooo]	Yes[oo]
Thailand	Yes	Yes	Yes	Yes	Yes[hhh]	Yes	Yes	Yes[m]	Yes[m]	Yes[hhh]	No	Yes[m]
US	Yes	Yes	Yes[mmm]	Yes[mmm]	Yes	Yes	Yes	Yes[lll]	Yes	Yes	Yes	Yes
Viet Nam	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[e]	Yes[uu]	No	Yes[ww]	No

	Table 14.3. Penalties for illegal internal trade (see Table 14.1. for applicability of internal trade controls)						
Party	**Min Financial Penalty USD/ National currency**	**Max Financial Penalty USD/ National currency**	**Min Imprisonment**	**Max Imprisonment**	**Authority to confiscate specimen**	**Asset forfeiture**	**Increased penalties for repeat or serious offenders**
China	2X value[iii]	10X value[iii]	5 years[c]	10 years[c]	Yes	Yes	Yes
India	154 USD 10,000 INR	No	3 years	7 years	Yes	Yes	Yes
Indonesia	No	7,476 USD 100 mill IDR	No	5 years[u]	Yes	Yes	No
Lao PDR	No[cc]	1,225 USD 10 mill LAK [qq]	3 mos	5 years	Yes[hh]	Yes[kkk]	Yes[rr]
Malaysia	12,791 USD 50,000 MYR [eee]	255,820 USD 1 mill MYR [ddd]	2 years[ggg]	7 years[fff]	Yes	Yes	No
Myanmar	No[sss]	No[sss]	3 years[sss]	10 years[sss]	Yes	Yes	No
Nepal	48,150 USD 500,000 NPR	96,300 USD 1 mill NPR	5 years	15 years	Yes	Yes	No
Thailand	No	1,282 USD 40,000 THB	No	up to 4 years	Yes	Yes[l]	No
US	No[o][r]	100,000 USD [p]	up to 1 year	20 years[q]	Yes	Yes	Yes[o]
Viet Nam	21,900 USD 500 mill VND [f]	87,600 USD 2 billion VND [f]	1 year [f]	15 years[f]	Yes[g]	No	Yes

Table 14.4. Notes (including activities controlled by other legislative and regulatory measures)

a	China State Council 1993
b	Although the WPL does not define wildlife parts, products or derivatives, the Ministry of Public Security issued a notification extending trading prohibitions to fake tiger parts, which may still be valid (China Min Public Security 2001)
c	China Criminal Law (amended 2015) Article 341. China abolished the death penalty for illegal trade and smuggling of protected species in 2011 (COP16 Doc. 50 [rev. 1] Annex 3b)
d	Decree 160/2013
e	Decree 158/2013
f	Penal Code 2017 Article 244; applies to native protected species as well as CITES Appendix I species. Individual penalties shown, financial penalties are doubled for legal entities (e.g., businesses). Also see Supreme Court Judicial Interpretation 37 (WCS in litt. 2018)
g	Circular 90/2008/TT-BNN
h	Decree 82/2006: "The specimens of wild fauna and flora defined in Appendix I to CITES shall be handled like the specimens of endangered wild precious and rare animals and plants of Group I under the provisions of Vietnamese law. The specimens of wild fauna and flora defined in Appendices II and III to CITES shall be handled like the specimens of endangered precious and rare wild animals and plants of Group II under the provisions of Vietnamese law. Where the CITES's provisions on handling of specimens of wild fauna and flora defined in the Appendices to the Convention are different from the provisions of Vietnamese law, the Convention's provisions shall apply."
i	Draft amendments are before the National Legislative Assembly and are expected to be passed in 2018 (see section 4.1.9); this table summarizes current legal status
j	Ministerial Regulation Prescribing Wildlife as Protected Wildlife, B.E. 2546 (2003). Available online in Thai: http://www.dnp.go.th/wildlifednp/%E0%B9%80%E0%B8%AD%E0%B8%81%E0%B8%AA%E0%B8%B2%E0%B8%A3/gov2. pdf. Native taxa are listed at the species level, not subspecies (Thailand CITES MA in litt. 2018)
k	Ministerial Regulation Prescribing Rules, Procedures and Conditions on Application and Issuance of Permit for Breeding Operation of Preserved Wildlife or Protected Wildlife, Possession and Transfer for Trade of Protected Wildlife and their Carcasses, Trade of Protected Wildlife, Their Carcasses and Products from Carcasses B.E. 2551 (2008). Available online in Thai at: http://web.krisdika.go.th/data/law/law2/%ca04/%ca04-2b-2551-a0001.pdf.
l	Under other laws: the Criminal Procedure Code, the Customs Act, the Anti-Money Laundering Act, and the Anti-Participation in Transnational Organized Crime Act (Moore and Beastall 2016, UNODC 2017c, Freeland in litt. 2018)
m	Definition of "trade" includes "having or showing for sale" (Article 4), which would include advertising and online trade (WCS in litt. 2018), and attempted trade. Although online trading is not specifically mentioned in the law, the government has online investigative capacity (UNODC 2017c), and Wild Watch TH was launched to encourage the public to report cases of illegal wildlife trade (Thailand CITES MA in litt. 2018).
n	https://www.fws.gov/endangered/laws-policies/esa-history.html
o	3,500 USD is the statutory maximum civil penalty for the first violation of Possess, deliver, carry, transport, sell or ship illegally taken threatened or endangered species in interstate or foreign commerce; penalties are increased for repeat violations http://www.gc.noaa.gov/documents/gces/6-ESA/esa_1208.pdf
p	Maximum criminal penalty is double for corporations https://www.ntc.blm.gov/krc/uploads/656/M7_Types_of_Penalties_FINAL_ly.pdf The maximum civil penalty increased to 49,467 USD in 2016: https://www.endangeredspecieslawandpolicy.com/2016/06/articles/fish-wildlife-service/u-s-fish-and-wildlife-service-increases-civil-penalties/ Under the END Wildlife Trafficking Act, a maximum penalty of US$500,000 is possible for violations where the value of protected species is assessed at over USD10,000
q	Under the END Wildlife Trafficking Act; there is no maximum under the Endangered Species Act
r	Most ESA violations are treated as civil rather than criminal (Brown 2015)

s	Government and Parliament announced process of revision in March 2016 (Jong 2016)
t	Non-native big cats are not specifically protected in Indonesia, but the second generation (F2) and subsequent generations of captive-bred Appendix-I listed species can be commercially traded only if the operation is registered by the government with the CITES Secretariat and the parent stock originated from a CITES-registered facility (Indonesia 5/2005); an import permit is required (H.T. Wibisono in litt. 2018)
u	Stoner et al (2016) reported that draft revisions to the law will set the maximum sentence at 20 years
v	Only selling but not "gifting" is included: USAID (2015), with the exception of P.tigris sumatrae, which can only be exchanged with the approval of the President (Regulation 8/1999 Article 34)
w	The Sumatran tiger is prohibited from commercial captive breeding (Indonesia 8/1999) and only CITES-registered breeding operations may trade commercially in Appendix-I listed species (t)
x	In the process of analysis for revision (SC69 Doc. 29.2)
y	Specimens of protected species bred in captivity from the second generation (F2) and beyond may be traded commercially by licensed individuals and businesses (Articles 35 and 40) under the 2007 WAL. However, Prime Minister's Order No. 5 of May 2018 supersedes this and bans trade in native Asian big cats and their parts and products (Lao PDR No. 5 2018)
z	Re-export is not covered by the law
aa	A 2015 Customs regulation prohibits re-export of CITES-listed species http://www.laotradeportal.gov.la/index.php?r=site/display&id=997
bb	Article 167 of the revised penal code (latest draft seen by WCS) penalizes "the causing of damage" via online media (WCS in litt. 2018)
cc	Minimum civil penalty is to forfeit the violation wildlife and be warned and educated (Article 68)
dd	Prime Minister's Decree 81 (2008); wrong scientific name for clouded leopard (WCS in litt. 2018)
ee	The new law was enacted on 21 May 2018 (Myanmar BCPAL 2018), repealing the 1994 Protection of Wildlife and Conservation of Protected Areas Law (Myanmar PWCNAL 1994) (Myanmar CITES SA in litt. 2018).
ff	The list of protected species was issued in 1994 (Myanmar FD 1994), and may be revised in the future according to the ongoing national Red Listing exercise by Myanmar Forest Department notification (WCS in litt. 2018). The new law's definition of protected wildlife species includes any part, derivative or product thereof (Myanmar BCPAL 2018 Article 2[u]).
gg	As completely protected species (the top category of protection) (Myanmar FD 1994), Asian big cats may only be bred in captivity for commercial purposes if they are included within a list of such species allowed for commercial captive breeding which the new law establishes (Myanmar BCPAL 2018 Articles 22 [a&b]), but which has so far not been issued by the Myanmar Forest Department. Such breeders must be issued a permit as well as register with the authorities (Myanmar BCPAL 2018 Article 31[d]). Non-native species may only bred or farmed with a permit (Myanmar BCPAL Article 39[i]).
hh	Articles 52 and 55 of Criminal Procedures Code (WCS in litt. 2018)
ii	While the repealed 1994 law refers only to export (Myanmar PWCNAL 1994), the new law also regulates import and re-export (Myanmar BCPAL 2018).
jj	The law does not specifically include purchasing or buying, but does refer to transferring in any way as well as penalizing possession without permission (Myanmar BCPAL 2018 Article 41[a]).
kk	The law and regulations do not specifically mention online trading, but the relevant prohibitions against advertising and trade are interpreted to apply: WPSI in litt. 2018
ll	Yes, but the product must actually contain the species so-labelled (WPSI in litt. 2018)
mm	The cheetah is given the same protection as native Asian big cats (Schedule I: http://wiienvis.nic.in/Database/ScheduleSpeciesDatabase_7969.aspx) even though it is extinct in the country. Only the African lion and jaguar are not protected by internal trade controls, but a 2014 policy circular prohibits the import of hunting trophies of CITES Appendix I species as well as look-alikes of species protected by the WPA (http://www.moef.nic.in/sites/default/files/ POLICY%20CIRCULAR%20%28IMPORT%20OF%20TROPHIES%29%20%281%29_0.pdf), which would include lion and jaguar (WPSI in litt. 2018)
nn	Not specifically mentioned in either law, but the government is "monitoring online wildlife trade" https://eia-international.org/wp-content/uploads/eia_iwtp-report-nepal.pdf
oo	Nepal CITES (2017) prohibits aiding, abetting or obstructing of an investigation into violations
pp	Article 21 and Article 185 (for attempts to participate in organized crime) of the revised penal code (latest draft seen by WCS in 2017: in litt. 2018)
qq	Articles 334 and 335 of the revised penal code (latest draft seen by WCS in 2017: in litt. 2018)

rr	Yes, Article 334 of the latest draft (2017) of the revised Penal Code (up to 10 years, and fine 3x value of damage) and Article 70 WAL (x3 value of damage if damage is worth 200.000 LAK and over) (WCS in litt. 2018)
ss	While the Law on Forestry is the primary trade control legislation, previous regulatory Decrees (32/2006, 82/2006 and 160/2013) are viewed by experts as the primary governing instruments (ENV and WCS in litt. 2018; see section 4.1.11)
tt	Decree 32/2006
uu	Decree No.174/2013/NDCP on handling of administrative violations on post , telecommunications , information technology and radio frequency - Art. 66.3.h (WCS in litt. 2018) Decree No. 158/2013/ND-CP handling violations in culture, sports, tourism and advertisment - Art. 50.2 The Penal Code 2015 (amended 2017) -Art 288
ww	General provisions of other laws concerning deceitful practices or counterfeit goods: Decree No.185/2013/NDCP (amended by Decree No.124/2015/ND-CP) handling violations in commercial activities - Art. 11 & 12 Decree No.167/2013/ND-CP handling violations in social security, order and safety, prevention and fighting of social evils, fire and domestic violence - Art. 15.1.c The Penal Code 2015 (amended 2017) - Art 174, 194, 197 (WCS in litt. 2018)
yy	Malaysia WCA 2010: Amendments were being drafted by the Ministry of Natural Resources and the Environment in 2017 to include provisions criminalizing illegal trade online, use of electronic evidence and higher penalties (MY Sun Daily 2017). See section 4.1.6
zz	Non-native CITES Appendix-I listed species are classified as totally protected (same as totally protected native big cats) under Schedule II (Malaysia WCA 2010); all Felidae except clouded leopard are listed as protected in Sabah (Article 2) and Sarawak (First Schedule Part II).
aaa	Purchasing for re-sale, "acquiring" and selling ("dealing") are allowed only for licensed dealers (Articles 3 and 42), but the law in Peninsular Malaysia does not specifically prohibit buying by individuals or exchange (except in the case of protected species hunted by an aborigine for sustenance (Article 51). Sabah and Sarawak both prohibit "any person" from buying (except from a permitted seller); Sabah prohibits exchange ("otherwise transfer": Article 47), and allows its Minister to prohibit the transfer by gift or otherwise of any protected animal or product (Article 49)
bbb	Pertains only to Peninsular Malaysia. International trade is governed nationally (Malaysia ITESA 2008), and Sabah (Malaysia Sabah 1997) and Sarawak (Malaysia Sarawak 1998) have separate wildlife laws. This Table attempts to incorporate all four pieces of legislation.
ccc	Malaysia ITESA 2008.
ddd	Malaysia ITESA 2008: Financial penalty for international or internal trade, advertising or commercial captive breeding up to 100,000 MYR per animal (or recognizable part or derivative) up to a maximum of 1 million MYR. Penalties are doubled for corporations. Malaysia WCA 2010: 100,000 MYR for internal trade or possession of native Asian big cats. Malaysia Sabah 2016: 250,000 MYR. Malaysia Sarawak 1998: no maximum
eee	Minimum financial penalty for Malaysia Sabah 2016. Malaysia Sarawak 1998: 25,000 MYR. No minimums for Malaysia WCA 2010 and ITESA 2008.
fff	Malaysia ITESA 2008. Malaysia WCA 2010: 3-5 years for Asian big cats. Malaysia Sabah 2016: five years. Malaysia Sarawak 1998: no maximum.
ggg	Malaysia Sarawak 1998 Article 29
hhh	Although not specifically mentioned in the law, it is interpreted to apply (WCS in litt. 2018)
iii	See Table 15 for values assigned to different felids
jjj	Lao PDR WAL (2007) protects only some native species and not all CITES-listed taxa, but Lao PDR EPL (2007) Article 33 states that the government “shall implement all international or bilateral conventions or treaties on the environment to which the Lao PDR is a party” (Freeland in litt. 2018). In addition, the Prime Minister’s Order No. 5 of May 2018 (Lao PDR 2018 No. 5) may supersede the WAL and extend protection to all CITES-listed taxa (see section 4.1.5)
kkk	Under the Forestry Law (Lao PDR FL 2007): Freeland in litt. 2018
lll	Endangered and threatened species may be advertised for sale provided the advertisement states that no sale may be consummated until an interstate commerce permit has been obtained from the federal Fish and Wildlife Service (https://www.fws.gov/endangered/permits/faq.html)
mmm	Lawfully taken and held endangered and threatened species may be shipped interstate as a bona fide gift or loan if there is no barter, credit, other form of compensation, or intent to profit or gain. A standard breeding loan, where no money or other consideration changes hands but some offspring are returned to the lender of a breeding animal, is not considered a commercial activity and, thus, is not prohibited by the ESA and does not require a permit. Documentation of such an activity should accompany shipment (https://www.fws.gov/endangered/permits/faq.html)
nnn	A person, organization, or agency may receive a license from the CITES MA (after consultation with the SA) to breed and/or possess and trade in their parts and products (Nepal CITES 2017 Article 8).

ooo	WWF Nepal (in litt. 2018)
ppp	The new law offers equivalent trade protections to CITES-listed species (Myanmar BCPAL 2018 Article 41) and to completely protected native Asian big cats (Myanmar FD 1994).
qqq	Usage of a derivative or product of a completely protected species as a medicine or consumer good is allowed only with a permit (Myanmar BCPAL 2018 Article 46[c]).
rrr	While possession without a permit of any part, blood derivative or product of a completely protected or CITES-listed species is prohibited (Article 41[a]), people who possessed such parts as a souvenir or for traditional garments prior to enactment of Myanmar PWCNAL (1994) must register these with the relevant township Forest Department Office (Articles 31[a&b]) in order to not be in violation of Article 41[a] (Article 46[b]) (Myanmar BCPAL 2018).
sss	Under Article 41, a financial penalty is optional (with no statutory minimum or maximum), but imprisonment mandatory, for trade violations involving Asian big cats and CITES-listed felids. Penalties for other violations of the law include either imprisonment or a fine or both, with minimum and maximum ranges for financial and jail penalties (Myanmar BCPAL 2018; Myanmar CITES SA in litt. 2018 and WCS in litt. 2018).
ttt	Prime Ministerial Order No. 5 issued in May 2018 (Lao PDR No. 5 2018) may supersede and be stricter than some provisions of the 2007 Wildlife and Aquatics Law, but time constraints prevent a full analysis here.
uuu	Although fake products are not specifically covered by the law (Lao PDR WAL 2007), authorities have been recently observed seizing fake products (WCS in litt. 2018)

From Table 14.1, it can be seen that all focal Parties require a permit to import, export and re-export[26] Asian big specimens, whether wild or bred-in-captivity. Only Malaysia (Malaysia ITESA 2008) and the United States (US FWS 2013) have legislative and regulatory measures which specifically refer to issuance of the certificate of captive breeding allowed by the Convention in lieu of a CITES export permit for bred-in-captivity specimens meeting the definition for source code C (Table 13A). As the US (FWS 2013) notes in its fact sheet on exporting CITES bred-in-captivity wildlife, "some countries have domestic legislation that requires an import permit," and stricter domestic measures appear to apply in the nine other focal Parties.

From the same Table, it can also be seen that most focal Parties treat internal trade in bred-in-captivity specimens of Asian big cat the same as wild – that is, some sort of permit or license is required, generally issued only for non-commercial purposes. However, as discussed in the country sections that follow, China, Lao PDR and Myanmar have legislative and regulatory measures which allow some types of internal (and perhaps, in the case of Lao PDR, international) trade which appear to meet the CITES definition of primarily commercial (Resolution Conf. 5.10 [Rev. CoP15]. Although not, at this time, applied to Asian big cats, six focal Parties have legislative and regulatory measures which allow for less restrictive trade controls for bred-in-captivity specimens of some species: China, Indonesia, Myanmar, Nepal, Thailand and Viet Nam. Although China has not moved any big cats to this less restrictive trading regime, along with Lao PDR, it is the only one of the focal Parties known to have issued permits allowing some entities to engage in internal trade in both Asian and non-native big cat parts and products.

When it comes to non-native big cats, however, the focal Parties are more inconsistent in their treatment of internal trade, with three (Indonesia, Lao PDR and Thailand) protecting only native species, although legislation is being revised in all three Parties and is expected to eventually protect all CITES-listed species. Other Parties protect only some non-native big cats. Appendix-I listed cats are treated at the same level of protection as native Asian big cats in China and Malaysia. The cheetah is the only non-native big cat protected in India (it has been extinct in the wild in that country for decades). Only Myanmar, Nepal and the United States offer the same level of internal trade protection to the African lion (Appendix II), which is increasingly serving as a not readily recognizable substitute for tiger parts and derivatives

[26] Thailand does not currently regulate re-export.

(document AC30 Inf 15) as the Appendix-I tiger; Viet Nam places the African lion in a less restrictive category of protection.

Specific elements of internal legislative and regulatory measures are summarized in Table 14.2. Only the United States prohibits all the shown activities without a permit. Generally internal trade (buying and selling) is prohibited without some type of permit in all Parties, and only China does not similarly prohibit possession (apart from licensing requirements for captive breeding). Approaches to online trade are more varied – few legislative measures specifically address it, but only some Parties have experienced difficulties applying general trade and advertising restrictions to the Internet (see Notes Table 14.4 and relevant country sections). The biggest differences between Parties is evident for the two elements pertaining to applicability of trade controls to derivatives which are not readily recognizable. In most cases, Parties are only able to take legal action through non-wildlife legislation (e.g., through criminalization of counterfeits) or through enforcement interpretation of general trade restrictions. Only Myanmar, Peninsular Malaysia and the United States specifically address claiming to be or to contain in their statutory definitions of a specimen.

There is also a great deal of variation in the penalties for illegal internal trade in the ten focal Parties (Table 14.3). Only Parties with relatively recently amended legislation have maximum financial penalties of USD10,000 or more (China, Malaysia, Nepal, US, Viet Nam). India has very low financial penalties, but high maximum prison terms (seven years); Myanmar does not set a minimum or maximum fine but mandates imprisonment of 3-10 years. Of all ten Parties, only the US does not have a maximum prison penalty term of at least four years.[27] However, a number of Parties have no minimum financial or prison penalties, giving substantial leeway to prosecutors and judges to impose less than the maximum penalty allowed by law. Only half of the focal Parties have increased penalties for repeat offenders.

4.1.2. China amends its Wildlife Protection Law

Figure 22. Beijing Normal University facilitated a workshop on revising China's Wildlife Protection Law on 18 February 2014 (ARREST 2014)

In July 2016, the National People's Congress adopted amendments to China's 1988 Wildlife Protection Law (WPL). The revision process commenced in 2013 and included two rounds of public consultation in 2016 (Figure 22). The amended law entered into force 1 January 2017 (China WPL 2016). Implementation regulations are in the process of being drafted (China SFA No. 181 2016),[28] and some of the regulations were also released in draft form for public consultation (EIA 2017c). Although it does not regulate possession (apart from licensing requirements for captive breeding) as recommended by Decision 17.60, China now otherwise has one of the most comprehensive set of Asian big cat internal and international trade controls (Table 14). In order to keep the focus of this section tightly on China's activities most

[27] Under its primary legislation, the Endangered Species Act, but imprisonment of up to five years is possible under the Lacey Act (section 4.1.9 and Annex 1)

[28] Some have been finalized and issued at the time of writing: e.g., administrative measures governing wildlife shelter and rescue (http://www.forestry.gov.cn/main/4818/content-1055985.html)

pertinent to Asian big cats, in the context of Resolution Conf. 12.5 [Rev. CoP17], issues raised in the previous review of China's implementation of the Resolution (document SC65 Doc. 38 Annex 1), and this section's focus on internal (domestic) trade as discussed in the third paragraph of section 4.1.1,additional information on China's recent national legislative and regulatory measures is summarized in Annex 1 of this report.

Lists of protected species under the new law are in the process of being revised, but until then original listings under the 1988 Wildlife Protection Law apply (China SFA No. 181 2016). Native subspecies of all four Asian big cats are listed under the highest category of protection (special state protection, first class); non-native CITES Appendix-I listed species are managed according to the same category of protection (Table 14), while Appendix II-listed taxa (the African lion) is managed according to the second class of special state protection. In practice this distinction is of little consequence for legal treatment of the African lion, as management of the two classes differ only in terms of the type of hunting or catching permits which may be issued by authorities (China WPL 2016 Article 22).

China has some of the strongest penalties for illegal trade, with a recent prison sentence of 12 years and six months for a man who smuggled 7 tiger skeletons, 11 lion skeletons (per DNA testing by the authorities) and 20 unidentified big cat skeletons from Viet Nam (Sun 2015). Chapter 4 of the 2016 WPL sets a range of financial penalties (prison sentences are set under Article 341 of China's Criminal Law) for violations based on penalty values set (under Article 57) by SFA in its Notice 46 of 2017. This list sets out baselines values for wildlife specimens, with wildlife under special state protection valued at ten times the baseline.[29] These values are shown in Table 15, although it is unclear how they should be interpreted. For example, under WPL Article 48, illegal trade, use or transport of wildlife under special state protection or their products and production, trade or purchase of these species for food (Article 49) shall be fined between two and ten times their value, and it is not clear whether that represents the baseline or penalty value. Captive-bred wildlife and their products are to be valued at 50% of the species value, and if the transaction price involved in a violation is higher than that set out in the Notification, then the penalty should be based on the transaction amount.

Table 15. Baseline and penalty values for big cat specimens (China SFA No. 46 2017)

Species	**Baseline value (CNY/USD)**	**Penalty value (CNY/USD)**
Panthera tigris	100,000 / USD15,773	1,000,000/USD157,730
Panthera pardus	50,000 / USD7,897	500,000 / USD78,970
Panthera uncia	50,000 / USD7,897	500,000 / USD78,970
Neofelis nebulosa	30,000 / USD4,398	300,000 / USD43,980
Acinonyx jubatus	10,000 / USD1,579	
All other Felidae	15,000 / USD2,369	

Additional violations in the new Wildlife Protection Law amendments of 2016 include publishing advertisements (Article 31), providing an online trading platform (Article 32) and the production, trade or purchase for use as food (Article 30).[30] A new Article 44 specifically

[29] The penalty value for wildlife under second class special state protection is five times the baseline.

[30] China further clarified to CITES in 2015 that, prior to the adoption of the WPL amendments in 2016, that purchase of protected species and their products as food is prohibited by China's Criminal Code: "The explanation to Article 341 and 312 of The Criminal Law of People's Republic of China given by Standing Committee of the National People's Congress which reads ,the illegal buying for the purpose of eating or other ends, whether know or should know national key-protected precious and endangered wildlife and its products is concerned, belongs to the act of illegal purchase.' The explanation can be reached via http://news.xinhuanet.com/2014- 04/24/c_1110400192.htm" (China response to

prohibits trading in “wildlife or the products thereof under the guise of wildlife shelter and rescue” (China WPL 2016).

Concerning international trade, a major change is that the original 1988 law automatically included CITES-listed species under national protections, but the amended law now requires that the CITES Management Authority draw up, revise and announce the list of wildlife and products thereof that are prohibited or restricted by international conventions to which China is Party (Article 35). Import or export[31] of wildlife on this list (as well as wildlife under special state protection) must be approved by the SFA, and the appropriate permit obtained from the CITES Management Authority. Wildlife included on this “international/CITES” list may also be added to the list of wildlife under special state protection by the SFA. The new CITES list has yet been finalized, but theoretically non-native CITES-listed big cats could be bred in captivity in China and their products commercially traded within the country, either without permits if they are not included on the CITES MA list or the WPL state protections list or, if they are included on the CITES MA list, by being issued special state protection by the SFA and then included in the list that permits commercial captive breeding operations, which is described in the next paragaph.

The original 1988 law stated that China shall “pursue a policy of strengthening the protection of wildlife resources, actively domesticating and breeding the species of wildlife, and rationally developing and utilizing wildlife resources” (Article 4). The amended Article 4 now reads that China shall “pursue a policy of prioritising protection, regulating utilisation and stringent monitoring and management.” The original law allowed the captive breeding of wildlife under special state protection under license without guidance as to purpose, other than “the State shall encourage the domestication and breeding of wildlife” (Article 17). This has been replaced with new language. A new Article 47 specifically prohibits the breeding of wildlife under special state protection without a permit, and Article 25 contains amended language, stating that “The state shall support relevant scientific research institutions in conducting captive breeding of wildlife under special state protection for the purposes of protection of the species.” Article 25 then goes on to say that captive breeding of special state protected wildlife for purposes other than species conservation shall be regulated by a permit system, and Article 28 creates an entirely new category: a list of “wildlife under special state protection for captive breeding” (tantamount to CITES terminology “bred in captivity for commercial purposes”). Production quotas will be set for species on this list by relevant wildlife authorities (provincial, municipal and autonomous region), and a “special marking” is to be applied to specimens and their products, which may be commercially traded and utilized (Article 28). The “first batch” list was released in July 2017 and included nine species, none of which were felids (China SFA No. 13 2017); further additions of species are expected (China SFA 2017a).

With tigers (and other Asian big cats) excluded from the list of wildlife under special state protection for captive breeding (at present), which are allowed to be commercially bred or “farmed,” then other parts of the law apply. Article 27 states that, “The sale, purchase and utilisation of wildlife under special state protection or the products thereof shall be prohibited.” It then goes on to say, “Where the sale, purchase or utilisation of wildlife under special state protection or the products thereof is necessary for scientific research, captive breeding, public

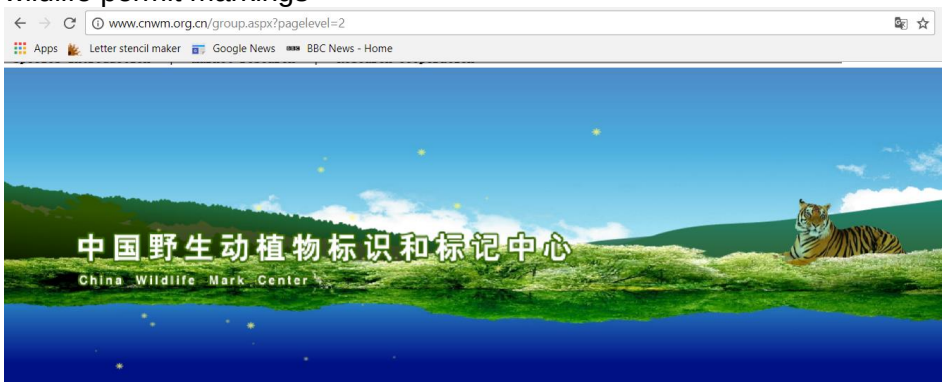
Notification 2015/006 submitted to the intersessional Working Group on Asian Big Cats established at the 65th meeting of the Standing Committee).

[31] Although re-export is not specifically included in the revised Wildlife Protection Law of 2016, procedures to re-export CITES-listed species are described in the implementing regulations for the original 1988 law (https://www.unodc.org/cld/en/legislation/chn/regulations_of_the_peoples_republic_of_china_on_administration_of_import_and_export_of_endangered_wild_animals_and_plants/regulations_of_the_peoples_republic_of_china_on_administration_of_import_and_export_of_endangered_wild_animal.html) and it is unlikely to be excluded from the regulatory revision currently in progress.

exhibition or performances, heritage conservation or other special purposes," approval is required. This language is largely a carryover of original language from Article 22 of the 1988 WPL (although the exemption for "heritage conservation" is a new amendment, as discussed below), which was the legislative authority under which the previous implementation review documented that "China has systematically exercised internal trading privileges for companies dealing in big cat skins and derivatives, produced mainly but not exclusively from captive breeding" (document SC65 Doc. 38 Annex 1). China stated at the 65th meeting of the CITES Standing Committee in 2014 that "according to its national legislation, commercial trade in tiger parts and products (except bone)[32] obtained from captive-breeding operations could be conducted at designated shops if the SFA approves.[33] However the SFA had not approved any such trade to date," and that "in practice, the SFA only approved the use of tiger skin for scientific and educational purposes and it had never approved commercial trade in tiger skins (document SC65SR).

These permits authorizing the sale of big cat products have been issued using a "special marking system" which has been employed for application to permitted wildlife products since 2003, under regulations issued by the State Forestry Administration and State Administration for Industry and Commerce (China SFA/SAIC No. 3 2003), and managed by the China Wildlife Mark Center, of the Chinese Academy of Forestry (Figure 23).[34]

Figure 23. Screenshot of the website of the China Wildlife Mark Center, which manages wildlife permit markings



Permits authorizing internal trade in big cat parts and products are known to have been issued in the past, all around the mid-2000s when there was considerable internal and international debate about China lifting its tiger trade ban (Nowell and Xu 2007), for the following species and specimen types: 1) wines permitted to be made from lion produced by the country's two largest captive tiger facilities, Xiongsen (China SFA No. 6 2004: see Figure 56) and Heilongjiang Siberian Tiger Forest Park (China SFA No. 8 2007)[35]; 2) medicinal products for internal consumption containing leopard bone (China SFA No. 3 2006, TRAFFIC China 2006) (Figure 24; online research conducted by EIA identified 35 medicinal products in the

[32] China's highest governing body, the State Council "banned all trading activities" in tiger bone in 1993 (China SC 1993).

[33] This is also true under the 2016 amendments to the Wildlife Protection Law.

[34] The Center also manages permit marking for captive live animals (http://www.cnwm.org.cn/list.aspx?groupid=4), including a 2009 protocol for the collection of blood from captive tigers for DNA profiling and issuance of a tiger genetic ID card (http://www.cnwm.org.cn/news.aspx?newsid=123)

[35] As described in the previous review (document SC65 Doc. 38 Annex 1) and by the CITES Secretariat (document CoP14 Doc. 52 Annex 7), these wines are suggestively marketed and verbally described to potential consumers as containing tiger. More recently, two separate journalist visits to each of the facilities documented verbal assurances from staff that the wine was made from tiger bone; lions were never mentioned (Leavenworth 2014, Knowles 2016). See Figure 56 for an image of the wine bottle.

marketplace which claim to contain leopard bone [EIA 2018a]);[36] 3) tiger and leopard skins and products made from them, either obtained prior to implementation of the 1988 Wildlife Protection Law (in which case they are likely of wild origin) or "by legal breeding or other legal means" (China SFA No. 206 2007);[37] and 4) the sale of tiger bone from designated facilities with captive tigers to designated medicinal manufacturers authorized to supply hospitals with tiger bone wine (although this 2005 Notice has not, unlike the three previous examples, been published by the State Forest Administration, it has been referenced to in several other public documents, including those published by a local Shanghai government department and a hospital [EIA 2013]).[38] The conditions attached to any of these permits issued in the mid-2000s, including the total number of permit holders (for permit sets 2-4 described above), or the periods of permit validity, are not publicly available.

Figure 24. CNWM special mark on medicinal product containing wild (W) leopard bone (Latin: Os pardi;[39] arrow points to the two Chinese characters for leopard bone) medicine issued in 2006 (06) (Chun 2018); the permit number did not return a result in the CNWM database (www.piju.cnwm.org.cn) and may no longer be valid

[36] In January 2006, China's State Food and Drug Administration notified manufacturers that use of leopard bone (commonly interpreted to apply also to snow leopard [see section 3.1.3], clouded leopard and possibly cheetah: EIA in litt. 2018) in processed medicines for external use (such as plasters) was henceforth prohibited, but that manufacturers of medicines for oral consumption could use up their currently held stocks (China SFDA No. 118 2006). External use medicines produced before January 2006 were allowed to continue to be sold (TRAFFIC China 2006). From July 2006, stocks of leopard bone were to be declared, inspected by provincial and national authorities, and then the manufacturers could apply for a national permit to sell products made from them (China SFA No. 3 2006) under the China National Wildlife Marking system (TRAFFIC China 2006). Around that time there were reportedly 45 different medicinal products made containing leopard bone (Chun 2018).

[37] According to the Notice, Forestry and Ethnic Affairs departments were instructed to notify entities and individuals holding these products and verify their legal origins, after which owners of items found to be lawfully obtained could register them and apply for a permit and special mark. Owners could then "sell [the item] within the applicable range based on the administrative permit accompanying the mark." It is unclear what the "applicable range" is; China stated at the 65th meeting of the CITES Standing Committee that " in practice, the SFA only approved the use of tiger skin for scientific and educational purposes and it had never approved commercial trade in tiger skins" although it had the legal right to do so (document SC65 SR). It should be noted, however, that instances of sellers holding SFA permits attempting to engage in commercial trade were documented by EIA (2013) and document SC65 Doc. 38 Annex 1, and that 32% of recent buyers of tiger products surveyed by USAID (2018a,b) from a random sample of the adult general population of six Chinese cities said they had purchased tiger skins within the past 12 months (see section 4.3.2).

[38] EIA investigators searched online for government notifications pertaining to the use of captive-bred tiger bone and found records of Notification 2005 No 139, which "enables the pilot use of captive-bred tiger bone for medicine and the reduction of the use of leopard bone." The Notification appears to have been issued by the SFA, SAIC, Ministry of Health, State Food and Drug Administration and the State Administration of Traditional Chinese Medicine. One prominent businessman who claimed to have been authorized to breed tigers and produce tiger bone wine (as long as it was not listed on the label as an ingredient) described the Notification in this way to EIA: "*Now there is an internal notification …when the number of the bred tiger reaches 500, if you get some special permission, you can sell the tiger bones to assigned medicine-making factories and the products will be directly circulated in hospitals. For instance, if a patient is in a hospital for arthritis treatment, he will get a bottle of the bone wine.*"

[39] Os pardi (豹骨) is defined by CNWM (2009) as the "dry skeleton of a feline leopard"

Under the amended language of the Wildlife Protection Law Article 27, approval permits for the sale, purchase and utilisation of captive-bred wildlife under special state protection (species that are not on the list authorized for commercial trade) and their products are to be issued by sub-national authorities (provincial, municipal or autonomous region), but SFA may exceptionally issue regulations that designate a different authority. A notification in August 2017 (China SFA No. 14 2017) established the SFA as the approving body for administration of permits related to the captive breeding and sale, purchase and utilisation of whole specimens or the products thereof of ten terrestrial species, including the tiger and leopard (and elephants, rhinos and giant pandas, among others.) The authority was granted in accordance with Articles 25 and 27, described above. Article 27 requires that such wildlife under special state protection and their products be affixed with special markings (to "guarantee traceability") for sale, purchase and utilisation. The marking codes on individual products can be searched on China's National Wildlife Marking database (piju.cnwm.cn), but this database cannot be searched by species, so there is no way to ascertain how many and what types of items have been authorized to be produced at the species level. However, this may change in the future, as in its December 2016 notice on implementing the new Wildlife Protection Law, the SFA stated that it is necessary to make information about administrative licenses publicly available on a semi-annual basis, and "actively disclose to the public the number of applications for various types of licenses accepted by the authorities, the species involved and the licensing decisions" (China SFA 181 2016). At present SFA maintains a database of decision outcomes related to its permits dating back to 2005;[40] the database can be searched by company name and permit date or number, but cannot yet be searched by species as required by the 2016 Notification.

The 2016 Notification (China SFA 181 2016) also calls for "standardization of administrative licensing behavior and strengthening of supervision and inspection," noting that "some administrative licensing items must be adjusted" according to the new legal amendments, and that "administrative licensing decisions and administrative licenses issued in accordance with the law before December 31, 2016 shall remain valid for the period of validity." Draft implementing regulations under the amended WPL for administration of the special marking system call for the SFA to draw up, amend and publish a "List of terrestrial wildlife under special state protection and the products thereof covered by the special marking system" (China SFA 2016a: Article 3). The sale, purchase, use, transport, carrying or posting of wildlife and their products on this list which are affixed with special marks is approved without the need for any additional permits, and the special mark may be used by the CITES Management Authority as a certificate of approval for export (China SFA 2016a: Article 4).

It remains to be seen if Asian or non-native big cats will be on this marking list (if this list is included in the finalized implementing regulations), how SFA will treat the validity of previously issued permits, and how many permits will continue to be issued for internal trade in tigers, leopards, lions and possibly other Asian and non-native big cats. As described in the next paragraph, it appears that under the new WPL, SFA has continued to make findings that such trade is "necessary" in the context of WPL Article 27: "where the sale, purchase or utilisation of wildlife under special state protection or the products thereof is necessary for scientific research, captive breeding, public exhibition or performances, heritage conservation or other special purposes…" In the past, the owner of Xiongsen Bear and Tiger Village and an associated wine production company (see Figure 56), argued to the CITES Technical Mission that he viewed the sale of tiger products as necessary for him to meet the costs of exhibiting all his tigers (documents CoP14 Doc. 52 Annexes 7 and 8). If China is to be in accordance with CITES recommendations, the number of tigers "necessary" for these exempted activities should be interpreted as described in Decision 14.69: the captive population should be restricted to a level supportive only to conserving wild tigers. "Other special purposes" should

[40] http://xzsp.forestry.gov.cn/xzsp/login.jsp The permit outcome database is accessible through the second main menu tab (Information 信息公开) and the fourth submenu (Results 结果公示).

be interpreted narrowly in accordance with the well-established legal principle of statutory interpretation, "*ejusdem generis*" (which means "of the same kind or nature"): when general words in a statutory text are flanked by particular terms, the meaning of the general words (in this case the words "other special purposes") are taken to be restricted by the meaning of the particular terms (scientific research, etc.).

As previously mentioned, the exemption allowing internal trade in wildlife under special state protection for the purpose of heritage conservation was a new type of exemption in the 2016 amendments to the Wildlife Protection Law. While the State Council specifically removed tiger bone from the national list of approved traditional medicinal pharmaceutical ingredients (China SC 1993), other big cat substitutes were not included, and in 2014 a recipe for producing a wine containing leopard bone (HongMao medicinal wine, which is manufactured by the HongMao Pharmaceutical company, established in 2002 in the province of Inner Mongolia [EIA 2018b]) was approved by the Ministry of Culture and Tourism[41] under the Intangible Cultural Heritage Law of 2011 (China ICHL 2011). This product does not carry the CNWM mark of the type shown in Figure 24 and it is unclear if the product has been approved by the SFA under the authority of the WPL. However, what appears to be an official SFA permit for an individual acting on behalf of one pharmaceutical company (Sichuan Qianfang Chinese Medicine Stock Co. Ltd.) to sell 1,230.5 kg of *Panthera pardus* leopard bone to the Inner Mongolia Hongmao Pharmaceutical Co. Ltd) was posted on social media in mid-2018 (EIA 2018b), although it is no longer available. It bears a permit number that matches a March 2018 record in the SFA's permit outcome database, although that database only contains the decision to allow a transaction of "buying, selling and/or utilising terrestrial wildlife under first class state protection or the products thereof," but does not provide details other than the two companies involved and relevant dates (EIA 2018b), so it cannot be verified that the permit SFA issued in March 2018 for the transaction between the two companies was actually for leopard bone. If the permit is valid, it is not clear where and how the leopard bone was obtained (unlike tigers, leopards do not appear to be being bred in captivity in large numbers in China), or even if it is all from the species *Panthera pardus*: EIA (2018b) contains a photo of a clouded leopard (*Neofelis nebulosa*) skeleton shown to them by the director of the Sichuan Qianfang company in 2008 which was described to them as leopard bone.

It is not known if additional trading privileges for Asian big cats other than those described above have been issued by the Chinese government. The SFA's permit database, for example, contains 40 permits for "buying, selling and/or utilizing terrestrial wildlife under first class state protection or the products thereof" issued since 2005 to the two major tiger breeding centers (27 for Xiongsen Tiger and Bear Mountain Village, one to the Heilongjiang Siberian Tiger Forest Park, and 22 to the Hendaohezi Felidae Breeding Center which is closely affiliated with the Siberian Tiger Forest Park).[42] From August 2017 to June 2018, eleven permits were issued to companies which appear from their online websites to be producing products including leopard bone (EIA in litt. 2018), and ten permits were issued to companies which have been previously documented attempting to engage in the commercial sale of tiger

[41] https://3g.163.com/all/article/DI3C22360001899N.html

[42] http://xzsp.forestry.gov.cn/xzsp/login.jsp The permit outcome database is accessible through the second main menu tab (Information 信息公开) and the fourth submenu (Results 结果公示). The database was queried for the following company/applicant names: 桂林雄森熊虎山庄娱乐城 (Xiongsen), 中国横道河子猫科动物饲养繁育中心 (Hengdaohezi) and 黑龙江东北虎林园台山景区东北虎园 (Siberian Tiger Park).

products (EIA 2013, EIA in litt. 2018). In the first five months of 2018, over 200 permits were granted by SFA for "buying, selling and/or utilizing terrestrial wildlife under first class state protection or the products thereof," presumably limited to the ten species for which the SFA was made the delegated permitting authority in August 2017 (including tiger and leopard: China SFA No. 14 2017); it is not known if the permits are for trade or use of live specimens or of parts or products. Permits for other protected Asian and non-native big cat species are issued at the sub-national level under the new legal amendments, as described above. These authorities may not necessarily make their permit databases public; those which have done so include the municipal government of Beijing, which published permits for the sale, purchase and utilisation of wildlife under special state protection from March-May 2018,[43] but like the SFA permit database, did not identify the species involved. It is also unknown if all permits issued are included in the public databases.

China was one of 12 Parties which responded to CITES Notification 2015/006, which requested, in part, that "all Parties where internal and international trade in Asian big cats and their parts and derivatives is permitted" to respond to a recommendation from the 65th meeting of the CITES Standing Committee to report to Secretariat "on what legal trade is allowed, the species and trade volume involved, and describe how such trade is monitored and enforced, and to inform about measures taken to prevent illegal exports." In its response (China Notification 2015/006), China indicated that it could not report on "the species and trade volume involved" concerning possession, which it does not regulate ("This questionnaire includes the possession of ABCats by individuals and also agencies in the scope of trade, whereas Chinese legislation doesn't put this under surveillance. In addition, the possession of the species involves the issue of 'pre-Convention' and is hence complicated. Therefore, it's beyond China's capacity to obtain the total trade volume data of the various species which includes the possession volume." However, it should be noted that the Standing Committee's request referred only to trade, not possession.

Although implementation of Decision 14.69 is not covered by this review, it should be noted that there has been a great deal of public discussion about phasing out of tiger "farms," and preventing captive facilities from engaging in any commercial big cat trading activity would greatly simplify enforcement of China's tiger bone trade ban under the 1993 State Council mandate and trade restrictions under the amended WPL. Previously China has claimed that it cannot control the legal breeding and utilisation activities of "tiger farmers" [44] because the animals are private property, nor revoke their permits (if they are not violating the law) (Wan 2009). However, China also has a unique model for doing exactly this: its recent treatment of ivory carving businesses and shops licensed to sell products made from legally imported ivory marked with permits under the China National Wildlife Marking system. In December 2016, China's State Council announced a national ban on ivory trade would be implemented by the end of 2017 (China SC 2016). In March 2017, SFA announced that ivory processors and retail stores would be closed in two batches (China SFA No. 8 2017), and by January 2018 all 172 licensed ivory businesses were shuttered (TRAFFIC 2018c), although it remains unclear how the government will deal with their stocks of unsold ivory (Zhao et al. 2017). Similarly, Hong Kong passed a law in January 2018 that will implement an ivory trade ban by 2021, with no compensation for dealers (TRAFFIC 2018d).

[43] http://www.bjyl.gov.cn/ztxx/sgsxx/xzxkjg/201806/t20180613_208038.shtml

[44] Although tigers are not on the list of species permitted to be bred commercially or "farmed," China's large captive tiger facilities are often described colloquially as tiger farms, including occasionally by government officials such as the author of this article.

4.1.3. India withdraws the Wildlife (Protection) Amendment Bill, 2013

The previous review of Resolution Conf. 12.5 (Rev. CoP16) contained a summary of India's legislative and regulatory measures contributed by the Wildlife Protection Society of India (document SC65 Doc. 38 Annex 1 pp 32-33) as an example of best practices (which will not be repeated here, as there have been no subsequent changes[45]), and referred to an announcement in May 2014 by the Minister of Environment and Forests that financial penalties (Table 14.3) would be substantially raised by amendments to the 1972 Wildlife (Protection) Act (India WPA 2006) submitted to Parliament in 2013. Those amendments would have raised the minimum term for an offence related to the "sale or purchase or transfer or offer for sale or trade of any animal [or its part or product] specified in Schedule I" (which includes all native Asian big cats as well as the cheetah) to "imprisonment for a term which shall not be less than seven years and also with fine which shall not be less than fifteen lakh rupees" (USD23,055) (India WPA 2013). The proposed amendments also included a new chapter to the law (VB) and a new schedule (VII) protecting CITES-listed species in order to implement CITES. India's national legislation was placed in category 2 by the CITES Secretariat in December 2017, and India was identified as a priority party by the Standing Committee (SC69 SR). India reported at the July 2017 Africa-Asia legal frameworks for wildlife crime symposium that it had "no national law to implement CITES" (UN 2017), and mostly relies on its foreign trade legislation (de Klemm 1993). However, the Secretary of the Ministry of Environment, Forests and Climate Change in October 2014 testified before Parliament that "the Government has, while reviewing the status and the contents of the present Bill, which was introduced in the Parliament, taken a view that the Bill should be withdrawn and the provisions of the [Wildlife Protection] Act as well as the proposed amendments need to be reviewed, along with several other issues which pertain to wildlife protection, which also originate from various international conventions to which India is a party." The amendments were withdrawn in December 2014 by Parliament, noting that "the Government may revisit all aspects of The Wild Life (Protection) Act, 1972 in a holistic manner and come out with a comprehensive Bill" (India 253 2014).

4.1.4. Indonesia begins process of revising its Law on Conservation of Living Resources and Ecosystems

The Environment and Forestry Minister announced in March 2016 that the government and parliament were in the process of revising Indonesia's primary wildlife trade control legislation, Law No. 5/1990 (Jong 2016). The Minister said the government felt the urgency of the revision after seeing that most cases of animal trading and hunting resulted in prison time of less than one year for perpetrators, and fines of less than IRP100 million (US$7,000) (Jong 2016). As of February 2018, discussions between the government and parliament were still ongoing, with penalties still considered a key issue in need of resolution (Sintas Indonesia Fdn in litt. 2018).

Indonesia protects only native species and subspecies (tiger) of Asian big cats under Law No. 5/1990. Exceptions to the prohibitions shown in Table 14 are permitted only for purposes of research, science or "safeguarding" (e.g., delivery to a foreign institution, with a government permit.) Another permitted exception includes hunting or removal of an animal which harms or threatens human life (Indonesia 5/1990).

Licenses to breed protected species may be issued for non-commercial purposes, including conservation, reintroduction and research (Article 8: Indonesia 7/1999). This regulation is also being revised (Indonesia CITES MA in litt. 2018). At present, Article 34 of that regulation prohibits commercial trade in specimens of captive-bred Sumatran tiger *P. tigris sumatrae*, as well as the exchange of such specimens without the approval of the President. CITES

[45] WPSI (in litt. 2018) notes that the review omitted an exception for trade in specimens of protected species between public museums.

Appendix I-listed species may only be bred in captivity if the founding stock originates from commercial breeding operations listed on the CITES Secretariat's register, and the F2 and subsequent generation products may only be traded commercially by Indonesian facilities listed on the Secretariat's register (there are none as of February 2018) (Indonesia 19/2005). This leaves only the African lion (CITES Appendix II) as unprotected in Indonesia, but authorities in 2012 nonetheless seized a taxidermy specimen of lion along with 14 tigers, three leopards and a clouded leopard (AFP 2012). Individuals may also keep unprotected animals (which by definition includes F2 generation and subsequent generations of captive-bred native protected species, as well as legally acquired non-native big cats) as a hobby (Chapter IX, Indonesia 8/1999), providing they fulfill technical facility standards and file reports. Exchange of animals is only permitted between governments and between licensed zoos (Chapter VII, Indonesia 8/1999).

In 2015 USAID published an analysis of Indonesia's legal and policy framework for wildlife trade, crime and species protection (USAID 2015), and suggested a number of revisions to address weaknesses. These include adding all CITES-listed species to the protected species list; higher fines and minimum and maximum penal sentences; provide greater authority to forest rangers to investigate and arrest, and coordinate with other civil authorities; address online trading and the use of electronic evidence; and revise the protocol for addressing human-wildlife conflict. With regard to online trading, criminal provisions in Act No. 5/1990 still apply if sufficient evidence can be documented, and Act No. 11/2008 on Information and Electronic Transactions contains specific clauses relating to trading goods prohibited for trade, which could include protected species. This law has higher penalties: under Article 28(1) the penalty is six years in prison and/or a fine of IDR1 billion (USD70,000 – ten times higher than the maximum penalty under the conservation law). However, Act No. 11/2008 mandates particular civil investigators to manage online cases, and forestry investigators have no authority in these cases despite having the technical knowledge required to pursue a case. A second obstacle is that the conservation law has yet to regulate the use of photos, videos or electronic files as evidence in wildlife and forestry crimes.

4.1.5. Lao PDR adopts penal code revisions, analyzes existing wildlife law, and issues a Prime Minister's order prohibiting hunting, trading and farming of protected species

In May 2017 the National Assembly adopted revisions to its Penal Code of 2005, but the revised code has not yet been promulgated as it is undergoing technical changes, although it was expected to occur in 2018 (WCS in litt. 2018). According to WCS, "The new penal code increases fines and imprisonment for stealing, having in possession, importing, exporting or trading in any way protected wildlife. Those convicted will face three months to five years in prison [as specified in the Wildlife and Aquatic Law Article 71) and fines up to 10,000,000 Kip (USD1,225). Imprisonment and fines increase for criminals who are found to be a part of an organized group" (WCS 2017). The CITES Secretariat further reported in late 2017 that aggravating circumstances further include recidivism and substantial damage, that the maximum financial penalties triple the value of the damage, and that, with CITES now clearly mentioned in the revised penal code, lack of compliance with its provisions is grounds for criminal liability (document SC69 Doc. 29.2). According to the latest draft of the penal code, WCS (in litt. 2018) reported that Article 335 penalizes import and export violations, and Articles 334 and 276 penalize trading and transport violations (as shown in Table 14).

Pursuant to CITES Article XIII, the CITES Standing Committee adopted a number of recommendations for Lao PDR, including steps to bring its national legislation into compliance (SC69 Sum. 10 Rev. 1). The CITES Secretariat reported to SC69 that "the Lao authorities are preparing 'A Wildlife Legality Compendium' based on the Wildlife and Aquatic Law No. 07/NA 2007 with the support of the Food and Agriculture Organization of the United Nations (FAO) through its Cooperative Programme with the World Bank, together with the German Cooperation Programme and the Finnish Cooperation (SUFORD-SU). This activity, divided in

two phases, has commenced and was anticipated as being completed in 2017 with recommendations to remove legal uncertainties and loopholes and amend relevant laws" (document SC69 Doc. 29.2)

At present, the Wildlife and Aquatic Law (Lao PDR WAL 2007) classifies native big cats in Category 1 of the prohibited list[46] and may only be used for "public benefit" (e.g., educational research and breeding purposes: Article 24) with a permit (Article 30). Businesses (zoos, farms, clinics or animal care centers, trade, transit, import, export, re-export and transhipment, circus and documentary film production) may use these species with government permission (Articles 34 and 35). Individuals and organizations may keep them in captivity for business purposes with a permit; captive-bred specimens of the second generation (F2) and subsequent generations may be traded freely for commercial purposes (Article 40), a significant loophole (UNODC 2014, DLA Piper 2015). Although the trading of second generation animals of the prohibited category is permitted under Article 40, Articles 52 and 70 indicate that the possession of these animals or animal parts would seem to be an offence without a government permit; the WAL does not make any reference to second and subsequent generations in these sections (UNODC 2014). Non-native big cats are not currently protected in any way by internal trade or breeding controls.

While the Lao PDR authorities have not made public the number of commercial breeding permits issued, according to investigations by journalists (Davies and Holmes 2016a), which reportedly included reviewing internal government inspection reports, at least one of several known captive facilities in Lao PDR (the Vannaseng facility in Bolikhamsay) appears to have been licensed to breed tigers for business purposes, and the facility was authorized in 2014 to trade internationally in 20 tons of tiger skins, bones and claws that year. A second facility (Muang Thong in Thakek owned by Vinsakhone company) has reportedly only been authorized to breed tigers for scientific research, but was reportedly determined by government inspectors from the Ministry of Natural Resources (MoNRE) in 2016 to "exactly not" be doing that, and instead was engaging in large-scale illegal international and internal trade. The company was reportedly authorized to trade in 10 tons of lion bone in the calendar year 2014. When Ministry inspectors reviewed the records of both facilities in October 2014, they reported that the two had traded a total of 7.7. tons of tiger and lion bones so far that year – less than their authorizations permitted, but still substantial. The inspectors concluded in 2016 that CITES import and export restrictions had been violated by both facilities (by engaging in commercial international tiger trade), but wrote in their report that no legal action could be taken "because they have got approval from the government."

Lao PDR's Minister of Natural Resources and the Environment announced at SC67 that it was "looking of ways to phase out tiger farms" (Dasgupta 2016). The Standing Committee at SC69 recommended that Lao PDR "create a Committee on Tiger Farms composed of government officials, relevant national organizations, members of the Cat Specialist Group of the Species Survival Commission of the International Union for Conservation of Nature (IUCN/SSC), the World Association of Zoos and Aquaria (WAZA), the CITES Secretariat and other international organizations (document SC69 Sum. 10 Rev. 1), and the government committed to do that in its December 2017 implementation report to the CITES Secretariat (CITES Secretariat pers. comm. February 2018). A memo sent by the Lao PDR Prime Minister's office to various government departments in January 2018 called for improved cooperation with CITES agreements to prevent illegal wildlife trade (RFA Lao 2018).

The Prime Minister's office, however, took much stronger action in May 2018, issuing Order No. 5 on Strengthening Strictness of the Management and Inspection of Prohibited Wild Fauna

[46] Decree 81/2008 of the Prime Minister lists these species (although the clouded leopard's scientific name *Neofelis nebulosa* is mis-spelled) and controls trade in parts and whole animals (dead or alive), but does not mention derivatives: WCS in litt. (2018)

and Flora (Lao PDR No. 5 2018). The order bans the hunting of wildlife on the WAL's prohibited list, which includes all native Asian big cats, and reiterates that wildlife trade must be conducted in compliance with national laws and regulations as well as CITES, with particular reference to preventing trade in the body parts of wildlife on the prohibited list. Thus the Order bans trade in bred-in-captivity Asian big cat parts and products which had been legal under the WAL. It also forbids the establishment of new wildlife farms engaged in breeding prohibited species for business purposes, and recommends turning existing farms into safari parks or zoos for conservation, tourism or scientific purposes. The Ministry of Agriculture and Forestry (MAFF) is instructed to conduct a survey to register wildlife that is being bred, including their parts and products, and to inspect and list all businesses and other entities trading in wildlife parts (including, among others, bones, teeth and claws). The Ministry is also instructed to strictly inspect and patrol "vulnerable border areas, points of arrival and departure, special economic zones and other areas," and other Ministries, including National Defense, Public Security, Finance, and Science and Technology are also tasked with strengthening wildlife law enforcement capacity. The order notes that it supersedes any aspect of previous legislative or regulatory measures with which it is conflict, indicating that some of the information shown for Lao PDR in Table 14 may now be invalidated, but time constraints prevented undertaking a full analysis of areas where the Ministerial order may take precedent over the WAL. It does appear that CITES-listed species not covered by the WAL are now extended some of its protections under this order, and that the order may is expected to result in greater enforcement action and awareness, particularly among other Ministries and sub-national (provincial and district) wildlife authorities (WCS in litt. 2018).

4.1.6. Sabah amends its wildlife act and Peninsular Malaysia plans revisions to its legislation

In October 2017 the then-Minister of Natural Resources and the Environment announced that amendments were being prepared to the Wildlife Conservation Act of Peninsular Malaysia (MY Sun Daily 2017). He said that the 2010 law contains no special provision to charge or take legal action against online illegal wildlife trade, and that information and collected about online transactions cannot be used in court. However, UNODC (2017c) reported that the Department of Wildlife and National Parks (Perhilitan) "actively monitors online trading sites and some social media accounts/groups, and has arrested several suspects as a result. However, this monitoring is ad hoc as there is no unit dedicated to this emerging crime trend, and Perhilitan officers have not received any formal training in online criminal investigations." Amendments are also being drafted to increase WCA penalties in line with the current penal code (UNODC 2017c, MY Sun Daily 2017).

The Wildlife Conservation Act (Malaysia WCA 2010) pertains only to Peninsular Malaysia; the two states on the island of Borneo each have their own legislation: Sarawak Wildlife Protection Ordinance (Malaysia Sarawak 1998) and Sabah Wildlife Conservation (Amendment) Enactment (Malaysia Sabah 2016). In August 2016 the Sabah State Assembly passed amendments to its 1997 law increasing penalties (Daily Express 2016), especially for smuggling, which are the same as those shown for possession (Table 14.4 note [eee]). Malaysia' federal CITES implementation legislation, the International Trade in Endangered Species Act (Malaysia ITESA 2008), applies to the entire country. The Sabah and Sarawak laws have more lenient penalties for totally protected species than in Peninsular Malaysia (DLA Piper 2015) (Table 14.3). However, although these two laws also do not specifically refer to online trading, Sabah has enforced its prohibitions against offers to sell and possession without a permit against online traders, with one man arrested in 2015 for possession of a clouded leopard, and charged with marketing and selling wildlife via Facebook (Lajiun 2015).

All native Asian big cats and non-native species listed on CITES Appendix I are classified as totally protected wildlife under the 2010 Wildlife Conservation Act (Malaysia WCA 2010). The

only native Asian big cat, the clouded leopard, is listed as totally protected in Sabah and Sarawak, but only Sarawak includes non-native Felidae, in a lower category (protected: Malaysia Sarawak 1998). All three jurisdictions allow citizens to capture or kill animals which pose a danger to human life, with some differences as to permitted circumstances, and providing such is reported without undue delay to authorities. Internal trade and possession of Asian big cats is generally prohibited without a permit (a "special permit" is required in Peninsular Malaysia, but internal trade controls there pertain only to businesses, unlike Sabah and Sarawak which prohibit any person from purchasing protected wildlife except from licensed dealers). Licenses and special permits are required to breed protected species. Malaysia ITESA (2008) prohibits commercial captive breeding of protected species except for under licensing and registration conditions set out in the implementing regulations (Malaysia ITESA 2009).

Parts and derivatives are defined in Peninsular Malaysia in concordance with the CITES definition of "readily recognizable" from Resolution Conf. 9.6 (Rev. CoP16) as "any thing which is claimed by any person, or which appears from an accompanying document, the packaging, a label or mark or from any other circumstances, to contain any part or derivative of wildlife" (Article 3) so that, unusually for Asia, there is no need for prosecutors to prove that a part labelled as containing a protected species actually does, and that claiming to contain as well as fake parts and derivatives are criminalized. However, both Sarawak and Sabah as well as the CITES implementation law (Malaysia ITESA 2008) require that such products be readily recognizable. Captive-bred protected species and their products are treated the same as wild in all three jurisdictions (can only be sold by licensed dealers), and Peninsular Malaysia specifically deems that offspring of captive-bred totally protected species are still treated as protected species in Peninsular Malaysia (Malaysia WCA 2010: Article 30), and require a special permit to trade. Peninsular Malaysia includes presumptive guilt: e.g., possession of a snare is interpreted as hunting (Article 57), and protected wildlife found on the premises presumes possession (Article 58). Sabah places the burden of proof of lawful possession on the person possessing (Malaysia Sabah 2016: Article 41). In Peninsular Malaysia, anyone convicted of a violation of this Act is prohibited from holding a license or special permit for a period not to exceed five years (Article 31). Every offence under this Act is a seizeable offence (allowing arrests to be made without a warrant) for the purpose of the Criminal Procedure Code [Act 593] (DLA Piper 2015).

Other laws which bear on illegal wildlife trade (Customs, corruption, money-laundering, etc.) are reviewed by DLA Piper (2015) and UNODC (2017d).

4.1.7. Myanmar enacts the Biodiversity and Conservation of Protected Areas Law

In November 2017 the Director of the Nature and Wildlife Conservation Division of Myanmar's Forest Department announced that its primary wildlife law (the Protection of Wildlife and Conservation of Natural Areas Law: Myanmar PWCNAL 1994) was in the process of being revised. On 21 May 2018 Myanmar's Parliament repealed the 1994 law and enacted the Biodiversity and Conservation of Protected Areas Law (Myanmar BCPAL 2018), and implementing regulations are currently in preparation (Myanmar CITES SA in litt. 2018). The new law contains significant improvements to implement CITES, including the regulation of import and re-export (the old law referred only to export), designation of Management and Scientific Authorities (Article 20), and incorporation of the CITES definition of readily recognizable (Resolution Conf. 9.6 [Rev. CoP16]) into its statutory definition of a wildlife specimen (Article 2[ziii]).

The Forest Department plans to update and republish the associated list of protected species (Myat Moe Aung 2017) in accordance with a national Red Listing process (WCS in litt. 2018), but at present the list of protected species issued as an annex to the 1994 law is still applicable (Myanmar FD 1994). All three native big cats are categorized as "completely protected" (the

top category of protection); the leopard and clouded leopard are listed at the species level, while the tiger is listed as two native subspecies, *P.t. corbetti* and *P.t. tigris*. Completely protected species may not be hunted (Myanmar BCPAL 2018 Article 24), killed or wounded (Myanmar CITES SA in litt. 2018, Article 41[a]). The new law also protects non-native big cats, unlike the 1994 law. Article 19[e] gives the Forest Department the authority (with the approval of the Ministry of Natural Resources and Environmental Conservation) to declare a list of CITES-listed species,[47] which are afforded equivalent protection to completely protected native taxa. The new law also specifies that protected species include their parts, derivatives and products (Article 2). Both completely protected native species as well as all CITES-listed species require a national-level permit to capture, transport, or possess, which may only be issued for scientific research (Article 21[a]).

However, the law does contain certain exemptions for purposes other than scientific research (Myanmar BCPAL 2018 Chapter XII). A person in possession of any part of a completely protected native big cat species for the purposes of a souvenir or to wear as traditional custom prior to the entry into force of the 1994 law (Myanmar PWCNAL 1994) is required to register it with the relevant Forest Department (Myanmar BCPAL 2018 Article 31[a]). The registration requirement also applies to any person who received such a specimen in any manner other than inheritance (Article 31[b]).[48] The Forest Department may issue a certificate of registration, or the application may be refused, in which case appeal may be made to the Director-General of the Forest Department within 30 days of the refusal, for a final ruling (Article 32). The certificate of registration allows the holder to possess or wear the registered item (Article 46[b]).

Chapter XII also spells out the only exemption under which a permit for internal trade in a derivative or product of a completely protected species may be issued by the Forest Department: possession, usage, sale, transport, or transfer of a medicine/drug or consumer good/commodity (Myanmar BCPAL 2018 Article 46[c]). The language concerning medicine is a carryover from the 1994 law, and it was identified in previous analyses as a significant loophole (DLA Piper 2015, Nijman and Indenbaum 2017). However, concerning the exemption for medicine, Nijman and Indenbaum (2017) note that, under Myanmar's Traditional Drug Law (No. 7/1996), licenses are required to manufacture registered traditional drugs, and that manufacturing and selling unregistered traditional drugs, or manufacturing a registered traditional drug without a license, are all subject to a prison term of up to three years and/or a fine up to MMK30,000 (USD22). Thus, it appears that, in order to conform to the Traditional Drug Law, the Forest Department may only issue permits for legally registered and manufactured medicines; it is not known if any medicines containing native big cats have been registered under the Traditional Drug Law. The language allowing issuance of permits for internal trade, possession and use of parts of completely protected species as consumer goods/commodities is new, however (WCS in litt. 2018).

The new law includes a major policy change from the previous 1994 law under which, unlike species in the lower protection categories, completely protected species (including native Asian big cats) could not be bred in captivity for commercial purposes or be kept in captivity as a hobby or traditional custom (Myanmar PWCNAL 1994, Article 17). Article 22 of the new law (Myanmar BCPAL 2018) allows the Director General of the Forest Department to declare a list of native completely protected species which can be commercially bred or cultivated (Article 22[a]), and stipulate conditions under which they can be captured, collected, bred, farmed or transferred in any way (Article 22[b]). Similar authority is given to stipulate conditions under which non-native wild animals or plants can be bred, farmed or propagated

[47] The same process is required for the new list of protected native species (Articles 19[a-b]), when completed.
[48] Under the 2002 implementing rules for the 1994 law (Myanmar PWCNAL 1994), which are still in force until implementing rules are completed for the new law (Myanmar BCPAL 2018), persons inheriting such an item are required to register it within 30 days of receiving the inheritance (DLA Piper 2015).

for commercial purposes or as a hobby (Article 22[e]). The only carry-over from the 1994 law is that wildlife under lower categories of protection can still be permitted to be kept and raised in captivity commercially (Article 36) and as a hobby or traditional custom, under conditions to be stipulated (Article 22[c]).[49] Persons given permission to commercially breed completely protected species must additionally register with the Forest Department and pay registration, inspection and other fees (Articles 31[d-f]), and they are eligible to apply for a CITES export permit (Article 23[a]).

The new law raises penalties for many violations, which were previously criticized as being too low under the 1994 law (DLA Piper 2015, UNODC 2016b); for example, the maximum financial penalty set in 1994 for illegal internal trade in completely protected species was MMK50,000 (USD38) (Myanmar PWCNAL 1994 Article 37[a]). This fine was the maximum permitted along with imprisonment of up to seven years; the law allowed imprisonment, a fine, or both. The new law now requires imprisonment for illegal internal trade incompletely protected species, with a minimum of three to a maximum of ten years, as well as a fine (Myanmar BCPAL 2018 Article 41[a]). The Forest Department is currently working on implementing regulations which may provide guidance to the judiciary on establishing the appropriate level of a financial penalty; no statutory level was set in order to permit broad judicial latitude to issue a fine tantamount to the value and quantity of the wildlife involved in the crime (Myanmar CITES SA in litt. 2018). Other violations of the new law do have pre-determined financial penalties: for example, commercial breeding of completely protected wild animals or non-native wild animals and plants without permission is punishable by imprisonment to a maximum of three years or a fine of MMK200,000-500,000 (USD148-370), or both (Articles 39[c&i]).

Under the 2002 implementing rules for the 1994 law, government authorities are allowed to sell or auction off “illegally held” protected species (DLA Piper 2015); it is not known if this provision will be carried over in the new implementing rules under development.

4.1.8. Nepal enacts CITES implementation law, amends its National Parks and Wildlife Conservation Act and ratifies its membership in SAWEN

In May 2017 Nepal’s President signed into law the Act to Control International Trade in Endangered Wild Fauna and Flora (Nepal CITES MA in litt. 2018), finalizing a process that began in 2002 (Dongol and Heinen 2012); Nepal’s national legislation to implement CITES was rated as category 3 in December 2017 (CITES NLP 2017) and this is expected to change. The new law states that national protected species as well as those listed on CITES Appendices I and II may not be “purchased, sold, possessed, used, [bred in captivity], transported, imported or exported” without a permit from the CITES Management Authority, which must consult the Scientific Authority for a non-detriment determination (Article 3). Article 12 also requires a permit from the MA for re-export. Article 13 requires any person, organization or agency in possession of or engaged in the captive breeding CITES-listed and protected species “without obtaining a license for the purpose of study, research, experiment, training, demonstration, conservation education, [conservation biology research], education or any other purpose” must apply for one from the MA within one year following the law’s enactment. Imported CITES-listed specimens must be registered within 35 days from import for a certificate of ownership in a similar manner as pre-law specimens (Article 14), and ownership of registered specimens may not be transferred or disposed of without permission

[49] Under the PWCNAL (1994) 2002 implementing rules, animals under the lower category of protection which were commercially bred in captivity were not permitted to be traded commercially, although it is not clear if this prohibition applies to their parts and products (DLA Piper 2015). The new law specifically includes parts and derivatives in its definition of protected species (Myanmar BCPAL 2018 Article 2), and may present a conflict which will need to be resolved in the new law’s implementing rules in preparation.

of the MA or its designated authority (Article 15). The minimum and maximum penalties shown in Table 14.3 are for CITES Appendix I-listed species; for Appendix II-listed species, the penalties are imprisonment from 1-5 years and/or fines from USD965-4,813. Failing to register or changing ownership without permission also have penalties (Article 21). Non-living specimens of confiscated Appendix I species are to be destroyed (Article 30).

In March 2017 Nepal's President signed into law amendments to the 1973 National Parks and Wildlife Conservation Act. These amendments largely bring this Act into conformity with provisions in the new CITES implementation law. Some of the provisions of this bill sparked controversy in that they allow the MA to grant licenses for the commercial captive breeding of species deemed viable. However, the Director General of the Department of National Parks and Wildlife Conservation said the "government was unlikely to allow wildlife farming of [CITES-listed] species including tigers and rhinos"(Kathmandu Post 2017).

In July 2016 Nepal's parliament ratified the Statute of the South Asia Wildlife Enforcement Network (SAWEN), becoming the third country to formalize its membership in the body (Nepal CITES MA in litt. 2018). The government also prepared national conservation action plans for tigers and snow leopards in 2016 and 2017 (Nepal CITES MA in litt. 2018).

4.1.9. Thailand's National Legislative Assembly considers new amendments to its Wild Animal Reservation and Protection Act (WARPA)

A comprehensive amendment to Thailand's primary wildlife trade regulation law, WARPA, (Thailand WARPA 1992) was made available for public comment in 2012 (Moore et al. 2016), and was the subject of lively public debate and input (Figure 26). In February 2018 a senior official of the Department of National Parks, Wildlife and Plant Conservation (DNP) told news media that it had vetted and submitted amendments to its 1992 wildlife law (known as WARPA) which are expected to be passed by the National Legislative Assembly by the end of the year (Bangkok Post 2018a). He mentioned that new penalties are among the changes, with the current maximum prison sentences and fines to be doubled.

Two reviews of Thailand's legislative and regulatory measures were recently published: 1) a review of CITES implementation in Thailand by TRAFFIC (Moore et al. 2016) and 2) a review of Thailand's criminal justice response to wildlife crime by UNODC (UNODC 2017c). Both reviews urged that the WARPA should be amended to include non-native species (including all CITES-listed species, most of which are not currently listed as protected, including non-native big cats), and UNODC (2017c) and WCS (in litt. 2018) stated that the draft amendments do include this provision. Moore et al. (2016) also recommended that the current definition of trade under WARPA does not include re-export.

Figure 26. The Faculty of Law of Chulalongkorn University hosted a public Town Hall meeting on World Wildlife Day (3 March 2014) to discuss changes to WARPA (Freeland 2014a)

At present the law requires a permit (issued at the national level) to import, export, or transit protected species. Protected species may only be bred in captivity by nationally licensed public zoos (Section 18) and can only be transferred or exchanged between licensed zoos with a permit (Thailand CITES MA in litt. 2018). Internal trade and possession of protected species and their parts and products is prohibited (Sections 19 and 20), the only exception being of 61 species on a list of approved species to be bred in captivity by the private sector (Section 17); a license is required to trade in animals, carcasses and products from captive breeding (Thailand CITES MA in litt. 2018), and no big cats are on the list (Thailand DNP 2003). Although online trading is not specifically covered in the law, UNODC (2017c) assessed that the government has online investigative capacity, and Wild Watch TH was launched to encourage the public to report cases of illegal wildlife trade (Thailand CITES MA in litt. 2018).

4.1.10. United States enacts the Eliminate, Neutralize and Disrupt (END) Wildlife Trafficking Act

The END Wildlife Trafficking Act was signed into law in October 2016 (US END 2016). It builds upon the National Strategy for Combating Wildlife Trafficking (2014), and directs the 17 Federal departments and agencies comprising the Presidential Task Force on Wildlife Trafficking to work together on a "whole of government approach. The Act and the Task Force will be in force for five years (until 2021) unless otherwise extended. The Act increases penalties for wildlife crime through application of provisions of the federal criminal code concerning money laundering to wildlife trafficking violations of the Endangered Species Act of 1973 and the Rhinoceros and Tiger Conservation Act of 1994, if the endangered or threatened species of fish or wildlife, products, items, or substances involved in the violation and relevant conduct have a total value of more than $10,000. In that case, the maximum fine is set at US$500,000 and maximum imprisonment of 20 years, or both (US CFR 18 2018).

The law directs the State Department to report to Congress annually and identify focus countries (those identified as a major source, transit point or consumer of wildlife trafficking products or their derivatives), and from this list to identify countries of concern (focus countries with governments that have actively engaged in or knowingly profited from the trafficking of endangered or threatened species) (Article 201). The State Department's first report was submitted to Congress in November 2017 and included the following Asian big cat range and consumer States as focus countries: Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Thailand and Viet Nam. Lao PDR was the only one of these to be designated a country of concern (US State Dept 2017). The law authorizes the State Department and US AID to provide assistance to focus countries to improve their law enforcement.

Two governmental reviews of the Task Force's work were conducted, one focusing on the supply side (Africa: US GAO 2016) and the other on the demand side (Asia: US GAO 2017). These reviews recommended that the agencies comprising the Task Force develop performance indicators to assess progress, and clarify inter-agency roles and responsibilities to improve collaboration in Southeast Asia; both recommendations have been taken on board. Wildlife trafficking is also one of four areas highlighted in Executive Order 13773 (signed February 2017), calling for a comprehensive and decisive approach to dismantle organized crime syndicates (US State Dept. 2017).

While no Asian big cats are native to the US, the Endangered Species Act (1973, last amended in 2004: US ESA 2004) includes them in its top category of protection (endangered), as well as the cheetah, jaguar, and the lion in part of its range.[50] The law allows international and

[50] In 2015 lions in India (which were already Endangered as P.l. persica) and the northern part of Africa were listed as endangered as the newly recognized subspecies P.l. leo. P.l. melanochaita was listed

inter-state trade for non-commercial purposes only both wild and captive[51] specimens[52] only with a permit, and consists of a stricter domestic measure in comparison to CITES. Whereas CITES requires Scientific Authorities to make a finding that a transaction will not be detrimental to the survival of the species in order to authorize import (for Appendix I species) and export (for Appendices I and II), the Endangered Species Act (Section 10(a)(1)A)) allows permits, including import permits, to be issued only "for scientific purposes, or to enhance the propagation or survival" of endangered species.[53] These protections were extended to threatened species as well by regulation (US CFR 50 17.31 2017), although there is an exemption to the enhancement finding under the Act allowing non-commercial imports of threatened species that are also listed on CITES Appendix II (US ESA Section 9(c)(2) and US CFR 50 17.8 2017).

The US, in response to Executive Order 13576 (Transparency and Open Government), invites public comment on permit applications for protected species (e.g., US FR 2016a, inviting comment on an application by a breeding facility to import a captive-bred Asian leopard for purposes of enhancing the survival of the species), and also publishes notices of permits issued, including the permit number and holder (e.g., US FR 2016b). These notices, published in the Federal Register, are maintained in a library on the Fish and Wildife Service website.[54]

The US handles most violations of the Endangered Species Act as civil rather than criminal (Brown 2015); civil penalties are assessed when the violation was "an accident, mistake or oversight," and a lower burden of proof is required (US ESA nd). However, for criminal prosecutions, US sentencing guidelines call for baseline penalties to be increased by four times for protected species (USSC 2Q2.1 2018) and, if coupled with other factors, could result in a 10X penalty increase (Actman 2018).

Another law, the Lacey Act (amended 2008) is unique among the ten focal countries because it criminalizes wildlife taken, possessed, transported or sold in violation of any foreign law (US CITES MA in litt. 2018). The 2016 UNODC World Wildlife Crime report (UNODC 2016a) concluded that illegal trade could be reduced by countries having national legislation which recognizes the illegal status of wildlife products that have been illegally harvested or trafficked from anywhere else in the world. The US Congress also mandated intelligence agencies to

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as threatened, subject to the "special 4(d) rule" described in the text (US FR 2015). In 2017 the US Fish and Wildlife Service announced a status review of the leopard to determine whether the species should be listed as endangered throughout its range (it is currently listed as Threatened in east and central Africa) (https://www.regulations.gov/document?D=FWS-HQ-ES-2016-0131-0742). A bill (the SAVES Act) was approved by a committee in the House of Representatives in October 2017 which would remove the authority of the Federal government to protect non-native species under the Endangered Species Act (https://www.safariclub.org/what-we-do/freedom-to-hunt/first-for-hunters-blog/first-for-hunters/2017/10/06/house-committee-approves-major-esa-changes), but it is considered unlikely to be enacted by Congress (https://www.govtrack.us/congress/bills/115/hr2603).

[51] "A person registered with the U.S. Fish and Wildlife Service may obtain a captive-bred wildlife permit to buy and sell within the United States live, non-native endangered or threatened animals that were captive born in the United States for enhancement of species propagation, provided the other person in the transaction is registered for the same species. A separate permit is needed to import or export such species. Captive-bred wildlife permits are not issued to keep or breed endangered or threatened animals as pets. Keeping protected species as pets is not consistent with the purposes of the ESA, which is aimed at conservation of the species and recovery of wild populations" (https://www.fws.gov/endangered/permits/faq.html)

[52] With the CITES Resolution Conf. 9.6 (rev. COP16) language defining "readily recognizable" incorporated into US CFR 50 23.5 2017

[53] Other permittable circumstances for species listed as threatened are made by regulation (US CFR 17.32 2017): economic hardship, zoological exhibitions, educational purposes or other special purposes consistent with the purposes of the US ESA 2004.

[54] https://www.fws.gov/policy/frsystem/1999rules.cfm?date=16&doc_type=notices

collect information on wildlife trafficking networks and report on targets for disruption in 2016 (Felbab-Brown 2017).

4.1.11. Viet Nam amends its Forest Law and Penal Code and issues Wildlife Trafficking Decree

In September 2016 the Prime Minister of Viet Nam issued a Directive (28/CC-TTG) with nine elements intended to enhance implementation of a previous directive (03/CC-TTG of February 2014) addressing illegal wildlife trade. Although two directives are mostly focused on ivory and rhino horn, tigers are also included. The 2016 Directive specifically calls for enforcement agencies to "focus on scrutinizing the unlawful exportation, importation, trafficking, sale, processing, storage, advertising and consumption of wild animals and plants, especially ivory, rhino horn and tiger specimens." It also calls for authorities to focus on dismantling major criminal networks and wildlife trafficking "kingpins"(Viet Nam PM 2016).

In November 2017 Viet Nam's National Assembly adopted (with 88% support) amendments to one of its primary wildlife laws, the 2004 Law on Forest Protection and Development (Viet Nam FL 2004), which is now known as the Forestry Law (Viet Nam FL 16/2017/QH14), which will come into effect on 1 January 2019. A Decree with detailed guidance on implementation of some of the Articles in the Forestry Law is now in preparation (WCS in litt. 2018). The amendments include new elements criminalizing wildlife trafficking and provide the government with new tools to prosecute traffickers and consumers of protected species (USAID 2017a). The 2004 law prohibited "illegally hunting, shooting, catching, trapping, caging or slaughtering forest animals;" and "illegally transporting, processing, advertising, trading in, using, consuming, storing, exporting or importing forest plants and animals" (Article 12). "Illegal" was to be defined by regulation, e.g.: "the Government shall prescribe regimes for management and protection of endangered, precious and rare forest plant and animal species and lists of endangered, precious and rare forest plant and animal species" (Article 41). Illegal activities, "depending on the nature and seriousness of the violations," were to "be administratively handled or examined for penal liability according to law provisions" (Article 85).

The amendments clarify that protected species (species listed under CITES or the 2008 Law on Biodiversity) may not be exploited or utilized (Article 38) without a permit. Article 67 specifies that any processing of protected species must use those of verifiably legal origin, through marking "suitable to the nature and types of each specimen, ensuring anti-counterfeiting or erasure" (Article 72.2.b). Protected species and their products which are not verifiably of legal origin are subject to confiscation, and additional penalties are now provided in new amendments to Article 190 of the 2015 Penal Code, which were adopted in June 2017 and which entered into effect on 1 January 2018 (Viet Nam PC 2017). The amendments to what is now Article 244 raise the maximum prison sentence (for the most serious violations) from seven to 15 years, and maximum financial penalty from USD21,850 (VND500,000,000, now the new minimum penalty) to USD87,400 (VND2,000,000,000). Minimum penalties were raised from non-custodial reform and/or six months imprisonment to one-year imprisonment. The penalties for commercial legal entities are now higher than those for individuals: USD218,500 (VND5,000,000,000) to USD437,000 (VND10,000,000,000) for the most serious offenses. Minimum penalties for individual violators are 1-5 year prison terms; this rises when multiple animals are involved. For example, 3-5 tigers (or their body parts) and 3-7 individuals of other native big cats are penalized with prison sentences of 5-10 years, and for $\geq$6 tigers or $\geq$8 other native big cats prison terms rise from 10-15 years. "Dangerous recidivism" also warrants a 5-10 year sentence.

Decree 160 (Viet Nam Decree 160/2013) specifies that provincial forest authorities are responsible for determining if confiscated live protected species can be released back into the wild; if not, they should be placed in designated rescue establishments. Circular 90/2008/TT-

BNN specifies the options for confiscated carcasses, parts and products of protected species, including transfer to scientific research bodies, rescue centers or the country of origin (if confiscated from international trade) or destruction in cases where such transfer is not feasible.

Protected species are listed under the 2008 Law on Biodiversity (amendments are now being drafted to this law: WCS in litt. 2018). The top category of protection ("prioritized protection" for endangered, precious and rare endemic species) includes all three native Asian big cats: tiger, leopard and clouded leopard. This list is issued by the Prime Minister under advisement of the Ministry of Natural Resources and the Environment and may be revised "every three years or when necessary" (Viet Nam Decree 160/2013). Non-native big cats listed under CITES are treated as prioritized protected species for purposes of internal trade controls (Viet Nam Decree 82/2006).

Decree 160 states the purposes under which a permit may be issued for the exploitation, exchange, purchase, sale, gifting, hiring, storage, carriage of wild specimens of species under lists of species prioritized protection. These purposes are restricted to "biodiversity preservation, scientific research and for creation of breeding stock," However, the Decree specifically stipulates that areas that fall outside its regulation include "breeding and rearing" of prioritized protected species," and the "exchange, export, import, purchase and sale, gifting, carriage of [these] species and their products [for] commercial purposes" (Article 1). Decree 160 "overlaps with Decree 32/2006 and Decree 82/2006" (WCS Viet Nam 2018), although it specifies that the "regime of management" described in Decree 32 must apply its provisions (Article 9).

Decree 32 (Viet Nam Decree 32/2006) regulates permitted commercial exploitation, transport and possession of protected species, and groups them into two sets; all three native big cat species are included in Group IB, which may not be exploited, used (Article 2.2), processed or traded (Article 9.1) for commercial purposes (Article 2.2). However, the decree allows processing and trading for commercial purposes for "endangered, precious and rare species and their products that originate from captive breeding," providing that a trading license is issued by local authorities. However, it does not appear that any such trading licenses have been issued for facilities breeding big cats.

Breeding of protected species is governed by Decree 82, which specifies that provincial forest authorities are responsible for licensing and oversight of breeding operations (Article 9); for CITES Appendix-I listed species, the MA must register them with the CITES Secretariat (Article 11), and only the F2 and subsequent generations may be traded internationally (Article 4). To engage in captive breeding of species under prioritized protection, the Law on Biodiversity specifies that permits may only be granted for the purposes of biodiversity protection, scientific research or ecotourism (Articles 42 and 45). These permits are issued by provincial authorities using the guidance and forms prescribed by Decree 160/2013, sometimes under questionable circumstances: for example, in January 2016 an NGO reported that the wife of a man convicted twice (in 2006 and 2010) for illegal tiger trade was issued a license to keep tigers for "conservation purposes" in Nghe An province (ENV 2016a).

Although, similar to China, Viet Namese law and regulations allow internal commercial trade in wild or captive-bred big cats with a permit from designated authorities, unlike China, none appear to have been granted. However, NGOs have reported that illegal tiger trade has occurred from some captive facilities in Viet Nam (ENV 2016d, EIA 2017b), although most tigers seized in Viet Nam are from foreign sources, and international illegal trade is considered a more significant problem (ENV 2016d). In 2014 Viet Nam's National Tiger Recovery Program was approved by the Prime Minister (ThanhNien News 2014). The Program calls for a number of measures to ensure that captive tiger facilities present no threat to wild tiger populations and support their conservation, including a national registration system and more

transparent monitoring plan (Viet Nam NTRP 2014). However, given that Viet Nam is a major (illegal) consumer of tiger products (section 3.2), more drastic measures may be in order. Viet Nam has taken such measures for bear farms: bear bile extraction was prohibited in 2005, but by that time there were already 4,000 bears in private hands, and illegal extraction and trade continued. All bears were registered and micro-chipped and further breeding was prohibited; by 2017 the number of bears in such facilities had fallen 72% to approximately 1,250, according to government estimates (ENV 2017a). That same year the government signed an Memorandum of Understanding with Animals Asia committing to essentially outlaw the private ownership of bears (Daley 2017), and that all remaining bears will be moved to rescue centers and sanctuaries (Animals Asia 2017).

4.2. National Law Enforcement

Many of the recommendations of Resolution Conf. 12.5 (Rev. CoP17) focus on enforcement, and it is evident from the large numbers of seizures described in section 3.2 that Parties have taken significant law enforcement action. This section will focus more narrowly on specific cases, and is divided into four sections describing recent law enforcement actions in the ten focal countries at three key points in the trade chain: supply (both wild and captive populations), traders, and demand. Akella and Allan (2012) argue that 'investments in patrols, intelligence-led enforcement and multi-agency enforcement task forces will be ineffective in deterring wildlife crime, and essentially wasted if cases are not successfully prosecuted,' and so the fourth section summarizes recent information (where available) on prosecution of cases involving big cats.

As discussed in section 4.1.1, all ten focal Parties require some form of permit to hunt, breed, transport, sell, buy and possess[55] Asian big cats. When law enforcement detects any of these activities, there are three possibilities: 1) that a permit is lacking or has been forged; 2) that a permit has been granted but conditions may have been violated; or 3) that the activity is legally permitted. When a permit has been issued, there is also the possibility that it was, at best, improperly issued in terms of conforming to legislative and regulatory measures or, at worst, corruption and bribery was involved in granting the permit. Generally speaking, from the consultant's literature review it appears that most hunting is carried on without a permit (poaching). Regarding captive populations, there are some examples of breeding without a permit (two recent examples are discussed in section 4.2.1.2), but more common seems to be trading out of breeding facilities that are not licensed to do so. Permit violations are apparent in some of the trader apprehensions that will be discussed, and when it comes to consumers and possessors, enforcement appears particularly weak.

As discussed in the introduction, many aspects of enforcement are covered by other CITES activities, and this review seeks to narrowly focus on Asian big cats, and so will omit discussion of many otherwise relevant activities that have taken place in the focal Parties from 2015-2017 to build enforcement capacity. As discussed in section 3.2.1, most seizures reported by Parties are made by apprehending violators caught in the act (*in flagrante delicto*) (Cruden and Gualtieri 2016, UNODC 2017d); at least some of these are random inspections and do not necessarily result from investigation. Resolution Conf. 12.5 and numerous experts have urged moving toward a more intelligence-led enforcement approach (e.g., the previous review, ICCWC 2012, Launay and Scanlon 2018) for Asian big cats. Given constraints on the capacity of authorities to actively collect intelligence, the public represents a key source of information, particularly NGOs. For example, the Wildlife Justice Commission found parts and products representing 158-225 tigers in illegal trade during their first investigation in Viet Nam in 2015-2016, and is currently investigating 100-150 new suspects. Documenting at least 130 violations of Article 190 of Viet Nam's amended Penal Code, they presented two sets of evidence against one major trafficker to the government of Viet Nam in 2016 (WJC 2016).

[55] Only China does not prohibit possession.

This section will thus focus on recent examples of national intelligence-led enforcement involving Asian big cats, often involving NGO cooperation.

4.2.1. Law enforcement at points of supply

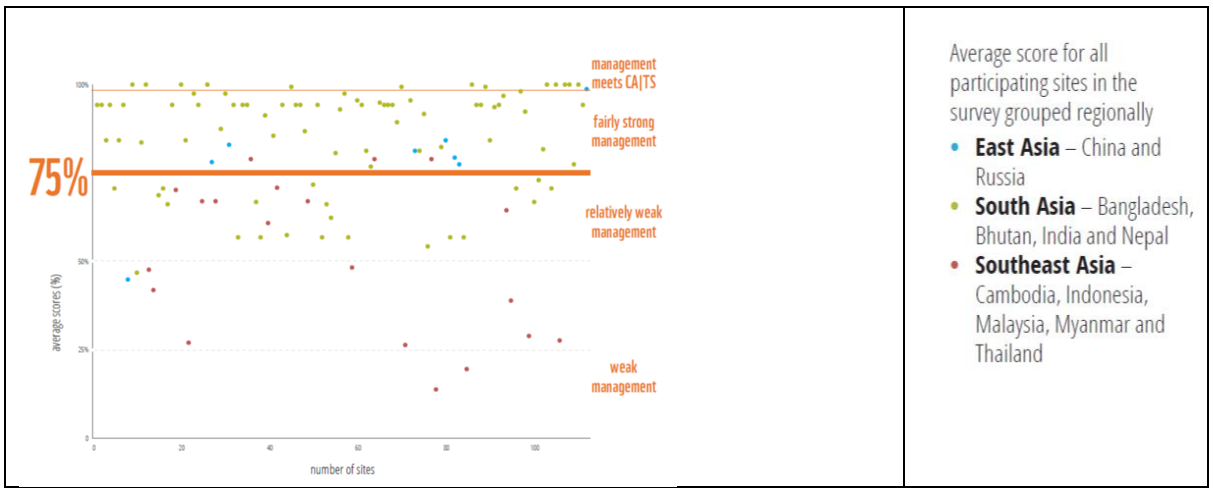
There are two potential sources of supply for illegal trade: wild and captive populations.

4.2.1.1. Wild populations

Resolution Conf. 12.5 (Rev. CoP17) recommends the use of intelligence-led enforcement to protect wild Asian big cat populations. Several recent publications analyzed the effectiveness of these approaches at protecting wild tiger populations (many of which are co-located with other Asian big cat species), including some of the focal Parties for this review as well as other range States. Their methods and findings are described in some detail below given the importance of this for the ultimate goal of conserving wild populations.

The first study is an overview analyzing implementation of the Conservation Assured-Tiger Standards (CA/TS), an accreditation system for protected areas which scores conservation management effectiveness, including 17 elements grouped under five pillars (importance and status [of the protected area]), management, community, protection, habitat management and tiger population). The analysis surveyed experts and government officials to collect information about 112 sites in 11 countries. Sites scoring over 75% (out of a possible 100%) on the survey totaled 59 (53% of surveyed sites), suggesting targeted management actions in these areas could help them reach full accreditation.[56] However, most sites in Southeast Asia (85% of 20 sites in Cambodia, Indonesia, Malaysia, Myanmar and Thailand) scored less than 75%, with the remainder only just above it (Figure 27), indicating that most tiger populations in this region are at high risk of decline.

Figure 27. Average scores of tiger sites against Conservation Assured/Tiger Standards (CA/TS) in East, South and Southeast Asia (Conservation Assured 2018)



Most successful anti-poaching operations are built around sophisticated intelligence operations, but Figure 28 shows that very few sites (16, 14% of the total sample, and none in Southeast Asia) report having implemented intelligence-led law enforcement, the lowest score for any of the 40 questions in the survey. However, over half (58 sites, 52%) report that they

[56] As of 2018 only three sites have been awarded CA/TS Approved status: Lansdowne Forest Division (India), Chitwan National Park (Nepal), and Sikhote-Alin Nature Reserve (Russian Federation)

are in the process of initiating such systems, reflecting the focus of considerable capacity development on this issue in recent years.

Figure 28. Number of tiger sites with intelligence-led protection efforts (Cons. Assured 2018)

The remaining studies focus on various intelligence-led approaches to anti-poaching in individual protected areas in Bangladesh, India, Indonesia, Lao PDR, Malaysia, Thailand and the Russian Federation.

Bangladesh: In the Sundarbans Reserve Forest of Bangladesh, transects were conducted over a relatively short period of time (12-22 days) to collect evidence of tiger and prey poaching (Aziz et al. 2017). Tigers were poached using poison bait (the agricultural pesticide Carbofuran[57]), but wire snares were also abundant, with a very high density of 147/100 km2 (compared with, for example, 21/100 km2 in Indonesia's Kerinci Seblat National Park [Linkie et al. 2015]). Poaching activity was significantly positively associated with distance from forest guard stations as well as presence of navigable rivers, suggesting that patrolling should be more effective by concentrating efforts away from guard posts and close to rivers.

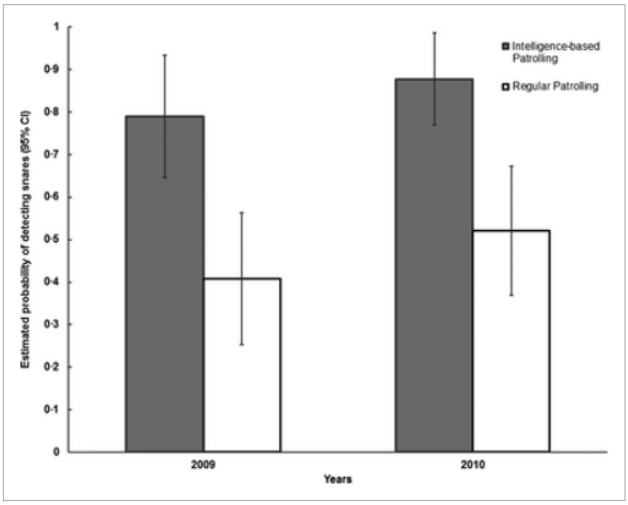
India: In India's Manas Tiger Reserve, the tiger population has increased from just a few animals seven years ago, after having been virtually wiped out by poaching, to more than 30, thanks to robust cooperation between the Indian Forest Department, NGOs and law enforcement agencies. A key element of the law enforcement strategy is the use of camera traps to monitor not only the presence of wildlife but also people inside the park. Combined with other intelligence, these photos help identify poachers and their preferred routes of travel, so that apprehension efforts can be targeted (Launay and Scanlon 2018).

Indonesia: Linkie et al. (2015) analyzed law enforcement patrol data in Sumatra's Kerinci Seblat National Park over a ten-year period (2000-2010). There were two main types of patrols: routine foot patrols, and intelligence-led patrols based on information received from local community informants from a network spanning most of the park's border, managed by community ranger members of the patrol team. Upon receiving a report, the patrol team verifies it with other field staff or field contacts and, if deemed valid, will rapidly mobilize and patrol in the approximate location. Patrol teams appeared to grow more effective with experience, with detections of illegal activity increasing annually and then reaching a plateau towards the end of the study period. By this time, intelligence-led patrols were over 40% more effective at detecting illegal activity compared to routine patrols (Figure 29). Localized

[57] This pesticide has also been identified as a growing means of killing African lions (ALWG 2016).

declines in poaching were identified in response to sustained law enforcement intervention at key sites within the park.

Figure 29. Estimated probability of detecting snares under routine and intelligence-based patrols in Indonesia's Kerinci-Seblat National Park (Linkie et al. 2015)



Although the results of Linkie et al (2015) were encouraging, the situation in Kerinci rapidly changed. Risdianto et al. (2016) built onto this data set with additional data up to 2014. They found that in 2013 and 2014, patrols detected twice the number of tiger snare traps on average than the preceding years, revealing an increase in tiger poaching. The average annual encounter rates of tiger snare traps removed greatly increased from one per 33 patrol days (2005–2012) to one per 7 patrol days, and more tiger snare traps were destroyed in 2013-14 (124 snare traps) than the eight preceding years (107 snare traps). There was also an apparent change in the techniques employed for poaching tigers during the study period. From 2011 to 2014, a higher percentage of snare trap clusters with more than six tiger traps set per location being recorded, despite the search tactics of the patrol teams remaining unchanged. In the preceding years this technique was only ever encountered once. Four tigers were suspected to have been poached from 2005-2010, whereas there were 20 snare deaths from 2011-2014. Before 2012, only the skin was taken by poachers, but since then tiger carcasses have been butchered on site and almost entirely carried away. Based on information received from the park's community informant network, the poaching increase has been caused by a revival of old tiger poachers who are bringing in younger family members in response to perceived higher demand and prices now offered for tigers. The majority of snares recorded since 2012 are thought to have been set by <12 poaching gangs and <40 individuals on the basis of long-term informant monitoring and investigations.

The authors report that, under the current Indonesian species conservation law (Indonesia 5/1990), there is often a misperception that possession of snares is not a criminal offence and law enforcement action can only be launched if a protected species falls victim to snare poaching and the poacher is arrested in possession of the carcass or specific body parts (see Table 14.2; Indonesia does not criminalize attempted violations). As a consequence, where people were encountered in the forest, even when suspected to be connected to active snare poaching being detected, the patrol teams were not confident that such cases would be accepted by state or police investigators, who are responsible for case development, or subsequently by court prosecutors. Thus, in certain districts and provinces around Kerinci Seblat these cases were unlikely to proceed smoothly through the legal process and so the patrol teams would only search the suspects and issue a formal legal warning for entering the National Park without a permit. The law amendments currently being considered (section 4.1.4) should redress this gap, concurrent with the provision of specialized training for

prosecutors and judges to ensure that the different types of wildlife crimes are prosecuted and to the full extent of the law.

Lao PDR: Johnson et al (2016) analyzed the effectiveness of a law enforcement strategy implemented in the Nam Et-Phou Louey National Protected Area (the most promising site for tiger conservation in Indochina – Cambodia, Lao PDR and Viet Nam) beginning in 2005. A baseline survey in 2004 confirmed tigers were present at low density (<one individual/100 km2), but suppressed by commercial poaching and over-hunting of their prey. If these three threats could be reduced, there was cause for optimism for tiger population recovery based on factors including evidence of tiger reproduction, low human density, and sufficient prey biomass. The law enforcement strategy included three major activities. The first was designation of a core zone of total protection (3,000 km2) where access and hunting were prohibited, coupled with efforts to improve regulation of tiger prey hunting outside the zone, through procedures to issue warnings and collect fines, part of which were shared with participating officials and informants as an incentive. The second was the training and deployment of foot patrols consisting of 4-7 village, forestry and military officers, with patrol areas prioritized according to known tiger and prey locations based on biological monitoring. The third was the training and deployment of mobile patrol teams outside the core zone, consisting of 2-5 enforcement officers located in towns or at checkpoints along the major trade route to Viet Nam. Mobile teams patrolled markets in restaurants and towns and set up mobile road blocks to search vehicles for wildlife and weapons. The law enforcement strategy was supported by a community outreach strategy to increase public understanding and compliance and increase the capacity of local law enforcement agencies to process wildlife crimes.

The strategy was highly dependent on funding support, which dropped in the latter part of the study period, and the poacher catch ratio of the foot patrols (proportion of times that hunters sighted were successfully confronted and enforcement action taken) dropped from a high of 100% of reported encounters in 2008-2009 to only 31% of reported encounters in 2011-2012. However, in all cases, when poachers were confronted by foot patrol teams (a total of 54 times, ranging from 9–14 encounters per year) some type of enforcement action resulted. In most cases, violators were fined (63%). Others were warned and informed of hunting regulations (24%) and some arrested (4%). When violators were fined, the entire fine amount was successfully collected about half of the time. With external financial support, average annual expenditures on law enforcement increased to USD98/km2 patrolled from 2008-2012, but this was still less than half of what was estimated necessary to adequately deter tiger poaching. Similar to what was found in Kerinci-Seblat, the frequency of poaching detection (chiefly snares) increased in the later part of the study period, although patrol effort decreased. This was attributed to the increased presence of Chinese and Vietnamese traders in the area, who provided poachers with this gear, as well as the increased ability of poachers to learn to avoid anti-poaching patrols. This increase in snaring was associated with a decline in several measures of tiger abundance, leading to the conclusion that although the law enforcement strategy likely helped reduce poaching and increase prey populations, it was still insufficient to safeguard a critical population of a high-value Asian big cat, which could require expenditures on the order of USD$250/km patrolled.

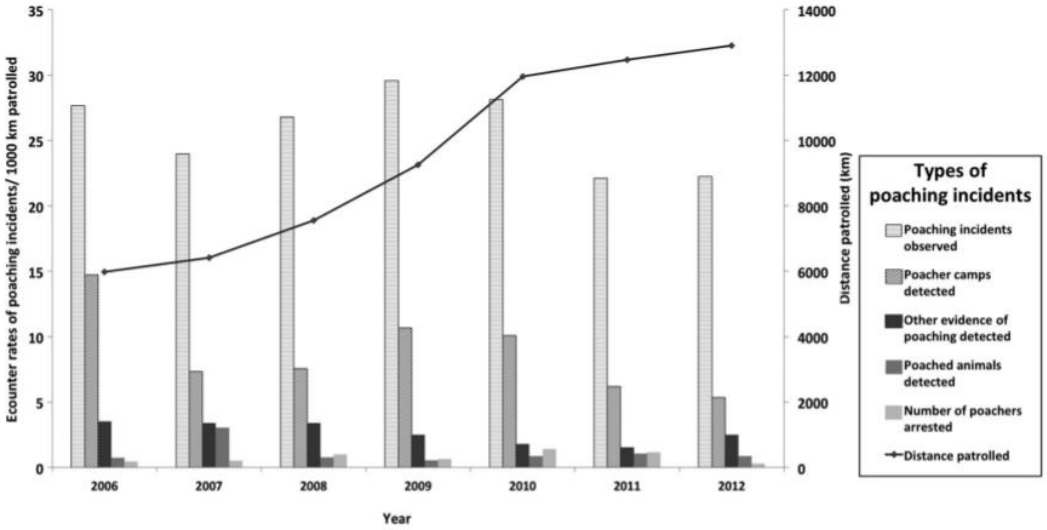
Malaysia: In 2016**,** poaching gang operating in the Belum Temengor Forest Complex was apprehended by intelligence gathered outside the country by Wildlife Justice Commission's monitoring of social media (Figure 30). After engaging one of the men by posing as a buyer, WJC deployed to Malaysia after learning the gang was in the capital Kuala Lumpur attempting to sell their tiger products. The Malaysian Wildlife Crime Unit considered the evidence sufficient to mount a sting operation in August 2016 and arrested seven men, as well as their ringleader the following day (WJC 2016).

Figure 30. A freshly killed tiger as well as tiger canines, claws and the paste (glue) produced through boiling bones were among images sent by a Vietnamese trafficking network to Wildlife Justice Commission (2016) in an attempt to sell tiger parts and products from poaching in Malaysia

Russian Federation: Hotte et al (2016) analyzed the effectiveness of adaptive law enforcement strategies in four tiger sites in the Russian Federation from 2011-2015. Each site has 2-5 mobile teams comprised of 2-6 individuals who carry out foot and vehicle patrols. The SMART GIS system was used to input violations, threats and wildlife data to inform patrol locations. At the start of the study period it was predicted that an increase in intelligence-led patrolling would be correlated with increased tiger and prey abundance. Patrol effectiveness was increased not only by being more data-driven, but also by encouraging increased spatial coverage as well as increased spatial and temporal unpredictability, as well as increased external financial support, including the payment of bonuses to law enforcement officers. At the end of the study period, it was found that almost all measures of patrol quality and effectiveness had increased, although these measures reached a plateau toward the end of the period. Camera trapping provided a crude indicator of tiger trends at the four sites, and at all four tigers appeared to be increasing or at least stable, suggesting that law enforcement efforts are capable of assisting tiger recovery independent of any change in ungulate numbers, for which no overall trend was evident over such a relatively short time period. However, it is also possible that poaching pressure may be lower in these populations than the others reviewed in this section, although poaching was still the leading cause of tiger mortality over a 20-year period (1992-2012: Robinson et al. 2015).

Thailand: In the Huai Kha Khaeng Wildlife Sanctuary, the government of Thailand in cooperation with the Wildlife Conservation Society established intensive foot patrols using the SMART (Spatial Monitoring and Reporting Tool) methodology in 2005, and at the same time a scientific tiger monitoring program was undertaken. Over the next seven years, three tigers were known to have been poached, due to detections by camera trapping teams, and a major criminal trafficking gang was apprehended in 2011. As patrolling increased (in terms of distance covered), detected poaching incidents decreased (Figure 31). With over 50 tigers, Huai Kha Khaeng is probably the largest single tiger population outside India; while densities are well below carrying capacity, the anti-poaching efforts probably helped improve tiger recruitment and survival, although the population was impacted by increased organized poaching efforts in 2008-2009 (Duangchantrasiri et al. 2016).

Figure 31. Foot patrol efforts and encounter rates of poaching incidents in Thailand's Huai Kha Khaeng Wildlife Sanctuary



4.2.1.2. Captive populations

Although seizures of tigers of suspected captive origin have increased, as discussed in sections 3.1.2 and 3.2.2, this review found little evidence of increased enforcement targeting captive facilities in 2015-mid-2018. During that time, the consultant could find that only one focal Party, Thailand, took enforcement actions against such facilities. In February 2018, 12 tigers were seized from a pig farm in eastern Thailand, including some juveniles which suggested breeding had been taking place. According to Thai media, the farm owners produced faulty papers, issued by a government department no longer in operation, making it impossible to verify their authenticity (TRAFFIC 2018b).

The most egregious permit violations, however, were uncovered at a Buddhist monastery in western Thailand which had a thriving business for tourists to handle and have their photos taken with tigers. In 1999-2000, it obtained eight tiger cubs it said were orphaned; the cubs were seized as government property (as they had been acquired and held without permits) but were allowed to remain at the facility, which was not authorized to breed tigers or trade (BBC 2016, Thailand CITES MA in litt. 2018). Several NGOs documented a growing tiger population and illegal trade in tiger parts over the years, as well as the unlawful import of captive tigers from Lao PDR into the facility (CFW 2008, Cee4Life 2016a). According to BBC (2016), in the ensuing years there were several unsuccessful attempts to confiscate tigers from the growing population. In April 2016, a small area nearby the facility was granted a zoo license, but not the facility itself (Thailand CITES MA in litt. 2018), and then in June 2016 officials raided the facility, after obtaining a court order allowing them to enter the temple (BBC 2016), likely building on recorded evidence of illegal trade collected by an NGO (Cee4Life 2016a,b). They removed 137 tigers, averaging 20 per day (Ramsey 2016, Figure 32), which were relocated to two approved shelter facilities.[58] They also confiscated 60 frozen and preserved tiger cubs, along with 1,000 amulets containing tiger skin (Figure 21), whole tiger skins, and tiger teeth (Ramsey 2016). DNA collected from some of the dead tiger cubs did not match the DNA of any of the confiscated tigers (Cee4Life 2016b), and 22 suspects were charged with wildlife trafficking and illegal possession (Reuters 2016), although as of February 2018 the case had yet to reach the prosecution stage (NGOs 2018, Wipatayotin 2018). The

[58] Khao Son Captive Breeding and Khao Prathap Chang Captive Breeding (Thailand CITES MA in litt. 2018)

licensed facility nearby is still not authorized to operate as a zoo, although its license is valid until April 2021, because it is under inspection by the Department of Special Investigation and authorities are considering whether to amend the license holder's name following a corporate restructuring of the facility raided in June 2016 (Thailand CITES MA in litt. 2018).

Figure 32. Thai authorities removing 137 live tigers from a Buddhist monastery, June 2016 (BBC 2016)

4.2.3. Traffickers

The seizure cases documented in section 3.2. indicate that many violators could be described as traffickers, as distinct from suppliers (poachers and breeders) and consumers, the distinction being that their motivation is purely profit-driven, whereas the motives of the others may be more mixed (see section 4.3). There has been increased attention to the need for intelligence-led enforcement to target and dismantle major wildlife trafficking syndicates, which are often involved with other types of organized crime. There were major apprehensions and prosecutions in 2015-2017 by several of the focal Parties.

In Ha Noi, Viet Nam in April 2017, after an extensive period of investigation and surveillance, two men were apprehended by municipal police at a train station with 33 kg of rhino horn. A subsequent search of the home of a third man suspected to be the ringleader by an inter-agency cooperative team, which included two district police units and the national Anti-Smuggling Police, turned up two frozen tiger carcasses, dozens of claws and teeth, and other protected species products including lion skins, ivory and three more kg of rhino horn (Save the Rhino 2017). This man had been arrested previously in Tanzania in 2007 and fined for illegally transporting wildlife products, and several large seizures of rhino horn, ivory and pangolin scales in 2015-2016 were suspected of belonging to him (Vu 2017). He has been named in several ongoing African wildlife crime investigations (ENV 2017d), and is the owner of a captive tiger facility in Thanh Hoa province where journalists and NGOs have reported illegal trade (EIA 2017b). Following his detention, the Thanh Hoa People's Committee ordered an inspection of the breeding farm, which demonstrated that it was not compatible with the status of a wildlife conservation facility, and recommended that the government refuse to renew his license, which expired in May 2017 (Robin Des Bois 2017). In March 2018 he was sentenced to 13 months imprisonment for smuggling rhino horn (Viet Nam EA 2018). His two accomplices received sentences of ten months, and he was also fined VND10 million (USD440) for trafficking and storing prohibited goods. The NGO Education for Nature Viet Nam (ENV) submitted an appeal to the court, arguing that trafficking and storing protected species products are two separate crimes and deserve two separate punishments, more in line with his role as leader of a wildlife trafficking network and with the maximum penalties possible under Viet Nam's amended penal code (up to 15 years imprisonment) (VietnamNet 2018).

In Thailand, another suspected leader of a major big cat trafficking syndicate was also apprehended after an inspection in January 2018 uncovered a concealed shipment of 14 rhino horns from Africa, in an interagency operation including Bangkok airport security officers and police, Customs and Immigration police. This was the result of several years of investigative effort, which included documentation of tiger bone smuggling and involvement in South Africa's captive lion bone trade (Davies and Holmes 2016b, Freeland 2018a). Along with his brother, the man was based in a small town on Thailand's border with Lao PDR,[59] and he is alleged to have a leadership role in a major trading company based in Lao PDR whose head has been identified by Thailand and US government intelligence[60] as being involved in large-scale wildlife trafficking from African and Southeast Asian countries through Lao PDR to Viet Nam and China. However, the only "punishment' he has received in Lao PDR is to have his company's license to trade wildlife revoked in January 2014 (Davies and Holmes 2016a). After his bail request was denied by Thai Police, his lawyers took the request to court several days later, and bail was granted by a judge, who asked him to return to court within a month, despite government concerns about his flight risk (Freeland 2018b), and as of 31 March 2018 there was no further information about his case.

In March 2015, Lao National TV reported that government authorities had inspected 31 shops and restaurants and shut down four foreign-owned restaurants in the Golden Triangle Special Economic Zone (GTSEZ), a de facto Chinese enclave situated where Lao PDR borders Myanmar and Thailand. They reported that warnings were issued to the restaurant owners, and news footage showed seized wildlife contraband being destroyed which included tiger skins, meat, bones and "preserving alcohol" to which wildlife bones had been added (Figure 33) (Facebook 2015).

A year after this operation, a journalist visited the area in July 2016 (Strangio 2016) and said that many of the shops and restaurants previously described by EIA (2015) had closed, "but not all," and interviewed the Head of the regional UNODC office who had also recently visited the area, and who said that while Laotian police were present, "it is unclear to us the extent that the police are active." EIA told the reporter that Chinese traders were importing protected species from Myanmar's Mong La, and that both Mong La and the GTSEZ were examples of a worrying trend in Chinese "wildlife trade tourism," to which Chinese tourists travel to obtain products which are illegal or difficult to obtain in China. EIA said that their information indicated that illegal wildlife trade continues in the GTSEZ, but that it is now more hidden (Strangio 2016), and that the tiger farm there continued to operate in February 2018 (EIA in litt. 2018).

[59] Although this town, largely due to the presence of the arrested man and his associates, is alleged to be a major center of transboundary illegal wildlife trade (Davies and Holmes 2016b, The Nation 2018), Thailand's Department of National Parks and Wildlife Conservation issued a statement in March 2018 stating that there was no tiger trade across Thai borders (Thailand DNP 2018).

[60] The US State Department has posted a $1 million reward under the 2013 Transnational Organized Crime Rewards Program (established by 2013 legislation) for information leading to the dismantling of his alleged criminal network, the first time the program was used specifically for wildlife trafficking.

Figure 33. Laotian authorities shown on Lao National TV in March 2015 inspecting businesses in the Golden Triangle Economic Zone and burning seized wildlife contraband, including tiger skins (Facebook 2015)

Lao authorities inspecting a shop in the Golden Triangle Special Economic Zone	Destruction by burning of seized wildlife contraband
	

In January 2018 the US government, pursuant to Executive Order 13581, "Blocking Property of Transnational Criminal Organizations" and the Foreign Narcotic Kingpins Designation Act enacted sanctions by freezing the assets under US jurisdiction of a Chinese national with extensive businesses in Lao PDR's GTSEZ, and several of his associates, and prohibited US persons and companies from transacting business with them. He was alleged to have trafficked in tigers and other protected species, and to wield "de facto control" of the GTSEZ (US Treasury 2018). In 2015 EIA and ENV found that the casino complex had live tigers, tiger and leopard skins, tiger bone wine and meat for sale (EIA 2015) (Figure 34).

Figure 34. Tiger skins and a tank advertising tiger bone wine on sale at a casino in Lao PDR's GTSEZ (EIA 2015) sanctioned by US authorities in 2018 (US Treasury 2018)

A brochure for the casino showing a tank of wine with a tiger skeleton in it	Tiger skins for sale at the casino in 2015
	

While no information could be located about significant enforcement actions concerning traders of Asian big cats in Myanmar, which is a serious problem in the border towns of Mong La, Tachilek, Three Pagoda Pass as well as Golden Rock in the interior (UNODC 2016b, Nijman and Indenbaum 2018), in June 2016 the President of Myanmar spoke out about wildlife trafficking, telling conservation officials that "You must take action to stop it. You really need to do it" (MM Times 2016). Soon afterwards the Director of Myanmar's conservation agency said they were planning to close down illegal trade in Mong La, but needed the cooperation of local people and police (AFP 2016). A WWF representative told a newspaper that when he visited Mong La in 2015, there were 15 places selling wildlife products, but that number had risen to 42 on a second visit in 2017, noting an increase in demand for tiger skins (MM Times 2017). UNODC (2016b) said that "it is certain that wildlife crime continues to provide significant funding to organized crime," and recommended that "investigative task teams be formed, drawing on the expertise of all relevant agencies, with the express purpose of

targeting select high level and symbolically important illegal…wildlife trading operations," as well as enhancing border controls and capacity for cross-border cooperation. Their review of Supreme Court data on wildlife trafficking showed "a notably low incidence of cases related to the smuggling of tigers or the smuggling of other wild cat parts or products" from 2008-2013. Three seizure cases involving tigers and leopards were reported in Myanmar from 2015-2017 in section 3.2.2.

In Malaysia in August 2016 Peninsular Malaysia's Department of Wildlife and National Parks (Perhilitan) conducted five separate operations over a five day period in five different areas near the capital Kuala Lumpur, seizing two tiger skins as well as bones, teeth and claws along with other illegal wildlife products including ivory. "This success is a result of months of surveillance, international co-operation and information sharing, including with the [NGO] Wildlife Justice Commission, since early this year,'' said the Perhilitan Director-General at a press conference (Figure 35). Twelve men were arrested, including ten foreign nationals, one of whom had been previously caught smuggling ivory through the Kuala Lumpur airport (TRAFFIC 2016).

Figure 35. Press conference in Malaysia displays tiger skins seized in a major intelligence-led enforcement operation in August 2016 (TRAFFIC 2016)

In India in October 2016, authorities arrested a man who had been wanted for six cases of tiger poaching and trafficking in three states for fifteen years. Previously arrested in 2002, he had skipped bail, and evaded arrest in March 2016 by disguising himself as a beggar; when arrested in October, he had been dressed as a monk (WPSI 2016). In October 2017, five men who confessed to smuggling the skins and other body parts of 125 tigers and 1,200 leopards from India to China were convicted "in one of the fastest wildlife trials ever," (Naveeni 2017) but conservationists were dismayed that the sentence, four years in jail and a fine of INR10,000 (USD154) was too low given the magnitude of the crime they had committed (Lal 2017). The case was a commendable example of sustained intelligence-led enforcement by the Madhya Pradesh Special State Task Force. The Task Force arrested over 100 people across the country that are part of a major tiger, pangolin and red sandalwood network. They have also been investigating an Asiatic lion case[61] (EIA in litt. 2018).

[61] Several articles regarding the work of Madhya Pradesh Special State Task Force
https://www.interpol.int/notice/search/wanted/2015-80768
https://www.hindustantimes.com/india-news/interpol-issues-a-red-corner-notice-against-wildlife-smuggler-tamang/story-7ObqF3IG0wuc02OsQJu5EM.html
https://www.hindustantimes.com/india-news/trafficker-who-smuggled-body-parts-of-125-tigers-1200-leopards-gets-four-year-jail/story-gOYIkkcL6Ta4hpeBicyqxH.html
https://timesofindia.indiatimes.com/city/bhopal/madhya-pradesh-stf-arrests-man-wanted-for-poaching-gujarat-lions/articleshow/63208181.cms

EIA also highlighted a 2018 case where India and Nepal recently cooperated over the arrest of a Nepalese fugitive[62] associated with the seizure of five tiger skins, tiger bones, tiger teeth, pieces of leopard skin and ivory in Nepal. The case was also an example of cooperation between India and Nepal over the exchange of tiger stripe-pattern profiles, confirming that one of the tigers seized was from Pench Tiger Reserve in India.[63] Since 2006 India has been building a national photographic database of wild tigers from camera traps (the database also includes images of tigers from Bangladesh and Nepal); as of April 2017 it contained images of over 2,000 tigers, and from 2016-April 2017 five tiger skins seized in India and Nepal were matched in the database (document CoP17 Doc. 60.2). A tiger skin seized in December 2015 in Nepal was also confirmed in July 2017 as originating from India's Corbett Tiger Reserve through photo sharing (Sharma 2017). Thailand has also developed a national database of individual stripe patterns of captive-bred tigers and some wild tigers (and is also developing a nationwide DNA database for captive tigers: Thailand CITES MA in litt. 2018); at the 70th meeting of the CITES Standing Committee the CITES Secretariat will report on further progress in improving trade control and traceability for tiger skins. The development of national photographic databases and the sharing between Parties of images of seized tiger skins is recommended as a best practice by this report, in accordance with Decision 17.164. In Nepal a researcher is working to interview prisoners convicted of illegal wildlife trade; this is also considered a best practice for informing intelligence-led law enforcement and is recommended to all Parties to learn more about "roles, motives and relationships" (Paudel 2017).

These intelligence-led investigations reveal two major trafficking routes (trans-Himalayan and Southeast Asian) for tigers and Asian big cats that appear to largely serve China (and Viet Nam, to a lesser extent: Figure 6). While as described above several Parties have taken action against major traffickers, so far in their trading partners in China do not yet appear to have been tracked down. China is participating in Regional Investigative and Analytical Case Meetings (RIACMs) hosted by INTERPOL, including one in Yangon, Myanmar in March 2017, as well as other specialized law enforcement training workshops (USAID 2017d, document SC69 Doc. 54). Following through on recent high profile arrests to dismantle international trafficking networks could have significant deterrent and dismantling effects: Wong (2015) described a high level of anxiety among people knowledgeable about illegal tiger in the Chinese city of Kunming following "the high profile arrest of a coordinator from a local tiger bone trading network."

While the products themselves move along these trafficking routes, consumers are increasingly reached through online advertisements. There have been several major initiative to partner with Internet companies for self-policing of illegal wildlife trade, including the Global Wildlife Coalition to End Wildlife Trafficking Online, in which large tech companies have pledged to reduce online illegal wildlife trade by 80% by 2020, and China's Internet Alliance, which has Standard Operating Procedures produced by TRAFFIC to automatically and manually delete illegal posts (TRAFFIC 2018f). INTERPOL also hosted a training workshop for online wildlife trade investigation in Singapore in June 2017 attended by Cambodia, China, Lao PDR, Thailand and Viet Nam (USAID 2017d).

4.2.4. The demand side: consumers

While behavioral change campaigns are typically considered as the primary tool for reducing illegal consumption of Asian big cats (see section 4.3.2), law enforcement is not only a required element, in that illegal consumption should not be tolerated (and buying and possession are

[62] https://www.interpol.int/News-and-media/News/2018/N2018-012

[63] https://timesofindia.indiatimes.com/city/bhopal/from-madhya-pradesh-to-nepal-tale-of-madhya-pradeshs-most-breeding-female-which-went-missing-with-two-cubs/articleshow/56429566.cms

criminalized in almost all of the ten focal Parties), but also serves as a potential deterrent to others who might be tempted to consume. For this latter aspect, it is important that penalizing consumers be given maximum publicity.

Sometimes this can happen without any organized attempts by authorities to inform the public. A recent example of this is a case which has gone viral in Thailand, concerning a billionaire businessman who was apprehended, along with a hunting party, in Thailand's Thungyai Naresuan Wildlife Sanctuary in February. The skin of a black leopard was found, along with soup made from its meat (Bangkok Post 2018c). The ranger who apprehended him has become something of a national hero (with a shout out from Princess Ubolratana: Cochrane 2018), and attempted bribery is among the eleven charges filed against the businessman in March (Bangkok Post 2018b). Public sentiment was expressed in widely shared slogans on social media, and black panther graffiti art, reportedly in the hundreds, has sprung up on city walls (Figure 36). Property owners began offering artists space for mural art to meet the demand for permissible public wall space (Itthipongmaetee 2018).

Figure 36. Four examples from widespread graffiti art in Thailand lionizing a black leopard allegedly slain for soup by a prominent businessman in a national park in February 2018

https://www.bangkokpost.com/opinion/opinion/1423103/injustice-cant-just-be-washed-away

http://www.khaosodenglish.com/life/arts/2018/03/13/landowners-join-muralists-to-keep-panther-art-alive/

https://www.benarnews.org/english/slideshows/thailand-poaching-03192018164809.html

http://www.nationmultimedia.com/detail/national/30340428

However, this review could find no other cases in 2015-mid-2018 of enforcement targeting consumers. An earlier case from China is an example of a particularly severe punishment in a case which had achieved considerable public notoriety: in 2014 a sentence of 13 years in prison and CNY1.55 million fine (USD249,850) was upheld on appeal against the ringleader of a group of businessmen[64] who illegally purchased, killed, video-taped (presumably to guarantee the authenticity) and then ate at banquets three captive tigers (SCMP 2014).

In the section on demand reduction (section 4.3.2), Figure 51 presents a schematic of two types of consumers: those who actively seek out Asian big cat products, and those who purchase them opportunistically. Law enforcement could play a key role here: market

[64] The others received prison sentences of between five to 6.5 years, and smaller fines.

monitoring targeting overt offers to sell, and intelligence-led operations targeting more covert trading.

4.2.5. Prosecutions

Two of the tiger site anti-poaching studies discussed in section 4.2.1.1. included information on resultant prosecutions. In Indonesia's Kerinci Seblat National Park, from 2005 to 2014, 619 active investigations into tiger poaching and trade were conducted, with an average of 62 investigation reports per year being logged (Risdianto et al. 2016). These investigations led to 24 law enforcement operations that resulted in 19 suspected tiger poachers and 21 traders being arrested. Of these, 37 suspects were found guilty and prosecuted: all received a prison sentence and some (43%) were also fined. These prosecutions amassed 442.5 prison months (mean/person = 12 months, ranging from 3-36 months) and IDR21.9 million in fines (approximately USD 1683, averaging USD106/person, ranging from USD 8–383). The average prison sentence for a trader was not significantly different to that issued for a poacher. There was no significant difference between prison sentences for being caught with a tiger skin or a skin and skeleton. The highest prison sentence was for three poachers/traders who were caught with a tiger skin and three pistols, with the firearms being the aggravating circumstance (32 months in prison and a US$37 fine per person). In two court cases, six people were prosecuted for handling clouded leopard body parts, for which the prison sentences were 3.5 and 5 months (Risdianto et al. 2016). Still, these fines and sentences did not approach the maximum penalties allowable under current Indonesia law (Table 14.3).

In Lao PDR's Nam Et-Phou Louey National Protected Area, however, none of the known cases of tiger poaching in resulted in an arrest, prosecution or conviction. In most cases, evidence was deemed insufficient to support prosecution. In other cases, witnesses were unwilling to provide evidence without assured reward (Johnson et al. 2016). In fact, there were no cases of wildlife crime of any sort referred to prosecutors in Lao PDR from 2011-2014 (UNODC 2014), and there do not appear to have been any prosecutions since for illegal tiger trade, which may be permitted internally (see section 4.1.5), but there have been several verified cases in Viet Nam of suspects apprehended with tiger parts and products smuggled from Lao PDR (EIA 2017b, Thanh Nien 2016).

Indonesia's CITES MA, in cooperation with six NGOs, contributed information on prosecutions for Asian big cat crime in 2015-2017 (Indonesia CITES MA in litt. 2018) (Figure 37). WCS's Wildlife Crimes Unit supported the investigation of 26 cases on the illegal trade of big cats, including Sumatran tigers, Javan leopards, and clouded leopards. Most of the traded parts were tiger skin and bones. In total, there were 58 suspects from these cases, where 45 of them have been sentenced. The cases included trading (18), hunting (2), smuggling (2), and online trading (3). Sentences ranged from 3 months to 48 months, with fines as low as IRP200,000 (USD3,070) to a maximum of IRP 100,000,000 (USD7,476, the maximum under the law). The highest sentence was given to traders of Sumatran tiger (skin, bones, and skull) with 48 months in prison (5 years is the legal maximum and a fine of IRP100.000.000 in Jambi, North Sumatra (7 February 2017). Other NGO data were similar, with a slightly higher number of cases (33), involving 54 suspects (Indonesia CITES MA in litt. 2018).

Figure 37. Press conference in Indonesia on the arrest of tiger skin and bones traders in Langkat (25 May 2016) (Indonesia CITES MA in litt. 2018)

In addition, two pending cases before the courts were described (Indonesia CITES MA in litt. 2018). In May 2017, intelligence-led law enforcement conducted in partnership with North Bengkulu district police resulted in the arrest of two tiger poachers and seizure of the skin and bones of a large adult male Sumatran tiger. This tiger had been poached from a former logging concession adjoining the south-west of the national park by two men, one also suspected to have poached tigers in the nearby Seblat elephant sanctuary. In July 2017, tiger law enforcement was conducted in partnership with Mukomuko district police of Bengkulu resulting in the arrest of two poachers and their trader 'boss' – a village headman from the adjoining province of West Sumatra -- and seizure of the skins and complete skeletons of two sub-adult tigers.

TRAFFIC China contributed information for this report about prosecutions derived from open source searches. In August 2016 a man was sentenced to 15 years imprisonment (five years more than the maximum under the Wildlife Protection Law, due to additional charges) for smuggling 7.8 kg of tiger bone from South Africa to China, which he claimed was actually cow bone for his ailing mother (Phoenix News 2015). In May 2015 a man was sentenced to 12.5 years in prison for smuggling 28 big cat skeletons from Viet Nam to China, seven of which were tiger and eleven lion; another seven men were given sentences of 6.5-11 years for involvement in the crime (Sun 2015). The result of this trial is not known, but in April 2016 news media reported that eleven defendants faced court charges in the Chinese city of Urumqi for smuggling and attempting to sell (through social media) protected species including one tiger skin (Shanghai News 2016).

WPSI contributed a compilation of cases in India for this report involving Asian big cats that resulted in convictions (Table 16). All were for tigers and leopards; India is the largest range State for these two species in Asia, and the number of convictions is probably highest compared to the ten other focal Parties.

In Malaysia, there were two tiger-related prosecutions in 2017. A man was sentenced for illegal possession of a tiger cub pet to four months in prison and a fine of MYR300,000 (USD77,013), and another man apprehended with a dead tiger on his motorcycle was sentenced to one month in prison and a fine of MYR100,00[65] (USD25,671) for illegal possession. The Malaysian NGO MyCAT issued press statements calling for higher prison sentences for tiger-related violations of the Wildlife Conservation Act (a five year maximum is possible) (MyCat 2017a,b).

[65] There is a year imprisonment if he defaults on payment of the fine.

Table 16. Cases in India involving Asian Big Cats which have resulted in convictions 2014 – 2017 (Wildlife Protection Society of India in litt. 2018)

Species	Cases ending in convictions
Tiger	12
Leopard	59
Lion	-
Snow leopard	-
Clouded leopard	-
Total	**71**

The cases in the above table are those that WPSI is aware of. At least 71 cases involving Asian big cats have resulted in convictions between 2014 and 2017. The number should not be regarded as exhaustive. The cases in the above table have concluded in the period 2014-2017, but may have been registered at earlier dates.

In Viet Nam, between 2010 and the end of 2016 there were 36 known cases of trafficking whole tigers or their skeletons. A total of 28 of these cases were prosecuted and reached the court, however only seven convictions resulted in prison terms for one or more of the criminals that were apprehended (ENV 2017c, Figure 38).

Figure 38. A man was sentenced to 42 months in Viet Nam for illegal possession of four frozen tiger cubs (ENV 2017c)

In the US, an 18 year old who was apprehended trying to drive a tiger cub across the border from Mexico (to sell to a dealer, according to his text message) was sentenced to six months in prison (Actman 2018). Although some perceived the sentence as too light, the prosecutor had only sought a sentence of eight months, due to his age and lack of a prior criminal record. The prosecutor said the facts suggested that he had received some form of compensation for transporting the tiger, and wildlife trafficking expert Vanda Felbab-Brown commented that it is crucial to distinguish low-level offenders from mid-level traders and kingpins (Actman 2018).

That type of enforcement is exemplified by action in Thailand, which has been praised by UNODC (2017c) for prosecuting "one of the world's most successful money laundering cases when in 2014 it secured over 1 billion baht (USD36.5 million at the time) in cash and property during an illegal logging and wildlife case: a text-book example of how to 'follow the money.'" Part of the case involved the trafficking of tigers from Malaysia and Thailand to Viet Nam through Lao PDR, reportedly laundering them through their licensed zoo in Thailand, according to intelligence collected since 1999 and shared with the Royal Thai Police (Freeland 2014). Although conservation authorities had difficulty collecting sufficient evidence to prosecute, Thailand's Anti-Money Laundering Office (AMLO) was able to act on the intelligence. The zoo itself was not among the assets seized, and a journalist was told by an AMLO source involved in the case that the listing of forfeitures includes land and buildings on the location of the zoo, excluding live animals. However, AMLO regulations allow the suspect to seek permission to use the land; a conservation official said the zoo owner was on a "watch list" but since the prosecution had not been finalized the zoo was allowed to keep operating (Bangkok Post 2016). Although a court revoked the asset seizure in 2016 on appeal (Davies and Holmes 2016b), UNODC (2017c) said "the matter was successfully finalized in 2017."

4.3. Demand reduction

As noted by the Secretariat in document SC69 Doc. 15, "demand reduction work in CITES, as called for by Resolution Conf. 17.4, is aimed at reducing the demand for illegally sourced specimens of species included in CITES Appendices." Moreover, "the Secretariat is of the opinion that long-term strategies with appropriate methods to measure impacts over time and adapt outreach strategies accordingly may best assist in delivering behaviour change, which is the ultimate objective." For the purposes of this review, demand reduction is defined as a strategic campaign based on research into drivers, dynamics and consumer motivations (as called for in Resolution Conf. 17.4), and is thus distinguished from the next topic, education and awareness, which is a tool for demand reduction, as well as a topic in and of itself to raise awareness more generally among the public and among government agencies of wildlife trade controls and Asian big cat conservation.

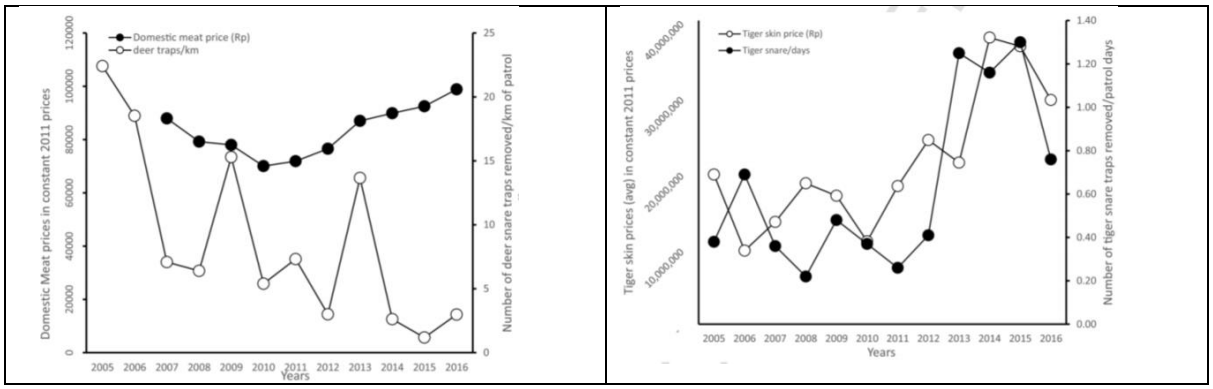
The intersessional Asian big cats Working Group established at SC65 reported to SC66 that "concerning demand reduction, education and awareness…there is little systematic and comprehensive research currently available that identifies the drivers, factors and key consumer groups that are fuelling the illegal consumption of Asian big cat products [see Figure 47]. There is also little research available currently on how to undertake these public awareness and education more effectively, as well as to measure their impact." The lack of information to enable clear targeting of consumer groups was recognized as an outstanding issue of concern, noting that "no comprehensive strategies have been developed and implemented by any Parties thus far" (document SC66 Doc. 44.2). As a result, the 66th meeting of the Standing Committee adopted recommendation d): "*The Standing Committee encourages Parties, working closely with involved communities and/or key groups, to conduct and/or support systematic and comprehensive research on demand for illegal products of Asian big cats and/or factors driving poaching of their wild populations, for deeper understanding and recognition of their actual status, impacts and nature of the illegal activities and key consumers, upon which pertinent actions could be recommended."* The Standing Committee recommendation contains research into the motivations of two separate groups - consumers and poachers – with the intention seemingly to determine to what extent poaching is driven by consumer demand.

4.3.1. Research on poaching drivers and motivations

Consumer demand no doubt is a major driver of poaching: all of the tiger sites reviewed in section 4.2.2.1 identified organized commercial poaching as the primary threat to tigers. Researchers from Indonesia's Kerinci Seblat National Park took their analysis one step further

(Linkie et al. 2018): they looked at their price data for tiger skins and tiger poaching detection rates, and compared them with tiger prey (deer) poaching detection rates local price data for beef; while deer are poached primarily for local consumption, tiger skins are typically sold onto internal and international markets. While there was no significant correlation between deer poaching levels and beef prices, tiger poaching closely corresponded to average skin price (Figure 39). Skin prices and tiger poaching both rose in 2013-2015, and fell in 2016. They also found significant positive correlations between tiger skin price and Gross Domestic Product (GDP) in Indonesia and East and Southeast Asia, and the drop in 2016 shown in Figure 39 also corresponded to a fall in GDP that year. In other words, strong economic growth in East and Southeast Asia is positively linked to tiger poaching.

Figure 39. In Indonesia's Kerinci Seblat National Park, tiger poaching detection rate was positively correlated with tiger skin price (right), while deer poaching (for local consumption) showed no correlation with local beef prices (left) (Linkie et al. 2018)



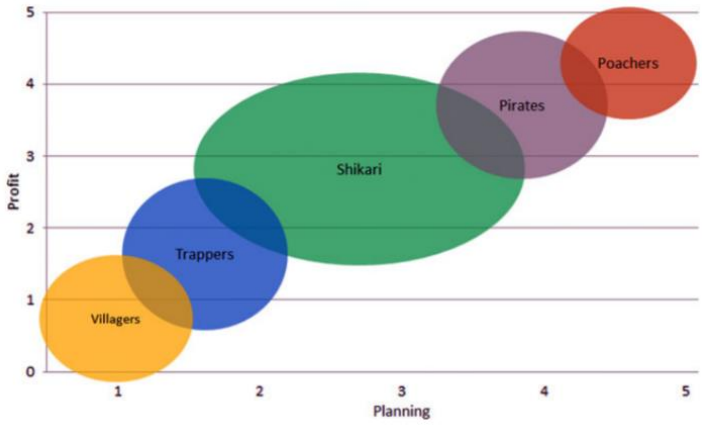
However, it should be noted that most big cat species (with the exception of the clouded leopard) come into conflict with people, as they may attack livestock or pose a risk to human life. Big cats may be killed or captured illegally (poached) as a result of human-wildlife conflict, and then the person responsible is faced with a choice about what to do with the animal. Obviously, to attempt to sell it will always be a temptation, and in this respect illegal trade may always be supply-driven to some extent: the cat may not have been killed "to order" by an interested trader or consumer, but a selling strategy would fail only in the complete absence of any interested buyer. This range of potential motives is recognized in Resolution Conf. 12.5 (Rev. CoP17): "CONSCIOUS that the driving forces behind the illegal killing of tigers and other Asian big cats and the illegal trade in specimens thereof vary from region to region and may include financial gain from the sale of live specimens, parts and derivatives, protection of people living in Asian big cat habitats and protection against or response to the predation of livestock." This temptation is exemplified by a recent case in Sumatra, Indonesia, where villagers killed a tiger that had been in the vicinity for a month and had injured a person (Figure 40). Conservation authorities were unsuccessful in their attempts to trap the big cat and to persuade locals not to harm the animal; the case is being investigated as parts were found missing from the body, including its teeth, claws and skin from its face and tail, and these are suspected to have entered into illegal trade (Reuters 2018).

There is more information available to review motivations of poachers as opposed to those of consumers, possibly because the latter are more geographically dispersed and more difficult for big cat experts to identify than locals around the areas where big cats are studied. As reported in the previous review, the CITES MA of Cambodia (where tigers have been hunted to extinction in recent years) reported that a study of big cat hunters from 2007-2009 found that hunting for trade was the major motivation (document SC65 Doc. 38 Annex 1). Saif et al (2016) identified five categories of people who killed tigers in the Bangladesh Sundarbans (village residents, poachers, shikaris, trappers and pirates), each with different motives, Figure

40. The body of a Sumatran tiger killed by villagers who felt threatened; body parts were missing and Indonesian authorities are investigating if illegal trade took place (Bever 2018)

methods and networks. Village residents kill tigers predominantly for safety, whereas others kill in the forest professionally or opportunistically. Poachers kill tigers for money, but for others the motives are more complex. The motives of local hunters are multifaceted, encompassing excitement, profit, and esteem and status arising from providing tiger parts for local medicine. Pirates kill tigers for profit and safety but also as a protection service to the community. The emerging international trade in tiger bones, introduced to the area by non-local Bangladeshi traders, provides opportunities to sell tiger parts in the commercial trade and is a motive for tiger killing across all groups. This is shown in a schematic in Figure 41, where 5 represents the highest level of planning and profit-seeking, and the smaller circle areas represents more simple motivations.

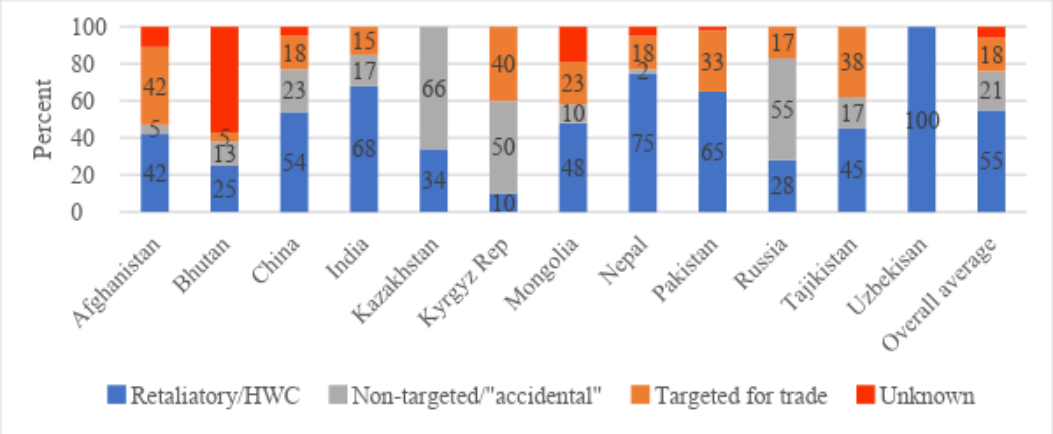
Figure 41. Schematic of five groups of tiger killers in the Bangladesh Sundarbans, positioned according to zero (lowest intensity) to five (highest) in terms of planning and profit-seeking behavior, and larger circles representing groups with more complex and varied motivations (Saif et al. 2016)



Concerning a wider range of wildlife species, two graduate students separately conducted literature reviews on research into the motivations of poachers in ASEAN countries of Southeast Asia (Rangajaran 2016) and Afghanistan (Bashari 2014). Both identified a desire to sell into international markets as the most common motivation for poaching of big cats, although in Afghanistan retaliatory killing was nearly as common. In Southeast Asia China was most frequently described as the end market; the same was true for a study of 40 self-declared Asiatic black bear poachers in Myanmar, who said Chinese nationals or Burmese of Chinese descent played key roles (ordering, buying, selling) in the illegal trade (Nijman et al. 2017).

As discussed in section 3.1.3, Nowell et al. (2016) interviewed 42 snow leopard experts about poaching cases known to them over the average of nine years they had worked in their areas of expertise. Figure 42 shows the reported average frequencies of three different motivations for 12 range States. For the three focal countries of this review (China, India and Nepal), retaliatory killing was the most common motivation (55% overall), with targeted poaching for trade attributed to 21% of known cases.

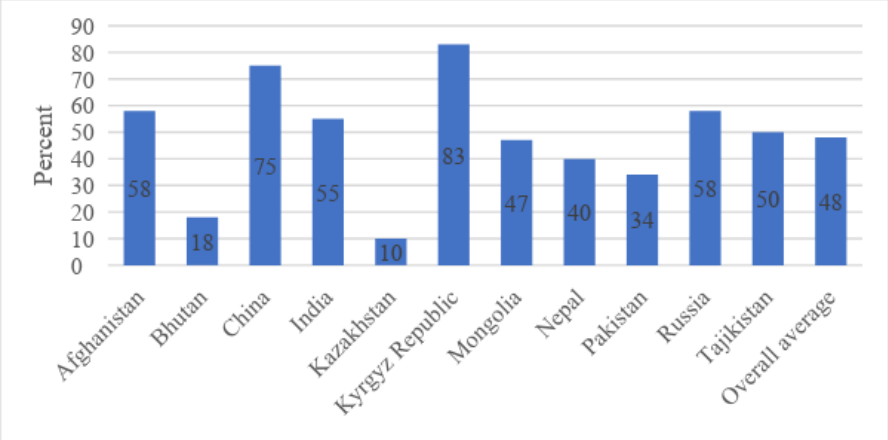
Figure 42. Average percentage frequency of three reasons for killing Snow Leopards, by country (Nowell et al. 2016)



Retaliatory/HWC: Snow Leopard killed because of or to prevent livestock depredation. Targeted for trade: Snow Leopard killed to sell it. Non-targeted/"accidental": Snow Leopard was not deliberately targeted, but captured by an indiscriminate method (such as snaring) or killed opportunistically when encountered. Unknown: Reason for killing the Snow Leopard is unknown to expert for these cases.

Livestock depredation does not necessarily lead to retaliatory killing. Figure 43 shows that of the three focal countries, herders in China most frequently abstain from efforts to retaliate.

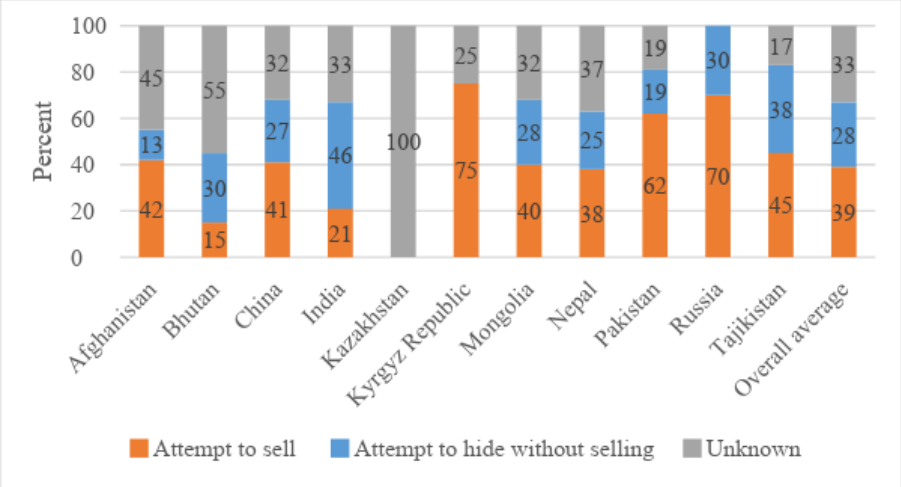
Figure 43. Maximum average percentage of livestock depredation incidents where experts estimate no retaliation toward the Snow Leopard ensues, by country (Nowell et al. 2016)



However, when a snow leopard is killed or captured for reasons other than targeted poaching for trade (retaliation or non-targeted snaring), on average experts estimated that 60% of the time there is an attempt to sell it. These results suggest that in addition to the average of 21% of Snow Leopards being targeted for trade, nearly 40% of the 73% non-trade poaching incidents (from the overall average shown in Figure 42) result in an attempt to sell. This implies that over 60% of Snow Leopards killed could enter the trade chain. Figure 44 shows the average frequency per country of outcomes of retaliatory killing. Of the three focal countries,

India had the lowest frequency (21%) of retaliatory killings which resulted in an attempt to sell the snow leopard.

Figure 44. Hiding vs. selling: average percentage frequency for known incidents of retaliatory and non-targeted Snow Leopard killing by country (Nowell et al. 2016)



Nowell et al. (2016) compared data on snow leopard and tiger seizures (Figure 45). It is clear that the numbers for Tigers are much greater than for Snow Leopards. Tiger population size is just as controversial among experts as it is for Snow Leopards, but the larger number of Tiger seizures is probably not reflective of a greater number of Tigers. There is likely more demand for Tigers than Snow Leopards. This is reflected in the fact that Tiger seizures contain more animals on average than Snow Leopard seizures; i.e., 2.6 Tigers per seizure from 2012-2015, compared to 1.5 Snow Leopards per seizure. This is also indicated by the much higher numbers of Tiger products seen in Internet surveys (Stoner, 2014). Another factor is that captive Tigers are increasingly present in illegal trade (document CoP17 Doc. 60.1), so that the numbers do not solely reflect animals taken from the wild.

Figure 45. Comparison of number of seizure cases and minimum numbers of Snow Leopards and Tigers seized over four quarterly periods in range States, 2000-2015 (Nowell et al. 2016)

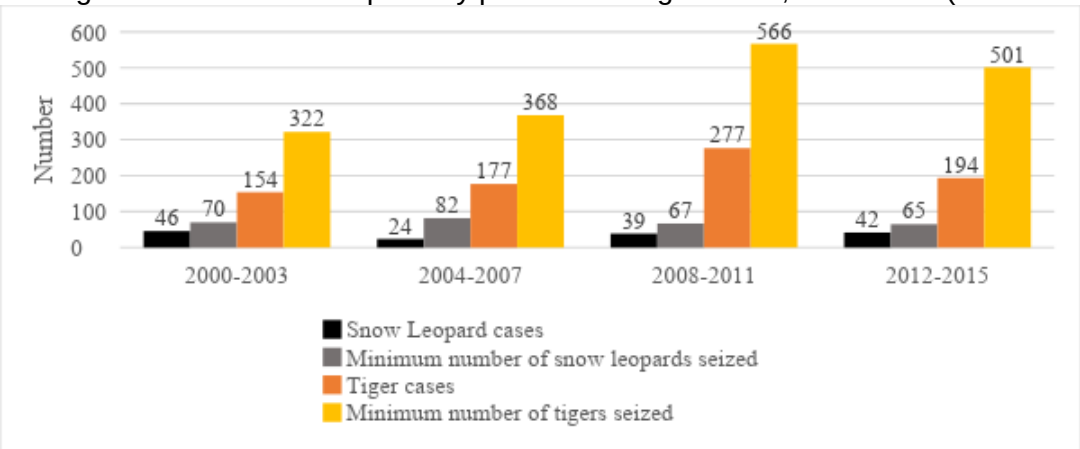


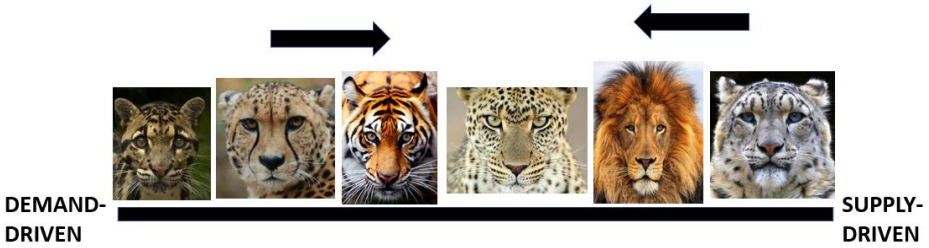
Figure 45 legend: Tiger source: Stoner and Krishnasamy (2016)
For both Tigers and Snow Leopards, both Stoner and Krishnasamy (2016)and this report used a similar methodology of converting each seizure record into a minimum number of big cats (e.g., two skins are considered two animals, whereas one skin and one set of bones is considered to represent a single animal).

4.3.2. Research on consumer demand and motivations

While there have been considerable educational efforts aimed at raising awareness of illegal trade (discussed in section 4.1.4), targeted consumer demand reduction strategies for tigers or other Asian big cats (USAID 2017c), in the sense of the best practice guidelines outlined by TRAFFIC (2018a), have not yet been developed. This should change as USAID has just completed major new research on consumers of tiger products in China (USAID 2018a,b) and Thailand (USAID 2018c,d). This section, then, presents issues to consider when developing such strategies, and reviews this recent along with past research on consumer motivations.

Beginning from where the previous section on poacher motivations left off: there is no clear line between supply and demand: for example, demand can be created and manipulated by suppliers (Ayling 2015). For example, demand can be created by supplier marketing (especially by captive facilities), and poaching may reflect the poacher's demand for income, or a trader's perception of consumer demand being high enough that he will find a buyer for the products he purchases from a poacher. With that caveat in mind, the relative strength of demand vs. supply drivers for illegal big cat trade is shown as a theoretical schematic in Figure 46. As discussed above, illegal trade in snow leopards shows the strongest indication of being driven mainly by the supply (of conflict and non-targeted killings), but there are indications it may be moving toward demand-driven: in recent years more seizures have occurred outside of snow leopard range in distant cities (Figure 9), a warning that demand for luxury items may be sufficient to drive traders to take the risk of smuggling snow leopard products long distances. The lion bone trade to Asia is also characterized as supply-driven (with bones being the by-product of South Africa's canned hunting industry), but new demand for lion bone is likely to be created for this trade, which has the potential to drive poaching of wild lions. With high levels of leopard-human conflict this is probably the dominant driver, although the commercial value of leopard skins is likely almost equally as strong overall. While the tiger trade is classically considered a primary example of demand-driven, the huge increase in availability of captive tigers is likely moving the trade toward supply-driven, with whole new forms of product being created (e.g., tiger meat). Efforts to address illegal trade in Gulf State consumer markets are likely to reduce demand for cheetahs, and so the trade may move toward a more conflict-driven supply, with different end markets for skins and live animals. The clouded leopard trade is likely the most purely demand-driven, with their skins being the most commonly observed big cat in illegal trade over time (Shepherd and Nijman 2015), and little if any conflict-driven killing, although they are likely opportunistically caught in wire snares (Gray et al. 2017).

Figure 46. Position of six cat species on the spectrum of demand- vs. supply-driven consumer markets. As discussed in the text, the cheetah and tiger are moving toward supply-driven, and the snow leopard and lion moving toward demand-driven (adapted from Nowell 2017)



There is abundant information available on the forms in which big cats can be consumed (Nowell 2000, Shepherd and Magnus 2004, Nowell and Xu 2007, Cruze and Macdonald 2015, Nowell et al. 2016, EIA 2017); all ten focal countries (and many more) have been observed to have illegal trade in some of these items (Figure 47), uses of which include:

- **Live**: for exotic pets and captive facilities

- **Skins and skin pieces:** primarily for household décor (rugs, wall hangings, stuffed taxidermy mounts), but also as fur trim for clothing and accessories, and as amulets considered to have spiritual protective powers
- **Bone**: for medicinal or health products ranging from pills (bolus) and plasters to wines; formerly ground and mixed with other herbal ingredients in China; in Viet Nam commonly boiled into bone gao (a gelatinous "cake"). Also for jewelry and curios.
- **Skull**: as a decorative curio and talisman
- **Claws and teeth:** for jewelry as well as curios and talismans
- **Meat:** for luxury banquets or "health"
- **Gall bladder and other organs:** for medicinal or talismanic consumption
- **Whiskers:** talismans with protective powers
- **Fat:** medicinal and protective talisman (bottled)
- **Dung:** medicinal and protective talisman

It should be noted that only a few of these forms (the edible forms) are likely to be repeatedly consumed. The others – the decorative items, and pets – are more likely to be "single use," and this complicates demand reduction efforts, which may work best against repeat rather than single-use consumers.

Figure 47. Different forms in which big cats are consumed in Asia

Tiger skin pieces rolled into amulets seized from in Thailand in June 2016 (AP photo, Nagesh 2016)[66]

Vietnamese medicinal *gao*[67] (bones boiled and then dried into a cake) made from African leopards, along with claws and teeth seized in the Ivory Coast in January 2018 (Photo: EAGLE)

Stuffed tiger specimens for sale in the Golden Triangle Special Economic Zone, Lao PDR (EIA 2015)

Clouded leopard advertised for sale on Indonesian social media, September 2017 (S.P.E.C.I.E.S. in litt. 2018)

[66] In August 2014, the Sangha Supreme Council (the governing body of the Buddhist order of Thailand) notified monks nationwide that wildlife parts including elephant ivory, rhino horn and big cats are not allowed as a component in any amulets (Thailand CITES MA in litt. 2018).

[67] This is often translated as "glue" or paste, but also gelatin or cake.

Items described as carved tiger canine teeth for sale in a market in Beijing, China in April 2018 (A. Fisher in litt. 2018)

Wild cat canine teeth and claw jewelry for sale on Facebook (EIA in litt. 2018)

Clouded leopard skulls for sale in Tachilek, Myanmar in 2010 (www.terrywhittaker.com)

Snow leopard skin offered for sale in Xining, China in 2012 (EIA in litt. 2018)

Before discussing consumer motivations for purchasing big cats and their parts and products, it is useful to first describe how they might obtain them. Since big cat trade is generally illegal without a permit (Table 14), over time they have become less frequently displayed for sale. For example, enforcement actions in China's Linxia city are correlated with a sharp decline in open display for sale of snow leopard skins, and numbers seen in Kabul, Afghanistan have also fallen as general awareness of illegality has risen (Figure 48). Also, TRAFFIC surveys across China documented a consistent decline in the number of traditional medicine shops who showed tiger bone medicines when asked for them since the 1993 trade ban (Figure 49). Enforcement and awareness have also reduced the number of offers of big cat products online (IFAW in litt. 2018 and Figure 50), although the Internet remains a significant channel. While TRAFFIC surveys in China found that the number of illegal online advertisements for protected species dropped from 25,000 in 2012 to 10,000 in 2014-2016, still 4% featured tiger bones and .2% leopard bones, equivalent to over 400 annual offers (Xiao et al. 2017).

Figure 48. Minimum number of snow leopard skins seen in repeated market surveys in Afghanistan (Kabul) and China (Linxia), compared to numbers reported seized in Linxia (Nowell et al., 2016: Figure 6)

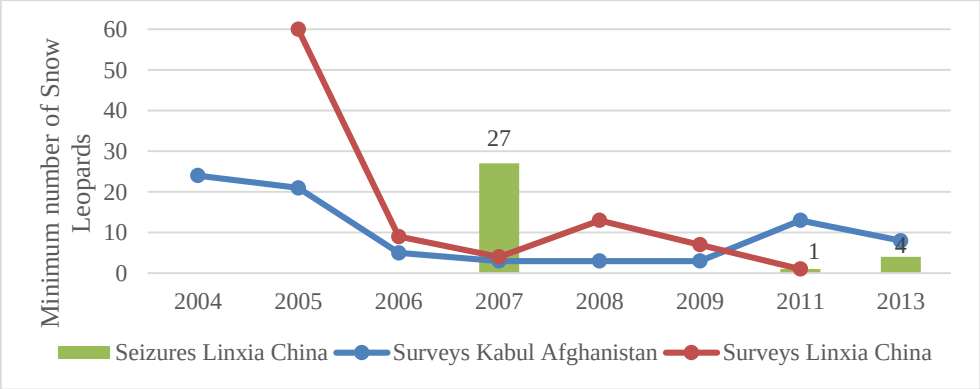


Figure 49. TRAFFIC surveys across China documented a consistent decline in traditional medicine shops willing to offer tiger bone medicines after the 1993 trade ban (Nowell 2007)

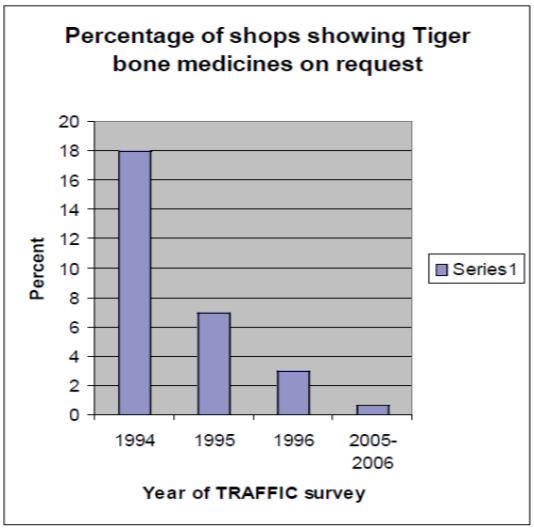
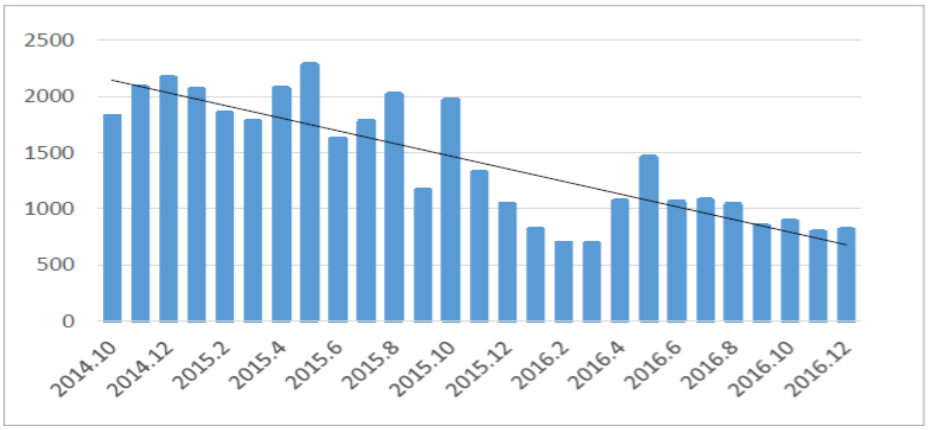


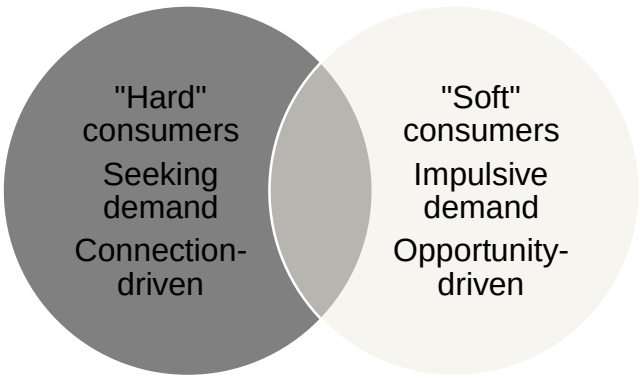
Figure 50. TRAFFIC Internet surveys in China document a decline in wildlife offers on a monthly basis from October 2014-December 2012 (Xiao et al. 2017)



Generally speaking, and with some glaring exceptions particularly in “wildlife tourism” border markets in Lao PDR and Myanmar catering largely to Chinese nationals (e.g., Krishnasamy et al. 2018), it takes effort to obtain a big cat or its part or product nowadays. Wong (2015) described her efforts to find illegal tiger parts in three areas of China; she was able to succeed, but only because she found people willing to assist her to find traders who were operating secretly. Similarly, in Viet Nam, a researcher from the NGO Environment Vietnam said that, “If I wanted tiger, I’d have to ask around, and find a friend who knew someone” (ENV pers. comm. 2018), and described this as a big change from a decade or more ago when such products were offered openly (despite being illegal). In Singapore, a businessman who has been trading in amulets for over a decade told a journalist, concerning amulets containing parts of protected species including tigers, that “Of course you can still buy them, because these shops know their regulars and will show them what’s not on display” (The New Paper 2016). In China and likely elsewhere, retail shops signal their willingness to trade in Asian big cats through such stratagems as displaying plastic tiger figurines, or the furs of non-protected species (Wong 2015). The USAID (2018a,b) survey of 1,800 people in six Chinese cities found that most purchasers of tiger products had obtained them from traditional pharmacies (33%) or retail shops (24%), but it is not clear if this refers to purchases within the past 12 months or over a longer period of time, when such products were more likely to be displayed openly. The USAID (2018c,d) interviews with 550 people in Thailand who had purchased ivory or tiger products over the past three years found that people said that tiger products are not displayed openly, and that they had made their purchases either through online or physical recommendations of sellers, or by “stumbling across” it. The most common purchasing channel in Thailand was amulet markets and temples, where 46% of buyers said they had obtained products (USAID 2018c).

It is likely that demand can be broadly categorized into two groups (Figure 51): “hard” consumers who know they want a product and take steps to seek it out (mainly through connections as much, but not all, of illegal trade is underground, or at least “under the counter,” and rarely visible), and “soft” consumers who only desire a big cat product when confronted with an opportunity to obtain it. There is a grey area between the two: those seeking tiger products, for example, can obtain what they believe is tiger bone wine openly from some facilities in China (11% of people surveyed by USAID [2018a,b] said they had purchased tiger products from a zoo or safari park). And impulsive buyers may learn of an opportunity to buy a big cat product through their social networks rather than encountering it in the marketplace. In China, more people said their purchases of tiger products were unplanned (38%) compared to planned (25%), but over 80% acted on their own initiative rather than on recommendation of another person (USAID 2018b).

Figure 51. Two broad categories of consumer demand and their overlap



Demand reduction campaigns are best addressed toward “hard” consumers, although as described below their demographics may be difficult to define. “Soft” consumption may be forestalled by more traditional education and awareness. For both types, however, law

enforcement has a major role to play. For the underground market which serves "hard" consumers, intelligence-led enforcement is necessary to uncover hidden trading networks. Law enforcement can reduce "soft" consumption by taking actions to reduce buying opportunities, through policing offers of big cat parts and products online and in physical shops and other outlets.

With such a broad array of big cat products, consumer motivations are likely to be diverse – different products are appealing for different reasons. But there has been little recent research efforts into the motivations of people who buy these different products. Below the new USAID research in China and Thailand is presented alongside and compared to previous studies, most of which has been on motivations for using or consuming tiger bone medicines in Viet Nam and China. It should be noted that tiger bone or any other bone is unlikely to meet evidence-based standards used for modern medicine, and as such could pose a risk to consumers who seek to treat serious illness. However, as will be discussed, such use of tiger bone as a traditional "medicine" appears to be shifting to a more general idea that it is a general health tonic or a stimulant, and is increasingly consumed for social occasions. For example, USAID (2018a) research in China found that most purchases of tiger products were made by the individual themselves, most often for the purpose of giving as a gift, and that of those that made an unplanned purchase based upon the recommendation of another, only 27% said that it was a doctor's recommendation.

The USAID research in Thailand (USAID 2018c,d) found that of 1,000 people surveyed, only 1% said they owned or had used tiger products. These people tended to be middle-aged males merchants and business owners, and primarily purchased spiritual items and amulets. These were viewed as providing protection from physical and supernatural harm. In comparison to China and Viet Nam, discussed below, extremely low levels of medicinal use were reported.

In Viet Nam, Drury (2011) conducted semi-structured interviews with 78 citizens in Hanoi, and found a significant positive correlation between age and the use of wild animals as medicines. While she primarily focused on wild meat, in her interviews she encountered people, mainly elderly, who valued tiger bone gelatin to restore their energy: "it gives you some of the energy of the animal." While some people said there was a long history of using tiger medicinally, others argued that it used to be rare: "About 100 years ago Vietnamese people did not use tiger glue. Now many people have more money." When asked "If we don't farm tigers to make tiger glue, how will we meet the demand for tiger glue in Vietnam?" one interviewee (a 45 year old male) responded, "There is demand for tiger glue everywhere, but if there was no tiger glue it would be fine. Many people have never used tiger glue." The process of making tiger medicine in Vietnam was described as follows by one interviewee (male professor, age 51): "they sort of cook the tiger bones with some other bones into a kind of medicine which is a kind of hardened liquid, and that again is put into alcohol." Several interviewees mentioned that displaying or offering guests alcohol with tiger glue in it can enhance prestige (Drury 2009).

Environment Vietnam (ENV) interviewed 74 traditional medicine practitioners about tiger bone medicine in two cities (Hanoi and Ho Chi Minh city) in 2013. Treatment for bone-related pain and disease was the most common application for tiger bone medicine, but a number of others were also given, including as a general tonic as well as a male sexual stimulant (Figure 52).

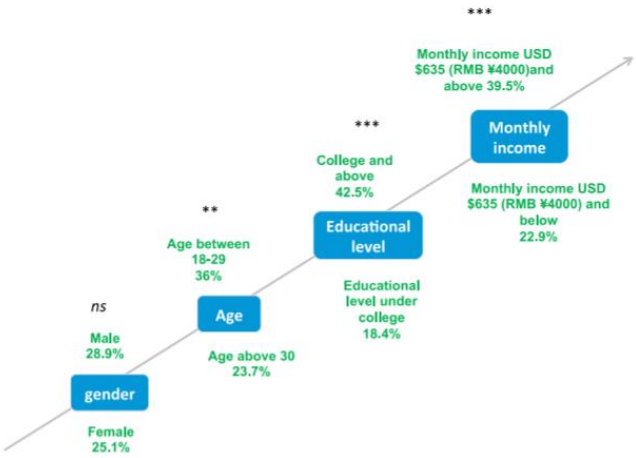
Figure 52. Traditional medicine practitioners' beliefs re: tiger bone in Viet Nam (USAID 2017b)

While younger people in Viet Nam may not be very interested in tiger medicines, however, the same cannot be said for other big cat products. In April 2017 WCS Viet Nam presented preliminary results of its study of online wildlife trade to a UNODC-organized workshop "Online investigations in wildlife crime" (UNODC 2017b). They reported that 90% of Facebook users talking about illegal wildlife products were young (ages 18-34), 80% male, and that tiger claws were among the three most-discussed items. While Facebook-based research is likely biased toward younger users, it still demonstrates that demand groups for big cat products are varied and may have little in common. WJC (2016) also collected numerous social media images of young men wearing tiger tooth and claw jewelry (Figure 53); some of these may be from legally imported South African lions (documents AC30 Doc. 25 and Inf. 15). An online tiger trade survey by TRAFFIC in Viet Nam in January-April 2017 confirmed that tiger claws and teeth are by far the most popular items advertised for sale (890 raw claws and claw pendants,and 130 raw teeth and tooth pendants) (Indenbaum 2018).

Figure 53. "Tiger" tooth and claw jewelry on Viet Namese social media (WJC 2016)

Although older people in Viet Nam appear to be most likely to consume tigers as medicine, in China, recent research on consumption of protected species as food, medicine and pets found that most consumers are young, well-educated and high income, with wealth being the most significant predictor of consumption (Figure 54: Zhang and Yin 2014). Their methodology was to ask about consumption of any of a short list of protected species (including tiger), but did not break down responses by individual species. However, 90% of the 1,065 urban residents surveyed said they had never consumed traditional medicines from the list of species including tiger. The highest rate of people who said they had used any medicines made from protected species within the last year was in the city of Guangzhou (31%), followed by Nanning (24%) and Kunming (13%), with the proportion being low in Beijing (1.6%) and Shanghai (2.8%). Only 3% of respondents said they had used any protected species (including tiger) for ornament or clothing over the past year.

Figure 54. Consumption of protected species is correlated most strongly with high monthly income, followed by high education level and younger age (Zhang and Yin 2014)



A comparison of the percentage of wildlife consumers' gender, age, educational level, and income reveals that being young, with higher education and higher income were prominent characteristics of wildlife consumers, Chi square test, df = 1, two-tailed, ***$P < 0.001$, **$P < 0.01$, *$P < 0.05$ (two-tailed), *ns* no significance ($N = 315$)

USAID (2018a) also found that consumers of tiger products within the past 12 months were younger, better-educated and wealthier than their general survey sample. Thirty-eight per cent of recent buyers were aged 31-40; 33% had a high education level (compared to 10% of the total survey sample population); and 41% had high income levels. Unlike the findings of Zhang and Yin (2014), who found different consumption levels between cities but surveyed for a group of species, tiger consumption was found at similar levels in all six Chinese cities surveyed by USAID (2018a,b). Forty-seven per cent of these tiger buyers had purchased bone, 32% skin, 7% teeth, 4% penis and 2% claws (USAID 2018a). Many had purchased tiger products as gifts or for special occasions.

It is possible to compare responses to similar questions about consumption levels, awareness of the tiger bone trade ban (China SC 1993) and attitudes toward conditional utilization of protected wildlife species from similar surveys conducted in China ten years apart (Table 17). Specifically concerning tiger products, the results appear encouraging, with the percentage of respondents who said they had recently consumed falling from 26% to 4%. However, it should be noted that the majority of 2007 respondents (87%) identified tiger bone plasters as the product they had used, while just 13% said tiger bone wine. While tiger bone wine is widely available today (e.g., Figures 8 and 21), tiger bone plasters are not. Gratwicke et al. (2008) found that women were significantly more likely to use tiger bone plasters than men, but USAID (2018a) found that 59% of recent tiger product purchasers were men. Gratwicke et al.

(2008) also found that income level was significantly correlated with tiger bone wine consumption, and USAID (2018a) also found that recent tiger consumers generally had higher income levels than the general survey sample population. This suggests that the survey comparison is not straightforward in indicating a decline in tiger consumption: while consumption of some types of products may have declined, others may be rising (e.g., 32% of USAID's (2018a) survey respondents said they had purchased skins recently, compared to 2% of those surveyed by Gratwicke et al. [2008]). Moreover, in 2018 13% of the general survey sample said that they were likely or very likely to purchase tiger products in the future, and 69% of people who had recently purchased tiger products said they planned to do so again (USAID 2018a).

While Table 17 indicates awareness of the tiger bone trade ban appears to have fallen sharply (this may be at least partially due to an apparent rise in availability of legal and illegal tiger and other Asian big cat products, particularly associated with the rise in captive breeding), other surveys suggest that attitudes favoring conditional utilization of protected species are becoming less prevalent. However, those surveys also found no significant difference in the proportion of people who had recently consumed protected species (the list of which includes tiger, although the proportions specifically consuming tiger was not broken out by the researchers), suggesting that behavior change is not necessarily correlated with attitude change (as will be further discussed below in this section).

Table 17. Comparison of consumption levels, awareness and attitudes in China found by similar surveys at ten-year intervals

Tiger product consumption			**Protected species consumption (list of which includes tiger)**		
Study and survey date	Gratwicke et al. (2008): 2007	USAID (2018a,b): 2018	Study and survey date	Zhang et al. (2008): 2004	Zhang and Yin (2014): 2012
Survey sample	1,880 adults, 7 cities	1,800 adults, 6 cities	Survey sample	1,352 adults, 4 cities	1,065 adults, 5 cities
Used tiger products recently	26% (within last 24 months)	4% (within last 12 months)	Consumed protected species in the past 12-24 months	31%	30%
Awareness of 1993 State Council ban on tiger bone (China SC 1993)	20%	1%	Attitude favoring conditional utilization of protected wildlife species	43%	35%

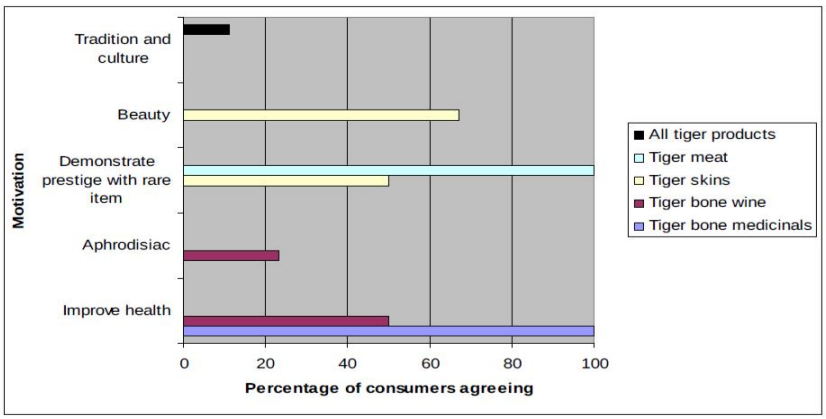
While tiger users constitute a relatively small proportion of the Chinese population (4%, considering recent purchasers of tiger products, to 13%, considering those who said they were likely to purchase such products in the future), it still amounts to close to one hundred million potential consumers, especially considering the global Chinese diaspora. Research conducted before 2010 indicated that most consumers of tiger medicine were older: older people (ages 45-60) were twice as likely to have consumed tiger bone wine (Gratwicke et al. 2008) and to use wildlife-based medicines (Wasser and Jiao 2010). With tiger products

increasingly being viewed more as a health or novelty rather than as a disease-curing medicine, this could explain the recent finding of Zhang and Yin (2014) that 22% of recent consumers of protected species as medicine were over the age of 40, whereas 35% were aged 18-40.

Although eating tiger meat recently was not reported prior to 2010 (Gratwicke et al 2008, Wasser and Jiao 2010), a survey in Guangzhou (the city with the highest reported levels of using wildlife as food and medicine: Wasser and Jiao 2010, Zhang and Yin 2014) found that 3% of people said they had eaten tiger at some point in their lifetime (Guo 2007 in Drury 2009). However, 97% of people surveyed by Wasser and Jiao (2010) thought that it should never be eaten at all; only 0.1% thought it was fine to eat tiger meat, while 2.5% were receptive to the idea, thinking that it could be eaten but not everyone would like it.[68] Tiger meat was not mentioned as a product consumed by people within the past 12 months in the USAID (2018a) survey.

Figure 55 shows the main motivations given by Chinese consumers of different tiger products prior to 2010. Different products were desired for different reasons. Whereas tiger bone medicines were considered purely for health purposes (primarily for rheumatic conditions), tiger bone wine was seen by a significant minority as an aphrodisiac (a function previously ascribed only to tiger penis: Nowell 2000). Tiger skins were desired not only for their beauty, but also to demonstrate prestige, as was tiger meat (these items can impress others by the difficulty of their acquisition, since they are rare, expensive, and illegal: Shen et al 2004, Drury 2009, Wasser and Jiao 2010). Although the consumption of tigers has a long history, few Chinese people considered tradition or heritage to be a strong motivator for consuming Tiger products (Gratwicke et al 2008). In fact, tiger products seemed more desirable because they are “precious” (rare: Wasser and Jiao 2010) and unusual, albeit stemming from deep cultural roots. The relative low importance consumers placed on traditional beliefs may be a possible outcome of the marketing of “health tonics” such as tiger bone wine and meat for non-traditional purposes.

Figure 55A. Motivations for using tiger products given during Chinese consumer surveys prior to 2010 (Nowell et al. 2010)

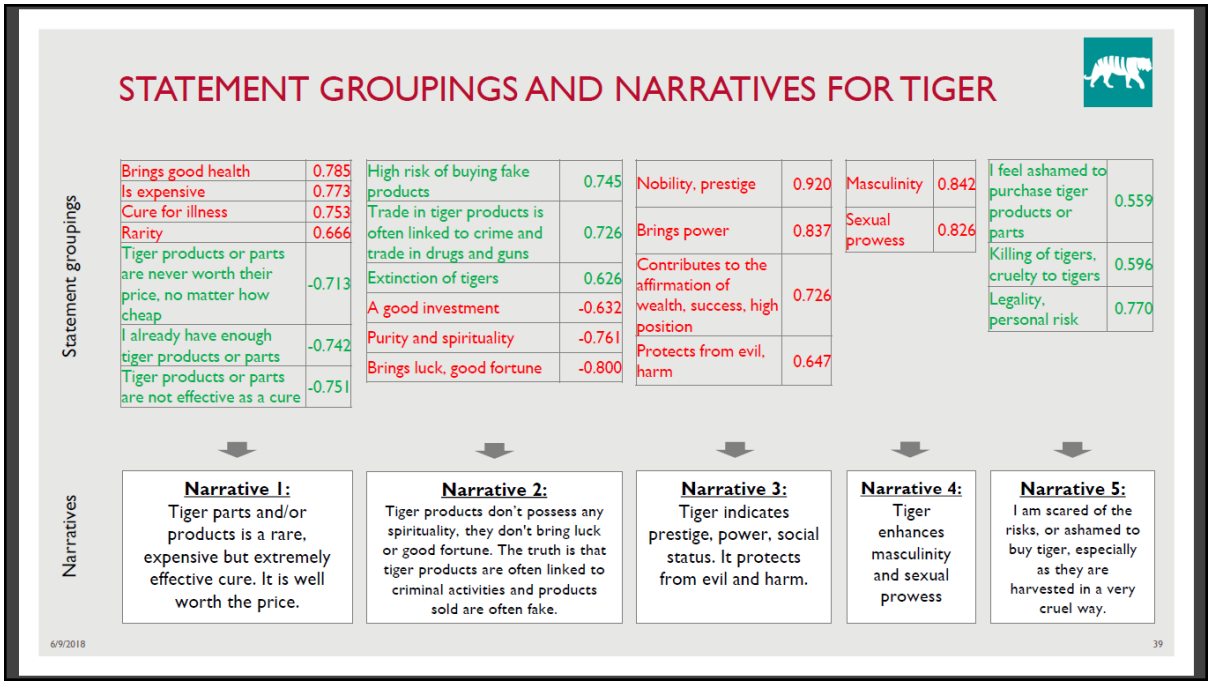


Sources: All Tiger products (Gratwicke et al 2008); Tiger meat (Guo 2007 in Drury 2009a); Tiger skins (Zhang et al 2008); Tiger bone wine (Gratwicke et al 2008); Tiger bone medicinals (Shen et al 2004, Gratwicke et al 2008)

[68] Revisions to China’s Wildlife Protection Law in 2016 clarify that it is illegal to sell or purchase wildlife under special state protection as food (section 4.2.1.); interpretation of the 2014 Criminal Law suggests that consumption is also illegal, if purchased (China response to Notification 2015/006 submitted to the intersessional Working Group on Asian Big Cats).

The USAID (2018a) research in China also did not find that traditional beliefs were a motivation – in fact, tradition was not mentioned at all. Rarity was the top driver, followed by health and sexual prowess, then "good luck or fortune," followed by prestige, purity and spirituality, and "a good investment." USAID (2018a) organized drivers and deterrents of tiger consumption, as identified by their survey sample, into five predominant attitudes (narratives) to tiger consumption (Figure 55B), illustrating again that the same product can be consumed (or avoided) for different reasons.

Figure 55B. Drivers (red font) and deterrents (green font) to tiger consumption, organized into five primary narratives to describe prevailing attitudes toward consumption



**Positive scores indicate survey respondents' agreement with the statement, and negative scores disagreement.*

The previous review described "wealth not health" as becoming a primary motive for consuming tiger bone wine. With prices typically well over USD500 per bottle, this product is out of reach for many, and it is likely that many of those who buy it are not doing so to cure a disease, but for other reasons. Zhang and Yin (2014) found a particularly strong correlation between income levels and the consumption of medicines containing protected species (10% of mid-income and 12% of high-income respondents, compared to 3% of low-income respondents had consumed within the past year). Tiger bone wine is sold directly by numerous sellers who are well outside a traditional doctor-patient relationship, and tiger bone wine is increasingly being promoted as a male sexual stimulant (Nowell et al. 2010). Chinese news media carried a story in 2015 of two men prevented from carrying a bottle of Xiongsen "tiger" bone wine[69] (which they claimed cost CNY8000 [USD1,273]) onto an airplane due to restrictions on having liquids in the cabin. They drank the whole bottle at security, saying, "This is aphrodisiac wine bought from my buddy's hometown…it's very expensive" (Figure 56).

[69] The wine is legal, ostensibly made from lion, although it is suggestively marketed as tiger (section 4.2.1).

Figure 56. Newspaper coverage of two Chinese male airline passengers drinking a bottle of "aphrodisiac" "tiger" wine made by one of the country's largest tiger farms (Shanghaiist 2015)

Liu et al (2015) surveyed 1,058 Beijing residents (677 citizens and 381 college students) from December 2011-January 2012 about their attitudes toward tiger conservation and tiger farming. Their survey results analysis differed from the previous studies in that they did not report percentages agreeing or disagreeing, but rather asked respondents to rank their answer choices to questions on a scale of 1 (completely disagree) to 7 (completely agree), so their results are presented separately and not included in Figure 55. Both citizens and students, when asked about motivations for consuming tiger products (type of product not specified), ranked traditional medicine as the top motivation, followed by health care and then as a symbol of social status. However, when asked about the value of tigers, medicinal and edible values were ranked last, with ecological value ranked first, followed by scientific and educational value.

Many education and awareness campaigns emphasize that Asian big cats are endangered and purchasing their products is illegal (Figure 60 and section 4.1.4). However, for some consumers, this may be the very nature of the attraction of these products. As put by Felbab-Brown (2017), "studies of consumer preferences even among groups aware of the environmental impacts of buying wildlife products show that people often talk the talk, but they rarely walk the walk." And a significant finding of the Chinese consumer surveys conducted prior to 2010 is that awareness of endangerment and illegality did not appear to deter consumption among urban Chinese. Gratwicke et al (2008) found no statistically significant relationship between a survey respondent's expressed support for the China government's tiger trade ban (with 84% of people saying they supported it) and their history of consuming tiger products. TRAFFIC also noted that "support for wildlife protection was not necessarily related to choices about wildlife consumption," finding that 90% of current consumers of wildlife claimed to support its protection (Wasser and Jiao 2010). While Shen et al. (2004) found that while heavy consumers of wildlife were more aware of which species were protected (28%) in comparison to less frequent users (17%), they were less willing to abstain from future consumption (25%) than light users (44%). More recently, USAID (2018c) found that the majority of users and non-users of tiger products knew that tiger trade is illegal in Thailand, and associated it with cruelty and the extinction of tigers.

The Dec 2011-Jan 2012 Beijing survey by Liu et al (2015) found that residents see poaching and illegal trade as the top threat to the tiger, followed by habitat loss, and in this their views are generally in line with tiger experts and conservation organizations. However, citizens were significantly more likely than college students to be supportive of China lifting its domestic trade ban on tiger products and allowing farmed tigers which die naturally to be sold by businesses. Yet citizen attitudes toward this varied more than students, and overall survey respondents somewhat agreed with arguments against tiger farming, and somewhat disagreed with arguments in favor. Most survey respondents (63%) did support tiger farming,

but primarily for purposes of supporting wild populations through reintroduction. Respondents generally believed tiger breeding should be conducted for non-commercial purposes, with individuals and businesses not considered suitable for raising tigers. However, they were of mixed feelings when asked how tigers which die on farms should be disposed of. More respondents favored commercial trade in tiger parts over their destruction, although the top answer was 'temporary storage for future consideration.'

Thus, while awareness campaigns (discussed in the next section) no doubt help foster positive attitudes toward big cat conservation, and can be an important tool for demand reduction, emphasizing conservation values may not necessarily influence willingness to buy or consume big cat products. This can be demonstrated as a simple matrix (Table 18), which indicates that three out of the four groups (groups 2-4) may consume protected wildlife – in terms of group 2, Wasser and Jiao (2010) found that 50% of people who were in favor of consumption did not consume said that difficulty in obtaining the desired product was among the top three reasons. For demand reduction, the key is to change behavior, and changing attitude may not necessarily accomplish this. However, the USAID (2018a) research in China indicates that changing the behavior of Group 4 will be key to demand reduction: whereas 15% of the general survey sample found consuming tiger products acceptable or completely acceptable, the percentage was much higher (69%) for those who had purchased tiger products within the past 12 months.

Table 18. Matrix of possible correlations between attitude and behavior (Corte, 2015)

	Positive behavior	Negative behavior
Positive attitudes	Group 1: Against consumption, does not consume	Group 3: Against consumption, consumes
Negative attitudes	Group 2: In favor of consumption, does not consume	Group 4: In favor of consumption, consumes

This is not to say that a change in attitude cannot result in behavior change. There is only one known example of a demand reduction campaign which dramatically and demonstrably impacted consumption of Asian big cats, resulting in both major attitude and behavioral shifts. In the late 1990s and early 2000s, there was a "fashion craze" in the China's Tibet Special Autonomous Region (SAR) of China for cloaks (chubas) trimmed with tiger and leopard skin. These cloaks were worn mainly at large traditional festival events and social gatherings. While they drew on ancient traditions of wearing animal skin clothing, the sudden popularity of big cat cloaks represented a new development which raised international alarm. Yet within a very short period of time (2006-2007) the practice essentially stopped (WWF 2007, Nowell and Xu 2007, EIA 2009, 2011). The ingredients of this successful campaign included the following: detailed research into consumer motivations (Figure 57); substantial demand reduction awareness campaigns (CI 2007); and, most significantly, the involvement of a key opinion leader asking people to stop this behavior (the Dalai Lama).

The consumer motivations research revealed that people were actively seeking big cat skins, largely for social status reasons.[70] The awareness campaign was particularly wide-ranging,

[70] One young woman from Tibet SAR told WWF in 2006, before the Dalai Lama's statement: "If you don't have a tiger skin, people look down on you. My sister recently went to a company party where she was the only one who wasn't wearing one. She went out and bought one right after the party." (Liou 2006)

with posters targeting social events, materials placed at key transportation hubs, and a rural caravan that covered 11,350 km, reaching 25 counties (CI 2007). The awareness campaign also motivated the Dalai Lama's January 2006 appeal against wearing tiger and other exotic animal skins, and that appeal almost immediately reversed the social acceptability of this practice. People spontaneously burned their skins, and even took actions against those who wore them.[71]

Figure 57. A tiger skin cloak (chuba) at a Tibet SAR festival in 2005 and the reasons they were in demand

Consumer motivations for wearing animal skins cloaks in China's Tibet SAR in 2005 (Nowell and Xu 2007)

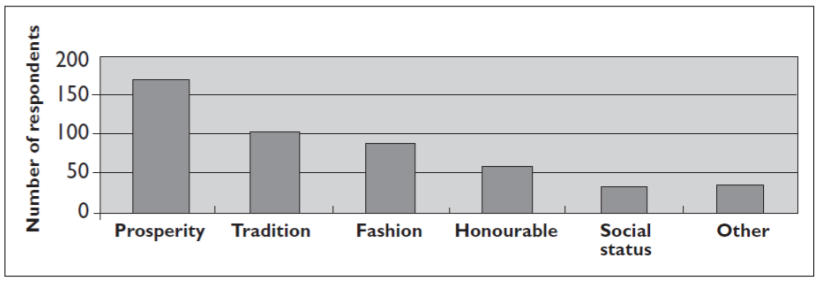


Photo source: EIA/WPSI 2006

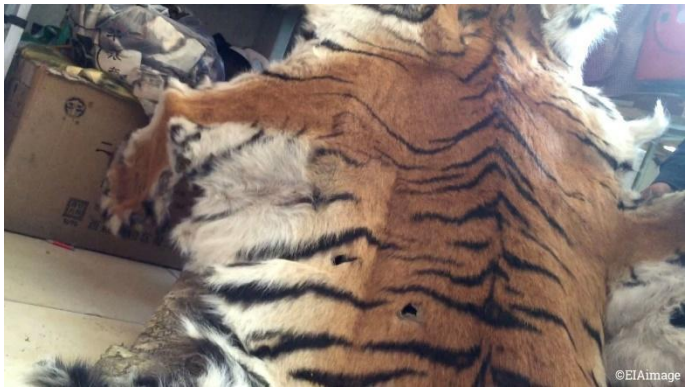
There were several unique aspects to this success that will be difficult to replicate elsewhere: people were actively seeking big cat skins primarily to wear in a public setting to convey status, and that social acceptability was up-ended by a particularly influential spokesperson. However, most big cat products, with the exception of jewelry, are not destined for public display by the person who buys them, and therefore such demand is less susceptible to being influenced by social "shaming." And although religious figures can be very motivational, the impact of religious proclamations upon consumer behavior is usually more muted. For example, the Indonesian Council of Ulama (the top clerical Muslim body in the country) issued a *fatwa* against wildlife trafficking in March 2014. The Secretary stated that, "All activities resulting in wildlife extinction without justifiable religious grounds or legal provisions are *haram* [forbidden in Islam]. These include illegal hunting and trading of endangered animals" (Quigley 2014). While no doubt helpful, this has not yielded the same type of dramatic reduction in consumer behavior. Also, some Buddhist monks have actively trafficked in amulets containing tiger skin, teeth and claws (despite a 2014 proclamation not to: Thailand CITES MA in litt. 2018), although one Buddhist abbot stressed that "Buddhism has nothing to do with these things; these are cultural beliefs" (New Paper 2016). And it should be noted that NGO researchers have found that illegal sale of big cat skins continues in China's Tibet SAR, but the main form is whole skins for home decoration (EIA 2009, Wong 2015) (Figure 58).

It should be emphasized that the continued availability of big cat products through channels which appear to consumers to be legal – including tiger farms and unpoliced "wildlife trade tourism" markets in Lao PDR and Myanmar – is likely to counteract demand reduction messaging. The tiger farming attitudes survey in China by Liu et al. (2015) found that most

[71] "Most dramatically, in one widely talked about incident that WWF was unable to obtain an eyewitness confirmation of, a man wearing a tiger fur trimmed robe ventured out onto Lhasa's Barkhor Street on the second day of the New Year's celebration and was accosted by an angry mob who tore the tiger fur from his robe." (WWF 2007)

people favored commercial trade from facilities where tigers die of natural causes, showing that unless such options are explicitly foreclosed, rather than encouraged, by authorities, the practice of consuming the parts and products of Asian big cats will continue to be viewed as acceptable. The wine shown in Figure 56 is ostensibly made from African lion and legal, but it is marketed as tiger, which is illegal; however, airport security confiscated it not because of its questionable legal status as appearing to be made from tiger, but because of liquid carry-on restrictions. And the use of other big cats as substitutes for tiger not only poses a threat to these species but also continues to grow demand for tiger products.

Figure 58. Tiger skin offered for sale in Shigatse in Tibet SAR in 2015 (EIA in litt. 2018)



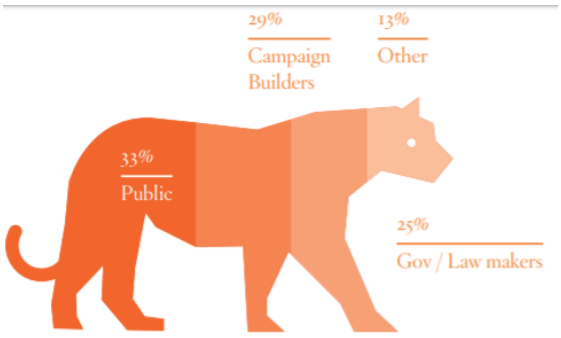
There are other examples of societies which used to be major consumers of tiger products but appear to have almost completely stopped, but for reasons which have little to do with efforts to educate consumers and reduce demand. Japan, South Korea and Taiwan (province of China) used to be major importers of tiger bone, and had medicinal industries manufacturing these products (Mills and Jackson 1993). Once these practices were prohibited after 1993, the industries were closed down completely (Nowell 2000) and, perhaps crucially, none of the authorities permitted commercial-scale breeding of tigers or other Asian big cats. In other words, reducing supply can be a major factor in reducing demand.

Thus, demand reduction strategies should incorporate not only targeted messaging for consumers, but also legislative and regulatory measures to reduce supply and law enforcement to reduce buying opportunities. Consumer messaging may have the greatest conservation impact if it targets consumers who are likely to use big cat products repeatedly (such as tiger bone wine), whereas other products like skins, jewelry and pets are more likely only ever obtained once by a consumer (so that reaching such a person after the purchase has been made has little conservation consequence). When interviewing consumers about their motivation, they should also be asked directly what sort of product, which is not illegal and not endangered, they would find an acceptable alternative. Strategies should also include reaching out to key nodes in the trading supply networks: for example, in Viet Nam tiger bone paste is made by specialized cookers; more than a decade ago this practice was centralized in a particular village (Minh Binh in Gia Vien district), but now such people are more likely found around major urban areas (ENV pers. comm. 2018). These people can be found by word-of-mouth, and should be contacted as part of the demand reduction strategy, for education as well as law enforcement warning. Felbab-Brown (2017) recommends employing “swift, certain and mild but increasing” punishments for consumers, based on successes achieved by drug-use reduction programs. Such punishments ideally have “shaming effects,” and could include community service of a particularly “embarrassing” nature, such as cleaning public toilets (V.Felbab-Brown pers. comm. 2018). This type of punitive regime is ideally targeted at the “soft” consumer described in Figure 51, to deter them from moving into the “hard” category, whereas stricter punishments should be reserved for heavy or repeat violators.

4.1.4. Education and awareness

Resolution Conf. 12.5 (Rev. CoP17) calls for different types of awareness campaigns: for targeted groups of urban and rural communities (to educate them about the ecological and cultural significance of Asian big cats); for traditional medicine user groups and consumers (to eliminate the use of Asian big cats and educate them about appropriate substitutes); for consumers of Asian big cat skins (to change the behavior of using them for fashion or ornament); and for government agencies (to raise the profile of the serious nature and impact of illegal trade in Asian big cats among enforcement, prosecution and judicial authorities). However, Sharif et al. (2014) analyzed educational campaigns for tigers in China and Viet Nam from 2004-2014 (Figure 59), and found none targeting traditional medicine practitioners,[72] despite the Resolution's call for consumer States to "work with traditional medicine communities and industries to develop and implement strategies for gradually reducing and eventually eliminating the use of Asian big cat parts and derivatives." While this may seem like an obvious gap, as discussed in the previous section traditional medicine practitioners are no longer the primary suppliers of Asian big cat parts and derivatives, although these are still consumed in part for medicinal or health reasons.

Figure 59. Target audiences for tiger awareness campaigns in China and Viet Nam, 2004-2014 (Sharif et al. 2014)



Initiative Target Audience	No. of Initiatives
Campaign Builders	7
Corporates	0
Government / Law Makers	6
Traditional Chinese Medicine Practitioners	0
Public	8
Youth / Children	0
Other	3

Verissimo and Wan (2018) conducted an extensive literature review to put together a database of 236 awareness campaigns targeting potential consumers of wildlife products over the past 20 years, with the aim of understanding their effectiveness at impacting behavior. Campaigns were analyzed for whether there was information available concerning their inputs (campaign cost in terms of financial and human resources, in order to gauge the trade-offs between intervention costs and benefits); message communication strategy (planning as well as material and activities involved in the campaign); outputs (implementation of the strategies in

[72] USAID (2017c) also found no examples of demand reduction campaigns targeting traditional medicine practitioners, despite their potential to influence consumer demand since evaluation studies in China, Vietnam, and Thailand found that citizens surveyed ranked TCM practitioners very high in terms of credibility.

terms such as audiences reached, or media reports); outcomes (evidence of specific changes in the target audiences), and impacts (any evidence of positive conservation impacts for the focal species of the campaigns). Table 19 shows the 50 campaigns from their database relevant to Asian big cats (21% of total campaigns).[73] As also pointed out by Sharif et al. (2014), such information can assist in the design of more effective future campaigns. For the purposes of this review, campaigns were classified as primarily targeting urban groups.

Verissimo and Wan (2018) found input information for 42% of the campaigns shown in Table 19. Only one (2% of the sample) lacked information on the strategy used, but more (28%) lacked information on strategy implementation (outputs). Only 14% provided any evidence of outcomes in terms of changes in the target audience, and only three, all focused on a relatively limited geographic area, demonstrated any positive conservation impacts for the focal species. Verissimo and Wan (2018) noted, however, that impact evaluation for biodiversity conservation is very complex, which makes it difficult to develop best practices. Still, they advise that campaigns make greater use of statistical power analysis and objective measures of behavior change (beyond self-reported), and be more explicit in terms of specifying assumptions (in terms of causal hypotheses) and identifying potential confounders when trying to evaluate outcomes and impacts. In other words, there needs to be greater study of "what has worked" (thesis), and to be successful that study will need to go deeply into data on inputs and outcomes.

[73] This list is not comprehensive as other campaigns are known to the author of this review, but they are not included in the Table as there were not sufficient resources to replicate the efforts of Verissimo and Wan (2018) to collect detailed data on implementation and outcomes

Table 19. Awareness campaigns aimed at potential consumers of Asian big cats (including wildlife in general) and their provision of information relevant to impact evaluation (Verissimo and Wan 2018)

Campaign		Start year	Country	Focus	Inputs	Strategy	Outputs	Outcomes	Impacts	Reference*
American College of Traditional Chinese Medicine, WWF	Public Outreach Initiative	1998	China	Endangered species in TCM	No	Yes	No	No	No	GL (web article)
Care for the Wild International, Wildlife Trust of India	Tibet Conservation Awareness Campaign	2005	India	Snow Leopard	Yes	Yes	Yes	Yes	Yes	PR (Journal article), GL (Web article)
Chinese Wildlife Conservation Association, TRAFFIC, WWF	China Wildlife Conservation Month (2013 campaign, theme: "Focus on Wildlife Trafficking")	2013	China	Wildlife trafficking	No	No	No	No	No	GL (report)
Conservation International, Snowland Great Rivers Environment-al Protection Association	Green Community Ecological Culture Festival at the source of the Lancang River	2005	China	Wild fur trade	Yes	Yes	Yes	Yes	No	PR (Journal article), GL (Web article
ENV	Wildlife Crime Unit (incl Wildlife Crime Hotline, National Volunteer Network)	2005	Viet Nam	Wildlife crime	Yes	Yes	Yes	Yes	No	GL (Report, Website)
ENV	Stop the Illegal Tiger Trade awareness campaign	2006	Viet Nam	Tiger	No	Yes	Yes	No	No	GL (Website)
Humane Society International	Don’t Buy Wild campaign (incl traveller guide, online “Eat. Shop. Go Wild” consumer guide, pledge	2012	Global	All	No	Yes	No	No	No	GL (Web article, Website)

IFAW	Media/traveller campaigns on "Reducing Demand for Wildlife Products" - (incl Think Twice, Say No to Ivory, "Mom, I got teeth" PSA)	n/a	Global, China	Endangered species, elephant	No	Yes	Yes	Yes	No	GL (Report, Web article, Website)
IUCN, TRAFFIC	"World Wildlife Day" online photo gallery (3 March 2014)	2014	Global	All	No	Yes	No	No	No	GL (Web article)
Khabarovsk Wildlife Foundation	Project: Environmental campaign and public awareness campaign to protect the amur tiger and its habitat in Khabarovskii Krai	2002	Russia	Tiger	No	Yes	No	No	No	GL (Document)
Lao Illegal Wildlife Trade Action Group	2009 SEA Games Campaign for Wildlife Conservation, Laos PDR	2009	Lao PDR	All	Yes	Yes	Yes	Yes	No	GL (Report, Web article)
Malayan Nature Society	Asian Conservation Awareness Programme	1988	Malaysia	All	No	Yes	No	No	No	GL (Report, Website)
PERHILITAN	Wildlife trade education units	n/a	Malaysia	All	No	Yes	No	No	No	GL (Report)
PeunPa Foundation	Sold Out campaign	2007	Thailand	All	Yes	Yes	Yes	No	No	GL (Report)
Royal Foundation	“United for Wildlife (whose side are you on?)” media campaign	2015	Global	All	No	Yes	Yes	No	No	GL (Website)
Sarawak Forestry Dept	"Wildlife Laws in Sarawak: Important information for travellers” leaflet	n/a	Malaysia	All	No	Yes	No	No	No	GL (Report)
State Forestry Administration of China	"100 Q&A on Wildlife Conservation of China" and "the CITES pamphlet"	n/a	China	All	No	Yes	No	No	No	GL (Report)

State Forestry Administration of China	China nationwide text reminders on illegal wildlife purchasing	n/a	China	All	No	Yes	No	No	No	GL (Report, Website)
SFA, China Wildlife Conservation Assn	3 March 2014 World Wildlife Day public service campaign	2014	China	All	No	Yes	Yes	No	No	GL (Report)
TRAFFIC	"Our Life and Wildlife - What is CITES" traveller education DVD on sustainable consumption	n/a	Japan	All	No	Yes	No	No	No	GL (Website)
TRAFFIC	Wanted Alive ad campaign	2012	India	Big cats	Yes	Yes	Yes	No	No	GL (Website)
TRAFFIC	Lend Your Eyes to the Wild - Wildlife Witness app	2014	Global	All	No	Yes	Yes	No	No	GL (Web article, Website)
TRAFFIC	Wildlife Crime Hotline cab stickers with MyTeksi	2014	Malaysia	All	Yes	Yes	Yes	No	No	GL (Web article)
TRAFFIC, Wildlife Reserves Singapore	You Buy, They Die campaign	2015	Singapore	All	No	Yes	No	No	No	GL (Web article, Website)
TRAFFIC, WWF	Souvenier Buyers Beware campaigns (incl Think Before You Buy leaflets, Don't Buy Trouble)	2004	Global	All	Yes	Yes	Yes	No	No	GL (Website)
TRAFFIC, WWF	"'On Borrowed Time" documentary	2011	Malaysia	All	Yes	Yes	Yes	No	No	GL (Website)
TRAFFIC, WWF	Listen to the Tiger website	2011	China	Tiger	Yes	Yes	Yes	No	No	GL (Website)
TRAFFIC, WWF, Wildlife Crime Control Bureau	"Preserving the Future: Stop the Illegal Wildlife Trade" digital media campaign	2015	India	All	No	Yes	Yes	No	No	GL (Website)
UNEP, GoodPlanet Foundation, CITES	"Wild and Precious" International Airport Exhibition	2012	China, Thailand	All	Yes	Yes	Yes	No	No	GL (Web article)

UNEP, UN Development Programme, UN Office on Drugs and Crime, CITES	#WildForLife campaign	2016	Global	All	No	Yes	Yes	No	No	GL (Web article, Website)
UN World Trade Organization, UN Office on Drugs and Crime, UNESCO	Your Actions Count - Be a Responsible Traveller	2014	Global	All	No	Yes	No	No	No	GL (Book chapter, Web article Website)
USAID	ARREST campaign (media awareness, etc)	2011	Global	All	Yes	Yes	Yes	No	No	GL (PowerPoint, Report, Web article, Website)
USAID, Freeland	iiTHINK web-based campaign	2013	China, Thailand, Viet Nam	All	No	Yes	Yes	Yes	No	GL (Report, Website)
WildAid	Tiger demand reduction campaign	~2008	China	Tiger	No	Yes	Yes	No	No	GL (Report, Website)
WildAid, USFWS	US campaign - #StopWildlifeTraffickin g	2016	USA	All	No	Yes	Yes	No	No	GL (Website)
WCS	Animals Conservation Communication Program	1997	China	Endangered species in TCM	Yes	Yes	Yes	No	No	GL (Website)
WCS	Karnataka Tiger Conservation Project	1998	India	Tiger, Snow Leopard	Yes	Yes	Yes	No	Yes	GL (Report)
WCS	Tiger Conservation Project in the Nam et Phou Louey	2002	Viet Nam	Tiger	No	Yes	Yes	No	No	PR (Journal article)
WCS	Project: "Protecting Southwest China's Wildlife Used in TCM"	2006	China	Endangered species in TCM	Yes	Yes	Yes	No	No	GL (Website)

WCS	CEPF Project - "Building awareness and capacity to reduce the Illegal cross-border trade of wildlife from Vietnam to China" (media awareness workshops)	2009	Viet Nam	All	Yes	Yes	Yes	No	No	GL (Report)
WCS, Rare	Rare Pride Nam et Phou Louey campaign	2009	Lao PDR	Tiger	Yes	Yes	Yes	Yes	Yes	PR (Journal article)
WWF	Walk Out for Wildlife	2002	Malaysia	All	No	Yes	No	No	No	GL (Report, Web article)
WWF	Mongolian Snow Leopard Project (education/ information campaigns for local people)	2004	Mongolia	Snow Leopard	Yes	Yes	Yes	No	No	PR (Journal article)
WWF	Stop Wildlife Crime campaign (incl Hands Off My Parts)	2013	Global	All	No	Yes	Yes	No	No	GL (Website)
WWF	Sacred Earth program	2015	Global	All	No	Yes	Yes	No	No	GL (Website)
WWF, Leonardo DiCaprio Foundation	"This Tiger is Running" PSA campaign	2010	Global	Tiger	Yes	Yes	Yes	No	No	GL (Website)
WWF, Sattya Media Arts Collective	"Lend A Hand for the Snow Leopard art event (part of International Snow Leopard Day) Project)"	2016	Nepal	Snow Leopard	Yes	Yes	Yes	No	No	GL (Report, Web article, Website)
WWF, TRAFFIC, Ogilvy & Mather	"Tiger Evolution Ends - Dont Let This Be the End" advertising campaign	2007	China	Tiger	No	Yes	Yes	No	No	GL (Website)
WWF, TRAFFIC, Ogilvy & Mather	Vanishing Treasures campaign	2013	China	General (All)	Yes	Yes	Yes	No	No	GL (Web article, Website)

*GL – grey literature; PR – peer-reviewed publication

Many campaigns emphasize that Asian big cats are endangered and purchasing their products is illegal (Figure 60). However, as discussed in the previous session, consumption behavior can be independent of attitudes toward consumption. Such campaigns probably reinforce the behavior of Group 1 (Table 18), and may change the attitude of those in Group 2. Corte (2015) suggested that these campaigns could better perform by motivating people in Group 1 to "spread the message," thus increasing the reach of the campaign to social networks of people already supportive of anti-consumption attitudes and behaviors. For Group 4, awareness campaigns centered around the consequences of breaking the law may be the most effective deterrent, and for Group 3, the involvement in campaigns of key opinion leaders may be most effective at reinforcing an attitude (that consumption is wrong) but changing their view of the acceptability of consumption behavior. Campaign messaging needs to be targeted to reach the consuming groups: the USAID (2018c) research in Thailand found that lower percentages of tiger users had been reached by awareness messaging (32%) than non-users (59%). Overall, despite substantial campaign effort in China, USAID (2018a) found low levels of awareness, with only 19% of 1,800 people surveyed saying they had been reached by wildlife protection or demand reduction messaging in the past six months.

Figure 60. Example of an Asian big cat awareness campaign poster from India (TRAFFIC 2012)

Many campaigns are situated in places of travel, such as posters and displays in airports, train stations and along highways (Figure 61), where they can reach large volumes of people. It can also be advantageous to locate campaign material in domestic market areas where wildlife products are sold or consumed, sometimes illegally. This may help deter a trader's willingness to display or offer illegal big cat products, reducing the opportunities for impulse buying discussed in section 4.3.2. Figure 62 shows awareness posters against using tiger skins at a traditional Tibetan festival. Figure 63 shows a wildlife crime awareness poster placed at a Bangkok market where exotic pets are sold; in 2013 one of the market's shop owners was

arrested for a second time for illegal trade, with animals at his home including 14 lions, which authorities believe were legally imported to sell to zoos, but that the owner instead intended to sell them to private owners (DeHart 2013).

Figure 61. WWF snow leopard conservation awareness posters in a subway station in Beijing

Source: GAO 2017

Figure 62. Awareness posters about tiger skin clothing at a traditional Tibet SAR outdoor festival in 2006

Source: CI (2007)

Figure 63. Illegal wildlife trade awareness poster in three languages in Bangkok's Chatuchak Weekend Market

Source: GAO 2017

While education and awareness campaigns are typically organized in terms of transmitting information to the public in an eye-catching way, they can also be conceived of as more hands-

on, in terms of teaching methods or skills supportive of conservation. A good example of this is working with rural communities living near wild big cat populations. Considerable effort has been dedicated to teaching methods of better livestock management, so as to reduce the chances of depredation: e.g., through construction of predator-proof corrals (Figure 64), or setting up village livestock insurance schemes. There have been many studies documenting local antipathy toward big cats which pose a threat to livestock and human life, but interventions can have a very positive effect in changing attitudes. For example, villagers living around India's Bor Tiger Reserve were generally very supportive of tiger conservation, and the root cause for negative attitudes expressed by a minority was perceived poor handling of depredation by authorities, when legally-mandated compensation was paid only in part or in an untimely fashion (Reddy and Yosef 2016).

Figure 64. A predator-proof corral constructed by villagers in Baltistan, Pakistan with the aid of Project Snow Leopard and the Snow Leopard Conservancy (SLC 2017)

Another example comes from Mongolia, where a camera trap captured video of a hobbling snow leopard with a heavy steel-jaw trap fastened to its paw (Nowell et al. 2016). WWF worked with the children of local herders in the area, and came up with a novel trap exchange program: local herders received a milk can other useful item in exchange for traps surrendered to school eco-club members. The children gathered 234 jaw traps, and decided to get rid of them permanently but keep them in the public eye as a continued educational tool by building a sculpture (WWF 2017a) (Figure 65).

Figure 65. Local schoolchildren collected traps and made a sculpture after camera trap footage showed an injured snow leopard in Mongolia

Social media offers opportunities not only for education and awareness but to pro-actively solicit public participation in combating wildlife crime. For example, in partnership with NGOs the government of Thailand launched Wild Watch TH, which encourages social media users to report illegal trade (Thailand CITES MA in litt. 2018, Bangkok Post 2018c, Figure 66). Another example is the Wildlife Witness App launched by TRAFFIC and publicized through zoos (Figure 67). Users can take a photograph of a potential violation, pin its location, and send these details to TRAFFIC.

Figure 66. Wild Watch TH encourages the public to report illegal wildlife trade via social media (Thailand CITES MA in litt. 2018)

Figure 67. TRAFFIC's Wildlife Witness app, launched through a campaign with participating zoos, provides a platform for people to report illegal wildlife trade (www.wildlifewitness.net)

Public events like Indonesia and Nepal's burning of government-held stockpiles (mainly resulting from seizures) (Figures 68 and 69), can also serve an important educational and awareness-raising function. Regarding raising awareness within governments of wildlife crime, the Africa-Asia symposium participants recognized this as a key need, especially for parliamentarians (in terms of improving legislation) and prosecutors (in terms of broadening their awareness of legal options for penalizing wildlife crimes). This review could locate few

specific examples of programs focused on big cats, but found many examples of broader educational training concerning wildlife crime. These will not be reviewed here except to note that Indonesia in particular has reported much recent progress in providing educational training for prosecutors (HWC 2017, Indonesia CITES MA in litt. 2018), in light of previous descriptions that sentences for tiger poaching and trafficking were too lenient in the past.

Figure 68. Nepal's stockpile burn included 418 leopard skins, 67 tiger skins, one snow leopard skin and one clouded skin: Nepal CITES MA in litt. 2018) (Photo: WWF 2017b)

Figure 69. Indonesia's stockpile burn included stuffed taxidermies of tigers, lions and clouded leopard (Hale 2016)

5. Best Practices and Continuing Challenges

The primary trade-related threats to Asian big cat conservation identified in this review are:

- ***Continued and possibly escalating poaching of Asian big cats:*** Although comprehensive poaching data are not available for any species, well-monitored tiger sites in Indonesia, Lao PDR and Thailand reported an increase in "organized" poaching in recent years (section 4.2.1.1); IUCN Red List assessments for both tigers and leopards documented greater range loss since 2008 than could be ascribed to habitat loss (sections 3.1.2 and 3.1.4); a TRAFFIC study estimated 221-450 snow leopards were poached annually from 2008-2016 (mostly in China, which has by far the largest national snow leopard population) (section 3.1.3); and the first survey of clouded leopard experts published in 2015 estimated that poaching for illegal trade was increasing (section 3.1.5).

- ***Asian big cat poaching appears to be largely driven by illegal trade:*** While this has long been suspected by experts, two recent studies provided demonstrable evidence. Based on the deaths of 57 radio-collared tigers in the Russian Federation since 1992, an area with relatively low levels of tiger-human conflict compared to other parts of Asia, a 2015 study found poaching to be the leading cause of mortality, remaining relatively constant since 2005 (section 3.1.2); and a 2018 study in Sumatra, Indonesia found that tiger poaching levels were positively correlated with both changes in the local value of tiger skins in illegal trade as well as economic growth in East and Southeast Asian countries (section 4.3.1, Figure 39).
- ***Illegal trade is also supplied and perpetuated by three other channels, the first being Asian big cats killed for other reasons (such as wildlife-human conflict):*** This has also long been suspected by experts, but a 2016 TRAFFIC survey produced a quantitative estimate that 39% of non-trade related killings of snow leopards result in an attempt to sell the animal's parts (section 4.3.1, Figure 44). In this sense, although illegal trade would not occur in the absence of consumer demand, it is also supply-driven to some extent.
- ***Captive breeding is also growing the potential supply of big cat products for consumer markets:*** A 2016 TRAFFIC study found that seizures of tigers of suspected captive origin grew from 2% of total range State seizures in the early 2000s to 30% in 2012-2015 (section 3.1.2), and a separate analysis of tiger seizures in the ten focal Parties from 2015-2017 estimated that 34% were of suspected captive origin (section 3.2.2).
- ***Increasing use of non-native big cats as substitutes for Asian big cat parts and derivatives is the third supply channel:*** A TRAFFIC study concluded that the majority of legal exports of bred-in-captivity African lion parts and products from South Africa to Southeast Asian countries appear to be substituting for tiger, with limited consumer and trader awareness of the substitution (documents AC30 Doc. 25 and Inf. 15). Depite the large volume of imports since 2008, few lion products were found in TRAFFIC market surveys (in comparison to tiger), and there were several recent prosecutions in China and Viet Nam of suspects attempting to trade in what they described as tiger parts but which were determined by DNA analysis to be lion. A 2017 survey of African lion experts noted a recent trend of Asian nationals attempting to obtain lion parts in eastern and southern Africa (Williams et al. 2017b). In addition, African leopards and South American jaguars have also recently been seized on attempted entry into illegal trade into Asia (section 3.1.6).
- ***Proliferation of illegal Asian big cat trade onto the Internet and social media:*** despite concerted efforts by Parties, NGOs and the private sector to stop illegal wildlife trade online, several studies have found growing presence of Asian big cats on the Internet (both attempted sale as well as owners sharing images of products in their possession) at the same time as availability in physical markets has generally declined, according to time series market surveys in several Asian countries (section 4.3.2).
- ***Although internal illegal trade persists, Asian big cat illegal trade is largely international.*** NGO researchers have broadly identified three key international trade routes for tigers, which are also relevant to other Asian big cats, particularly the first two: 1) trans-Himalayan; 2) southeast Asian; and 3) northeast China-Russia-North Korea (section 3.1.2, Figure 6).

This section presents the consultant's determination of best practices and continuing challenges to address these threats through implementation of aspects of Resolution Conf. 12.5 (Rev. CoP17), based primarily but not exclusively on examples from the ten focal Parties of this review. As discussed in the Introduction, this review seeks to maintain a narrow focus on Asian big cats and generally excludes parts of the Resolution which more broadly address wildlife crime, and thus does not provide a complete picture of best practices and continuing

challenges which indirectly affect Asian big cats.[74] Each best practice and continuing challenge is presented according to a goal, either quoted directly from Resolution Conf. 12.5 (Rev. CoP17) or other CITES documents, or based on issues arising from this research. Best practices are described first, followed by continuing challenges, under each of the four main topics.

5.1. Legislative and regulatory measures

Goal: Full implementation of protections for Asian big cats under national legislation, and reversal of the growing illegal trade from captive facilities. **Best practice: Stricter domestic measures requiring a finding of conservation benefit before permitting any trade in captive or wild big cat specimens.** The US Endangered Species Act requires a finding by the Scientific Authority that a transaction will enhance the long-term survival of the species in the wild in order to issue an exceptional permit for international or inter-state trade in a protected species. This applies to all big cats, whether wild or bred-in-captivity, and constitutes a stricter domestic measure than the non-detriment finding required for international trade in felids listed on the CITES Appendices. In the CITES context, "conservation benefit" for Asian big cats should be interpreted in line with Resolution Conf. 12.5 (Rev. CoP17) and Decision 14.69, which recommend no trade in parts and derivatives for commercial purposes, as well as restricting tiger breeding to a level supportive only to conserve wild tigers.

Goal: Close loopholes which could allow parts and derivatives of non-native big cats to be traded illegally as specimens of protected Asian big cats (document SC66 Doc. 44.2). **Best practice: Non-native big cats offered equal trade protection to native species**. Foreign species may be listed in the same category of protection afforded to native species under national legislation in several of the focal countries (China, Malaysia, Myanmar, Nepal, the US and Viet Nam); however, only the US fully protects all Asian and non-Asian big cats (section 4.1.10).

Goal: "Address the growing use of Asian big cats, including…parts and derivatives as luxury items" (document SC65SR). **Best practice: China has prohibited the production, trade and purchase of protected species as food.** There is an apparent decline in the perception of tiger and other Asian big cats as disease-curing medicinals and a rise in their consumption as luxury or novelty "tonic" food and drink. China's new Wildlife Protection Law prohibits trade in Asian big cats (and some non-native species) for the purpose of use as food, including bred-in-captivity specimens. However, a **continuing challenge** remains in illegal trade for other luxury purposes, including wines, jewelry from teeth and claws, and skins.

Goal: "Address the growing use of Asian big cats …as pets" (document SC65SR). **Best practice: the United Arab Emirates has prohibited the private possession of wild cat species.** Federal Law No. 22 enacted in 2016 prohibits the owning, trading, possessing or breeding of "dangerous animals," the list of which includes all felids except domestic and hybrid cats. These activities may only be carried out by licensed facilities, including zoos, animal parks, circuses, breeding centers, wildlife rescue centers, scientific research centers,

[74] For example, the ASEAN Senior Officials Meeting on Transnational Crime (SOMTC) has included illicit trafficking of wildlife and timber as a priority area (http://asean.org/asean-political-security-community/asean-ministerial-meeting-on-transnational-crime-ammtc/joint-statementscommuniques) and it has established a new working group (http://www.unodc.org/southeastasiaandpacific/en/2018/03/wildlife-somtc/story.html). This body has a high political mandate at ASEAN level and is an excellent example of how transnational crime can be addressed at the regional level. Another broader example is the transnational intelligence-led Operation PAWS, see para 14-16 in document SC66 Doc.44.1 and the Op PAWS report https://cites.org/sites/default/files/eng/com/sc/66/E-SC66-44-01-A3.pdf (CITES Secretariat in litt. 2018)

and institutions whose work requires the availability of dangerous animals. Penalties are steep for illegal possession ("imprisonment for a period of no less than one month and no more than 6 months; and to a fine of no less than AED10000 [USD2,723] and no more than AED500,000 [USD136,125]) or to either of said two penalties"), and the minimum fine is raised to AED50,000 (USD13,612) for possession for trafficking purposes. Private owners in prior possession of big cats were required to register within 30 days of the law's entry into force (January 2017), and a six month period is allotted to determine if the owner is able to come into compliance with the new law or otherwise have the animal confiscated (UAE 2016).

Goal: "Legislation…prohibiting…products labelled as, or claiming to contain, [Asian big cat] parts and derivatives (Resolution Conf. 12.5 [rev. CoP17]). **Best practice: Legal definition of parts and derivatives criminalize "claiming to contain" in conformance with Resolution Conf. 9.16 (Rev. CoP16).** Out of the ten focal Parties, only Peninsular Malaysia, Myanmar and the US have adopted the CITES definition of "readily recognizable parts and derivatives" (Resolution Conf. 9.6 [Rev. CoP16]), by defining them as "to include any *thing which is claimed by any person*,[75] or which appears from an accompanying document, the packaging, a label or mark or **from any other circumstances**, to contain any part or derivative of wildlife," as recommended by Resolution Conf. 12.5. Many Asian big cat parts (such as bones, teeth, and claws) are difficult to recognize at the species level without expensive forensic testing, and such testing may not even work on processed derivatives such as wines, bone pastes and pills, which are among the most common items in illegal international trade (Figure 47) (but see below for research on improving DNA recovery techniques for processed products). Traders have been documented claiming their products contain protected species such as tigers, even though there is such no label or mark on the package (EIA 2013), so it is necessary to consider "any other circumstances" when enforcing trade protections for Asian big cats.

Goal: Consumer states "voluntarily prohibit internal trade in Asian big cat parts, derivatives and products" (Resolution Conf. 12.5 [Rev. CoP17]. **Best practice: China's internal ivory trade ban and Lao PDR's Prime Minister's prohibition order.** In 2017, China rapidly implemented a complete closing of businesses previously licensed to sell ivory products following a mandate from their highest political body, the State Council. Hong Kong is planning similar actions to be completed in 2021. China continues to allow some legal internal trade in tiger and leopard parts and products. Parties including China could examine these ivory ban legislative and regulatory measures and consider their application to trade in Asian big cat and lookalike products. In May 2018, the Prime Minister of Lao PDR issued an Order (Lao PDR No. 5 2018) which appears to supersede the legal basis (Lao PDR WAL 2007) which allowed commercial trade in bred-in-captivity second (F2) generation parts and products of species under the top category of legal protection, which includes all native Asian big cats (tiger, leopard and clouded leopard). Widespread availability of tiger products in Lao PDR, particularly the Special Economic Zones which cater largely to Chinese nationals, has been a source of considerable conservation concern, and the Prime Minister's Order provides a new legal basis to end internal (as well as international) commercial trade.

Goal: "Parties where internal and international trade in Asian big cats and their parts and derivatives is permitted…report…on what legal trade is allowed, the species and trade volume involved" (document SC65SR). Best practice: Open permit databases and public comment on permit issuance. Governments act on behalf of their publics when authorizing individuals, businesses or organizations to trade or breed protected Asian big cats through issuance of permits. However, most lack any kind of information system for the public to have input to permit decisions or determine what activities have been permitted. China has a national database of permit numbers for wildlife products which have been authorized for

[75] Italicized language is used in Peninsular Malaysia Wildlife Conservation Act, but not Resolution Conf. 9.16. It is included here as an example of best practice for clearly prohibiting claiming to contain.

commercial trade (piju.cnwm.org.cn), but it can only be searched by the number on an individual permit, and not by the species or permit holder name, so there is no way of knowing how many and what type of products are authorized and for which species. A separate Chinese database maintained by the State Forest Administration (see section 4.1.2) contains permit decision outcomes since 2005, but it cannot be searched by species despite a 2016 Notification to "actively disclose to the public the number of applications for various types of licenses accepted by the authorities, the species involved and the licensing decisions" (China SFA 181 2016). The US invites public comment on permit applications and publishes the numbers and holders of permits issued, but these also cannot be searched by species. These examples fall short of a best practice, but are a step in the right direction.

Goal: "Ensure that national measures restricting internal and international trade in Asian big cat parts and their derivatives are comprehensive in that, recalling Decision 14.69, parts and derivatives obtained from specimens bred in captivity are included" (document SC65SR). **Continuing challenge: More lenient regulatory measures for trade in bred-in-captivity specimens could be applied to big cats.** Six of the focal Parties have legislative and regulatory measures that either treat bred-in-captivity specimens of some species more leniently than wild specimens, with no trade permit necessary, or designate protected species approved for commercial captive breeding, but these measures have not, at the time of this writing, been applied to Asian big cats: China, Indonesia, Myanmar, Nepal, Thailand and Viet Nam. None of these countries have transparent systems for the public and experts to participate in any decision to transfer bred-in-captivity Asian big cats into the subset of species authorized for commercial breeding. Although Lao PDR has recently committed to phasing out tiger farms and to preventing the establishment of new ones, this transition will need to be studied for its effectiveness before it can be cited as an example of best practice.

Goal: "Legislation [should] include penalties adequate to deter illegal trade and …facilitate implementation of CITES" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: strong penalties and recent legislative amendments to implement CITES.** Myanmar and Nepal recently enacted new CITES implementation legislation that should allow their current ratings of category 3 by the CITES Secretariat to improve; other Parties including India, Indonesia, Lao PDR and Thailand are also in the process of strengthening their national legislation. Most focal Parties have relatively high statutory financial penalties and jail penalties for illegal internal trade, and seven also criminalize attempted violations or obstruction (Table 14.3). Viet Nam increases prison penalties based on the volume of protected species parts involved in the violation. For criminal prosecutions, US sentencing guidelines call for baseline penalties to be increased by four times for protected species and, if coupled with other factors, could result in a 10X penalty increase. However, there is still a continuing challenge:

Continuing challenge: Trade controls for Asian and non-native big cats do not fully implement CITES nor adequately deter illegal trade. None of the focal Parties has fully comprehensive legislative and regulatory measures for Asian and non-native big cats (Tables 14.1-4). China and the US are the most comprehensive in terms of prohibited activities, but in the US civil penalties are relatively low, and China does not criminalize possession. Myanmar has an exemption that allows authorities to issue permits for possession, use, trade and transport of protected species medicines and consumer items, and China has permitted some internal trade in tiger, leopard and lion parts and derivatives under the statutory authority that requires authorities to determine that such trade is "necessary for scientific research, captive breeding, public exhibition or performances, heritage conservation or other special purposes" (China WPL 2018 Article 27). The national legislation of several focal Parties is urgently in need of updating (India, Indonesia, Lao PDR, Malaysia [Sarawak], and Thailand), especially in the areas of CITES implementation, online trading, treatment of parts and derivatives "claiming to contain," and increased penalties for repeat offenders.

5.2. National law enforcement

***Goal: "Anti-poaching teams…are effectively resourced…and intelligence is shared between relevant enforcement agencies (Resolution Conf. 12.5 [Rev. CoP17])*.** **Best practice: community-based intelligence programs increase anti-poaching effectiveness.** Studies in India, Indonesia, Lao PDR, Malaysia, Thailand and other countries have shown that intelligence, especially that gathered from local communities, is critical to detecting and countering tiger poaching. However, a recent WWF review found that only 14% of sites with wild tiger populations had fully implemented intelligence-led anti-poaching programs (section 4.2.1.1).

Goal: Dismantling major criminal networks trafficking in Asian big cats. **Best practice: intelligence-led investigations by national authorities have apprehended, prosecuted and penalized major international big cat traffickers in India and Viet Nam in recent years.** However, in order to fully dismantle their networks, these operations should be continued to continue to uncover other participants in criminal activity, particularly their counterparts in destination Parties through international coordination and intelligence-sharing. Persons already jailed or in the process of being prosecuted could be offered plea bargains or leniency in exchange for cooperation. Prisoner interviews such as those being conducted in Nepal (Paudel 2017) could be very useful for shedding light on trafficking networks.

Goal: "a multi-disclipinary approach in the detection, investigation, and prosecution of crimes related to [Asian big cats]" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: involving intelligence agencies in the fight against wildlife trafficking.** In 2016 the US Congress mandated its intelligence agencies to work on penetrating and dismantling wildlife trafficking networks. Intelligence agencies have sophisticated tools and personnel which should be used to supplement the efforts of traditional wildlife enforcement agencies.

Goal: "introduce innovative enforcement methods" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: application of financial criminal law to Asian big cat crime.** Thailand overcame considerable legal difficulty to enforce the world's largest asset forfeiture against individuals involved in illegal tiger trade in 2017 through inter-agency cooperation with its Anti-Money Laundering Office. Penalties under these laws can be much more severe than under wildlife legislation, and these types of specialists can bring increased sophistication to intelligence-led investigation.

Goal: "Development of practical identification manuals to aid the detection and accurate identification of parts and derivatives of Asian big cats" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: Reference materials for importing Parties concerning manufactured medicinals and improved DNA recovery techniques.** Processed medicines of reported Chinese origin claiming or suspected to contain tiger, leopard and other big cats (lion, cheetah [section 3.2.1] and clouded leopard [document SC65 Doc. 38 Annex 1]) are among the most commonly seized items by Parties around the world (section 3.2.1). Not all products have labels in the national language(s) of the importing Party which would allow authorities to fully implement their national legislation and CITES obligations by recognizing and preventing unauthorized imports. This could be rectified if Parties provided illustrated lists of all processed derivatives manufactured in their countries that are authorised to contain any material from any species of big cat. One example of a best practice is the European Union's (EU 2009) checklist of pharmaceutical trade names, anglicized Chinese and Viet Namese words, and taxonomical synonyms of protected species of plants and animals. In addition, the Czech Republic's TigrisID project is focusing on developing a technique to recover DNA from gelatin, broth and other processed products prepared with heating, and has offered to analyze such samples provided by other Parties at no cost (Czech Republic CITES MA via CITES Secretariat in litt 2018). Parties could support further

development of this research and other identification techniques and expand them to include all big cat species, as they have for elephant ivory and substitutes (Decision 17.162).

Goal: "Engage with e-commerce trading site companies, and encourage them to ensure that no online advertisements are being made for illegal specimens of protected species" (document SC65SR). **Best practice: working with Internet and social media companies.** Tech companies have a major role to play in policing online illegal wildlife trade. The Global Wildlife Coalition to End Wildlife Trafficking Online and a related initiative in China aim to train companies to police their own platforms and remove illegal advertisements both through automatic and manual means.

Goal: "All Parties that make seizures of tiger skins within their territories, when possible, to share images of the seized tiger skins with the national focal points or agencies in tiger range States, which have photographic identification databases for tigers, and the capacity to identify tigers from photographs of tiger skins, so as to identify the origin of illegal specimens" (Resolution Conf. 12.5 [rev. CoP17]). **Best practice: India and Thailand have developed national tiger identification databases, and Nepal has shared photographs of seized tiger skins with India which have resulted in positive identification of origin.** Beginning in 2006, India has developed a database which includes over 2,000 images of wild tigers, which also includes tigers from Bangladesh and Nepal. Nepal has submitted photographs of seized tiger skins to the Wildlife Institute of India, which has resulted in the identification of origin of at least seven tigers since 2016. Parties could share images of tiger skins seized in their countries since 2006 with India as well as Thailand, and with any other country which develops such databases, and continue to explore the feasibility of establishing a central repository, as recommended by Decision 17.164. Development of similar databases have also been recommended for snow leopards (Nowell et al. 2016), and could also feasibly be established for leopards.

Goal: "Ensure adequate management practices and controls are in place to prevent [Asian big cat] parts and derivatives from entering illegal trade from or through [captive] facilities (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: Viet Nam's road map to ending bear farming.** In most Parties with large populations of captive big cats, facilities are licensed for educational or conservation purposes, yet despite increasing evidence that many are involved in illegal trade there have been few law enforcement actions targeting such facilities. Viet Nam developed a plan to end the keeping of bears in such facilities in response to considerable evidence that illegal trade in bear bile was taking place, by committing to end the private ownership of bears and relocate animals to approved shelters. Places which were formerly major consumers of tiger products in the early 1990s (Japan, South Korea and Taiwan province of China) have not permitted the growth of commercial-scale captive breeding and their role in illegal international trade is no longer considered problematic. Lao PDR has stated publicly that it is "looking of ways to phase out tiger farms" (Dasgupta 2016), and in December 2017 informed the CITES Secretariat that it is forming a Committee on Tiger Farms including both national authorities and international experts (CITES Secretariat pers. comm. 2018). Prime Minister's Order No. 5 issued in May 2018 forbids the establishment of new wildlife farms engaged in breeding prohibited species (which include tigers and other native Asian big cats) for business purposes, and orders the promotion of existing farms into safari parks or zoos for conservation, tourism or scientific purposes.

Goal: Full enforcement of national laws prohibiting buying and possession. **Continuing challenge: Consumers are rarely penalized for their behavior.** While Asian big cat trade is to some extent supply-driven, it is ultimately the consumers who bear responsibility, yet there are few recent examples of law enforcement against purchase and possession. Penalizing consumers and publicizing these actions could have a strong deterrent effect.

5.3. Demand reduction

Goal: "Carry out appropriate education and awareness campaigns to eliminate illegal trade in and use of Asian big cat skins as trophies, ornaments and items of clothing or for the production of other materials" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: Apply the demand reduction example from China's Tibet SAR together with law enforcement.** The only known case of a rapid collapse in consumer demand involved a very influential spokesperson and targeted a conspicuous form of consumption (the wearing of tiger and leopard skin trimmed cloaks at social occasions in China's Tibet SAR in the mid-2000s). While this case had unique aspects that may be difficult to replicate elsewhere, it does show that substantial success is possible, especially with a strong component of enhanced law enforcement.

Goal: "Address the growing use of Asian big cats…through targeted demand reduction strategies, including behavioural change interventions, and to strengthen demand reduction efforts" (document SC65SR). **Best practice: USAID demand reduction program focuses on China, Thailand and Viet Nam.** China and, to a lesser extent, Viet Nam, emerge from this review as the primary destinations for international illegal big cat trade, which appears to also be supplied, illegally, from internal captive sources. While there has been considerable effort toward studying consumer motivations and toward educating consumers, there have been few concrete strategies which combine efforts to reduce demand with efforts to reduce supply. USAID's studies of consumer motivations are an important first step.

Goal: "Work with traditional medicine communities and industries to develop and implement strategies for gradually reducing and eventually eliminating the use of Asian big cat parts and derivatives" (Resolution Conf. 12.5 [Rev. CoP17]) and "Address the growing use of Asian big cats, including as pets, and including parts and derivatives as luxury items" (document SC65SR). **Continuing challenge: Diverse products imply diverse consumer groups and motivations**. Big cats are traded in many forms, for uses which include food, medicine, ornament, decoration and pets. Different market segments require different messaging, and could be developed in cooperation with the relevant distribution channels as well as with the consumers themselves.

5.4. Education and awareness

Goal: "Carry out appropriate education and awareness campaigns directed at urban and rural communities and other targeted groups, on the ecological and cultural significance and the significance for ecotourism of Asian big cats, their prey and habitats" (Resolution Conf. 12.5 [Rev. CoP17]). **Best practice: Active campaigning.** Social media offers opportunities for greater public involvement in combating illegal trade in Asian big cats. Thailand's Wild Watch and TRAFFIC's Wildlife Witness offer examples where public reporting of wildlife crime is encouraged. For rural communities living near big cats, educational efforts can have the greatest impact if they are hands-on, and can teach practical skills and provide tools for conflict mitigation.

Goal: Education and awareness lead to reductions in illegal trade. **Continuing challenge: attitudes are slow to change, and consumption behavior can be independent of attitude**. Research on attitudes toward wildlife consumption in China in 2004 and 2012, employing the same survey methodology in major cities, found no significant change in attitudes toward consuming protected species despite years of educational and awareness efforts. Other studies also found that people who say they support wildlife conservation are nonetheless willing to engage in illegal consumption activity.

Annex 1. Additional information on implementation activities of six focal Parties

Although this report is lengthy, for attempted brevity and clarity of the main text this Annex includes additional information concerning six Parties. The first section, China, contains additional information on China's national legislative and regulatory measures collected by the consultant. The next five sections summarize additional information contributed by five focal Parties which responded to the consultant's request for information in March 2018: India, Indonesia, Nepal, Thailand and the United States.

A1.1. China

This section includes additional information on national legislative and regulatory measures collected by the consultant, which should be read in the context of section 4.2.1 but which are included here to its length.

China has the largest internal wildlife enforcement network (WEN) in the world, the National Inter-agency CITES Enforcement Coordination Group (China NICECG 2016), established in 2012 and given legislative authority in the amended Wildlife Protection Law, which also provides a mandate for international coordination (China WPL 2016, Article 36).

Legislative trade controls for the tiger were strengthened under a 1993 legal mandate from China's highest governing body, the State Council (China SC 1993), which "banned all trade activities" in tiger bone, removed tiger bone from the national list of approved pharmaceutical ingredients, banned manufacture and production, and required that existing stocks of tiger bone be declared, registered and sealed. The State Council specified that any product marked, even if falsely marked, as containing these derivatives is to be treated under law as if it contains such derivatives (China SC 1993, Mainka 1997), an action explicitly recommended by Resolution Conf. 12.5. The Ministry of Public Security strengthened this by clearly extending prohibitions to fake Tiger parts and products (China MPS 2001).

In China, all species protected by international and national law cannot be traded online, even if some of these products can exceptionally be sold legally in regulated physical markets (Xiao et al. 2017). In addition, China has new "Regulations on Examination of Mails upon Acceptance," requiring transport service providers to check all goods adequately before accepting them for transport, and to refuse transport of any products that are classified as prohibited goods (although some companies have still to implement this regulation effectively (Xiao et al. 2017).

Concerning administrative responsibilities, China's amended Wildlife Protection Law (China WPL 2016) devolves substantial responsibility from the national level to local authorities. Wildlife authorities at the county level and above (as well as industry and commerce authorities at that level, which includes provinces, municipalities and autonomous regions) are now responsible for confiscation (of both the items involved in the violation as well as any unlawful income associated with it) and issuing financial penalties, and criminal violations are to be prosecuted according to the China's Criminal Law. The amendments clearly spell out the administrative and legal responsibilities of government agencies for various categories of violation: for example, illegally advertising wildlife in violation of the conditions spelled out in the WPL shall be prosecuted under China's Advertising Law. Unlawful import or export is to be punished by Customs, the department of inspection and quarantine, the public security bureau or the department of maritime law enforcement in accordance with relevant laws, regulations and national statutes, and may be criminally prosecuted.

Wildlife authorities at the county level and above are responsible for handling confiscated wildlife and their products; according to the State Forest Administration's (SFA) draft regulations (China SFA 2016b) they shall establish secured warehouses or dedicated spaces

or seized items, determine personnel to manage seized items, and shall implement integrated security for seized terrestrial wildlife and wildlife products. The draft regulations specify a range of options for disposition of such items. For any species for which there are special national regulations concerning sale, purchase or utilization, the items should be secured and sealed (Article 9). Otherwise, options include donation, auction,[76] educational exhibition, and destruction.

Another major change in China's amended Wildlife Protection Law (China WPL 2016) is that previously "supervision and control over wildlife or their products thereof that are placed on the market" rested with the State Administration for Industry and Commerce (SAIC) under Article 22. Under the amended law (Article 34), that authority is vested in agencies at "the county level and above:"[77] the wildlife departments for the "supervision and administration of utilisation of wildlife and products thereof, such as for scientific research, captive breeding and public exhibitions and performances;" and other local authorities for the "supervision and inspection of the sale, purchase, utilisation, transport and mailing of wildlife and the products thereof." Previously, the State Administration for Industry and Commerce has been documented to have been involved in issuing permits for the production of the "lion" wines described in section 4.2.1 (Nowell and Xu 2007), and the CITES Secretariat noted during its 2007 mission that "it appeared that supervision and regulation of the sale of such products, being a commercial activity, is primarily a matter for the Industry and Commerce and Quality Control Departments. However, it also appears that the inspectors of these departments have little knowledge of wildlife matters and may not be best suited to undertake such work" (document CoP14 Doc. 52 Annex 7).[78] However, it is not clear that county-level authorities will be any more effective, given the difficulty of verifying processed, skeletal and meat remains of big cats.

SFA's draft implementing regulations for administration of the special marking system described in section 4.2.1 spell out punishments for violations including forgery and various types of improper use, including fines of up to CNY250,000 (USD39,797) and potential criminal prosecution. In December 2017 China created a system of random spot checks to supervise compliance of permit holders (licensees) (China SFA No. 152 2017). This SFA Notice requires the establishment of an inventory of all SFA-approved licensees, although this must be "kept confidential according to the law." The SFA's Office of Administrative Licensing shall be responsible for the overall establishment of a directory of inspectors, to consist of administrative license-issuing entities, provincial-level forestry authorities and other relevant assistance entities, and could also include designated third parties. Inspectors are to randomly select licensees (with a goal of inspecting between 3-10% of the items they are licensed to hold or produce), and inform them of the inspection three days before it is scheduled to take place. The inspection team cannot include personnel who were involved in the original permit approval. Licensees who have been identified from complaints, higher authorities or special enforcement actions may be inspected non-randomly. The Notice also refers to exploration of a "blacklist management system;" this was referred to by China at the Hanoi Conference on

[76]Article 12 of the draft regulations specify the circumstances under which seized wildlife products may be auctioned, including being on the list of "Wildlife under Special State Protection for Captive Breeding" (discussed in section 4.2.1); being produced before the enactment of the original Wildife Protection Law on March 1, 1989; having a "relatively high utilization value, " with the "means of utilization in conformance with laws and regulations;" and other special circumstances (China SFA 2016b).

[77]Wikipedia states that as of August 18, 2015, there were 2,852 county-level administrative divisions in China

[78] The Secretariat noted that the oversight of the lion bone wine (see Figure 56) had been transferred to the central government (SFA); this was done by an SFA announcement including lions along with tigers, leopards, elephants and other key species subject to the China National Wildlife Marking System (TRAFFIC China 2006).

Illegal Wildlife Trade in 2016, where a black list for “noticeable people” was described as an enforcement tool (HCIWT 2016).

Some traders have sought to exploit potential loopholes in China’s legislative and regulatory measures. The previous review of Resolution Conf. 12.5 (Rev. CoP16) recommended “China’s ban on auctions of pre-Convention/pre-national trade ban items derived from protected species…to Parties as a best enforcement practice” (document SC65 Doc. 38 Annex 1), but challenges remain. Traders have claimed that their products are old and pre-date legal protections (as discussed in section 3.1.2., auctions of tiger bone wine supposedly manufactured before the 1993 State Council ban took place in 2017). Traders have been documented claiming that it is legal to produce tiger bone wine because the bones are only soaked in the wine and then removed, so the wine itself does not actually contain any prohibited material (EIA 2013). While the CNWM marking system has been upgraded to now include QR codes and other security measures (China CNWM 2015), the previous review (document SC65 Doc. 38 Annex 1) described numerous previous instances reported by NGO investigations of sellers attempting to violate permit rules (such as the stipulation that the permit must remain with the item, such as a tiger skin, when sold). Additionally, the specimen photograph which accompanies some permits may be too small to be diagnostic (EIA 2013); CNWM guidelines for these photos specify a resolution of only 100-200 KB (CNWM 2011, Figure A1).

Figure A1. CNWM illustration of acceptable photographs for specimens granted Wildlife Product Certificates (CNWM 2011)

A2. India

India’s CITES Management Authority developed its contribution jointly with the National Tiger Conservation Authority (India NTCA in litt. 2018).

Legislative and regulatory measures and National law enforcement: India reported that the Wildlife (Protection) Act of 1972 (WPA) was amended in 2006 to provide enabling provisions to constitute the National Tiger Conservation Authority (NTCA) and the Wildlife Crime Control Bureau (WCCB). The NTCA was given broad authority for management of tiger-bearing forest areas, operationalized through a Tiger Conservation Plan (TCP), which is a statutory mandate under the 1972 WPA. The TCP has *inter alia* a Security Plan for addressing threats to tigers and their habitats which is periodically tested against a recently developed Security Audit framework. The legislative amendment of 2006 increased penalties relating to an offense in a core area of a tiger reserve, and an offense related to hunting in a tiger reserve or altering its boundaries: 3-7 years imprisonment and a fine of 50,000 up to two lakh INR (USD742-2,969) for a first conviction, and 7 years imprisonment and a fine of five lakh INR up to 50 lakh INR (USD7,423-74,225) for a second or subsequent conviction. India also noted that the WPA has a separate chapter on wild animals in captivity and a dedicated statutory body, the National Zoo Authority, and reported that there is no trade in parts and derivatives of tigers from captive facilities in India. Another separate chapter of the WPA on trade/commerce in wild animals, animal articles and trophies provides that all these items are government property, and sets out processes for issuance of certificates of ownership and for any transfers and dealings. India also highlighted its work in developing a National Repository of Camera Trap Photographs of Tigers to help address wildlife crime.

Demand reduction: India noted that demand for tiger body parts and derivatives primarily emanates from outside the country, and is being addressed through international fora including CITES and bilateral agreements with neighboring countries, including Bangladesh, Bhutan and Nepal, which India stated serve as transit routes.

Education and awareness: India highlighted that its TCP prescribes education and awareness activities solicited by Indian States with wild tiger populations through an Annual Plan of Operation, noting that the States also employ their own funds for additional outreach activities. The WPA also prescribes that the NTCA support the management of Tiger Reserves through "eco-development" and peoples' participation through approved micro plans.

A.3. Indonesia

Indonesia developed its contribution jointly with a group of NGOs working in the country (named in Table 1 of this review).

Legislative and regulatory measures: In addition to the information presented in Table 14 and discussed in section 4.1.3 of this review, Indonesia reported that domestic trade and export of specimens of the Sumatran tiger subspecies (*P.t. sumatrae*) requires a permit from the President of Indonesia, as stipulated in regulation 8/1999 (Indonesia 8/1999).

National law enforcement: In addition to the information discussed in sections 4.2.1.1 and 4.2.5 of this review, Indonesia reported on a number of other developments in this area, including the renewal of a 2014 wildlife and forestry crime law enforcement network between four provincial police departments and Kerinci Seblat National Park in 2017 for a three-year period. They also highlighted two cases where prosecution is pending for tiger poaching in Bengkulu province in 2017. Indonesia also highlighted numerous recent examples of training to strengthen law enforcement capacity, including for law enforcement officers and aviation security as well as members of the judiciary. They also noted that the Sumatran Tiger Strategy and Action Plan of 2007-2017 was being updated for the period 2018-2028, and that the strategy had undergone implementation reviews in 2016 and 2017 to better coordinate tiger conservation activities among the diverse stakeholders. Moreover, population viability analysis was conducted for all Sumatran tiger sub-populations. The activities of one NGO were highlighted in conducting cyber-crime investigations.

Education and awareness: Indonesia highlighted numerous efforts undertaken by NGOs from 2015-2017, including raising awareness on social media, celebrating Global Tiger Day, petitioning for improved law enforcement, community snare-sweeping actions, development of a Sumatran tiger communication strategy, and volunteer story-telling events.[79] Media coverage of big cat wildlife crime from 2015- 2017 reached 610 publications at the international (106), national (278), and local (226) levels.

Indonesia also provided a number of photographs to illustrate national law enforcement (Table A1) and education and awareness activities (Table A2).

[79] Indonesia provided the following web links to NGO education and awareness activities: https://www.youtube.com/watch?v=r1_2zLHbIgk https://www.youtube.com/watch?v=PaChK9a7ZMA https://www.harimaukita.or.id/2016/07/30/gobal-tiger-day-29-juli-perberat-hukuman-pelaku-perdagangan-harimau-sumatera/ https://www.harimaukita.or.id/2016/06/12/forum-harimaukita-goes-to-yogyakarta/ http://www.mongabay.co.id/2017/08/06/harimau-sumatera-terus-diburu-meski-statusnya-dilindungi/

Table A1. National law enforcement activities in Indonesia 2015-2017

						
A 2017 sting operation in Bandung	Tiger skin and bones exhibited at a 2016 press conference in Langkat	A 2016 case prosecution in Aceh	Skin seizure from one of two 2017 tiger poaching cases in Bengkulu	Seizure from one of two 2017 tiger poaching cases in Bengkulu	A 2016 case prosecution in Jambi	Tiger skeleton seized in another 2016 case in Jambi

Table A2. Education and awareness activities in Indonesia 2015-2017

			
Snare sweeping by volunteers in Kerinci Seblat NP in 2017	Prosecutor training in Medan in 2016	Aviation security socialization in Halim Perdanakusuma International Airport, 2017	Story telling activity on Global Tiger Day

A4. Nepal

This section summarizes additional information contributed by Nepal.

Legislative and regulatory measures: In addition to the information discussed in section 4.1.8 of this review, Nepal highlighted that its 2017 amendments to the 1973 National Parks and Wildlife Conservation Act raise financial penalties for offenses involving native species of Asian big cat to USD5,000-10,000, and that the amendments also provide for the destruction of stockpiles. Nepal also highlighted its preparation of a Climate-Smart Snow Leopard Management Plan for eastern Nepal, which was launched at the International Snow Leopard and Ecosystem Forum in Bishkek, Kyrgyzstan in October 2017. Nepal highlighted the formation of a high level National Tiger Conservation Committee (NTCC) under the chairmanship of the Prime Minister of Nepal, as well as a National Level Wildlife Crime Control Coordination Committee (NWCCCC) under the chairmanship of the Forest Minister.

National law enforcement: In addition to the information discussed in section 4.4 of this review, Nepal highlighted its formation of a Central Level Wildlife Crime Control Bureau (WCCB) and District Level Wildlife Crime Control Bureaus. Nepal also noted its separate enforcement jurisdictions for inside and outside of protected areas and their cooperation with citizen groups. Within protected areas, the military cooperates with Buffer Zone user committees and groups as well as anti-poaching units. Outside protected areas, District Forest Offices cooperate with District Forest user groups as well as with the Crime Control Bureau of Nepal police for illegal trade-related cases. Nepal also noted that it had arrested five suspects and confiscated two leopard skins during the period of the first three months of 2018.

Education and awareness: Nepal highlighted several activities which took place from 2015 to the present, including crime scene processing training to field level staff, three months of judicial training to at least 50 senior level officers, celebration on designated days including

International Tiger and Snow Leopard Days as well as National Conservation Day on 23 September, and programmes which took place at levels ranging from school and community to policy and implementation.

A5. Thailand

Thailand's contribution on legislative and regulatory measures has been incorporated into section 4.1.9 of this review, and some of the information on **National law enforcement** into section 3.2.1 (Table 5) and section 4.4. Thailand also hosted the 4th Regional Dialogue on Combating Trafficking of Wild Fauna and Flora in Bangkok in September 2017, to share information between countries and work on the action plan for ASEAN Cooperation on CITES and Wildlife Enforcement (2016-2020) (Figure A2). In addition, Thailand highlighted training of anti-poaching officers in SMART techniques (Figure A3), and noted that the government has developed a database of individual stripe patterns of captive-bred tigers and some wild tigers, and is developing a nationwide DNA database for captive tigers. Thailand also highlighted activities sponsored by USAID in the areas of enforcement and demand reduction, described on their website (http://www.usaidwildlifeasia.org/events/list-view).

Figure A2. Photographs from the 4th Regional Dialogue on Combating Trafficking of Wild Fauna and Flora, Bangkok, September 2017

Figure A3. Training activities for protected area staff in the Spatial Monitoring and Reporting Tool (SMART) in Thailand

Education and awareness: In addition to the information discussed in section 4.3.2 of this review, Thailand highlighted three sets of activities: those conducted by officials at wildlife check points to educate the public, especially students, about CITES (Figure A4); celebrations of World Wildlife Day on 3 March 2018 under the theme Big Cats: Predators Under Threat

(Figure A5); and public campaigns about tiger conservation in 30 schools and communities around the Huai Kha Khaeng Wildlife Sanctuary (Figure A6).

Figure A4. Officials at wildlife check points in Thailand conducting CITES educational activities

Figure A5. Activities in Thailand to highlight Big Cats on World Wildlife Day 2018

Figure A6. Tiger conservation activities around Thailand's Huai Kha Khaeng Wildlife Sanctuary

A6. United States of America

This section summarizes additional information contributed by the United States.

Legislative and regulatory measures: In addition to the information discussed in section 4.1.10 of this review, the United States highlighted its Captive Wildlife Safety Act, which became effective in September 2007, and amends the Lacey Act to make it illegal to transport

six species of big cat (tiger, lion, leopard, jaguar, cheetah and cougar) across state lines or the US border, except for certain exempt organizations. The US also highlighted that the Lacey Act provides for steep penalties for violations: up to five years imprisonment and fines up to USD250,000 for individuals and USD500,000 for organizations. Other legislation noted was the Rhinoceros and Tiger Conservation Act of 1994, which provides funding for tiger conservation internationally, and that the Act was amended in 1998, through the Rhino and Tiger Product Labeling Act, to prohibit the import,export and sale of any product for human consumption or application containing, or labeled or advertised as containing, any species or subspecies of tiger. The US also described its licensing requirements under the Animal Welfare Act for importing, buying, selling or transporting across US state lines animals foreign to the United States, and noted that there is no evidence to indicate that tigers or other Asian big cats are entering illegal trade either from or through US captive facilities, either domestically or internationally.

National law enforcement: In addition to providing the information on seizures presented in section 3.2.1, the US highlighted its approach to preventing illegal wildlife trade online, noting that special agents work are stationed in areas home to major internet companies, and have worked with them to discuss recurring issues in the posting of illegal wildlife advertisements and ways to better communicate with their customers about the legality of wildlife sales. The US reported that, as a result, several online marketplace platforms are developing new web-trolling software applications to better "self-police," and identify and remove illegal wildlife trade postings. The US noted that many internet platforms have denounced wildlife trafficking and expressed support for proactive action to stem illegal wildlife trade. The US noted that companies must not only comply with federal law, but also state laws, which can be even more restrictive.

Demand reduction and Education and awareness: The US highlighted its Stop Wildlife Trafficking campaign conducted in partnership with the NGO WildAid (http://www.stopwildlifetrafficking.org/), which includes the tiger as one of its ten focal species.

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