

VOL. 30 NO. 1

1

# TRAFFIC

B U L L E T I N

**SUMATRA'S CAGE BIRD TRADE**

**CHINA'S GREEN PUBLIC PROCUREMENT**

**SHARKS AND RAYS IN BANGLADESH**

APRIL 2018

The journal of the TRAFFIC network disseminates information on the trade in wild animal and plant resources

# TRAFFIC

the wildlife trade monitoring network

TRAFFIC was established in 1976 to perform what remains a unique role as a global specialist, leading and supporting efforts to identify and address conservation challenges and solutions linked to trade in wild animals and plants.



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TRAFFIC's Vision is of a world in which trade in wild plants and animals is managed at sustainable levels without damaging the integrity of ecological systems and in such a manner that it makes a significant contribution to human needs, supports local and national economies and helps to motivate commitments to the conservation of wild species and their habitats.

# TRAFFIC

Trade in wildlife is vital to meeting the needs of a significant proportion of the world's population. Products derived from tens of thousands of species of plants and animals are traded and used for the purposes of, among other things, medicine, food, fuel, building materials, clothing and ornamentation.

Most of the trade is legal and much of it sustainable, but a significant proportion is not. As well as threatening these resources, unsustainable trade can also lead to species declining in the wild to the point that they are threatened with extinction. Illegal trade undermines local, national and international efforts to manage wild natural resources sustainably and causes massive economic losses.

The role of TRAFFIC is to seek and activate solutions to the problems



MICHEL GUNTHER / WWF INTERNATIONAL

created by illegal and/or unsustainable wildlife trade. TRAFFIC's aim is to encourage sustainability by providing government, decision-makers, traders, businesses, consumers and others with an interest in wildlife trade with reliable information about trade volumes, trends, pathways and impacts, along with guidance on how to respond where trade is illegal or unsustainable. Five regional TRAFFIC offices are co-ordinated by the TRAFFIC headquarters in Cambridge, UK.

TRAFFIC's reports and advice provide a technical basis for the establishment of effective conservation policies and programmes to ensure that wildlife is maintained within sustainable levels and conducted according to national and international laws and agreements. The journal of the TRAFFIC network, *TRAFFIC Bulletin*, is the only publication devoted exclusively to issues relating to international trade in wild plants and animals. Provided free of charge to over 4000 subscribers and freely available from the TRAFFIC website ([www.traffic.org](http://www.traffic.org)), it is a key tool for disseminating knowledge of wildlife trade and an important source of information for those in a position to effect change and improve awareness.



JOHN E. NEWBY / WWF INTERNATIONAL



HARISH SEGAR / WWF INTERNATIONAL

Much of the content published in the *TRAFFIC Bulletin* arises from investigations carried out by TRAFFIC staff, whose wide-ranging expertise allows for a broad coverage of issues. TRAFFIC has also built up a global network of contacts with, for example, law enforcement agents, scientists, and wildlife experts, some of whom are regular contributors to the *TRAFFIC Bulletin*.

TRAFFIC welcomes articles on the subject of wildlife trade that will bring new information to the attention of the wider public; guidelines are provided in this issue and online to assist in this process. For more information, please contact the editor: Kim Lochen ([kim.lochen@traffic.org](mailto:kim.lochen@traffic.org)).

The *TRAFFIC Bulletin* is a publication of TRAFFIC, the wildlife trade monitoring specialist and a leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

The *TRAFFIC Bulletin* publishes information and original papers on the subject of trade in wild animals and plants, and strives to be a source of accurate and objective information.

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White-rumped Shama  
*Copsychus malabaricus tricolor*  
(© James A. Eaton / Birdtour Asia)

**Photographs this page, from top:**  
Shark processing centre, Bangladesh  
(© Alifa Bintha Haque);  
Birds on sale at Pekanbaru market, Sumatra  
(© Marison Guciano);  
Seizure in Hong Kong of suspected rhino horn pieces  
painted red (© Hong Kong Customs)

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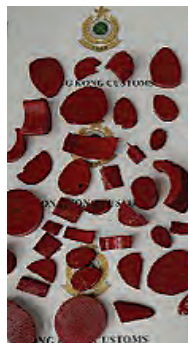
BULLETIN

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OTHER TRAFFIC MATERIALS, PLEASE TURN TO PAGE 2 AND THE  
BACK PAGE OF THIS ISSUE FOR FURTHER DETAILS.**

In 2017, over 12 months, eBay prevented or removed 45,000 listings that violated the company's wildlife trade policies. As a percentage of the company's product offering at any given time—one billion+ listings—this number is relatively small. However, with regards to illegal wildlife trade, it is indicative of the prevalence of illegal trade and criminal operations in online marketplaces, which give large-scale market exposure to sellers and provide a layer of anonymity to protect against risk of detection.

## EDITORIAL

Wildlife law enforcement action is no longer solely focused on individual outlets or physical markets, but increasingly across websites and social media applications globally. In 2017, TRAFFIC found 2,069 advertisements for endangered species products for sale online in China during a four-month period, with 1,687 of those advertising elephant ivory.<sup>1</sup> Similarly in the USA, TRAFFIC recorded 2,056 ivory items offered for sale online in a seven-week period in 2016.<sup>2</sup>

Wildlife trafficking online isn't limited to products like elephant ivory, tiger teeth or pangolin scales. Live, protected species that are in demand for the exotic pet trade are increasingly available through social media platforms. A rapid online survey conducted by TRAFFIC in 2017 found 1,623 protected live birds and reptiles for sale on Facebook in the Philippines in just 17 days.<sup>3</sup>

A 2016 study investigating the availability of illegal wildlife products on the "dark web" found offerings to be negligible, indicating that wildlife trafficking through the surface web was so unregulated as to not require traders to seek the cover of the dark web.<sup>4</sup> It is likely that continuing advancements in technology and global connectivity will only fuel the trade in endangered species and their products online without intervention. Fortunately, the private sector has stepped up to take on this challenge and is presenting an increasingly united front from the industry against wildlife crime.

TRAFFIC, along with partners WWF and the International Fund for Animal Welfare (IFAW), launched the Global Coalition to End Wildlife Trafficking Online on 7 March 2018, bringing together some of the world's biggest internet companies<sup>5</sup>. The aim of the collaboration is to reduce wildlife trafficking online by 80% by 2020.

This Coalition expands on previous collaborations with the private sector to address the threat of illegal wildlife trade online. TRAFFIC regularly monitors

online trade and shares findings with both the companies identified and local law enforcement for action. Just one year prior to the Global Coalition to End Wildlife Trafficking Online launch, Baidu, Alibaba and Tencent—the biggest technology companies in China and some of the largest in the world—joined together to pledge zero tolerance to wildlife trafficking online in celebration of World Wildlife Day.<sup>6</sup> On 22 November 2017, eight more China-based companies joined this effort and an alliance was formed.<sup>7</sup> The companies recently received training by wildlife and enforcement experts at Baidu's headquarters in Beijing to increase capacity for monitoring illegal wildlife trade online and learn how to find and deal with illegal wildlife trade information on their platforms in China.<sup>8</sup>

On 4 December 2017, Instagram launched a hashtag interstitial to educate users about wildlife trafficking when searching for one of the hashtags provided by TRAFFIC and WWF that may be linked to illegal trade.<sup>9</sup> Activities such as these will continue through the Coalition, aiming to strengthen detection by companies and encourage behaviour change in company users.

TRAFFIC will work with Coalition members to address specific illegal wildlife trade threats on their platforms. This includes providing wildlife policy guidance, delivering training to company staff members to help them better detect products derived from threatened species, looking to advance the use of artificial intelligence (AI) to enhance technological tools for detection, and engaging company users and conservation supporters to be a part of the solution to wildlife trafficking online.

The launch of this Coalition is just the first step. TRAFFIC aims to see eBay's efforts replicated across the industry, with companies sharing best practices to prevent criminals simply shifting between platforms. Truly unplugging online trafficking routes will require additional partnerships across sectors such as the transport and financial sectors, as well as hand-in-hand collaboration with law enforcement. Rather than the availability of illegal wildlife going viral online, the Coalition aims to use the global connectivity of the online industry—which originally led to this current crisis—to provide solutions to combat wildlife trafficking online.

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**Chen Jing**, Wildlife Crime Project Manager, TRAFFIC. E-mail: [jing.chen@traffic.org](mailto:jing.chen@traffic.org)

<sup>1</sup>Zhao, Xu, Xiao, Guan and Lau (2017). *Revisiting China's ivory markets in 2017*. TRAFFIC Briefing; <sup>2</sup>Kramer, Sawyer, Amato and LaFontaine (2017). *The US elephant ivory market: A new baseline*. TRAFFIC Report; <sup>3</sup>Canlas, Sy and Chng (2017). A rapid survey of online trade in live birds and reptiles in the Philippines. *TRAFFIC Bulletin* 29(2); <sup>4</sup>Harrison, Roberts and Hernandez-Castro (2016). Assessing the extent and nature of wildlife trade on the dark web. *Conservation Biology*. <https://doi.org/10.1111/cobi.12707>; <sup>5</sup>The founding members of the Global Coalition to End Wildlife Trafficking Online are Alibaba, Baidu, Baixing, eBay, Etsy, Facebook, Google, Huaxia Collection, Instagram, Kuaishou, Mall for Africa, Microsoft, Pinterest, Qyer, Ruby Lane, Shengshi Collection, Tencent, Wen Wan Tian Xia, Zhongyikupai, Zhuanzhuan and 58 Group, convened by WWF, TRAFFIC and IFAW; <sup>6</sup>*Youth and internet giants speak out against wildlife cybercrime* (2017). <http://www.traffic.org/home/2017/3/2/youth-and-internet-giants-speak-out-against-wildlife-cybercr.html>; <sup>7</sup>*Chinese internet giants launch alliance to combat wildlife cybercrime* (2017). <http://www.traffic.org/home/2017/11/22/chinese-internet-giants-launch-alliance-to-combat-wildlife-c.html>; <sup>8</sup>*China-based internet alliance trained on combating wildlife cybercrime* (2017). <http://www.traffic.org/home/2018/3/26/china-based-internet-alliance-trained-on-combating-wildlife.html>; <sup>9</sup>*Instagram users to receive alerts about threatened wildlife* (2017). <http://www.traffic.org/home/2017/12/4/instagram-users-to-receive-alerts-about-threatened-wildlife.html>

SARAH FERGUSON was appointed Head of the TRAFFIC office in Viet Nam in February 2018. She replaces MADELON WILLEMSSEN who left in December 2017 after three years as Head during which time the team in Hanoi increased from five to 12 members.

## bulletin board

ROBINAH VALERIE KAPAWA left TRAFFIC in December 2017 after four years at the South African office.

TOMOMI KITADE was appointed Head of the Japan office in January 2018, taking over from KEIKO WAKAO who left after a period of three years in that appointment.

YANNICK KUEHL, Regional Director of the TRAFFIC team in East Asia since January 2014, left TRAFFIC in January 2018.

CLÉO MASHINI MWATHA who led TRAFFIC's work in D.R. Congo since November 2014, left in March 2018. Cléo was a key supporting force to the DRC government in curbing illegal ivory trade in the country.

HA NGUYEN MY joined TRAFFIC in November 2017 as Social and Behaviour Change specialist, and is based at the Hanoi office, Viet Nam.

ADAM PIRES joined the East/Southern African team in February 2018 as Project Manager for the TRAFFIC component of a five-year USAID-sponsored project: Combating Wildlife Crime in Namibia and the Kavango-Zambezi (KAZA) Transfrontier Conservation Area (TFCA).

SUSAN VIVIAN retired in December 2017 after a period of 20 years working as Information and Publications Officer at TRAFFIC's headquarters office in Cambridge.

FU YING (Sunny) was appointed Finance & Administration Manager at TRAFFIC's China office in November 2017.

AMANDA TOWLE QUINN was appointed Communications Officer for TRAFFIC in November 2017 and is based in the Hanoi office.

AMOS WAINFEN was appointed Finance & Accounting Officer in February 2018, and is based in the Central Africa office in Cameroon.

### traffic websites

www.traffic.org (English); www.traffic.org/news-french (French); www.trafficchin.org (Chinese); www.trafficj.org (Japanese)

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Thank you for your co-operation.

## THANK YOU!

TRAFFIC would like to acknowledge and thank Cleveland Metroparks Zoo, USA, for its generous donation to the *TRAFFIC Bulletin*. Such support is vital to ensure that the *Bulletin* can continue to reach a wide audience.

## OBITUARIES

EARTH NEGOTIATIONS BULLETIN, IISD



## HARALD MARTENS

We are sad to announce that former TRAFFIC and WWF colleague, Harald Martens, passed away on 8 November 2017 after a long illness. Harald worked with TRAFFIC between May 1987 and June 1990, based at the office in Frankfurt, Germany. Since July 1990 Harald had been

working for the Bundesamt für Naturschutz (BfN)—Germany’s Scientific Authority of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

In his various functions for TRAFFIC, WWF and BfN, Harald advanced a wide and varied range of research issues related to the harvest and trade of wild fauna and flora, including, for example, the unsustainable harvest and trade in *Tillandsia* (Bromeliaceae) plants, the international trade in frogs’ legs from Asia, threats posed to coelacanth (Latimeriidae) populations from unregulated landing and trade, and improved trade regulations for a variety of reptile species threatened by international trade. Harald also supported the examination and revision of the non-detriment finding (NDF) guidance for shark species. His work on the role of Germany’s sport and trophy hunting domestically and abroad was also invaluable and instrumental in bridging the trenches between some of the most polarised positions of the pro- and anti-consumptive use camps in this field of debate. Other conservation issues Harald led on encompassed analysis of the threats posed by invasive alien species, advancing Germany’s *Red List of Threatened Species* as well as the management of larger carnivores in Germany.

Harald’s authority and engagement in the conservation of wildlife was impressive and his expertise significantly influenced the development of CITES well beyond its implementation in Germany and the European Union.

Harald was a much-liked colleague within the science-, NGO- and government-communities, both domestically as well as at EU level, and was well sought after at international conferences—including the various fora of CITES—for his extraordinary expertise and skill for clear analysis.

We deeply regret the untimely death of a very popular colleague and friend and will honour his memory. Our deepest condolences to his family and all those who were close to him.

**Roland Melisch,**  
Senior Director—Africa and Europe,  
TRAFFIC

## ESMOND MARTIN

TRAFFIC’s close collaboration and friendship with Esmond Martin came to an untimely end with his tragic death in Kenya on 4 February 2018. We are deeply saddened at this sudden loss. Esmond, an American national, was the world’s foremost authority on the ivory and rhino horn trades and a leading expert on the ivory carving industry. A generous supporter of the *TRAFFIC Bulletin*, his extensive and methodical investigative work researching the markets for ivory and rhino horn found form in the many contributions that span this journal’s history. His first piece appeared in 1983 on the horn weights of the five rhino species to assist in the calculation of rhino numbers being killed. The key drivers for horn at this time were demand for use in traditional medicine in East Asia as a cure for fever and in Yemen for making *jambiyas* (traditional daggers handles), the latter accounting for almost half the world’s production of rhino horn until demand decreased in the 1980s.

Almost every *Bulletin* edition since that time featured Esmond’s work (often in collaboration with his fellow investigator Lucy Vigne), examining the global trade in rhino horn and ivory markets in Africa (Egypt, Ethiopia, Nigeria, South Africa, Zimbabwe), Asia (Cambodia, China, Myanmar, Thailand, Viet Nam), and elsewhere, most recently in 2014 reporting on Luanda’s role in the ivory trade.

The magnitude of Esmond’s loss to elephant and rhino conservation cannot be underestimated. As far back as 1987, Esmond was sounding the alarm, calling for “efforts to continue to discourage the demand for rhino horn in order to avoid the end for African and Asia rhinos which are not in zoos or well-guarded enclosures”. Sadly, such specimens are now also under threat. While the heavy toll that poaching has taken on the world’s elephants and rhinos currently shows no sign of abating, Esmond’s tenacity to uncover and report on the trade was marked by a stamina and forensic rigour that was admirable. His efforts to keep the world’s attention focused on these issues formed the bedrock of his work, laying down a solid and enduring foundation of knowledge on which to continue these vital efforts which, now, more than ever, are critical if a safer future for the world’s remaining pachyderm populations is to be assured.

**Steven Broad,** Executive Director, TRAFFIC



Esmond Martin (right), with Daniel Stiles (left) and Tom Milliken, at the 17th meeting of the Conference of the Parties to CITES, South Africa, 2016.

JAMES COMPTON / TRAFFIC

# AFRICA-TWIX: A PLATFORM SUPPORTING LAW ENFORCEMENT ACTIONS IN CENTRAL AFRICA

Report by François Kpwang Abessolo



HONG KONG CUSTOMS

**A**FRICA-TWIX (Africa Trade in Wildlife Information eXchange) is a platform that was designed to promote collaboration between enforcement agencies in Central Africa engaged in tackling illegal wildlife trade and related criminal activities. It was launched in February 2016 following a phase of in-country needs assessments with government stakeholders in four pilot countries: Cameroon, Gabon, Congo, and Democratic Republic of Congo. Since the launch, the Central African Republic has also joined the platform.

As described in *TRAFFIC Bulletin* Vol. 28 No. 2, AFRICA-TWIX is based on experience drawn from the hugely successful EU-TWIX database and information exchange system used by enforcement personnel across Europe for more than a decade. As with EU-TWIX, the participating countries decided that AFRICA-TWIX would be managed by TRAFFIC on behalf of government enforcement agencies. It is hosted by COMIFAC (Commission of Central African Forests).

When AFRICA-TWIX was launched, a total of 57 officials were connected. Today, this number has risen to over 116 (out of 131 designated people). Users comprise representatives of national Customs, national police,

forestry services, justice departments, gendarmerie, INTERPOL, other specialised organisations and sub-regional and international organisations involved in wildlife and forestry law enforcement. Three regional workshops and three national workshops have taken place to date, and the management structure is already in place.

AFRICA-TWIX comprises two principal components: a mailing list and a website containing a database holding information relating to wildlife seizures and other useful resources:

- The mailing list allows the exchange of information with the whole group. An email sent via the platform is instantly redirected to the mailboxes of all users. All non-sensitive information relevant to illegal wildlife trade can be exchanged on the forum. Users are encouraged to share their experiences, successes, best practices and to offer help and support to each other. By 25 April 2018, over 782 messages have been exchanged, and users have discussed, among other topics, seizures carried out by their respective agencies, key events happening in their countries



**Fig. 1. A sample page from the AFRICA-TWIX website illustrating the multiple sections that have been created for the provision of tools, the identification of seized specimens, and training materials.**

◀ **Seizure of pangolin scales in Hong Kong, arriving from Cameroon in June 2016—one of the cases investigated with AFRICA-TWIX collaboration.**

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(for example the burning of ivory and pangolin scales in Cameroon), and shared identification guides and training materials. These exchanges have triggered and/or supported international investigations where nominal information was shared via official channels *outside* the AFRICA-TWIX mailing list. For example, AFRICA-TWIX helped to establish a connection between Hong Kong and Cameroonian authorities to investigate a shipment of four tonnes of pangolin scales seized in Hong Kong in June 2016. Although the investigation is ongoing, the Cameroonian officials who were identified during the enquiry as being accessories to the crime have already received administrative sanctions. Four other investigations have been initiated and/or been supported thanks to information shared on the mailing list.

- The AFRICA-TWIX website ([www.africa-twix.org](http://www.africa-twix.org)) was created to provide law enforcement officials with useful resources and to centralise seizures data in the region. Information is available in both French and English, and already contains training modules, identification tools, laws and regulations and many other useful resources. The AFRICA-TWIX database was launched in February 2017 and became functional in April 2017. Though the recording of seizures data was not common in most of the Central African enforcement services, with training, lobbying and advocacy pressure undertaken by the TRAFFIC team, more than 213 data entries are already stored in the AFRICA-TWIX database. The seizures database is an essential element of the website. Although no sensitive or nominal information, such as offenders' or investigators' names, ID/passport numbers and so on, is stored in this database, the data collected do support analyses and risk assessments to be carried out to determine the scale, and spatial dynamics of the problem in the region, and to monitor law enforcement efforts over time. The possibility to create multiple charts is available to users to facilitate analyses.

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**Participants at an AFRICA-TWIX regional workshop in Douala, Cameroon, 2017.**



HONG KONG CUSTOMS

Fig. 1 demonstrates how multiple sections have been created: for example, the provision of tools and documents to facilitate the identification of seized specimens, training materials to deepen knowledge and locate new information, and a legislation section holding legal texts from the member countries.

TRAFFIC and the regional agencies have a longstanding co-operation in place that is formalised by the signing of a Memorandum of Understanding (MoU). The co-operation encompasses joint capacity-building efforts and information exchange. The World Customs Organization (WCO) Secretariat, for example, confirmed their agreement to share CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) data reported to the Customs Enforcement Network (CEN) database with AFRICA-TWIX. Negotiations with some other agencies are in progress.

AFRICA-TWIX received financial support through Germany's *Partnership against Poaching and Illegal Wildlife Trade (Ivory and Rhino-Horn) in Africa and Asia*, implemented by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), WWF France, and the United States Fish and Wildlife Service (USFWS).

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TRAFFIC



## OBSERVATIONS OF SHARK AND RAY PRODUCTS IN THE PROCESSING CENTRES OF BANGLADESH, TRADE IN CITES SPECIES AND CONSERVATION NEEDS

*Alifa Bintha Haque,  
Aparna Riti Biswas and  
Gulshan Ara Latifa*



### INTRODUCTION

Nearly 30% of all shark and ray species are now designated as Threatened or Near Threatened with extinction according to the *IUCN Red List of Threatened Species*. This is a partial understanding of the threat status as 47% of shark species have not yet been assessed owing to data deficiency (Camhi *et al.*, 2009; Bräutigam *et al.*, 2015; Dulvy *et al.*, 2014). Many species are vulnerable due to demand for their products and are particularly prone to unsustainable fishing practices (Schindler *et al.*, 2002; Clarke *et al.*, 2007; Dulvy *et al.*, 2008; Graham *et al.*, 2010; Morgan and Carlson, 2010).

Sharks are exploited primarily for their fins, meat, cartilage, liver oil and skin (Clarke, 2004), whereas rays are targeted for their meat, skin, gill rakers and livers. Most shark catch takes place in response to demand for the animals' fins, which command high prices (Jabado *et al.*, 2015). Shark fin soup is a delicacy in many Asian countries—predominantly China—and in many other countries (Clarke *et al.*, 2007). Apart from the fins being served in high-end restaurants, there is a demand for other products in different markets and by different consumer groups, and certain body parts are also used medicinally (Clarke *et al.*, 2007).

India was identified as the second-largest shark product producer in the world between 2000 and 2011 (Dent and Clarke, 2015). Although 11 species of sharks and 24 species of rays were recorded in the waters of the south-eastern coast of Bangladesh in 2014 (Jit *et al.*, 2012), data on the trade in shark and ray products in Bangladesh and the associated trade dynamics are scarce and no overall species assessment has been carried out in the area to date. Little information on region-specific trade dynamics and product characterization is available, which is hindering sustainable management. Information is even more scarce in the Bay of Bengal region. As the most underrepresented marine group of species in the Bay of Bengal, elasmobranchs have yet to be recognised as a conservation priority; meanwhile, exploitation continues, largely unregulated and with few, if any management strategies in place.

Catching sharks and rays brings much needed extra income to the poor fishers in the region. During the course of an in-depth study by the authors on the trade dynamics and value-chain analysis of shark and ray products in Bangladesh, it was found that no part of the shark and ray is discarded during processing, with different body parts supplied to different consumer groups both nationally and overseas. One of the aims of this study was to record the products being processed in Bangladesh and their uses.

◀ The skins of guitarfish, particularly Sharpnose Guitarfish *Glaucostegus granulatus*, being dried at Cox's Bazar, Bangladesh, where one of the principal shark processing centres in the country is located.

## BACKGROUND

At a meeting in 2010, the Bay of Bengal Large Marine Ecosystem (BOBLME) Sharks Working Group identified a lack of basic shark fishery catch and effort data as an issue across its member countries (Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand), noting in particular the lack of data and trained staff; absence of systematic monitoring and control of shark resources; lack of co-operation between stakeholders and government officials, and absence of a baseline assessment on the status of shark populations (Fischer *et al.*, 2012). It is reported that Bangladesh, India and Sri Lanka all lack species-level catch data for the shark and ray species listed in the Appendices of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) at the sixteenth meeting of the Conference of the Parties (Mundy-Taylor and Crook, 2013).

Bangladesh is still not on the global map as a big shark product producer and exporter. However, over the past decade, shark catch data for Bangladesh that has been recorded has shown fluctuations: from a total of 4085 t between 2004 and 2005, gradually declining to 3933 t in 2008–2009 and increasing again in 2013–2014 to 5648 t (FRSS, 2015). Bangladesh is not a very big consumer of shark and ray products and no fin soup is served in the country and yet between 2010 and 2014, no export data were recorded (Fig. 1), showing an anomaly in the trade records. Hence, a full analysis of COMTRADE trade data involving Bangladesh and world import data of shark products from Bangladesh is in progress.

This study was initiated in an attempt to understand both the dynamics and extent of the international and domestic markets for shark and ray species, and the range of products available. Traders and fishers were interviewed to identify the market chain and the position of Bangladesh as a producer in the global market. However, analysis of these data is not within the scope of this paper, which focuses on the data collected at the processing centres, and which aimed to fill some of the gaps of product identification, grading and the partial trade dynamics of Bangladesh. Visits to the landing and processing centres unveiled catches of species that are classified as Vulnerable, Endangered and Critically Endangered, some of which are listed in CITES, and the authors examined the regulations with the aim of determining which community-based measures might need to be adopted for the long-term conservation of these species in the Bay of Bengal region of Bangladesh.

## METHODS

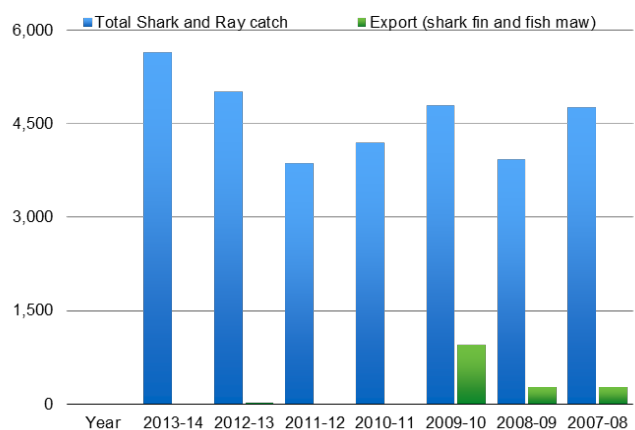
This study was conducted as part of a project undertaken in Bangladesh over a period of one and a half years, which aimed to document the value chain of the shark and ray products domestically and in the international black market. While the authors are working on a consumer behaviour analysis, this small study looked into the catch and

processing of shark and ray products in the Bay of Bengal region of Bangladesh between 2008 and 2014. Data were extracted from annual reports published by the Fisheries Resources Survey System of the Department of Fisheries, Ministry of Fisheries and Livestock (FRSS, 2015).

The products were identified through bi-monthly field visits carried out between June 2016 and March 2017 in Chittagong, Cox's Bazar, Teknaf, and St Martin's Island (South-eastern coast of Bangladesh), where the biggest shark processing centres in the study area are located. Teknaf is particularly important as shark and ray products are exported from there to Myanmar. The authors attempted to build trust with local fishers, shark traders, and processing centre workers to share data on trade and the processing methods of the different products. This was achieved through repeated visits to the processing centres. Traders and workers at the centres were interviewed through snow-ball sampling and through random opportunistic informal interviews with wholesale buyers. The processing of these products was documented through video documentation and photographs. Dried specimens that were difficult to identify were photographed and sent to experts for identification; those recorded before they were killed were identified using Compagno (1984) and Last *et al.*, (2016).

In order to document the availability of these products in the local markets, rapid market surveys were conducted in the study sites. Potential buyers and sellers or middlemen/collectors were asked about the type of products available, the prices in the local markets and their uses. Samples were taken of liver oil for further analysis and of some dried specimens, meat and skin that were difficult to identify, but no products were purchased during the study.

A rapid internet search was conducted to understand if there is a market for collectors of sawfish rostrum, guitarfish nose, skins or any other products as curios. This also aimed to identify any trader providing an online service to collectors for such products from Bangladesh.



**Fig. 1. Sharks caught and exported (in mt) in Bay of Bengal region, Bangladesh, 2008–2014.**

Source: FRSS, 2015. Data include fish maws (dried fish bladders) of shark species.

Processed products	Uses	Used by (L=local use; E=exported)	Size	Availability for local consumers
<b>SHARKS, GUITARFISH and SAWFISH</b>				
Fins	Food	Chinese and many European restaurants and as traditional Chinese delicacy: fin soup (E)	<ul style="list-style-type: none"> <li>• &lt;5 cm: discarded</li> <li>• &gt;5–6 cm: eligible for export</li> <li>• The greater the size, the more the price</li> <li>• Smaller species like Spadenose Shark and some Scalloped Hammerheads are priced lower</li> <li>• Larger species are rarely sold as fresh meat and are expensive</li> </ul>	Not available
Fresh meat	Food	Tribal and non-Muslim groups of Bangladesh and international demand (L)	<ul style="list-style-type: none"> <li>• Smaller species like Spadenose Shark and some Scalloped Hammerheads are priced lower</li> <li>• Larger species are rarely sold as fresh meat and are expensive</li> </ul>	Less available; rarely sold by vendors
Dried meat	Food	Tribal people in Bangladesh (L); Chinese, Burmese and Thai people (E)	>60 cm (a variety of shark species)	Less available
Dried whole shark	Food	Tribal and non-Muslim groups of Bangladesh (L)	30–60 cm	Available
Skin	Food As leather to make accessories and shoes	100% exported to Myanmar (E) Some instances of exports to Thailand and China (E)	Smaller sharks are not eligible for the skin trade	Not available
Cartilage (vertebrae)	Traditional medicinal uses	Nomadic people in boats (L); Traditional medicine practitioners (L)	Available	Available
Teeth and jaws	Worn on the body	Villagers (L) Nomadic people in boats (L); Traditional medicine practitioners (L)	Available	Available
Fresh liver	Jewellery; curios	Tribal and non-Muslim groups in Cox's Bazar (L)	Rare	Rare
Liver oil	Food Fish feed Pharmaceuticals	Fish feed industry (L)	Not available	Not available
Intestines	Food	Burmese people and rarely tribal people in Bangladesh (E/L)	Rare	Rare
Snout (guitarfish)	Not known	Not known	The bigger the size the better	Not available
Rostrum (sawfish)	Curios Museum collections	Local collectors and trawler owner (L) Researchers or curators (L)	All	Not available
Discarded species	Feed in one of the crocodile farms in Bangladesh	Crocodile farms, sometimes as bait (L)	Not available	Not available
<b>RAYS</b>				
Fresh Meat	Food	Tribal and non-Muslim groups of Bangladesh (L)	Mostly smaller specimens	Rare
Skin	Used as leather for accessories	Wider European and Chinese audience accustomed to using luxury products (E)	The bigger the size the better	Not available
Dried meat	Food	Tribal and non-Muslim groups of Bangladesh (L) Burmese people (E)	All sizes	Available
Dried whole fish	Food	Tribal and non-Muslim groups of Bangladesh (L) Burmese people (L/E)	Small	Available
Gill rakers	Chinese medicine Gill plate soup	Traditional medicine practitioners (E) Chinese restaurants (E)	All sizes	Not available
Tail	Decorative pieces or curios	Fishers and collectors (L)	All sizes	Not available

Table 1. Products being processed from sharks and rays caught in the Bay of Bengal, Bangladesh, and their uses.

## BOX: PROCESSING SHARK PRODUCTS

No part of the shark or ray is discarded during processing; products comprise fresh and dried meat, skin, vertebrae, jaws, teeth, fins, dried whole fish, intestines, the rostrum of sawfish, liver and liver oil, and gill plates of mobulid rays. All products are exported, and many are also destined for the domestic market (fresh and dried meat, liver oil, bones, jaws, teeth, and intestines, for example).

The bodies of the sharks and rays are taken from the landing sites to the processing centres where they are cleaned in flowing water to remove any dirt and slime. In the case of sharks, experienced butchers remove the four fins after which the body is skinned (in the case of larger specimens) and gutted and the meat cut into manageable pieces. The vertebral column, jaws and sometimes the teeth are extracted and kept separately. The liver is removed and kept in a drum with other livers collected that day.

Both salted and unsalted meat are in demand. It is either salted and placed on thatched roofs to dry, and if international buyers are not readily available, the meat may sometimes be frozen. The intestines are cleaned and also dried. Smaller sharks (mostly Spadenose Shark *Scoliodon laticaudus* and smaller specimens of Spot-tail Shark *Carcharhinus sorrah* (<50 cm)) are slit from the gut and kept for drying. A similar process is used for rays: specimens are washed, skinned, gutted and the meat cut into manageable pieces. For mobulids, the gill rakers are carefully removed and stored. Each product has a different market, with an array of uses (Table 1).



Shark fins, the principal shark product exported from Bangladesh, hanging up to dry in Cox's Bazar.



Local men at Cox's Bazar cleaning shark vertebrae, which will be dried and sold to traditional medicine practitioners.



Fresh Spadenose Shark *Scoliodon laticaudus* in a mixed catch for sale at a local market in Teknaf.



Dried mobulid gill rakers, a newly emerging product in Bangladesh, being prepared for export, Cox's Bazar.

PHOTOGRAPHS: ALIFA BINTHA HAQUE

## LEGISLATION

The two most important regulatory instruments to conserve wildlife and fish in Bangladesh are the *Protection and Conservation of Fish Act, 1950* and *Wildlife (Conservation and Security) Act, 2012*. Whereas the former has no provision for protecting sharks and rays, the latter protects 23 species of shark, guitarfish and sawfish under schedule I, and six species of rays under schedule II. However, this legislation is not implemented although, during the closed fishing season for Hilsha *Tenualosa ilisha* (a fishery employing 2.5 million people and constituting 11% of the total fish catch in Bangladesh) (Islam *et al.*, 2016), sharks are protected by default including in the sanctuaries of the Sundarbans Reserve Forest where bull sharks *Carcharhinus leucas* and the Gangeticus River Shark *Glyphis gangeticus* occur. The undocumented international trade in some ray and shark species and the lack of monitoring is evidence that CITES-listed shark and ray species in Bangladesh are protected on paper only.

## RESULTS

### *Product identification and processing*

In Cox's Bazar and Teknaf, many processing centres were identified that have the capacity to turn over thousands of kilogrammes of sharks and rays a day year round except during the monsoon season (June–September). The authors observed that all parts of the shark and ray are processed to meet both domestic demand and international consumption. Products such as dried and fresh meat, skin, vertebrae, jaws, teeth, fins, dried whole fish, intestines, rostrum of sawfish, liver and liver oil, and gill plates of mobulid rays are processed and exported through a complicated market chain (Haque, unpubl. data). Fresh meat, dried meat, liver oil, bones, jaws, teeth, and intestines are also destined for domestic consumption.

### *Rapid market visits*

No shark and ray products were recorded in the local markets as it is taboo for Muslims to eat these products for religious reasons and Muslim shopkeepers are therefore unwilling to keep such items in their shops, with a very few exceptions. These products (dried small sharks, rays, rarely fresh meat or liver) are available to tribal people through selected vendors or, rarely, collected directly from the landing sites.

### *Survey of processing centres*

The processing centres are not very visible as the traders want to keep their businesses out of the sight of competitors and government officials. The authors had to build up trust with the owners of these centres before they were allowed entry. The surveying and documentation of items revealed an array of non-conventional body parts being processed (e.g. dried intestines, heads of hammerheads, vertebrae, jaws, teeth and snouts of

guitarfish) and conventional products (e.g. fins, dried meat, cartilage, liver, liver oil, fresh meat); there was no well-established system or hygienic method applied to the processing of these products (see Box).

Three factories processing and delivering shark and ray liver oil were also identified but the owners were unwilling to divulge any details of their operations to the authors. Many species of conservation concern were identified in the processing centres during the study period (Table 2). However, it was not possible to identify the species of all the specimens at the landing sites and processing centres as most had already been dried during the time of the survey. Hence, 250 samples of dried and fresh fin clips and some meat and skin were collected for analysis (Haque, in prep.). One of the traders shared a copy of his register which showed that he dealt in fresh and dried elasmobranchs, including dried skin (in particular guitarfish) (Table 3).

### *Internet survey*

A rapid internet search revealed interesting insights into the shark meat and liver oil trade in Bangladesh. While shark liver oil, cartilage and various curios are available on a number of online sites targeted at global consumers and collectors, it is unlikely that the fishers in Bangladesh have access to online business services; certainly the traders interviewed during the study period did not use online platforms to sell their products although this could not be confirmed. The authors believe that collectors or traders advertising such products do so opportunistically: registered export and import companies were found to be offering shark meat, fin, and skin online and two liver oil factories are also registered to deliver their products to the international market. The authenticity of the companies, their capacity to export or their previous trade records could not be checked. This area of trade should be explored in order to gain a more complete picture of the trade.

## DISCUSSION

### *Undocumented shark and ray fishery in Bangladesh*

So far it has been assumed that there is no targeted shark fishery in Bangladesh (Haroon, 2010). However, the authors observed and confirmed by interviewing the owner of a processing centre, that many trawlers carry large iron hooks for the purpose of targeting sharks or other big fish. This practice has reportedly been carried out in the Bay of Bengal region of Bangladesh for decades, without any detailed documentation of the trade and is currently being examined by the authors. While no stock assessment has ever been conducted in the Bay, the fishers interviewed reported that their catches had drastically declined. One fisher stated that “*There used to be a time when I could catch at least a thousand rays in five to six days, whereas now I come back with one ray in a seven-day trip, losing a lot of money and increasing the debt to the trawler owners*”.

Species	Local name in Bangladesh	Common Name	IUCN Red List Status	CITES Status
<b>SHARKS</b>				
<i>Alopias</i> sp.	Not known	Thresher shark	VU	Appendix II
<i>Carcharhinus amboinensis</i>	Bhota handog, boli hangor	Pigeye Shark	NA	Not listed
<i>Carcharhinus limbatus</i>	Boli hangor	Blacktip Shark	NA	Not listed
<i>Carcharhinus sorrah</i>	Moilla hangor, Dari hangor	Spottail Shark	NA	Not listed
<i>Galeocerdo cuvier</i>	Chitra boli, Bagha hangor	Tiger Shark	NT	Not listed
<i>Rhincodon typus</i>	Timi hangor	Whale Shark	EN	Appendix II
<i>Scoliodon laticaudus</i>	Kala hangor, Kholo hangor	Spadnose Shark	NT	Not listed
<i>Sphyrna lewini</i>	Haturi hangor, Kaunna hangor	Scalloped Hammerhead Shark	EN	Appendix II
<b>RAYS</b>				
<i>Aetobatus narinari</i>	Fota Badura	Spotted Eagle Ray	NT	Not listed
<i>Brevitrygon</i> sp.	Faisi/faina	Whipray	NT	Not listed
<i>Gymnura japonica</i>	Podoni	Japanese Butterfly Ray	DD	Not listed
<i>Gymnura poecilura</i>	Podoni	Longtail Butterfly Ray	NT	Not listed
<i>Himantura leoparda</i>	Chita Shaplapata	Leopard Whipray	VU	Not listed
<i>Himantura uarnak</i>	Chita Shaplapata	Reticulate Whipray	VU	Not listed
<i>Himantura undulata</i>	Chita Shaplapata	Bleeker's Variegated Whipray	VU	Not listed
<i>Mobula japonica</i>	Shing Swain	Spinetail Devil Ray	NT	Appendix II
<i>Neotrygon kuhlii</i>	-	Bluespotted Stingray	DD	Not listed
<i>Pateobatis uarnacoides</i>	Shaplapata	Bleeker's Whipray	VU	Not listed
<i>Rhinoptera javanica</i>	Sawin/Ghapra	Javanese Cownose Ray	VU	Not listed
<b>GUITARFISH</b>				
<i>Glaucostegus granulatus</i>	Pitambori, Gerenja	Sharpnose Guitarfish	VU	Not listed
<i>Glaucostegus obtusus</i>	Pitambori, Gerenja	Widenose Guitarfish	VU	Not listed
<i>Rhina ancylostoma</i>	Bang	Bengal Guitarfish	VU	Not listed
<i>Rhinobatos annandalei</i>	Fota Pitambori	Bowmouth Guitarfish	DD	Not listed
<b>SAWFISH</b>				
<i>Pristis pristis</i>	Khorkhor, Aissha, Fulaissha	Sawfish	CR	Appendix I

Table 2. Species encountered in the processing centres during the study period.

Year	Species group/ product	No. of skin pieces (wet)	No. of whole bodies	Weight (kg)	Buying price (BDT) <sup>1</sup>	Sourced from
Dec 2012	Shark	-	-	-	154,540	Cox's Bazar
Jan–Dec 2013	Liver	-	-	-	3,000	Cox's Bazar
	Shark	-	-	5,511.5	1,011,520	Cox's Bazar
	Guitarfish	-	172	3,872	-	Mohipur <sup>2</sup>
	Guitarfish	-	-	-	-	-
	Skin	-	-	8,284	6,244,170	<sup>2</sup> Mohipur, Alipur, Cox's Bazar
	Big sharks	-	75	1,080.5	-	<sup>2</sup> Alipur, Cox's Bazar
Jan–Dec 2014	Shark	-	311	7,629	-	<sup>2</sup> Alipur, Cox's Bazar
	Guitarfish skin	14,885	-	-	7,826,065	<sup>2</sup> Alipur, Cox's Bazar
	Fin set (4)	311	-	93.5	118,390	<sup>2</sup> Alipur, Cox's Bazar
	Guitarfish	159	-	3,669	-	<sup>2</sup> Alipur, Cox's Bazar
	Tiger shark skin	-	-	-	4,900	Cox's Bazar
Jan–Dec 2015	Guitarfish skin	9,725	-	-	4,498,440	<sup>2</sup> Alipur, Cox's Bazar, Chittagong
	Guitarfish	-	372	7,663	-	<sup>2</sup> Alipur, Mohipur, Cox's Bazar, Chittagong
	Shark	-	350	11,721	-	<sup>2</sup> Alipur, Mohipur, Cox's Bazar, Chittagong
	Fin set (4)	766	-	174.5	178,480	<sup>2</sup> Alipur, Mohipur, Cox's Bazar, Chittagong
<b>TOTAL</b>					<b>20,039,505</b> <b>USD250,494</b>	

Table 3. Trade records of one processing centre in Cox's Bazar dealing in fresh and dried elasmobranch and dried skin (especially Sharpnose Guitarfish *Glaucostegus granulatus*), 2012–15. <sup>1</sup>Exchange rate 1USD= 80BDT.

<sup>2</sup>Alipur and Mohipur are in the south central coastal region of Bangladesh (outside the study area).

The shark and ray catch is important for the fishers for the high price it commands in the international market. No regulatory or legal governance currently manages or documents this trade, which presents tremendous conservation hazards for these species. The different products documented and the example given of just one trader's capacity to trade in such large volumes (Table 3), is an indicator of a large-scale fishing effort that needs to be monitored and regulated.

### Conservation concern

Illegal, unreported and unregulated (IUU) fishing and trade may be posing unsustainable pressure on the shark and ray populations in the Bay of Bengal. This study has identified four species listed in CITES Appendix II (i.e. *Sphyrna lewini*, *Alopias* sp., *Rhincodon typus* and *Mobula japonica*) and the Appendix I-listed *Pristis pristis* through direct observation and identification of products in the processing centres. Many other species are also being processed for consumption (Table 2). Owing to the lack of baseline data and species-specific research available for sharks and rays in Bangladesh on breeding, ecology, habitats, or catch patterns, it is of cardinal importance that specific research is undertaken to answer conservation questions about these populations in the Bay of Bengal and for evidence-based and effective conservation action plans and policies to be put in place.



ALIFA BINTHA HAQUE

Local women at a fish drying centre in Cox's Bazar, holding dried Spadenose Shark *Scoliodon laticaudus*.

“ THERE USED TO BE A TIME WHEN I COULD CATCH AT LEAST A THOUSAND RAYS IN FIVE TO SIX DAYS, WHEREAS NOW I COME BACK WITH ONE RAY IN A SEVEN-DAY TRIP, LOSING A LOT OF MONEY AND INCREASING THE DEBT TO THE TRAWLER OWNERS ”

Artisanal fisher in Cox's Bazar

## CONCLUSIONS

The shark and ray fishery and the domestic and international trade in related products has existed in Bangladesh for many years, with fluctuating trade dynamics and catch patterns. Due to the lack of regulation and documentation of this trade, and without any appropriate export documentation or evaluation of the sustainability of these species, the presence of opportunistic and registered businesses involved in the processing and trade of fish products poses increased pressure on targeted catch effort. Fishers stated that the population of sharks and rays in the Bay had decreased.

While the fishers have demonstrated a willingness to work for the conservation of these species (Haque, in prep.), some of the traders say that the sharks are caught as bycatch, and that not to trade in them would have a serious impact on their businesses. It is therefore extremely important to consider the perspective and motivations of the various stakeholders and their socio-economic needs. The introduction of a soft regulatory regime is recommended before a strict policy and action plan is established to regulate the trade in the Bay of

Bengal. It is recommended that countries adjacent to the Bay of Bengal collaborate with each other to identify the best measures required to improve monitoring and the documenting of this trade, and thus help to conserve the shark and ray populations of the region.

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Smaller sharks drying (mostly Spadenose Sharks *Scoliodon laticaudus*), destined for local consumption, Cox's Bazar, Bangladesh.



JAMES A. EATON / BIRDTOUR ASIA

## In the market for extinction: birds for sale at selected outlets in Sumatra

Serene C.L. Chng, Chris R. Shepherd and James A. Eaton

### INTRODUCTION

Indonesia has long been recognised as the largest consumer of cage birds in South-east Asia, with bird markets in virtually all major towns and cities selling both legally and illegally obtained species (Nash, 1993; Shepherd *et al.*, 2004). Recent reports of the trade have largely focused on bird markets in major cities on the island of Java (e.g. Profauna, 2009; Chng *et al.*, 2015; Chng and Eaton, 2016; Chng *et al.*, 2016) and studies carried out on Sumatra largely focused on the bird markets in Medan, the largest city on Sumatra and the capital of North Sumatra province (see Nash, 1993; Shepherd, 2006; Harris *et al.*, 2015).

Much of the trade observed in the markets of Medan and recorded in these earlier reports consisted of birds native to Sumatra and locally-caught, and also indicated substantial levels of trade between markets in Sumatra and Java. Species endemic to Sumatra, such as the Sumatran Laughingthrush *Garrulax bicolor* are regularly found in Javanese markets (Shepherd, 2007; Chng *et al.*, 2015; Chng and Eaton, 2016; Shepherd *et al.*, 2016) and, conversely, the Javan endemic Rufous-fronted Laughingthrush *G. rufifrons* has been observed in the bird markets of Medan, in North Sumatra (Shepherd, 2010), as have other Indonesian endemics from islands other than Sumatra (Shepherd *et al.*, 2004).

Having documented the extent of trade through market inventories in Bandung, Jakarta, Malang, Medan, Surabaya and Yogyakarta (Shepherd *et al.*, 2004; Chng *et al.*, 2015; Chng and Eaton, 2016; Chng *et al.*, 2016), the authors here examine bird markets in four major Sumatran cities to obtain a better grasp of the current levels of trade, species composition and legality, and the extent of the trade between Sumatra and Java.

▲ **Sumatran Laughingthrush *Garrulax bicolor*.** The species has been identified as being in need of immediate conservation action, and is classified as Endangered. One specimen was recorded for sale at Pekanbaru during the survey period.

### METHODS

Between 9 and 12 February 2017, TRAFFIC surveyors carried out inventories of markets and retail outlets selling birds in Jambi, Medan, Palembang and Pekanbaru—four major cities in Sumatra that are known to be substantial centres of the bird trade. It should be noted that these surveys provide a snapshot in a particular point in time, and the composition of birds in the markets and stalls may vary. For example, in Palembang, the mobile market apparently consists of 20–30 temporary stalls but was found to be open only on weekends, and as the surveyors were there on a weekday, only two permanent shops were selling birds. The record for Palembang therefore was not complete. Nonetheless, the results are included here to provide information on the species and volumes available in these two shops during the survey period.

Individuals of every species of wild bird were counted. Where possible, individuals were recorded to subspecies level. Domesticated birds, defined as those that show a significant proportion of non-natural characteristics achieved through selective breeding, either with colour pigmentations differing from wild specimens or hybridization with other species, were not included in the inventory. Examples included canaries *Serinus* spp., lovebirds *Agapornis* spp., Budgerigars *Melopsittacus undulatus* and colour mutations of Java Sparrows *Lonchura oryzivora*. The surveyors only counted wildlife openly displayed. Price data were obtained opportunistically when it was possible to engage with dealers in an informal manner, or in some instances, by observing openly advertised prices. Additional information, such as the source and origin of birds, was also opportunistically solicited from dealers. An exchange rate of USD1=IDR13,300 was used (February 2017 historical rate, XE Currency). Bird names and taxonomy follow BirdLife International/IUCN (which follow del Hoyo *et al.*, 2018).



**Fig. 1.**  
No. of species, birds and stalls recorded in each of the survey locations in Sumatra.

\*Temporary stalls were not present/open during the survey period.

**LEGISLATION**

Under Indonesian legislation (*Act of the Republic of Indonesia No. 5 of 1990 concerning Conservation of Living Resources and their Ecosystems; Government Regulation No. 8, 1999, concerning the utilization of wild plants and animal species; Government Regulation No. 7, 1999, concerning the Preservation of Flora and Fauna*), protected species are not allowed to be harvested, traded or possessed. Only non-protected native wildlife may be collected and traded for which province-specific annual quotas are set by the Indonesian Directorate General of Conservation of Natural Resources and Ecosystem (KSDAE). The trade in wild-caught birds that do not have harvest quotas or have zero quotas—whether the species is listed as protected or not—is considered to be an administrative violation of ministerial regulation and policies. Under the 2016 quota (KSDAE, 2015), all bird species with allocated harvest quotas are for export only, which means domestic trade is technically not allowed. The movement of birds between provinces is also illegal if the birds are protected or illegally sourced, and permits issued by the provincial wildlife authority (BKSDA) are required to move birds across provincial borders. Species of birds not native to Indonesia are not effectively regulated under current legislation. The list of species that are protected has not been updated since 1997. Indonesia initiated a process to revise its legislation to update this list and to include species not native to Indonesia; this process is ongoing.

**RESULTS AND OBSERVATIONS**

A total of 7,279 birds of 130 species were recorded from the four cities, with the most birds recorded in Medan (79% of all birds) (Fig. 1).

**Composition of birds in trade**

Of all birds observed in trade, the Black-winged Myna *Acridotheres melanopterus* (one individual) and Javan Pied Starling *Gracupica jalla* (30) are assessed as Critically Endangered on the IUCN Red List of Threatened Species (IUCN, 2017); both are thus also priority species under the Asian Species Action Partnership (ASAP) established to address the extinction risk among the most threatened land and freshwater vertebrates of South-east Asia. A further three Endangered species (Java Sparrow *Padda oryzivora*, Straw-headed Bulbul *Pycnonotus zeylanicus* and Sumatran Laughingthrush *Garrulax bicolor*) and four species listed as Vulnerable (Javan Myna *Acridotheres javanicus*, Greater Green Leafbird *Chloropsis sonnerati*, Sumatran Leafbird *Chloropsis media* and Chattering Lory *Lorius garrulus*) were recorded.

The most numerous species overall was the Scaly-breasted Munia *Lonchura punctulata*, accounting for over half of the birds counted (3,222 individuals), followed by the White-headed Munia *Lonchura maja* (941) and the Yellow-vented Bulbul *Pycnonotus goiavier* (509). However, there was significant variation in species for sale between the different cities (see Discussion).

Almost all the birds recorded were native to Indonesia (7,231 individuals of 122 species, or 99.5%). Of these, 491 birds of 20 species were endemic to Indonesia, with a further 191 birds of 15 species belonging to subspecies that were endemic to Indonesia. A total of 6,555 birds of 104 species were native to Sumatra, and of these, 142 birds of 17 species were endemic to Sumatra. Of the Indonesian native species, 169 birds of six species were migrants (i.e. do not breed in Indonesia). Most of these consisted of Daurian Starlings *Agropsar sturninus*, which gather in flocks, often in and around cities, and can be easily trapped and traded in large numbers.

### Protection status of native birds in trade

A total of 50 birds from 12 species listed as protected under Indonesian law were observed. Referencing the 2016 quotas, 12 of the species recorded have a zero harvest quota across the country, three have no harvest allocation from any Sumatran province, and 76 are not listed in the 2016 quotas (KSDAE, 2015; Table 1). Individuals of five species observed in this survey exceed the 2016 national harvest quotas. In other words, only 1,109 birds (15% of native birds) of 15 species were possibly legally harvested under the quota system. However, as all bird species with allocated harvest quotas are intended for export only, their sale still violates ministerial regulation.

Most of the protected birds observed are believed to be sourced from the wild, as sunbirds, pittas, Black-winged Kite *Elanus caeruleus* and Malayan Pied Fantail *Rhipidura javanica* are not known to be commercially bred. Many of the Asian Pied Starlings *Gracupica contra* and endemic Javan Pied Starlings were said to be sourced from breeders in Klaten, in Central Java. The single Black-winged Myna seen was reportedly bought from a trader in Bali, and the seller did not know if it was captive-bred or not. While Common Hill Mynas *Gracula religiosa* can be bred in captivity, there were no closed leg rings observed on any of the birds, and some specimens were in poor condition with frayed feathers and visible wounds, suggesting that they were trapped from the wild. One of the Common Hill Mynas was reportedly from Mentawai Islands, off the west coast of Sumatra, where there are high levels of endemic species and subspecies, but this could not be verified. It is possible that the trader said this to increase the value of the bird, as the Mentawai birds are larger, rarer and said to be better singers.

Twenty-two species from the list of 28 priority species identified in the *Conservation Strategy for Southeast Asian Songbirds in Trade* (Lee *et al.*, 2016) were recorded during this study (Table 1). This included six species (a total of 36 individuals) identified as in need of immediate conservation action (Black-winged Myna, Javan Pied Starling, Common Hill Myna, Straw-headed Bulbul, Java Sparrow and Sumatran Laughingthrush).

### Price data

Price information was obtained for 28 species, ranging from IDR3000 (USD0.23) for a Scaly-breasted Munia,

to IDR12 million (USD902) for a Straw-headed Bulbul. The most expensive individual birds where prices were obtained were Straw-headed Buleuls (one going for USD902 and two for USD752 each). Some species, particularly birds used in singing competitions, were offered for a wide range of prices, with the value dependent on its singing abilities. For instance, White-rumped Shamas *Kittacincla malabarica tricolor* were offered for USD38 up to USD263.

## DISCUSSION

### Sumatra—main source for Indonesian bird trade?

Observations indicate that there is a significant amount of trapping (much of it illegal) of local birds to supply Indonesia's thriving bird markets, both within Sumatra, as well as movement of birds from Sumatra to Java. When asked about the source of the birds, several traders said that the birds were acquired from forests in West Sumatra, North Sumatra and Aceh. This was corroborated by a local bird guide, who shared that trapping was rife in Aceh's forests, and that encounters with Sumatran Laughingthrush in the wild had drastically declined in recent years. One trader in Jambi, who was offering Sumatran native bird species for sale, also apologised for how few birds were available in the shop, explaining that they had sent 600 birds the day before to Java.

Taking into account the incomplete inventory in Palembang, there was an unexpected lack of high-value species present in the markets, especially of species largely restricted to Sumatra. This indicates that such high-value species are likely transported to other parts of Indonesia, particularly Java, where there is greater demand and the birds fetch higher prices. For example, only one Sumatran Laughingthrush, a sought-after species seen with regularity in trade in Java (Shepherd *et al.*, 2016) was recorded from Pekanbaru in this study; by contrast, inventories carried out by the authors in Java found at least 89 individuals for sale in four out of five Javan cities surveyed (Bandung, Jakarta, Surabayaya and Yogyakarta). Furthermore, a number of the 57 Straw-headed Buleuls recorded in Java were said to be sourced from "Lampung" (thought to refer to the general area of southern Sumatra rather than the actual province of Lampung) (Bergin *et al.*, 2017), yet in this survey only three individuals were recorded.

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**SEVERAL TRADERS SAID THAT THE BIRDS WERE ACQUIRED FROM FORESTS IN WEST SUMATRA, NORTH SUMATRA AND ACEH, A FACT CORROBORATED BY A LOCAL BIRD GUIDE, WHO STATED THAT TRAPPING WAS RIFE IN ACEH'S FORESTS.**

JAVA SPARROWS *Padda oryzivora*



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LICENSES/BY-NC-ND/2.0/

# SHORT REPORT

Species	Scientific name	Jambi	Medan	Palembang	Pekanbaru	Total	◇2016 National Harvest Quota
Scaly-breasted Munia	<i>Lonchura punctulata</i>		3213	9		3222	100
White-headed Munia	<i>Lonchura maja</i>		941			941	100
Yellow-vented Bulbul	<i>Pycnonotus goavier analis</i>	46	445	8	10	509	600
Zebra Dove	<i>Geopelia striata</i>	67	288	30	6	391	100
Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	48	177	48	7	280	1460
* Javan Myna	<i>Acridotheres javanicus</i>	46	106		104	256	180
Baya Weaver	<i>Ploceus philippinus</i>	8	216			224	NL
* Oriental White-eye	<i>Zosterops palpebrosus melanurus/buxtoni</i>		6		183	189	NL
Daurian Starling	<i>Agropsar sturninus</i>		36	122	1	159	NL
Cinereous Tit	<i>Parus cinereus</i>		2		92	94	NL
* Oriental Magpie-robin	<i>Copsychus saularis muticus/pluto</i>	10	5		67	82	150
Spotted Dove	<i>Streptopelia chinensis tigrina</i>	8	59		6	73	50
Bar-winged Prinia	<i>Prinia familiaris</i>	13	3		56	72	NL
Blue-crowned Hanging-parrot	<i>Loriculus galgulus</i>	1	1		56	58	NL
Asian Glossy Starling	<i>Aplonis panayensis strigata</i>	7	42		1	50	50
Common Myna	<i>Acridotheres tristis</i>		41		1	42	500
* Ruby-throated Bulbul	<i>Pycnonotus dispar</i>		5	1	34	40	NL
Finch-billed Myna	<i>Scissirostrum dubium</i>		3	1	33	37	50
Blue-winged Leafbird	<i>Chloropsis moluccensis</i>	2	2	3	22	29	80
Asian Pied Starling	<i>Gracupica contra</i>		13		15	28	NA
* Greater Green Leafbird	<i>Chloropsis sonnerati sonnerati/zosterops</i>	2	6		17	25	95
Ochraceous Bulbul	<i>Alphoixus ochraceus sumatranus</i>		2		22	24	NL
Lesser Green Leafbird	<i>Chloropsis cyanopogon</i>		1	3	20	24	50
* Common Hill Myna	<i>Gracula religiosa religiosa</i>	1	7		13	21	0
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>		19			19	NL
Sumatran Bulbul	<i>Ixos sumatranus</i>		1	5	13	19	NL
Chestnut-capped Laughingthrush	<i>Garrulax mitratus</i>	2	5	2	10	19	0
Red Lory	<i>Eos bornea</i>		18			18	0
* White-rumped Shama	<i>Kittacincla malabarica tricolor</i>	7	3		6	16	160
Blue-masked Leafbird	<i>Chloropsis venusta</i>		1		14	15	NL
Long-tailed Sibia	<i>Heterophasia picaoides</i>		3	2	10	15	0
Chestnut Munia	<i>Lonchura atricapilla</i>	1	7	4		12	NL
Scarlet Minivet	<i>Pericrocotus flammeus siebirsilxanthogaster</i>		2		9	11	NL
Coconut Lorikeet	<i>Trichoglossus haematodus haematodus</i>		10			10	0
Black-capped White-eye	<i>Zosterops atricapilla</i>				8	8	NL
* Java Sparrow	<i>Padda oryzivora</i>	5	3			8	250^
Black-headed Bulbul	<i>Pycnonotus atriceps atriceps</i>	1	5		2	8	250
Olive-winged Bulbul	<i>Pycnonotus plumosus</i>	3			4	7	NL
Common Flameback	<i>Dinopium javanense</i>	7				7	NL
Orange-bellied Flowerpecker	<i>Dicaeum trigonostigma flaviclunis</i>				7	7	NL
* Asian Fairy Bluebird	<i>Irena puella crinigeralturcosa</i>		4		2	6	50^
Olive-backed Sunbird	<i>Cinnyris jugularis</i>				6	6	#
Grey-capped Emerald Dove	<i>Chalcophaps indica</i>	2	1		3	6	100^
Common Iora	<i>Aegithina tiphia scapularis</i>	4			2	6	NL
Streaked Bulbul	<i>Ixos malaccensis</i>		1		5	6	NL
* Long-tailed Shrike	<i>Lanius schach bentet</i>	4			2	6	0
Brown-throated Sunbird	<i>Anthreptes malaccensis</i>	4			1	5	#
* Sumatran Leafbird	<i>Chloropsis media</i>		3		2	5	NL
Maroon-bellied Sunbird	<i>Leptocoma brasiliana</i>	1			4	5	#
* Grey-cheeked Bulbul	<i>Alphoixus tephrogenys</i>		3		2	5	50^
* Sunda Laughingthrush	<i>Garrulax palliatus palliatus</i>	3	2			5	NL
Blue-rumped Parrot	<i>Psittinus cyanurus</i>				5	5	NL
* Orange-spotted Bulbul	<i>Pycnonotus b. bimaculatus/tenggerensis</i>	3		2		5	NL
Chattering Lory	<i>Lorius garrulus garrulus/flavopalliatus</i>		4			4	NL
Sunda Pygmy-Woodpecker	<i>Picoides moluccensis</i>	1	2		1	4	NL
Crimson Sunbird	<i>Aethopyga siparaja heliogona</i>				4	4	#
Yellow-bellied Prinia	<i>Prinia flaviventris rafflesi</i>		3			3	NL
Ashy Drongo	<i>Dicurus leucophaeus leucophaeus</i>		1		2	3	NL
Grey-bellied Bulbul	<i>Pycnonotus cyaniventris</i>				3	3	NL
Chestnut-backed Scimitar Babbler	<i>Pomatorhinus montanus montanus</i>			1	2	3	0
Velvet-fronted Nuthatch	<i>Sitta frontalis</i>		2		1	3	NL
Large-billed Crow	<i>Corvus macrorhynchos macrorhynchos</i>	2	1			3	NL
Greater Racket-tailed Drongo	<i>Dicurus paradiseus</i>	1			2	3	NL
Mugimaki Flycatcher	<i>Ficedula mugimaki</i>		1		2	3	NL
Scaly-breasted Bulbul	<i>Pycnonotus squamatus</i>				3	3	NL
Straw-headed Bulbul	<i>Pycnonotus zeylanicus</i>			3		3	NL
* Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>		3			3	NL

Table 1. Species observed in four major cities in Sumatra between 9 and 12 February 2017 (continued overleaf).


Species	Scientific name	Jambi	Medan	Palembang	Pekanbaru	Total	◊2016 National Harvest Quota
Black-naped Oriole	<i>Oriolus chinensis eroderipe/maculatus</i>	1	1			2	85
Sumatran Treepie	<i>Dendrocitta occipitalis</i>		2			2	NL
Hairy-backed Bulbul	<i>Tricholestes criniger</i>				2	2	NL
Blue-winged Pitta	<i>Pitta moluccensis</i>		2			2	#
Thick-billed Green Pigeon	<i>Treron curvirostra</i>		2			2	50
* Orange-headed Thrush	<i>Geokichla citrina</i>		2			2	0
Greater Coucal	<i>Centropus sinensis</i>		2			2	NL
* Buff-vented Bulbul	<i>Iole charlottae</i>				2	2	NL
Ashy Tailorbird	<i>Orthotomus ruficeps</i>				2	2	NL
Pin-tailed Parrotfinch	<i>Erythrura prasina</i>		2			2	100
* Javan Pied Starling	<i>Gracupica jalla</i>	1			1	2	0
Fire-tufted Barbet	<i>Psilopogon pyrolophus</i>		2			2	0
Golden-breasted Starling	<i>Lamprotornis regius</i>		2			2	NA
Red-throated Sunbird	<i>Antheptes rhodolaemus</i>				2	2	#
Yellow-rumped Flycatcher	<i>Ficedula zanthopygia</i>		1		1	2	NL
Grey-throated Babbler	<i>Stachyris nigriceps</i>				2	2	NL
Brown-cheeked Bulbul	<i>Alophoixus bres</i>		2			2	NL
Rufous-tailed Tailorbird	<i>Orthotomus sericeus</i>	1			1	2	NL
Black-and-crimson Oriole	<i>Oriolus cruentus</i>		1		1	2	NL
Coppersmith Barbet	<i>Psilopogon haemacephalus</i>				1	1	NL
Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	1				1	NL
Red-billed Leiothrix	<i>Leiothrix lutea</i>				1	1	NA
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>		1			1	NA
Yellow-bellied Bulbul	<i>Alophoixus phaeocephalus</i>				1	1	NL
Chinese Paradise-flycatcher	<i>Tersiphone incei</i>				1	1	NL
Crested Jay	<i>Platylophus galericulatus coronatus</i>				1	1	50
Eyebrowed Thrush	<i>Turdus obscurus</i>				1	1	NL
Puff-backed Bulbul	<i>Microtarsus eutilotus</i>				1	1	NL
Rufous Woodpecker	<i>Micropternus brachyurus</i>	1				1	NL
Barn Owl	<i>Tyto alba javanensis</i>		1			1	0
* Black-winged Myna	<i>Acridotheres m. melanopterus/tertius</i>	1				1	NL
Red Junglefowl	<i>Gallus gallus</i>	1				1	NL
Oriental Dollarbird	<i>Eurystomus orientalis</i>	1				1	NL
Eurasian Siskin	<i>Spinus spinus</i>		1			1	NA
* Chestnut-backed Thrush	<i>Geokichla dohertyi</i>		1			1	NL
Sumatran Flowerpecker	<i>Dicaeum beccarii</i>				1	1	NL
Black-browed Barbet	<i>Psilopogon oorti</i>		1			1	NL
Rufous-vented Flycatcher	<i>Eumyias ruficrissa</i>			1		1	NL
Siberian Thrush	<i>Zoothera sibirica</i>		1			1	NL
White-bibbed Babbler	<i>Stachyris thoracica</i>		1			1	NL
* Chestnut-capped Thrush	<i>Geokichla interpres</i>		1			1	0
White-crowned Forktail	<i>Enicurus leschenaulti</i>				1	1	NL
Black-throated Laughingthrush	<i>Garrulax chinensis</i>		1			1	NA
Green Broadbill	<i>Calyptomena viridis</i>	1				1	NL
Western Hooded Pitta	<i>Pitta sordida mulleri/cucullata</i>				1	1	#
Lesser Coucal	<i>Centropus bengalensis</i>	1				1	NL
Oriental Skylark	<i>Alauda gulgula</i>		1			1	NA
Black-shouldered Kite	<i>Elanus caeruleus</i>	1				1	#
Cinereous Bulbul	<i>Hemixos cinereus cinereus</i>				1	1	NL
Cream-vented Bulbul	<i>Pycnonotus simplex</i>		1			1	NL
* Sumatran Laughingthrush	<i>Garrulax bicolor</i>				1	1	NL
Plain Prinia	<i>Prinia inornata blythi</i>		1			1	NL
Asian Golden Weaver	<i>Ploceus hypoxanthus</i>				1	1	NL
Black-and-white Bulbul	<i>Microtarsus melanoleucos</i>				1	1	NL
Brown Prinia	<i>Prinia polychroa polychroa</i>	1				1	NL
Crested Myna	<i>Acridotheres cristatellus</i>		1			1	NA
Pin-striped Tit-babbler	<i>Mixornis gularis</i>				1	1	NL
Blossom-headed Parakeet	<i>Psittacula roseata</i>		1			1	NA
Sunda Scops-owl	<i>Otus lempiji</i>	1				1	NL
Orange-bellied Leafbird	<i>Chloropsis hardwickii</i>		1			1	NA
Brown Shrike	<i>Lanius cristatus</i>		1			1	NL
Spot-necked Bulbul	<i>Alcurus tympanistrigus</i>				1	1	NL
Malayan Pied Fantail	<i>Rhipidura javanica</i>				1	1	#
Chestnut-rumped Babbler	<i>Stachyris maculata</i>				1	1	NL
Ruby-cheeked Sunbird	<i>Chalcoparia singalensis</i>				1	1	#
<b>TOTAL</b>		<b>323</b>	<b>5768</b>	<b>242</b>	<b>936</b>	<b>7269</b>	

Table 1 continued. Species observed in four major cities in Sumatra between 9 and 12 February 2017.

#Protected under Indonesian law; \*Priority species for Conservation Strategy for Southeast Asian Songbirds in Trade; ^Quota for non-Sumatran provinces only; NA: non-native species, not covered under current Indonesian quota system; NL: no quotas listed, technically harvest is not permitted; ◊Under the 2016 quota all bird species with allocated harvest quotas are for export only, which means domestic trade is technically not allowed.



SEK JUN-YAN



The most common bird encountered during the survey was the Scaly-breasted Munia *Lonchura punctulata*, accounting for over half the birds recorded.

Shepherd *et al.* (2004) reported that dealers openly discussed sending illegal shipments from Medan to markets in Jakarta. These discussions on the movement of birds from Sumatra to Java, including a high frequency of smuggling, are corroborated by observations of Sumatran endemic birds regularly available in Javan markets, and by dealers in those markets who openly inform visitors and potential buyers that they source birds from Medan and other localities in Sumatra (Chng *et al.*, 2015; Chng and Eaton, 2016; Chng *et al.*, 2016). Further illustrating this inter-island domestic trade, shipments of birds from Sumatra have been intercepted by authorities in recent years en route to Java. For instance, in November 2016 wildlife authorities in Lampung, southern Sumatra, seized hundreds of birds destined for Jakarta (Sutomo, 2016), and yet more shipments of wildlife were intercepted on public buses heading towards Java in September 2016 (Safutra, 2016). Much of this movement across provinces and islands is illegal as the birds lack the accompanying transport permits required.

#### *Sumatra—consumer base for live birds?*

Despite the lower volume of birds observed for sale compared with Javan markets, the level of trade in Sumatran markets is considered significant. That more than 7,000 birds were openly displayed in the four cities surveyed within a four-day period indicates a market for local buyers; if the birds were only intended for transport to other demand centres, they would not be displayed.

The highest number of birds observed in these four Sumatran cities was in Medan, with a total of 5,768 birds observed. This is of concern, as it is substantially more than was observed during regular surveys (n=59) carried out between 1997 and 2001, when the average number per survey was 3,549 birds (Shepherd *et al.*, 2004). As in the previous study, munias dominated the species composition here; a total of 99.8% of munias were observed in Medan, where they are sold primarily for merit release to Medan's large Chinese population, with a small proportion destined for the songbird or cage bird trade. The number of shops in Jalan Bintang—the main live animal market street in Medan—dropped from 32 in the late 1990s to 12 in 2008, reportedly because of the impact of avian influenza-related restrictions on the bird trade at that time (Shepherd, 2010). Only four shops were operating there during this survey. Attention drawn to illegal wildlife trade in Medan over the years has appeared to make traders wary, yet protected species were still openly displayed for sale.

In Pekanbaru, birds for sale were recorded in a permanent market with 22 shops. Despite relatively low volumes compared to Medan, it had the largest range of species, including birds from Sulawesi. The bird shops in Jambi were scattered around the city, and at least one of them, whose owner reported sending birds to Java, was functioning as a distributor in addition to selling from the shop. One of the biggest differences between Medan and these two cities is that no Scaly-breasted Munias were recorded; instead the most numerous bird species was the Oriental White-eye *Zosterops palpebrosus* in Pekanbaru (183) and Zebra Dove *Geopelia striata* in Jambi (67 individuals), both species commonly used in bird singing competitions.

Although this survey recorded a small numbers of birds not native to Sumatra, seizure cases of non-Sumatran species shows a demand for them here. For instance, in March 2017 a man was arrested carrying wildlife, including birds endemic to Maluku and Papua, from Jakarta to Pangkal Pinang, an island off the east coast of Sumatra (Siregar, 2017). More recently, two incidents of birds being smuggled from Peninsular Malaysia to Sumatra indicate cross-border trade to supply the demand for birds in Indonesia (Hadi, 2017; TRAFFIC, 2018).

The local demand for cage birds in Sumatra itself is recognised to be a threat to the conservation of many of these species. Burivalova *et al.* (2017) found that bird owners in Medan had a preference for wild-caught birds, with 84% of owners interviewed having at least one wild-caught bird. Some species of birds previously recorded in the markets in Sumatra, such as waders, waterfowl and pigeons were sold for meat, and others

for use in traditional medicines (Shepherd *et al.*, 2004). In this study only one Red Junglefowl *Gallus gallus*, six Grey-capped Emerald Doves *Chalcophaps indica* and two Thick-billed Green Pigeons *Treron curvirostris* that could be sold for meat were recorded. Little is known of the trade in birds for meat and medicine, and of the scale of the trade that takes place outside these markets.

## CONCLUSIONS AND RECOMMENDATIONS

Sumatra is a source of birds, including high-value rare and endemic birds, for markets in Java, and for the local consumer base. Two decades of data show that nationally protected birds are still being offered for sale, in addition to their likely illegal export from Sumatra to other Indonesian provinces. This points to a serious need to improve regulation against illegal trade, and raise the awareness of local traders and consumers. The newly formed IUCN SSC Asian Songbird Trade Specialist Group is tasked with catalysing actions to prevent declines and to recover species of songbirds threatened by trade, and may be able to play a role in addressing these issues in Sumatra, for instance, through consolidated efforts to improve understanding of the trade threats facing birds, and to engage with stakeholders. There is an urgent need for the Indonesian government to enforce national legislation and quotas effectively. Without action, these markets will continue to trade birds into extinction (Eaton *et al.*, 2015).

Demand for birds as pets, for songbirds, for singing competitions and for merit release in Sumatra remains a driver behind the illegal harvest and trade and should be addressed. The authors recommend that wildlife authorities take strong and immediate action against traders found selling wild-caught birds, and against those found illegally transporting them to Java and other parts of the country. Improved vigilance along key smuggling routes between Sumatra and Java, particularly those regularly plied by public buses, is required to intercept illegal shipments of birds. Efforts to catalyse grassroots initiatives for improved in-situ protection of key habitats is recommended to curb poaching. Additionally, better understanding of local attitudes of the actors involved in the bird trade is required to guide demand reduction initiatives.

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## Enhancing China's green procurement of legal forest products



Mingming Sun and Ke Zhang

### INTRODUCTION

The scope of China's Green Public Procurement (GPP) policy is currently limited to the purchase of goods and does not include other activities such as services or projects. It relies on two "lists": Energy Conservation Products (ECP) and Environmental Labelling Products (ELP). While these lists have simplified implementation of the GPP, they provide inadequate incentives for other environmentally integrated and innovative services, projects and goods to enter the GPP market, such as legal and responsibly sourced forest products. Although China's GPP market has grown dramatically in recent decades, it still has huge growth potential considering the scope for future expansion on procurement and increasing demand for environmentally friendly products.

In order for the GPP policy to meet the sustainability requirements of the market for responsibly sourced forest products, China needs to have a clear GPP legislative framework, and develop and integrate consistent and credible criteria for timber legality verification into China's environmental labelling standards, including adoption of bilateral agreements, forest certifications, and Forest Law Enforcement, Governance and Trade (FLEGT) licences. In addition, there is an urgent need to expand the GPP scope from goods to project and service procurement to increase GPP demand, and facilitate a smooth market transformation of the forestry industry in China.

This article summarises eight key findings from research conducted by TRAFFIC and The Sustainability Consortium (TSC) in 2016, and provides initial recommendations to enhance China's GPP policy for forestry products. More specific content can be found in the research report (Sun and Zhang, 2016).

### BACKGROUND

Public procurement is increasingly becoming one of the important sectors for promotion of responsible sourcing in both mature and emerging markets, with purchasing values varying from between 5% and 30% of GDP or even higher (O'Rourke *et al.*, 2014). In order to promote responsible public procurement, the Chinese government promulgated a series of policies and regulations, including building up a management mechanism of unified supervision by the financial sector, combined with the independent organisation of centralised procurement by local public procurement centres. The Thirteenth Five-Year Plan (2016–2020) made clear comprehensive "green

development" recommendations. The development of a Green Environmental Industry was specified, in particular calling for the implementation of "green labelling, green certification and green public procurement system" (The State Council of the People's Republic of China, 2016). According to the China Manufacturing 2025 report issued by the State Council in May 2015, it particularly specified that "Public procurement policies supporting innovation should be improved and implemented to promote development of innovative products and large-scale application of manufacturing, and to create green supply chains to accelerate the establishment of resource-conservation and environmentally friendly procurement, production, marketing, recycling and logistics systems, and implement producer responsibility extension systems" (The State Council of the People's Republic of China, 2015).

Along with meeting growing demand from the Chinese domestic market, the GPP policy can have a huge impact on global environmental issues, including supporting efforts to combat illegal logging and the illegal timber trade. In 2016 TRAFFIC and TSC undertook research to understand China's GPP policy on forest products and to provide some initial recommendations to develop the scope of the policy.

### TOP EIGHT FINDINGS OF CHINA'S GPP ON FOREST PRODUCTS

#### 1. China GPP is entirely commodity focused and is not mandatory for forest products

Looking at the key milestones along the trajectory of China's GPP policy, the two "lists"—ELP and ECP—eventually become the only gateway for entering the China GPP market. The "Direct" regulations and laws provide the key context of China GPP policy, while "Indirect" laws and regulations play crucial roles in the implementation of that policy. In practice, 80% of the public procurement is centralised through invitations for bidding from suppliers; whether or not they can win the bid will depend on whether the overall products in the bids are listed in the ECP or ELP. However, currently only use of the ECP list is mandatory, while use of the ELP is voluntary. This means that only products in the ECP list can be purchased. With regard to products on the ELP list, such as forest products, it is not mandatory to purchase them but, under equal conditions, they should be given priority over other products.

## 2. The need for adoption of projects and service procurement into China's GPP

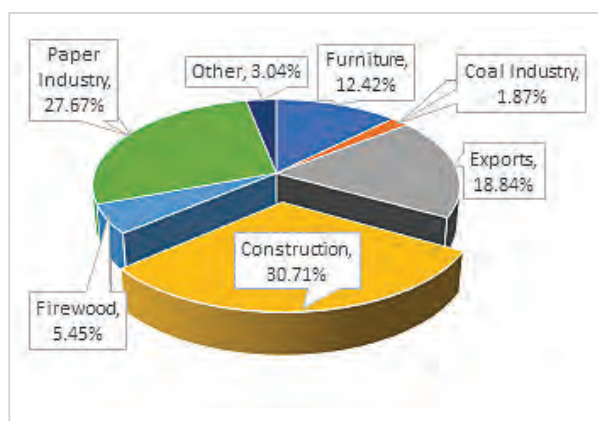
China's Public Procurement is composed of three types of procurement—goods, projects and services. The value of procurement of goods has largely been declining in the past 15 years, while projects and services procurement have increased dramatically: 53% and 16% respectively based on the whole procurement value of 2015. In terms of forest products, projects procurement include construction and decorative materials, such as wooden flooring and wooden frames.

Fig. 1 shows the consumption structure of forest products by volume in China in 2014. The construction industry is the largest consumer, accounting for more than 30% of the total timber consumption volume in China. However, most of the forest products consumed by this sector are not covered under the existing scope of the GPP policy. Therefore, considering that China's GPP policy is entirely commodity/goods focused, there is an urgency for allowing projects and services procurement to be covered by the GPP policy.

## 3. Lack of Environmental Labelling Standards of Forest Products

Under the framework of China's GPP, any forest products sold on the China GPP market need to be certified under the corresponding China Environmental Labelling Standards and listed in the ELP. According to the China Public Procurement Catalogues Directory (MOF, 2013), there are six types of forest products: a) Code A05 Books and Files; b) Code A06 Furniture; c) Code A08 Paper, paper products and copy materials; d) Code A09 Office Consumables and similar items; e) Code A10 Construction materials, e.g. timber, wood-based panel, etc. f) Code A12 Agriculture, forestry, livestock, and fishery products.

Currently, 99 product-based China Environmental Labelling Standards have been released, but only six apply to forest products: copy/printing paper, furniture, wood-based panels, wooden doors, cabinets and wooden toys. Therefore,



**Fig. 1. China's Timber Consumption in 2014.**

Source: China Forestry Development Report, 2015.

many of the products listed in the China Public Procurement Catalogue are not covered by the Environmental Labelling Standards, which means they cannot be listed in the ELP and sold as GPP products, even though they may be legal and not harmful to the environment.

## 4. The scale of China's GPP is increasing but small compared with other mature markets

Based on data from the Ministry of Finance (MOF, 2016), although the total value of goods purchased under the China GPP policy has maintained a high growth rate in recent years, reaching USD300 billion, it is still considered small compared with other mature markets. According to statistics, public procurement can reach 20–25% of the total expenditure in Asian countries, while European government institutions are the main consuming groups in Europe, with annual public procurement accounting for 16% of the EU's GDP and half of Germany's GDP. For all other countries, government procurement expenditure also ranked first in the GDP proportion among national procurement groups. For example, the public procurement of member governments of the Organization for Economic Cooperation and Development (OECD) took up between 9% and 25% of their GDP, which was considered to be high (Liu *et al.*, 2015). Thus, in spite of the large quantity of public procurement in China, a broad gap still exists between China and major mature markets, and the potential for growth is enormous.

## 5. ECP and ELP lists will play limited roles in the development of China's GPP market

The value of public procurement of ECP and ELP-listed goods has been slowly increasing in the past few years and, on average, the ratio of ECP-listed products purchased through public procurement reached more than 80%, much higher than the ratio of ELP-listed goods (70%) (MOF, 2016). This is very likely due to the fact that the purchase from the ECP list is mandatory, while purchase from the ELP list is not.

However, considering that the ratio of ECP- and ELP-listed products purchased through GPP has reached a relatively high value, there is a clear market signal that the "list"-based China GPP has lagged behind the rapid development of China's GPP market. The scope of the China Environmental Labelling Standards cannot cope with the range of products in the China Public Procurement Catalogue, and the ELP list plays a passive role in influencing and guiding the future of the GPP market.

## 6. The requirements of timber legality in existing China Environmental Labelling Standards are weak with a lack of transparency and quality control in the certification process

Table 1 summarises the requirements for the sourcing of timber products from four China Environmental Labelling Standards, including pulp for paper. Overall, the requirements related to domestic timber have been

China Environmental Standard	Product	SUSTAINABILITY REQUIREMENTS:		
		Domestic Timber	Imported Timber	CITES
HJ 459-2009	Wooden doors	Production enterprises should use secondary, small, firewood and wood-based panels for production; use of forest sources must comply with national laws and regulations.		
HJ 571-2010	Wood-based panels	The origin of domestic wood materials should comply with China's forestry laws and regulations	Imported timber must come from sustainable forest sources	Timber materials must meet CITES requirements.
HJ 2547-2016	Furniture	Domestic timber must comply with GB/T 28951 China Forest Certification Scheme on Forest Management and or GB/T 28952 of Chain of Custody Standards; domestic raw materials originating from natural growth should comply with the <i>Regulations of the People's Republic of China on Nature Reserves and the Regulations of the People's Republic of China on the Protection of Wild Plants</i> .	Imported timber must comply with the relevant national timber trade and import and export regulations.	The import of wild plant species and their products listed in CITES (excluding exemptions) should be in compliance with CITES provisions; the import of non-CITES species and related products but including those listed in the Wild Import Export Species of Flora and Fauna Catalogue should meet relevant requirements in China.
HJ 410-2017	Paper for books, etc.	Domestic pulp and timber/wood must comply with GB/T 28951 China Forest Certification Scheme on Forest Management and/or GB/T 28952 of Chain of Custody Standards.	Imported pulp and timber must comply with the relevant national timber trade and import and export regulations.	—

**Table 1. Timber legality requirements in China Environmental Labelling Standards, 2009–2017.**

Source: MEP, 2009; 2010; 2016; 2017

clearly defined. However, the requirement heavily relies on the compliance with CFCC (China Forest Certification Council) established by the State Forest Administration in 2007. Although CFCC has mutual recognition with the Programme for the Endorsement of Forest Certification (PEFC) in 2014, it creates a barrier for the application of other forest certification schemes for domestic sources, such as the Forest Stewardship Council (FSC). Furthermore, with regards to imported timber, based on Table 1, only HJ571-2010 has a requirement to source from sustainable forestry, while other standards only require legal sources that comply with China's national regulations and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Another challenge is that there is no clear explanation of how to define "sustainable forestry". Most of the requirements of China's Environmental Labelling Standards are related to environmental emissions, such as toxic, noxious gas and other pollutants; requirements regarding the sourcing of timber products are relatively few compared to those dealing with environmental emissions.

The study found that China's environmental labelling standards are written by the Environmental Protection Department of the Ministry of Environmental Protection (MEP) and are certified by the China Environmental United Certification Center (CEC) and its subordinate unit. Meanwhile, Public Procurement Centres are set up at all levels of government. In 2012, about 75% of public procurement in China was implemented by cities or counties (Hu and Yi, 2014). Therefore, the effective implementation of China's GPP policy is very dependent upon the capacity of these Public Procurement Centres.

Based on Fig. 2, this study found that China Environmental United Certification Center (CEC)<sup>3</sup>, a State-owned enterprise under MEP Environmental Development Center, is the only certification body authorised by the Certification and Accreditation Administration of the People's Republic of China to conduct the audits and issuance of certificates of China Environmental Labelled products. Although the overall qualification and certification quality is under the supervision of local Environmental Protection Bureaus, the Quality Supervision Bureau and other public sector bodies, the existing procedure for standard development/amendment, qualification of certification bodies and the development of certification specifications lacks stakeholder involvement and market supervisions, particularly compared to those found in other international certification processes. For example, Accreditation Service International (ASI), a third-party non-profit-organisation, is verified by FSC to grant qualifications of FSC Certification Bodies and supervise the quality of certification. Further, the FSC General Assembly is the highest decision-making body, with strong stakeholder involvement and consultations.

As shown in Fig. 2, besides being the only certification body for China Environmental Labelling Standard, CEC also develops Certification Specifications for each Standard, including those for forest products. Therefore, how CEC interprets the Standards is becoming very crucial, especially on how timber legality requirements will be verified.

<sup>3</sup><http://en.mepcec.com/content/25.html>

### 7. Lack of clear legislative support

China's GPP needs compliance with seven different laws and regulations, especially the *Public Procurement Law* and *Bidding Law*. However, there is clear conflict between the two laws during execution of procurement.

The patterns of China GPP in 2012, 2013 and 2015 show a clear trend that centralised procurement is increasing and reached 79.3% in 2015 (MOF, 2016). Therefore, as long as the procurement value reaches the standardised value as stated in the *Bidding Law*, the procurement process needs to comply with that law, as most of the centralised procurement is executed through invitations for bidding. Therefore, most of the State-owned enterprises meet the requirements of the *Public Procurement Law* and only need to comply with the *Bidding Law* (Denjean *et al.*, 2015).

In most of bidding procedures, the majority of the parameters relate to price and quality, and those concerning timber legality and sustainability are few, with little incentive for suppliers to go for forest products derived from a legal source. While the GPP policy requires environmentally-friendly products, it is not designed to create a market value for it.

### 8. Lack of capacity on timber legality verification

Unlike auditors of forest certifications, the auditors of China Environmental Labelling Standards lack the knowledge and capacity to conduct preliminary verification for timber legality, primarily because China's Environmental Standards are focused on environmental emissions. In practice, forest certificates are the most common and important documents to prove legality. However, for non-certified timber sources, timber legality verification is a challenge.

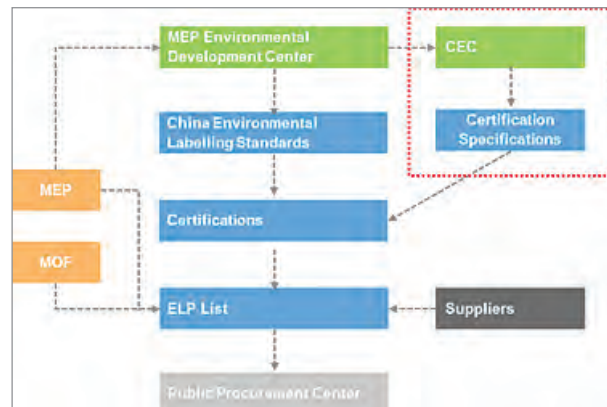
Furthermore, more than 75% of the public procurement in China is executed at Public Procurement Centres at local government level—mainly municipal and county levels—rather than by central government. Therefore, the capacity of Public Procurement Centres is extremely critical for effective implementation of public procurement of forest products.

## CONCLUSIONS

The development of China's GPP in recent years has failed to provide market guidance either in terms of laws and regulations or enforcement. The overlapping of the *Public Procurement Law* and the *Bidding Law*, the voluntary nature of the ELP list and the limited scope of products present barriers to the further development of China's GPP policy.

It will be a win-win solution if the China Environmental Labelling verification process can adopt a risk mitigation approach and due diligence system for timber legality. This will fundamentally raise timber legality awareness to thousands of manufacturers in China, through a bottom-up approach.

However, inclusion of project and service procurements into the existing GPP framework remains a challenge, but one in which civil society can play an important role in providing better solutions for policy makers in China.



**Fig. 2. Public Procurement and Control Agency for Environmental Labelling Products.** Source: Hu and Yi, 2014

## RECOMMENDATIONS FOR IMPROVEMENTS OF TIMBER LEGALITY IN CHINA'S GPP

Based on this study, the following recommendations are proposed to enhance China's GPP for timber products.

- **Introduce bilateral agreements on timber legality verification**

There is a perception among some Chinese authorities that exporting countries are responsible for timber legality, and that trading documents (mainly Customs and commodity inspection documents) accompanying the products are sufficient and legally acceptable in the Chinese market. However, this perception ignores the risks and complexity of the supply chain of timber products. In some countries, including developing countries with rich forestry resources, law enforcement in the forestry industry can be weak, resulting in high levels of illegal timber flowing into trading markets. As a result, a system based entirely on trading documents is often not sufficient to verify timber legality.

The signing of bilateral agreements with harvesting, processing and exporting countries should be encouraged, taking into consideration the discrepancies and complexity of timber legality in different countries, as well as respecting the forestry law enforcement measures in the exporting countries. For example, in May 2003 the EU released the Forest Law Enforcement Governance and Trade Action Plan (FLEGT) that aims to promote the signing of Voluntary Partnership Agreements (VPAs) with countries of origin; in November 2016, Indonesia and the EU launched their first FLEGT licensing system, which requires that agreed timber products exported from Indonesia to the EU are accompanied by a FLEGT licence. Such licensed products can be exported directly to the EU and there is no need to conduct any further due diligence. This is a model that China can learn from.

- **Build capacity of risk assessment for timber legality for China Environmental Labelling Verifications, and local Public Procurement Centres**

China Environmental Labelling standards place more focus on various environmental emissions, while the requirements

for timber legality are few. Therefore, building capacity to address timber legality, including through influencing the development and amendment of Certification Specifications, should be a priority. Through the process, technical capacity about risk assessment of timber legality can be built to guide the work of the GPP auditors, leading to a more professional timber legality verification process on China GPP, especially for imported timber.

More than 75% of public procurement in China was executed at Public Procurement Centres at local government level, mainly municipal and county level. However, awareness of GPP policy in less developed regions of China is lower than in the more developed eastern provinces. Understanding the practices at the local level and building awareness of legality will be crucial.

- **Align different timber legality verification schemes in the market, and allow them to be adopted by the China Environmental Labelling verification process**

There are many different timber legality verification schemes in the market, and others are under development. In order to support the adoption and effective implementation of these, a risk assessment approach should be identified that embraces the existing timber legality verification schemes and tools.

- **Explore the collaborations with the MEP Environmental Development Center and develop more China Environmental Labelling Standards for forest products that are in the China Public Procurement Catalogue**

A proactive approach can be taken to collaborate with the MEP Environmental Education Center and develop more labelling standards for forest products, especially those in the China Public Procurement Catalogues Directory. By doing so, responsible Chinese manufacturers of timber products can be better engaged and collectively influence the GPP policy development agenda.

- **Policy influence on project and service GPP, especially on construction projects**

There is a clear demand and urgency to establish policies on how to include project and services procurement into China's GPP. Although policymakers in China have been aware of this, the know-how on how these policies can be implemented may be lacking. Policymakers should be encouraged to explore and learn from other markets on how such policies are developed and implemented.

- **Make ELP list mandatory**

The ELP purchase list should be compulsory rather than voluntary. Without enforceability, there will be inconsistent implementation and weaknesses in implementation. This will also ensure consistency in how the ECP and ELP lists are used.

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THE TRAFFIC BULLETIN SEIZURES AND PROSECUTIONS SECTION IS SPONSORED BY THE FORESTRY BUREAU, COUNCIL OF AGRICULTURE, TAIWAN: COMMITTED TO SUPPORTING CITES ENFORCEMENT

The following section features a selection of seizures and prosecutions reported between October 2017 and mid-April 2018. Sources are cited at the end of each country section. Readers are referred to the TRAFFIC website ([www.traffic.org/media-reports/](http://www.traffic.org/media-reports/)) for regular updates on cases reported from around the world.

## ELEPHANTS

**The African Elephant *Loxodonta africana* is listed in CITES Appendix I (except the populations of Botswana, Namibia, South Africa and Zimbabwe, which are included in Appendix II); the Asian Elephant *Elephas maximus* is listed in Appendix I.**

**CAMBODIA:** On 5 December 2017, authorities seized 279 pieces (941 kg) of ivory hidden inside 22 hollowed-out wooden posts from two containers at Sihanoukville port. The consignment had arrived from Mozambique in December 2016; scanners detected suspect items within the cargo, but the consignee failed to respond to a request to fill out paperwork for the shipment's release.

*Khmer Times:* <https://bit.ly/2kqv7Zq>, 6 December 2017; *The Phnom Penh Post:* <https://bit.ly/2qWv882>, 6 December 2017

**CAMEROON:** On 11 December 2017, rangers in Dja Biosphere Reserve seized 216 elephant tusks and 81 elephant tails. Two arrests. See also other / multi-seizures.

*WWF Media release:* 14 December 2017

**CONGO, REP. OF:** On 28 December 2017, at the Tribunal de Grande Instance in Pointe-Noire, six people were sentenced to five years in gaol for the illegal trade in a 10-kg ivory tip. Adama Sangaré, Diallo Bakary, Oumar Diaby, Konate Moussa, Josephine Lemingui and Nestor Mainkoma, from Mali, Guinea, DRC and the Republic of Congo, were also fined XAF10 m (USD19,000).

On 15 February 2018, Jonathan Kweme, Bolia Ezengue, and Gloire Ekumu Mozuba, from D.R. Congo, were each sentenced to five years in gaol and fined XAF5.5 m (USD10,000), reportedly the highest sentence for a wildlife offence in the country. The conviction relates to their role in the poaching of 11 elephants in and around Nouabale-Ndoki National Park in January. The head of the poaching group and two other gang members are at large. All three convicted admitted their involvement in

**CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** establishes international controls over trade in wild plants and animals, or related products, of species that have been, or may be, threatened due to excessive commercial exploitation. Parties have their own legislative instrument by which to meet their obligations under CITES. The species covered by CITES are listed in three Appendices, according to the degree of protection they need:

**APPENDIX I** includes species threatened with extinction which are or may be threatened by trade. Trade in specimens of these species is permitted only in exceptional circumstances. An export permit from the country of origin (or a re-export certificate from other exporting countries) and an import permit from the country of importation are required.

**APPENDIX II** includes species not necessarily yet threatened, but which could become so if trade is not strictly controlled. Species are also included in Appendix II if they are difficult to distinguish from other species in Appendix II, in order to make it more difficult for illegal trade to take place through misidentification or mislabelling. An export permit from the country of origin (or a re-export certificate from other exporting countries) is required, but not an import permit.

**APPENDIX III** includes species that any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation and as needing the co-operation of other Parties in the control of trade. Imports require a certificate of origin and, if the importation is from the State that has included the species in Appendix III, an export permit is required.

All imports into the European Union of CITES Appendix II-listed species require both an export permit/re-export certificate and an import permit.

numerous illegal incursions into the NNNP, collectively removing nearly 400 kg of ivory from the forest in the previous four years.

*VOX:* <https://bit.ly/2Kek263>, 13 January 2018; *Infos Plus Gabon:* <https://bit.ly/21WRLS>, 15 January 2018; *Newswise:* <https://bit.ly/2JlQBxG>, 23 February 2018

**CÔTE D'IVOIRE:** On 31 October 2017, four traffickers—two Ivorians, including a Customs officer at Abidjan airport, and two Guineans—were arrested in possession of 53 elephant tails and two tusks (52 kg).

On 18 January 2018, authorities in Abidjan arrested a Vietnamese national, the alleged leader of a criminal syndicate and five other members of his network. The gang had reportedly been operating for years poaching elephants in at least seven countries. The arrest led to the confiscation of 478 kg of ivory, (plus 600 kg of pangolin scales, Leopard *Panthera pardus* (CITES I) parts, including crushed and boiled bones), and cutting and carving machines and handguns).

The *modus operandi* of the syndicate consisted of hollowing out wooden logs in which to conceal the ivory, sealing them with wax and glue, and exporting them to Asia in containers holding timber. The same method has been observed in seizures in Kenya and Mozambique, where some two tonnes of ivory have been seized. At least four African countries (Kenya, Mozambique, Uganda, Côte d'Ivoire) as well as Cambodia and Viet Nam, are implicated. The suspects came from Côte d'Ivoire, Guinea, Viet Nam and China, and the ivory reportedly from Gabon, Nigeria, Mozambique and Uganda.

*Daily Mail online:* <https://daily.mai2HZFNWY>, 7 November 2017; *The Eagle Network,* January 2018; <https://ireut.rs/2EayHgb>, 25 January 2018

**KENYA:** In January 2018, Ndare ole Koshal and Julius Kituber Sopia were charged with possessing two elephant tusks and each fined Sh20 million (USD195,000), or sentenced to life imprisonment. The duo was arrested in January 2015 after authorities acting on information found an elephant carcass with both tusks removed; the tusks were later recovered.

*Standard Digital:* <https://bit.ly/2qUwro0>, 26 January 2018

**MALAWI:** On 4 October 2017, two brothers arrested by police, in co-operation with Tanzanian authorities and supported by INTERPOL, were charged with attempting to smuggle into the country, in bags of cement, 781 elephant tusks from Tanzania in 2013.

On 12 October 2017, at Lilongwe Magistrates' Court, Winston Humba of Ntcheu was sentenced to seven years in gaol. Humba was captured in December 2016 at his concealed ivory "factory" in Lilongwe, which contained machinery to process raw ivory into smaller pieces, allegedly for easier transport by air to addresses in Thailand and Malaysia. Some 126 kg of ivory pieces found on the floor were reportedly offcuts of a 475 kg consignment smuggled from Zambia. Four others convicted separately each received gaol terms of four years.

On 4 November 2017, a court in Nkhotakota sentenced Faliki Simeon and Thomson Zindo each to 13 years in gaol for killing an elephant (and removing the tusks); the animal had just been translocated to Nkhotakota Game Reserve.

On 24 November 2017, at Kasungu First Grade Magistrates' Court, Robert Jackson Gondwe was sentenced to 14 years in gaol after being found in possession of 31 kg of ivory at Chinsanjire village.

On 27 March 2018, Jafari Gunde of Machinga District was gaoled for 18 months with hard labour after attempting to sell two African Elephant tusks.

INTERPOL: <https://bit.ly/2FgmSE6>, 6 October 2017; <https://bit.ly/2hYkSH2>, 7 October 2017; *The Nation* (Malawi): <https://bit.ly/2HK5UmO>, 13 October 2017; *Malawi 24*: <https://bit.ly/2qXFvAT>, 4 November 2017; *The Nation*: <https://bit.ly/2qWBKTI>, 29 November 2017; *Nyasa Times*: <https://bit.ly/2vH4eWt>, 30 March 2018

**NIGERIA:** see other / multi-seizures

**SINGAPORE:** On 5 March 2018, authorities at the Pasir Panjang Scanning Station, uncovered a shipment of 3,480 kg (1,787 pieces) of elephant ivory in a container arriving from Apapa, Nigeria, via Tanjung Pelepas, Johor, Malaysia, declared to contain ground nuts. The haul was destined for re-export to Viet Nam.

*Agri-food & Veterinary Authority and Immigration & Checkpoints Authority Joint News Release*: <https://bit.ly/2jq4Dyr>, 8 March 2018; TRAFFIC

**UK:** On 22 January 2018, at Westminster Magistrates' Court, Janet Winstanley was fined GBP1,000 (USD1,400) following her conviction for offences relating to the offering of ivory items for sale online.

A researcher from the Metropolitan Police's Wildlife Crime Unit discovered objects described as carved "bovine bone" offered for sale by Winstanley on an online trading site. Closer inspection of the images revealed "schreger lines" on the pieces which are unique to elephant ivory. A warrant to search Winstanley's address in November 2016 led to the seizure of more than 100 ivory items.

*UK Metropolitan Police*: <https://bit.ly/2FFTvlf>, 24 January 2018

**VIET NAM:** On 6 February 2018, police officers seized 971 kg of ivory and ivory products from a house in Khanh Ha Commune. The owner of the ivory said that she had hired the house in order to store ivory.

*Vietnamnet*: <https://bit.ly/2EbM9DV>, 8 February 2018

**ZIMBABWE:** On 25 January 2018, at Harare Magistrates' Court, Onesimo Tafiraje of Chitungwiza was sentenced to 10 years in gaol for possession of one kilogramme of ivory after he failed to put forward special circumstances to have his sentence reduced. In December 2017, authorities received information that Tafiraje was in possession of ivory and looking for a buyer. He was apprehended after offering a tusk to detectives posing as buyers.

In February 2018, at Harare Magistrates' Court, Collen Dick, Christopher Chapata and Alwis Paundi were each sentenced to nine years in gaol for the possession of elephant tusks. They were arrested in November 2017 after eight tusks were found at Chapata's property; no licence authorising possession could be produced.

*NewsDay*: <https://bit.ly/2JsYAJl>, 26 January 2018; *New Zimbabwe*: <https://bit.ly/2vjzl3B>, 11 February 2018; TRAFFIC



HONG KONG CUSTOMS

## FLORA

**HONG KONG SAR:** On 16 January 2018, at Kwai Chung Customhouse Cargo Examination Compound, Customs officials inspecting a container arriving from Guatemala, seized just over 29 t of suspected Honduras Rosewood *Dalbergia stevensonii* (CITES II). One arrest.

On 5 February, Customs officials at Kwai Chung Customhouse Cargo Examination Compound seized 26 t of suspected Siamese Rosewood *Dalbergia cochinchinensis* (CITES II) logs from two containers arriving from Thailand, believed to have been destined for onward shipment.

*Hong Kong Customs and Excise Department press releases*: <https://bit.ly/2Hl67HI>, 17 January 2018; <https://bit.ly/2vWiUd>, 8 February 2018; *Hong Kong CITES Management Authority in litt.* to TRAFFIC, 26 April 2018

**THAILAND:** On 25 January 2018, police arrested five Thai nationals and two Chinese nationals following a raid on two warehouses in Samut Prakan, and seized 35 t of Siamese Rosewood *Dalbergia cochinchinensis* (CITES II) logs destined for China.

*Bangkok Post*: <https://bit.ly/2HOsOJS>, 26 January 2018

## MARINE

**BELGIUM:** In March 2018, three Chinese nationals were sentenced to 15 months in gaol (half the sentence suspended) after being arrested at Zaventem Airport in transit from Sierra Leone, bound for Beijing, with 2,063 seahorses *Hippocampus* spp. (CITES II) in their luggage.

*Flanders Today*: <https://bit.ly/2zvBcGd>, 8 March 2018

**LATVIA:** In December 2017, the Customs Board of the State Revenue Service (VID) seized a shipment of over 14 t of coral rock in transit from China to Belarus, reportedly the largest seizure of coral in the country. It was suspected during inspection that the specimens were of CITES-listed species. This was confirmed by representatives of the Nature Protection Board, together with experts of the Latvian Museum of Natural History who examined the pieces. A requisite permit could not be presented by the freight agent.

*LSM.LV*: <https://bit.ly/2jskmgj>, 14 February 2018

◀ A shipment containing 26 t of suspected Siamese Rosewood *Dalbergia cochinchinensis* logs was seized by Customs officials in Hong Kong in February 2018.

**NETHERLANDS:** In November 2017, a passenger caught at Schiphol Airport with 144,000 dead seahorses *Hippocampus* spp. (CITES II) was sentenced to six months in gaol, three of which were conditionally suspended.

*NL Times*: <https://bit.ly/2j55jyq>, 29 November 2017

**PORTUGAL:** In January 2018, at Lisbon Airport, Customs officials seized 317 kg of live baby European Eels *Anguilla anguilla* (CITES II) held in water-filled plastic bags in luggage belonging to eight passengers bound for Viet Nam.

<https://bit.ly/2FePX2P>, 22 January 2018

**SOUTH AFRICA:** All South African abalone (perlemoen) cases below involve *Haliotis midae*:

On 31 October 2017, 40,000 abalones (2,233 kg) were seized from premises in Brackenfell, Cape Town, containing an illegal abalone processing facility. Two arrests.

On 3 November 2017, two suspects were arrested in Caledon, Western Cape, after authorities responding to reports of a suspicious smell coming from premises found inside 67,258 abalones and processing equipment.

On 6 November 2017, police in Mfuleni stopped a vehicle and seized 5,553 abalones. Three arrests.

In January 2018, police officers uncovered an abalone processing plant at premises in Monte Vista, Western Cape. Four arrests. Besides huge quantities of abalones, abalone processing apparatus was seized. The case was described as a significant blow to the illegal abalone trade.

On 24 January 2018, a woman was arrested in possession of 6,276 abalones following a raid on a house in Kraaifontein.

On 6 February 2018, an illegal abalone processing facility was uncovered in the Goodwood area after police received complaints of a bad odour coming from a residence. Numerous shelves of abalones—many undersized—were seized. Three arrests. On 8 February 2018, an explosion at a house in Maitland exposed the presence of an illegal abalone processing facility and a large amount of abalones and processing equipment. Two arrests.

On 15 February 2018, authorities in Cape Town seized 2,162 abalones from a car following a car chase. One arrest.

On 16 February 2018, authorities in Cape Town seized 2,225 units of dried abalones from three residences in Table View. Seven arrests.

In separate cases on the same day, in the Western Cape, two men were arrested in Grabouw following a car chase after 4,445 abalones were found in their vehicle, and in Hermanus, police arrested a man in possession of over 5,000 abalones.

On 21 February 2018, authorities in the Eastern Cape confiscated 1.6 t of abalones at Durban harbour following information received during the seizure of 8.6 t of abalones at Port Elizabeth harbour on 26 January. Based on intelligence from that bust, a ship travelling to Sri Lanka was ordered to return to Durban and a container was inspected after the behaviour of two SARS Customs sniffer dogs indicated the possible concealment of prohibited goods. Inside were 156 boxes of frozen abalones hidden amongst other items. No arrests.

On 19 March 2018, at the High Court in Cape Town, Adriaan Wildschutt and Tony Du Toit were each sentenced to gaol for 15 years. The duo were kingpins of a criminal syndicate responsible for harvesting some 400 t of abalones along South Africa's coast and shipping it to Hong Kong. The case has been running for 11 years and also resulted in gaol terms for Willem van Rensburg of eight years, Phillip Miller, of four years and Johannes Liebenberg, a one-year suspended sentence. Van Rensburg, Wildschutt, and Du Toit were granted bail with strict conditions following sentencing after they were granted leave to appeal.

Meanwhile, nine Department of Agriculture, Forestry and Fisheries anti-poaching officials and another eight individuals, each representing a separate abalone syndicate, have appeared in Cape Town District Court on charges of poaching and racketeering.

On 1 March 2018, in Klipmuts, Western Cape, three people were arrested after 1011 kg of poached abalones were found in their vehicles. They were remanded in custody.

*IOL*: <https://bit.ly/2HLq7bY>, 1 November 2017; *South African Police Service media statements*: <https://bit.ly/2FeMRf6>, 4 November 2017; <https://bit.ly/2Hr4wGu>, 18 January 2018; <https://bit.ly/2vOB3ko>, 7 February 2018; <https://bit.ly/2Hto7l6>, 8 February 2018; <https://bit.ly/2qYukhY>, 16 February 2018; <https://bit.ly/2Hr4wGu>; <https://bit.ly/2JqLwEi>, 22 February 2018; *Sandton24 News*: <https://bit.ly/2HWz7bS>, 18 February 2018; *IOL*: <https://bit.ly/2r1h1qn>, 18 February 2018; *South Africa Police Service on Facebook*: <https://bit.ly/2HrajYI>, 7 November 2017; <https://bit.ly/2vGSoeZ>, 18 January 2018; *IOL*: <https://bit.ly/2HpbzKQ>, 22 February 2018; *Business Live*: <https://bit.ly/2qWT3nO>, 20 March 2018; *News24*: <https://bit.ly/2qUWmMm>, 5 March 2018

**SPAIN:** Seizures of European Eels *Anguilla anguilla* (CITES II) have taken place during Operation Elvers, led by the Guardia Civil in collaboration with the Portuguese authorities and the support of EUROPOL; suspects

based in Spain, but also operating out of Portugal and Morocco, have been arrested. Glass eels have been sent by the ring from Madrid to Porto, Portugal, and from Algeciras, southern Spain to Morocco. In addition to the cases reported below, police found 364 travel bags in Spain that were being prepared for transport to China with more than 5 t of eels inside. Ten suspects—Spanish, Chinese and Moroccan nationals—have been arrested. See also under Portugal.

In February 2018, at Adolfo Suárez Madrid-Barajas Airport, authorities seized two consignments (310 kg) of European Eels *Anguilla anguilla* (CITES II, with a zero quota for EU trade), that were about to be exported to Asia. In the first case, several boxes containing 250 kg of elvers were discovered at the cargo terminal amongst a shipment of barnacles that were destined for Viet Nam; a few days later, four suitcases carrying 60 kg of eels were detected on a flight to Hong Kong. In both cases, the eels were contained in bags of water and later released into rivers.

*EUROPOL press release*: <https://bit.ly/2Hj56C>, 6 April 2018; *American Press*: <https://bit.ly/2FefmK3>, 6 April 2018; *Government of Spain, Guardia Civil press release*: <https://bit.ly/2JpPpl>, 10 February 2018

## PANGOLINS

**All eight species of pangolins were transferred from CITES Appendix II to Appendix I, effective 2 January 2017**

**BENIN:** On 19 March 2018, at Bernardin Cardinal Gantin Airport, Cotonou, three people bound for Viet Nam, including a Chinese national, were arrested after 513 kg of pangolin scales were found in their luggage.

*Actubenin*: <https://bit.ly/211YUj2>, 5 April 2018

**CHINA:** On 29 November 2017, Customs officials at Yantian Port, Shenzhen, Guangdong province, intercepted a consignment of 11.9 t of pangolin scales smuggled in from Africa [country not reported] in July, reportedly the largest volume of pangolin scales detected by the authorities. The items had been concealed under pieces of coal. Two Chinese nationals are being sought.

**HONG KONG SAR:** On 7 March 2018, Customs officials at Tsing Yi Cargo Examination Compound seized 2,800 kg of suspected pangolin scales from a container from Nigeria declared to contain scrap metal.

*ECNS.cn*: <https://bit.ly/2Hqqzjf>, 30 November 2017; *Hong Kong Customs and Excise Department*: <https://bit.ly/2KbtR4S>, 7 March 2018

**INDONESIA:** On 7 March 2018, at Bengkalis District Court, Riau, two people [names not reported] were sentenced to three years in gaol for the illegal trade in 101 Sunda Pangolins *Manis javanica* and fined Rp100

million (USD7,250). The duo were reportedly couriers assigned to transport the pangolins from Paknik River in Riau to Malaysian-flagged boats, for onward shipment to Malaysia, China and Viet Nam. The animals were rescued and later released.

*Antara News*: <https://bit.ly/2HLRGLs>, 8 March 2018

**MALAWI:** In November 2017, at a court in Lilongwe, Habarawo Jyaima, a Mozambican national, and Joseph Mankhokwe Banda from Malawi, were each sentenced to nine years in gaol after pleading guilty to possessing and trying to sell a live pangolin at Nsundwe Trading Centre. The animal had reportedly been procured in Mozambique.

*Malawi 24*: <https://bit.ly/2KfBBTC>, 29 November 2017

**MALAYSIA:** On 7 October 2017, officials seized 127 live Sunda Pangolins *Manis javanica* from premises at Hosba, Kubang Pasu district. Two Malaysians and two Thai nationals were detained.

On 6 November 2017, authorities foiled an attempt by a Thai man to smuggle in his car 55 sacks of live pangolins and five sacks of pangolin scales to Thailand. The suspect was detained at a border checkpoint. Each of the sacks containing the scales weighed about 5 kg. The animals were reported to have originated from Negeri Sembilan, in Kedah.

On 7 November 2017, 85 Sunda Pangolins *Manis javanica* destined from Thailand, Viet Nam and China were seized from a house in Changlun, Kampung Darat. One arrest; two Thai nationals evaded capture. A permit to keep the pangolins could not be produced.

On 16/17 November 2017, at Kuala Lumpur International Airport, Customs seized two separate batches of pangolin scales (totalling 337 kg) bound for Hong Kong. All parcels arrived from Sabah and Sarawak in boxes labelled as “kids clothes” and “filter packs”. The sender was reported to be local with registered addresses in Sabah and Sarawak.

*New Straits Times*: <https://bit.ly/2Hrktlp>, 9 October 2017; <https://bit.ly/2JoGPLh>, 8 November 2017; <https://bit.ly/2Hscle>, 8 November 2017; <https://bit.ly/2JrVq9I>, 27 November 2017; *The Sun Daily*: <https://bit.ly/2vJrMtQ>, 27 November 2017

**NEPAL:** On 29 March 2018, police officials at Tribhuvan International Airport, Kathmandu, arrested two Chinese nationals in transit from Istanbul, in possession of 162 kg of pangolin scales in what is reportedly the single-largest haul of pangolin scales in Nepal. The provenance of the scales is being investigated. The investigation uncovered a transnational connection involving Congolese, Chinese, Bangladeshi and Nepali nationals.

*The Himalayan Times*: <https://bit.ly/2H870pM>, 30 March 2018

**NIGERIA:** In March 2018, Customs officials impounded 329 sacks of pangolin scales (weight not reported) at Ikeja, Lagos, and arrested a Chinese national (see also other/multi-seizures).

*New Telegraph:* <https://bit.ly/2qWYpzn>, 8 March 2018

**SRI LANKA:** On 12 November 2017, police seized 130 kg scales of Indian Pangolins *Manis crassicaudata* from a house at Tiladiya in Kalpitiya, reportedly bound for China via India. Three arrests.

*Daily News:* <https://bit.ly/2qZzB9f>, 13 November 2017

**TAIWAN:** On 30 January 2018, in reportedly the largest-ever pangolin smuggling case at Kaohsiung port, authorities inspecting a container discovered some 4,000 pangolin carcasses, their scales removed, concealed beneath frozen sardines. The shipment had arrived from Malaysia a month earlier and had not been collected by the domestic consignee.

*Liberty Times Net:* <https://bit.ly/2FAd0W8>, 1 February 2018

**THAILAND:** On 21 November 2017, two Thai men were arrested at Chong Sam Mor checkpoint, Chaiyaphum province, after police found 105 live pangolins concealed in vehicles heading for the border with Lao PDR in Nong Khai. The specimens were reportedly purchased in Lad Lum Kaew District.

On 24 November 2017, officials at a cargo terminal in the border town of Mae Sot, Tak province, seized 84 pangolins believed to have been smuggled from Myanmar. This is reportedly the first time a shipment of pangolin scales from Myanmar has been seized in the country; the suspects fled.

*The Nation:* <https://bit.ly/2mRYuEH>, 21 November 2017; *Komchadluek.net:* <https://bit.ly/2HrH5bV>, 21 November 2017; *Thai PBS:* <https://bit.ly/2r2SGHE>, 24 November 2017

## REPTILES

**MADAGASCAR:** On 10 January 2018, 460 Radiated Turtles *Astrochelys radiata* (CITES I) were seized from a boat stranded on a beach in Morondava. A strong odour emanating from the vessel caused nearby residents to alert the authorities. Only 217 specimens could be saved and were expected to be repatriated and released in the wild.

On 10 April 2018 at Betsinjaka, Toliara II, more than 5,000 Radiated Tortoises were seized from two houses. Requisite documentation was not produced; two arrests. The reptiles were to be released in the wild following a period in quarantine. A further 26 specimens were seized at Ivato Airport on 3 April.

*Midi Madagasikara:* <https://bit.ly/213whC9>, 20 January 2018; *L'Express de Madagascar:* <https://bit.ly/2HveRgj>, 11 April 2018; *Newsmada:* <https://bit.ly/2vJOG4j>, 5 April 2018

**MEXICO:** On 3 December 2017, authorities in Guerrero seized 1,823 eggs of Olive Ridley Turtles *Lepidochelys olivacea* (CITES I); the eggs were no longer viable and were destroyed.

On 11 December, a further 3,172 Olive Ridley Turtle eggs were seized in two incidents; two arrests in Jalisco.

*Gob mx:* <https://bit.ly/2HRWLZH>, 3 December 2017; <https://bit.ly/2HsGATf>, 11 December 2017

## RHINOCEROSES

**All species of Rhinocerotidae are listed in CITES Appendix I except the South African and Swaziland populations of *Ceratotherium simum*, which are listed in Appendix II.**

**CHINA:** On 29 October 2017, a Chinese national in transit from Maputo, Mozambique, was detained at Guangzhou International Airport in possession of a suitcase containing 11 rhino horns (30 kg).

*@Verdade:* <https://bit.ly/2HM7h13> (in Portuguese), 2 November 2017

**LAO PDR:** On 23 October 2017, two Chinese nationals were arrested at Wattay International Airport, Vientiane, after arriving on a flight from Singapore with five pieces of rhino horn (11 kg).

*World News:* <https://bit.ly/2v1cMfA>, 25 October 2017

**NEPAL:** On 28 February 2018, at Patan High Court, Kathmandu, Ram Sharan BK and Santa Bahadur Chepang were sentenced to gaol for 15 and 14 years, respectively, after being convicted of poaching a Greater One-horned Rhinoceros *Rhinoceros unicornis* in Chitwan National Park in 2011. Seven others received gaol terms of between five and eight years.

The previous day the court gaoled Ramesh Tamang for 14 years for a separate rhino poaching incident.

*Kathmandu Post:* <https://bit.ly/2qZ9fnv>, 1 March 2018

**NETHERLANDS:** On 6 April 2018, a court in Amsterdam sentenced a Chinese man to one year in gaol and fined him USD613,000 for smuggling five rhino horns and four other horn objects in his luggage (and for falsifying a visa). The suspect, arrested in December 2017 at Schiphol Airport, was in transit from South Africa, bound for Shanghai, China.

*South China Morning Post:* <https://bit.ly/2GIw4Xm>, 7 April 2018

**SINGAPORE:** On 26 February 2018, Nguyen Vinh Hai, a Vietnamese national was sentenced to 15 months in gaol after he was detained at Changi Airport in transit from Angola to

Luang Prabang, Lao PDR, on 31 August 2017 in possession of eight pieces of cut rhino horns (3 kg) and a packet of unidentified powder, all wrapped in foil. The cut horns were reportedly derived from three horns, at least two of which were from two Black Rhinoceroses *Diceros bicornis* (CITES I).

*The Straits Times:* <https://bit.ly/2EX8hOI>, 26 February 2018

**SOUTH AFRICA:** On 12 October 2017, at Kempton Park Magistrates' Court, The Shuangshuang Xue, a Chinese national, was sentenced to four years in gaol after being arrested in July at O.R. Tambo International Airport after arriving from Lusaka, Zambia, bound for Hong Kong, with 14 pieces of rhino horn (16 kg). Genetic profiling of the horn identified it as being from the southern White Rhinoceros *Ceratotherium simum simum* (four males and one female). None of the pieces could be linked to any poaching incidents or registered stockpile.

In January 2018, at Empangeni Magistrates' Court, KwaZulu-Natal, four people were found guilty of rhino poaching and possession of firearms: Mduduzi Magwaza, Emmanuel Xulu, Bonginhlanhla Khumalo and Vela Madela were sentenced to gaol for 9, 12, 6 and 3 years.

On 25 January 2018, at Middelburg Regional Court, four of five syndicate members arrested for illegal possession and trade in rhino horn were found guilty and fined. Yansen Fenc, a Chinese national, was sentenced to pay ZAR60,000 (USD5,000) or gaoled for six months and a further 18 months suspended for five years. He was also ordered to pay R1 million compensation to the Stop Rhino Poaching Project. South Africans Jozeph Albertus Du Plessis and his wife Johanna Du Plessis were each fined ZAR20 000 or sentenced to two years in gaol for dealing in rhino horns. The case against a South African game farmer is pending.

In March 2018, at Lephalale Regional Court, Kenny Mthethi and Sam None were each sentenced to 58 years in gaol after being apprehended on 10 February 2014 on a farm outside Lephalale in possession of two rhino horns, a hunting rifle and ammunition.

*South African Environment Affairs media releases:* <https://bit.ly/2HpYwvx>, 26 July 2018; <https://bit.ly/21ctL4K>, 18 October 2018; *East Coast Radio:* <https://bit.ly/2qWZvet>, 30 January 2018; *South African Police Service media statements:* <https://bit.ly/2JnN8Po>, 26 January 2018; <https://bit.ly/2HrTEbe>, 24 March 2018

**SWAZILAND:** On 9 November 2017, at the High Court of Swaziland, Hsiao Chen Hao and Chen Bei-Hsun of Taiwan were each sentenced to 11 years in gaol for killing four rhinos; nine years and 11 years for trafficking the horn pieces and nine years for exporting the trophies. The judge ordered that these

sentences should run concurrently, which means each will serve a gaol term of 11 years. The duo was also ordered to pay USD13,300 in compensation to the rhino owners which, if they failed to do so, will result in an additional sentence of four years each.

Three of the rhinos were poached in South Africa, while the fourth was dehorned in Swaziland. The defendants were arrested in February 2017 at King Mswati III International Airport, bound for Taiwan, in possession of 24 pieces of rhino horn.

APA News: <https://bit.ly/2Jot3s8>, 10 November 2017

**THAILAND:** On 10 October 2017, authorities at Suvarnabhumi Airport seized eight rhino horns (6.3 kg). Two Chinese nationals were arrested, in transit from Zambia to Cambodia.

On 12 December 2017, officials at the airport seized 14 (11 kg) African rhino horns. A plant quarantine official is accused of picking up a case containing the horns and bypassing a Customs check before passing it on to a Vietnamese courier; both were arrested along with a Chinese national.

On 20 January 2018, at Nakhon Phanom Airport, an alleged kingpin of illegal wildlife trade over a 10-year period—including the illegal trade in 14 rhino horns—was arrested. Together with family members, he allegedly ran a large trafficking network on the Thai-Lao PDR border that spread into Viet Nam and involved the smuggling of CITES I-listed specimens and products, including ivory, Tigers *Panthera tigris* (CITES I) and Lions *P. leo* (CITES II).

Travelwire News: [travelwirenews.com/two-chinese-men-arrested-with-eight-rhino-horns-466919/](http://travelwirenews.com/two-chinese-men-arrested-with-eight-rhino-horns-466919/), 11 October 2017; Bangkok Post: <https://bit.ly/2Kg5zXg>, 14 December 2017; <https://bit.ly/2JrZar5>, 12 December 2017; Bossip: <https://bit.ly/2JrZXs3>, 21 January 2018

**USA:** In November 2017, at a federal court in Miami, Michael Hegarty of Ireland was sentenced to 18 months in gaol followed by three years of supervised release. Hegarty was part of an international criminal gang known as the Rathkeale Rovers (other members have already been sentenced, see 28(1):33).

Together with another man, Richard Sheridan, and a third man from Florida, they purchased a libation cup in North Carolina made from rhino horn and transported it to Florida, where they falsified papers to smuggle it out of the USA.

Raidió Teilifís Éireann: <https://bit.ly/2AHKEHc>, 15 November 2017

**ZIMBABWE:** A poacher who left his phone at the crime scene leading to his arrest, has been gaol for 10 years for killing two Black Rhinoceroses *Diceros bicornis* (CITES I).

NewsdzeZimbabwe: <https://bit.ly/2qX1AXJ>, 17 January 2018

## OTHER / MULTI-SEIZURES

**AUSTRALIA:** On 8 February 2018, at ACT Magistrates' Court, Brent Philip Counsell was fined AUD5,500 (USD4,265) and placed on a two-year good behaviour bond after he pleaded guilty to 14 charges relating to importing CITES-listed animal remains without a permit, including skulls of Asian wild cats, bears, a gibbon, monkeys, a water monitor, owls, and hornbill skulls. Some 100 specimens seized from Counsell's home in June 2016 were intended for sale at markets and via his online business.

Australian Government Department of Environment and Energy: <https://bit.ly/2qZD7QZ>, 8 February 2018

**CAMEROON:** On 10 November 2017, authorities in Douala seized 158 raw ivory pieces (250 kg); pangolin scales (1,050 kg); 124 dried Grey Parrots *Psittacus erithacus* (CITES I) and 1,394 Grey Parrot feathers. The items, concealed under bags of foodstuffs, had reportedly been despatched from Ebolowa in Yakadouma, to Douala, destined for Nigeria. Three arrests.

Business in Cameroon: <https://bit.ly/2qUp004>, 14 November 2017; Journal du Cameroun.com: <https://bit.ly/2HpFdEw>

**GUINEA:** In December 2017, two people arrested in possession of two dead Chimpanzees *Pan troglodytes* (CITES I) and a live baby chimp, were each sentenced to the maximum one year gaol sentence and ordered to pay a fine of over USD55,000.

The Eagle Network, January 2018

**INDIA:** On 22 October 2017, officials in Harmuty, Lakhimpur district, recovered 42 gall bladders of Black Bear *Ursus thibetanus* (CITES I), 12 bear skins and Tiger *Panthera tigris* (CITES I) nails. Two people arrested said they had been involved in the trade for two years and had purchased the organs from villagers in Arunachal Pradesh to sell in Shillong.

Arunachal Times: <https://bit.ly/2FgeDrB>, 23 October 2017

**NIGERIA:** On 15 February 2018, authorities in Ikeja seized sacks containing 218 pieces (343 kg) of elephant tusks and 2 t of pangolin scales from an apartment; a Chinese national was arrested.

Punchng: <https://bit.ly/2KfzGhS>, 16 February 2018

**RUSSIA:** On 27/28 January 2018, a group of Russian and Chinese nationals were arrested as they prepared to cross a frozen Lake Khanka into China with vehicles found to be carrying 870 bear (CITES I) paws, the remains of at least four Siberian Tigers *Panthera tigris* (CITES I), bear teeth, and other wildlife.

Phys.org: <https://bit.ly/2HKjbvN>, 31 January 2018

**TANZANIA:** In January 2018, the Court of Appeal dismissed an appeal lodged by a poacher, Mandela Masikini, alias Kasalama, who was challenging both a conviction and a 20 years' gaol sentence (or fine of TZS78.4 m (USD34,350)) imposed on him for the illegal possession of the skin of a Lion *Panthera leo* (CITES II), which was a government trophy.

Daily News: <https://bit.ly/2Kfv1MN>, 2 January 2018



THE MINISTRY OF FORESTRY AND WILDLIFE – CAMEROON

Nearly 1,400 tail feathers of Grey Parrots *Psittacus erithacus* (CITES I) were seized in Cameroon in November 2017 by the Ministry of Forestry and Wildlife from a shipment of ivory and pangolin scales reportedly destined for Nigeria.

## A rapid assessment of the tiger trade in Viet Nam

Report by Rosa A. Indenbaum

### INTRODUCTION

**T**iger seizures have been reported in Viet Nam since 2004 and TRAFFIC has been actively monitoring the tiger trade in that country since the early 1990s (Mainka, 1997; Verheij *et al.*, 2010; Stoner and Pervushina, 2013; Stoner *et al.*, 2016). Both the domestic and international trade in Tigers *Panthera tigris* for commercial purposes is prohibited in Viet Nam (Decree 160/2013/ND-CP and Decree 82/2006/ND-CP, respectively). TRAFFIC previously reported a total of 61 seizures involving tigers in Viet Nam between 2004 and 2015 (Stoner *et al.*, 2016). In 2016, a year not captured by Stoner *et al.*, 2016, there were seven recorded seizures involving tigers and/or tiger parts in Viet Nam (TRAFFIC, unpub. data). The use of online platforms, including social media, to sell wildlife and wildlife products is now well established in Asia (see e.g. IFAW, 2012; Stoner, 2014; Krishnasamy and Stoner, 2016; Nguyen and Willemsen, 2016; Sy, 2017; Indraswari *et al.*, in prep; Yu, in prep.) and this report confirms the existence of an online market for tiger products in Viet Nam. Beyond a cursory search in 2015 by researchers in Viet Nam on social media, this is the first full survey of the online tiger market in Viet Nam.

By 2016, the wild tiger population in Viet Nam had dropped to fewer than five individuals (WWF, 2016), leaving the species effectively extinct in this country. Meanwhile, the number of captive tigers housed in Viet Nam increased from 180 in May 2016 (EIA, 2016) to 253 in September 2016 (ENV, 2017), and the number of registered tiger farms has risen from five in 2007 (EIA, 2017) to 13 in 2017 (ENV, 2017). This paper provides an update on the illegal tiger trade in Viet Nam in 2017 combining seizure reports with a review of the online market. Seizure reports indicate that tiger products are still transiting Viet Nam, while online market research shows that tiger parts continue to make it to the point of sale.

### METHODS

Information on seizures of tigers and tiger parts over 12 months (January to December 2017) was obtained through TRAFFIC's monitoring of Vietnamese and English-language news media. Where possible, this information was corroborated with the authorities.

Online market monitoring was undertaken over a period of 25 days between 27 March and 28 April 2017 on 18 Vietnamese-language platforms (social media platforms and e-commerce websites) that bore the country domain (".vn") or commercial domain (".com"). The platforms were pre-determined prior to the survey based on previous surveys and literature (WCS, 2013;



**Fig. 1. Provinces in Viet Nam where tiger seizures were recorded during 2017.**

Nguyen and Willemsen, 2016; VECOM, 2017). Twelve Vietnamese key search terms were used for monitoring purposes (Table 1) to identify advertisements for items purporting to contain tiger products. Although it is impossible to determine whether the products offered online were genuine, details such as the description, shape, and colour were used to eliminate likely fakes. Additionally, only advertisements with photos were considered.

The survey effort was fixed at one hour per day, allowing the researcher to survey between one and four of the 18 platforms each day. The research captured advertisements with date stamps (i.e. posting dates) from 1 January 2017 to 28 April 2017, effectively capturing four months of data. It is important to note that traders frequently delete posts once items have been sold and therefore it was not always possible to record data from some of the advertisements with earlier date stamps.

In order to avoid inflating the number of items present in each advertisement, care was taken to review and eliminate duplicate advertisements (i.e. exact image and text) from the analysis, including those that were

No.	English	Vietnamese
1	Tiger	Hồ
2	Tiger bone glue	Cao hồ/ Cao hồ cốt
3	Bone glue	Cao
4	Tiger teeth	Nanh hồ/ Răng hồ
5	Tiger claw	Móng hồ/ Vuốt hồ
6	Tiger skin	Da hồ
7	Sell tiger	Bán hồ
8	Sell tiger bone glue	Bán cao hồ/ Bán cao hồ cốt
9	Sell bone glue	Bán cao
10	Sell tiger teeth	Bán nanh hồ/ Bán răng hồ
11	Sell tiger claw	Bán móng hồ/ Bán vuốt hồ
12	Sell tiger skin	Bán da hồ

**Table 1. List of Vietnamese key search terms used for online monitoring.**

Description	No. of parts seized	Weight (kg) seized
Bone (raw)	-	47
Dead specimens*	12	-
Live specimens	2	-
Heads	1	-
Tails	1	-
Legs	2	-
<b>TOTAL</b>	<b>18</b>	<b>47</b>

**Table 2. Tigers/tiger parts seized in Viet Nam, 2017.**

Platform	No. of ads	No. of items	Weight (kg)
Website 1	1	1	-
Website 2	1	1	-
Website 3	2	2	-
Website 4	3	-	3
Social Media Website 1	178	980	5
Social Media Website 2	2	111	-
<b>TOTAL</b>	<b>187</b>	<b>1,095</b>	<b>8</b>

**Table 3. Tiger products for sale online, by platform, January–April 2017.**

Description	No. of products	Weight (kg)
Bone (glue)	-	8
Claw (pendant)	171	-
Claw (raw)	719	-
Meat	-	N/A*
Skin (piece)	39	-
Skin (purse)	36	-
Tooth (pendant)	16	-
Tooth (raw)	114	-
<b>TOTAL</b>	<b>1,095</b>	<b>8</b>

**Table 4. Tiger products for sale online, January–April 2017.**

\*This refers to an unidentifiable amount of tiger meat offered for sale on Social Media Website 1.

posted on different dates within the timeframe covered by the survey. The number of items recorded for sale was determined based on the wording/photos accompanying the advertisement, excluding any wording/photos found in the comments section of the advertisement. In cases where the number of items was difficult to determine, the highest number reasonably apparent from the advertisement was recorded. The results published in this report represent minimum figures and may underestimate actual online tiger trade numbers.

## RESULTS

### Seizures

In 2017, 10 seizures involving tigers and/or tiger products took place in Viet Nam. Seizures were more frequent in the first half of the year: between January and May there was one or more seizure every month. In the second half of the year, the only three seizures recorded occurred in November. Tigers and tiger parts were seized either at private residences (six seizures) or in vehicles during transportation (four seizures).

All but one of the seizures took place in the northern provinces: Thanh Hoa (four seizures), Nghe An (two seizures), Hanoi (one seizure), Ninh Binh (one seizure), and Thai Nguyen (one seizure). The other seizure took place in the southern province of Dong Nai (Fig. 1). Of the seizures for which trade routes were known (seven), all were headed in a northerly direction towards Hanoi. This is consistent with TRAFFIC’s previous findings which indicated a trend of concentrated tiger trade around Hanoi beginning in 2012 (Stoner *et al.*, 2016). Only one seizure, in Nghe An, indicated a tie to international trade and the consignment was reported to have been transiting from Lao PDR. The seizure, containing a dead tiger, bears out TRAFFIC’s previous findings of a trade in whole tigers from Lao PDR to Viet Nam (Stoner *et al.*, 2016).

Dead tigers were the most common commodity type present in seizures in 2017 (Table 2), which supports the historical trends in Viet Nam previously reported by TRAFFIC (Stoner *et al.*, 2016). Two of the twelve dead specimens were frozen tiger cubs, while the other 10 ranged in weight from between 100 and 500 kg each. The two live tigers (seized separately) were likely fully grown adult males given their size (200 kg and 300 kg, respectively). One head and one tail were seized together, as were two tiger legs, although it is uncertain if they were sourced from the same animal. It is notable that one incident involved the seizure of a dead tiger from an ambulance. Using an ambulance to transport wildlife has been recorded in Viet Nam on at least three previous occasions, including to transport a dead tiger in 2012 (TRAFFIC, 2017).

### Online market survey

The online market survey found 1,095 tiger products offered for sale in 187 advertisements from 85 unique sellers on four e-commerce websites and two social



CONNIE LEMPERLE / WWF-GREATER MEKONG

Tiger *Panthera tigris corbetti*

media websites (Table 3). The clear majority of the advertisements (95%) were found on Social Media Website 1. Social Media Website 1 also accounted for 89% of the individual items (excluding items measured by weight). As was the case in another online market survey conducted in 2016 by TRAFFIC (Nguyen *et al.*, in prep.), the trade was more prevalent on social media sites than on e-commerce websites. Over half of the advertisements (73% or 137) offered tiger claws.

Five types of tiger product were found for sale online: bone, claws, meat, skin and teeth (Table 4). Both raw claws and worked claws made into pendants were found for sale. However, raw claws were the most commonly advertised product, accounting for 98 advertisements (52%) and 719 products (65%).

## DISCUSSION

Tiger seizure reports in Viet Nam were up from 2016 during which seven seizures were recorded (TRAFFIC, unpub. data). With 10 seizures, 2017 was the third-highest year on record for reported tiger seizures in Viet Nam, topped only by seizures in 2012 (12) and 2008 (13). In 2017, the seizures confirmed trends previously reported by TRAFFIC (Stoner *et al.*, 2016), mainly a concentration of seizures in the north in and around Hanoi and a tendency towards whole tigers (live, dead and frozen). Two seizures made in 2017 have resulted in criminal charges. One defendant received a 30-month suspended sentence pending a 60-month probation period and was fined USD440 (Anon., 2017). The other was sentenced to imprisonment for 13 months and fined USD440 (Anon., 2018).

Data from four months of online activity showed more than seven times as many tiger items for sale online in Viet Nam (1,095) than was found by TRAFFIC in China over three months in 2016 (150) (Yu, in prep.) and more than twice as many items as recorded in China over 11 months in 2012–2013 (438) (Stoner, 2014).

In 2016, TRAFFIC suspected that there was a growing domestic market for tiger bones and tiger bone products. From 2012–2015, at least 50% of the seizures were related to the production of tiger bone glue (known as *cao*)

(Stoner *et al.*, 2016). In 2017, this trend continued. Four of the 10 seizures (40%) took place while the suspects were in the process of cooking, or preparing to cook tiger bone glue. Meanwhile, four online advertisements were found selling a total of 8 g of tiger bone glue. Furthermore, a tiger consumer survey undertaken by TRAFFIC in 2017 in Hanoi and Ho Chi Minh City found that tiger bone glue was the most commonly purchased item by urban tiger consumers (TRAFFIC, unpub.). The continued presence of tiger bone glue in seizures, combined with the presence of online advertisements for the finished product and consumption patterns of urban tiger consumers, confirm a domestic market for tiger bone in Viet Nam in 2017.

TRAFFIC previously noted tiger farms as one of two main threats to tigers in Viet Nam, indicating that many of the tigers seized in Viet Nam are likely sourced from captivity (Stoner *et al.*, 2016). The increase in captive tigers and facilities (ENV, 2017), combined with the fact that whole tigers continue to be the most common commodity type seized in 2017, feeds speculation about their source. As a country in which there are facilities keeping tigers, Viet Nam is required to submit a report to the CITES Secretariat reviewing and assessing the application of national management practices and controls intended to prevent tiger specimens from entering illegal trade (CITES, 2017); the report was due on 28 February 2018 (CITES, 2018). When made public, it may provide relevant updates on Viet Nam's management of tiger farms.

## CONCLUSIONS AND RECOMMENDATIONS

TRAFFIC's monitoring of seizures and online marketplaces during 2017 demonstrated that the trade and sale of live tigers and tiger parts continues to occur in Viet Nam. Whole tigers continued to be the most commonly available commodity, while the online trade was dominated by small items, mainly tiger claws. This analysis also confirmed the availability of tiger bone glue in Viet Nam's domestic market. Meanwhile, the simultaneous increase in tiger seizures and tiger farms continues to raise questions about whether tiger farms may be acting as sources for illegal trade. If submitted, the report for the CITES Secretariat on captive Asian big cats may shed some light on measures currently undertaken by the Vietnamese government to address this concern.

Although authorities in Viet Nam continue to seize tigers and tiger products in trade and in transit, the open sale of tiger products continues online in Viet Nam. At the time of going to press, only one of the seizures made in 2017 has resulted in legal action. To date there are no known ongoing investigations into the online sale of tiger products. On 1 January 2018, after the research for this report was conducted, Viet Nam's amended Penal Code, *Law No. 12/2017/QH14* entered into force. The penalty for trading three or more tigers or "inseparable" tiger parts is now imprisonment for between 5 and 15

years and a fine of up to USD88,000. The amended Penal Code is still pending advisory documents in which terms like “inseparable” will need to be clarified. It remains to be seen whether the increased penalties will deter trade. Meanwhile, violations involving fewer than three tigers or their inseparable parts are subject only to administrative penalties under *Decree 157/2013/ND-CP* by way of *Decree 32/2006/ND-CP*.

The Vietnamese government is urged to continue working towards intelligence-led law enforcement efforts that ensure thorough investigations into each seizure and to strengthen approaches to gathering evidence and intelligence from online marketplaces. The government is further encouraged to adapt existing regulations that will facilitate their application with regard to the illegal online trade in tiger products and other illegal trade in wildlife. In addition, Viet Nam is encouraged to report fully and comprehensively to the CITES Secretariat on the status and management of tiger farms in Viet Nam and to make those findings public. Online platforms are urged to employ self-policing mechanisms, standard operating procedures and clearly stated policies, as well as to work with appropriate government agencies to shut down businesses and individuals facilitating the illegal trade in tigers online. This rapid assessment underscores an active level of illegal trade in tigers that requires continued monitoring, investigation and law enforcement action.

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## INTRODUCTION

Pangolins are currently among the most heavily-trafficked mammals in the world (Newton *et al.*, 2008; Challender and Waterman, 2017). Persistent demand continues to put pressure on all eight extant pangolin species (Challender, 2011; Challender and Hywood, 2012; Gomez *et al.*, 2016a; Nijman *et al.*, 2016; Xu *et al.*, 2016). At least 67 countries and territories across six continents were implicated in the trafficking of pangolins between 2010 and 2015 indicating the global scale of illegal trade and the associated threat to pangolins (Heinrich *et al.*, 2017). Pangolins are especially sought after in Africa and Asia for their meat and scales, with the latter used for traditional medicinal purposes (Wu *et al.*, 2004; Wu and Ma, 2007; Zhang and Yin, 2014; Nijman, 2015; Gomez *et al.*, 2016a, 2016b), while their meat is consumed as a luxury dish or local source of protein (Mohapatra *et al.*, 2015; Shairp *et al.*, 2016). As pangolin populations in China and in neighbouring countries in South-east Asia have dwindled over recent decades, harvesting



EMERSON.Y. SY / TRAFFIC

An adult male Philippine Pangolin *Manis culionensis* that was rescued from a street in Metro Manila, 2018.

## ILLEGAL PANGOLIN TRADE IN THE PHILIPPINES

Lalita Gomez and Emerson Y. Sy

for the trade has moved southwards across the Asian continent, with Malaysia and Indonesia currently among the most important regional suppliers in international trafficking (Semiadi *et al.*, 2009; Sopyan, 2009; Tuuga, 2009; Challender, 2011, IUCN SSC Pangolin Specialist Group, 2016; Gomez *et al.*, 2017). Increasingly there has also been some shift in trade from Asian species (likely due to dwindling populations) to African species, with intercontinental trade records involving large quantities of pangolin scales (i.e. several tonnes) (Challender and Hywood, 2012; Challender *et al.*, 2016; Gomez *et al.*, 2016a; Heinrich *et al.*, 2017; Hung and Chung, 2018).

The Philippines is home to one species of pangolin, the Philippine or Palawan Pangolin *Manis culionensis*, so named due to its restricted range on Palawan and adjacent islands (Gaubert and Antunes, 2005; Lagrada *et al.*, 2014). According to Schoppe and Cruz (2009), pangolins are unevenly distributed across the Palawan faunal region, where they are considered more common in the northern and central parts and rare in the south, though further research on the status of the species is needed. It is currently listed as Endangered on the IUCN Red List of Threatened Species as wild populations are believed to have declined by more than 50% over a period of 21 years. However, since 2015, the Palawan Council for Sustainable Development (PCSD) has listed *M. culionensis* as Critically Endangered through the issuance of PCSD Resolution No. 15-521. Aside from its restricted range and habitat loss, subsistence hunting and exploitation for trade (national and international) are the biggest threats causing population declines (Schoppe and Cruz, 2009). The full extent of illegal trade in the Philippine Pangolin is unknown, but reportedly has increased over the past decade (CITES, 2016). Based on a

preliminary study of the pangolin trade in the Philippines by Schoppe and Cruz (2009), much of the trade in the Philippine Pangolin is localised to meet demand for food and for use in traditional medicine. They also revealed, to a lesser extent, some international trade which is suspected to be destined for Malaysia, from where it then enters trafficking chains to East Asia. However, in general, there is very little documented data on the exploitation of animals in Palawan, or to what extent trade feeds a domestic or international market, let alone the impact trade is having on the species's population (Cruz *et al.*, 2007). The Philippine Pangolin is protected in the Philippines which means no trade or hunting of the species is allowed, not even by indigenous groups for food or traditional medicine (Schoppe and Cruz, 2009). Similarly, as an Appendix I-listed species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) all international commercial trade in wild-caught specimens is prohibited.

This study documents all known illegal trade of the Philippine Pangolin through an analysis of seizures that have occurred between 2001 and 2017 as well as through anecdotal observations of trade in the country.

### METHODS

Seizure data for the period 2001–2017 were extracted from a variety of sources, including unpublished PCSD apprehension reports, Department of Environment and Natural Resources (DENR), TRAFFIC publications, open source media, the CITES Trade Database, grey literature and from several non-governmental organisations in the Philippines. All records involving the Philippines as a known origin, transit point or end destination were

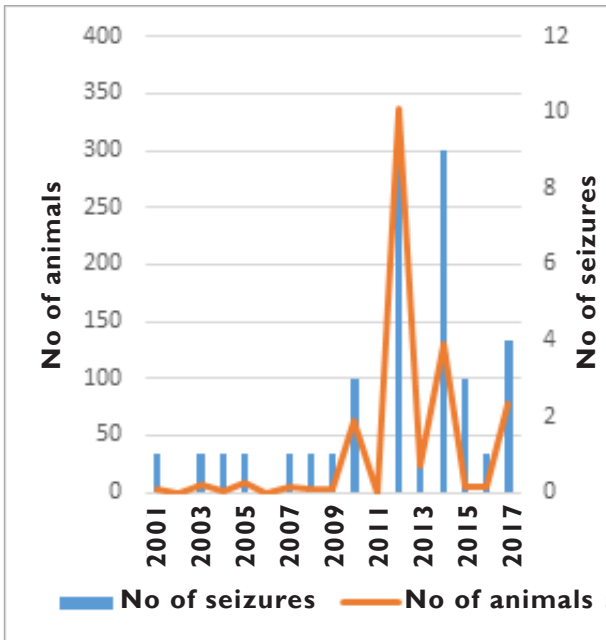


Fig. 1. Total no. of seizures and total estimated no. of animals seized involving the Philippines, 2001–2017.

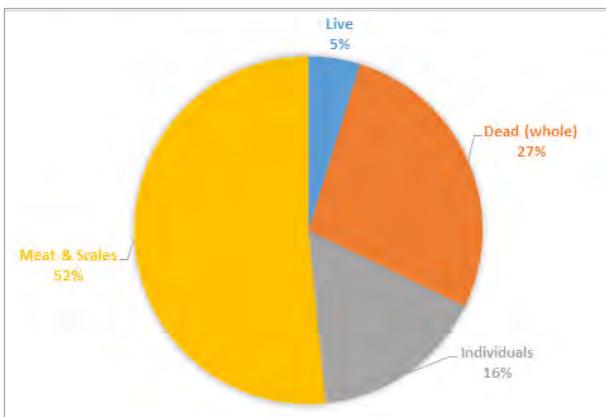


Fig. 2. Pangolin trafficking volumes by commodities seized, 2001–2017. Note:  $n = 667$  animals seized; whole animals, comprising live, dead and individuals = 323 animals; meat and scales involving estimated number of whole pangolin as described in the methodology = 344 animals.

included in this analysis. Unsubstantiated seizure records were removed from the dataset. For this study, a “seizure country” is defined as the country where the seizure took place, a “source country” is defined as the first known point of a trade route, a “transit country” a country which has functioned as both an importing and a re-exporting country in the trade route, and a “destination country” the last known point of a trade route. It should be noted that the reported seizures likely represent an unknown fraction of illegal trade, and therefore underrepresent its true extent. In addition, due to inherent biases in the way seizure data are reported (given varying levels of law enforcement, reporting and recording practices, language biases, NGO efforts and advocacy in different countries,

for example), this dataset should be interpreted with caution and not presumed to be representing absolute trafficking trends or volumes.

Based on seizure data, a minimum number of pangolins recorded in trade from parts seized was estimated by either: counting whole or near-whole specimens observed/seized (e.g. live animals, skins, carcasses); or tallying quantities of body parts per seizure (e.g. scales and meat) that form one whole individual. Where the weight of an animal was given (e.g. meat in kg), but no count, a minimum and a maximum figure of whole estimated animals of the Philippine Pangolin was calculated using 1.3–5.5 kg/animal (juveniles and adults) (estimates based on data from Schoppe and Cruz, 2009, and a seizure of three pangolins in which a combined weight of 16.6 kg was reported). For scales, the authors used 0.361 kg of scales per animal, following Zhou *et al.* (2012) for the Sunda Pangolin as this is assumed to be the closest value to the Philippine Pangolin, for lack of any other reference. In all incidents, the minimum and maximum estimated number of individual animals was calculated, and a rounded average was used for subsequent analysis.

## RESULTS AND DISCUSSION

A total of 39 seizure incidents were found in which the Philippines was either implicated as a source country or place of seizure. The total trafficked volume was estimated to be 3,537 pangolins. However, this number was largely attributed to one incident in which 2,870 pangolins were seized from a vessel that ran aground in a coral reef in Tubbataha Reefs Natural Park (PCSD, unpubl. report). The vessel was manned by Chinese nationals and according to the arrested crewmen, the pangolins were from Indonesia en route to China (Gomez *et al.*, 2017). The animals involved were later confirmed to be *Manis javanica* based on molecular analysis (Luczon *et al.*, 2016) and this particular seizure has therefore been omitted from further analysis considering that the Philippines was not a source, transit or destination country. Trafficked volumes of pangolins in the remaining 38 incidents amounted to 667 individuals (Fig. 1).

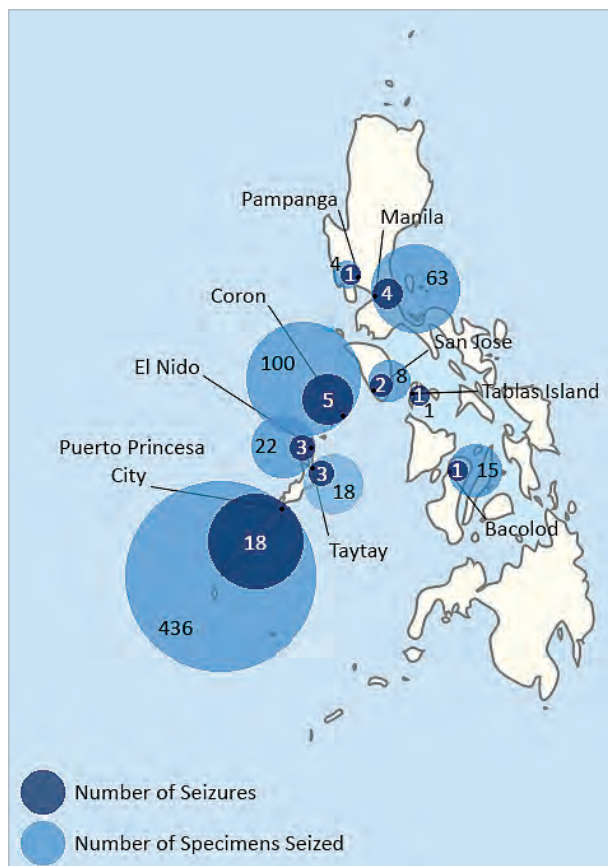
Based on these data, seizures in the Philippines appear to have increased slightly after 2010, peaking in 2012 and 2014. Similarly, the volume of pangolins seized on average increased from 2010 onwards. Commodities seized were individual specimens (it is uncertain whether these were of live or dead animals) ( $n=12$  incidents), dead whole animals ( $n=12$  incidents), meat and scales ( $n=9$  incidents) and live animals ( $n=5$  incidents) (Fig. 2). The majority of the seizures occurred within Palawan province ( $n=29$  incidents), with the remaining incidents occurring on Luzon ( $n=5$ ), Mindoro ( $n=2$ ), Negros ( $n=1$ ) and Tablas ( $n=1$ ). Fig. 3 shows the main trade hotspots and volumes involved.

In most cases, the Philippines was implicated as a source country as well as an end-use destination. Based on the seizure incidents that occurred outside Palawan province, there appears to be a local demand for pangolin meat as a luxury food item and scales for traditional medicine, particularly in Metro Manila. There were at least ten seizures that implicated Manila as a major market for pangolins, including a mixture of live and

frozen animals, presumably for the exotic food industry. More recently, between January and March 2018, there have been a further seven incidents of pangolins found roaming the streets of Metro Manila and an additional seizure of two live pangolins that were offered for sale, but no arrests have been made to date in any of these cases (TRAFFIC, 2018; Sy and Gomez, unpubl. data).

Foreign nationals (for example from mainland China and Taiwan) residing in the country have also been implicated in several seizures (Anon., 2012; Arcellaz, 2016; Palatino, 2017; DENR, unpubl. data). Whether this feeds a local market catering to visitors and/or foreign nationals residing in the country or an international market remains uncertain. Live or frozen pangolins and cooked pangolins, based on recent market observations sell for PHP12,000 (USD233) and PHP14,000 (USD272), respectively, in Metro Manila (Sy, unpubl. data).

International trade routes could not be determined from the seizure data. This is due to the fact that many of the records are without background information aside from location of seizure and type and quantity of pangolin parts seized. Most of the seizures occurred within cities or municipalities in the Philippines, barring five incidents at the Puerto Princesa International Airport in Palawan and two at the Palawan ports of El Nido Seaport and Liminangcong Pier, respectively. However, the seizure data demonstrate that the Philippine Pangolin is actively being sought for local, national, and likely international trafficking, to meet demand for its meat and scales, despite being a Critically Endangered endemic species and one that is protected in the Philippines.



## CONCLUSIONS AND RECOMMENDATIONS

Considering its threatened status, the Philippine Pangolin may be facing as perilous a fate as its other Asian counterparts if immediate action is not taken to clamp down on poaching and trafficking of this species. While there are scant data on wild populations, available evidence suggests they are increasingly rare and in decline. This is supported by decreasing catch of pangolins by poachers in some areas, from an average of 12 individuals a month in the 1990s to only one a month, if at all, in 2013 (Challender and Waterman, 2017). Such declines are expected to continue if demand-driven poaching of the species persists. This is further exacerbated by their extremely restricted range to only six islands in the Palawan faunal region and the loss of suitable habitat occurring here (CITES, 2016). While the PCSD and the Philippine Operations Group on Ivory and Illegal Wildlife Trade (POGI) have been enforcing applicable laws, many regional wildlife offices are relatively inactive. The authors urge the national and regional wildlife authorities to enhance enforcement efforts and to take immediate and appropriate action against anyone found hunting, selling or in possession of pangolins and to prosecute them to the full extent of the law. Greater resources should also be allocated to investigate and identify primary traders, poachers and corrupt practices at seaports and airports involved in pangolin trafficking, and appropriate charges filed in court. Conservation organisations should continue to monitor the trade in pangolins and assess the scale of the threat, including its impact on local and national populations, and inform authorities of emerging trends in order to secure the long-term survival of this species.

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◀ **Fig. 3. Key locations of pangolin seizures in the Philippines and quantities seized between 2001 and 2017 based on available data.**

*Note: the locations represent the general region where the seizures took place.*

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**Acknowledgements.** These should include acknowledgement of funders of research and production, as well as of reviewers and contributors.

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**Species names:** Common or vernacular names of species should at first mention be accompanied by their full scientific name. If referring to a distinct species, use initial capital letters, for example African Elephant *Loxodonta africana*. If discussing more than one species under a generic name, no capital letter is used, for example rhinoceroses (as opposed to Black Rhinoceros). The common name only is used in subsequent references to the species name, except in cases where there may be several common names in use or when there is no common name; in such cases the scientific name only will be referred to.

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