



**REDUCED TO
SKIN AND BONES
REVISITED:**

An Updated Analysis of Tiger
Seizures From 12 Tiger Range
Countries
(2000-2012)

Sarah Stoner
Natalia Pervushina

A TRAFFIC REPORT

TRAFFIC
the wildlife trade monitoring network



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Front cover; Bengal Tiger, India.
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REDUCED TO SKIN AND BONES REVISITED:

AN UPDATED ANALYSIS OF TIGER SEIZURES
FROM 12 TIGER RANGE COUNTRIES (2000-2012)

By Sarah Stoner and Natalia Pervushina

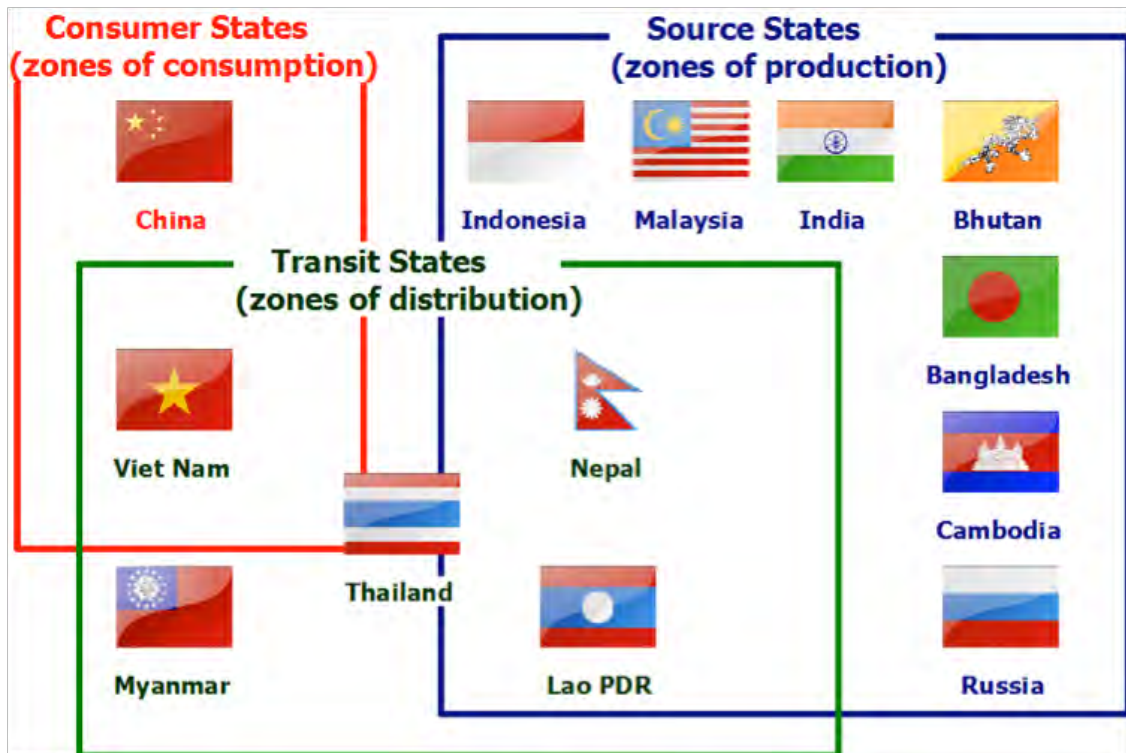


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ABBREVIATIONS AND ACRONYMS

ASEAN-WEN	Association of Southeast Asian Nations Wildlife Enforcement Network
CoP	Conference of the Parties
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EIA	Environmental Investigation Agency
ENV	Education for Nature - Viet Nam
GTF	Global Tiger Forum
GTI	Global Tiger Initiative
GTRP	Global Tiger Recovery Program
ICCWC	International Consortium on Combating Wildlife Crime
INTERPOL	International Criminal Police Organization
IUCN	International Union for Conservation of Nature
Lao PDR	Laos People's Democratic Republic
MYCAT	Malaysian Conservation Alliance for Tiger
NGO	Non-governmental Organization
NICE-CG	National Inter-Agency CITES Enforcement Coordination Group (China)
NTCA	National Tiger Conservation Authority (India)
NTRP	National Tiger Recovery Priorities
OCG	Organized Crime Group
PICE-CG	Provincial Inter-Agency CITES Enforcement Coordination Group (China)
SAWEN	South Asia Wildlife Enforcement Network
TAI	Tigers Alive Initiative (WWF)
TRC	Tiger Range Country
UNODC	United Nations Office on Drugs and Crime
UNTOC	UN Convention against Transnational Organized Crime
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCCB	Wildlife Crime Control Bureau
WCS	Wildlife Conservation Society
WCO	World Customs Organization

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This report is the joint work of TRAFFIC and WWF Tigers Alive Initiative.



EXECUTIVE SUMMARY

In 2010, TRAFFIC produced ‘*Reduced to Skin and Bones: An Analysis of Tiger Seizures from 11 Tiger Range Countries (2000-2010)*’ (Verheij, 2010). The purpose of the present report is to provide an updated situational analysis of the current illegal Tiger *Panthera tigris* trade picture and to gain an improved understanding of one of the greatest threats to the Tiger’s survival. This report also aims to illustrate the need, use, practicability and direction that can be gained from the central collation and analysis of seizure data. Its conclusions outline the need for Tiger range and consumer countries to agree on and adhere to a standardized format for sharing and reporting data on poaching and illegal trade.

Seizures are indicators both of illegal trade and of law enforcement effort. A lack of reported seizures (such as in Myanmar) needs to be considered against other data, which in this case points to substantial illegal transit trade, based on TRAFFIC market surveys. Seizure information was collected from a variety of sources, most importantly directly from a number of Tiger range country (TRC) governments, as well as TRAFFIC and WWF offices, supplemented with online research including media reports of government announcements of law enforcement activity. To render seizure data comparable, records of seized items were tallied as units that could be used to calculate the number of Tigers involved in each seizure.

Since 2000, there have been 654 seizures of Tiger parts and derivatives across 12 TRCs (Bhutan, Bangladesh, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Viet Nam¹). It is estimated that a minimum 1425 Tigers were seized during this period. Since only a fraction of Tigers in illegal trade are intercepted by law enforcement, the scale of criminal activity represents a serious ongoing threat to the survival of wild Tigers, generally considered to number as low as 3200.

India, the country with the largest national wild Tiger population, reported the most seizures since 2000 (336). Next were China (58) and Viet Nam (50), which have small numbers of wild Tigers, but large numbers of captive animals. Both China and Viet Nam have been identified as important zones of consumption for illegal Tiger products. Looking at recent seizures (2010-2012), the proportion that India accounts for shows a downward trend, 29% of total seizures compared to 58% for 2000-2009. Conversely, the proportion of seizures has increased for other TRCs such as China, Malaysia, Nepal and Russia but is most notable for Viet Nam, rising from 6% to 14%. Moreover, Indonesia with a relatively small wild Tiger population and few known captive animals, disproportionately seized almost 20% of all Tigers seized in the past three years.

Clearly, as this study demonstrates, demand persists - tigers are still being poached and seized. Improved law enforcement and the emergence of intelligence-led policing may mean that some aspects of the illicit trade are being displaced to online markets. As has been revealed in China, offenders have shown that they can adapt their *modus operandi* to circumvent detection, including a shift towards the trading of Tiger parts and products

¹ Cambodia did not report any seizures for this period

online. It is paramount that law enforcement also adopts this approach by identifying the current and relevant threats and shifts their focus to ensure they are one step ahead of the offenders. Understanding how end-user markets operate will ensure that criminals cannot continue to evade detection.

In October 2012, the United Nations Convention against Transboundary Organized Crime (UNTOC) recognised environmental crime, including illicit trafficking in wildlife, as a new form of transboundary organized crime in need of a greater response. Tiger seizure cases often conform to the UNTOC definition of organized crime, with an average of two suspects arrested per seizure (and one-tenth of cases involving three or more suspects) and sentences averaging 4.3 years handed down in prosecutions. There are some specific elements of serious and organized criminality identified in the seizure dataset, particularly within Russia and Nepal. Overwhelmingly, lack of information impedes a comprehensive assessment on the scale of organised crime driving the illegal Tiger trade.

Sufficient locality information was available to map 596 of the 654 seizures. Seizures within a protected area accounted for just over 11% of these, meaning that most poached Tigers are removed from such areas undetected. The data revealed that 31% of seizures occurred within 10 km of a protected area, a further 48% within 50 km, showing that most occurred near areas where wild Tigers live. Just 10% of seizures occurred farther than 50 km from a park. In India, which has the most robust national seizure dataset, crime analysis mapping software was used to pinpoint five statistically significant hotspots of illegal Tiger trade.

While protection at the landscape level is of critical importance for safeguarding Tiger populations, it must be integrated with and reinforced by intelligence-led enforcement beyond park borders. The need and value of such an approach in tackling the illegal Tiger trade is being realised, with more seizures occurring due to improved intelligence. Nonetheless, more effort is needed to investigate and expose the mechanisms by which the trade chains operate, without which anti-poaching and landscape protection cannot be truly effective.

Substantial operational trade hubs have been identified based on seizure information from the last three years (2010-2012). In addition, while a relatively low number of seizures have occurred in Indonesia, Viet Nam and Thailand, the extrapolated number of Tigers being seized has increased during this period. Urgent efforts are needed at these trade hubs to alleviate the pressure on wild Tiger populations.

Renewed impetus is needed to combat regional level illicit wildlife trade by enhancing collaboration between the TRCs. To some extent this is already happening, with the establishment of transboundary wildlife enforcement networks such as ASEAN-WEN and SAWEN, including engagement by these regional bodies with China. These platforms have also encouraged the endorsement of bilateral Memoranda of Understanding that still need to be further contextualised into transborder governmental action plans. However, more co-ordination and support is needed to enhance those networks which are already in place. Intelligence analysis produced by the systematic compilation of seizure data should be used to direct and focus their enforcements

efforts and enable a plan of future resource prioritisation. Engagement with INTERPOL is essential. One of INTERPOL's most important functions is to assist police (*via* INTERPOL's National Central Bureau [NCB]) in its member countries to share critical crime-related information using I-24/7, INTERPOL's secure communication network and the system of international Notices and Diffusions. Information sharing with INTERPOL is essential to facilitate and enhance wider investigations. As an inter-governmental agency INTERPOL has the necessary leverage through the NCBs to gather information at a national level and to perform a vital role monitoring Tiger trade globally.

Looking ahead to 2022, one major goal of the 12-year Global Tiger Recovery Program (GTRP) adopted in 2010 by the TRCs is to effectively eliminate Tiger poaching and trade. In its section on Expected Results, the GTRP anticipates Tiger seizures may increase initially as law enforcement effort is improved and scaled up, but by 2015 they should start to decline to that Tigers and Tiger products (parts and derivatives) are no longer evident in illegal trade. This report has found that seizures are generally on the increase in most TRCs, and only in India is there any indication, although still tentative, that extensive national crime-fighting and Tiger protection efforts may be starting to pay off through a reduction in illegal trade.

RECOMMENDATIONS

The following recommendations are made with an emphasis on how the systematic recording of information by TRCs can be used as a more effective basis for analysis, in order to assist law enforcement efforts.

1. Governance and Policy

All Tiger range and consumer countries should fully implement the provisions of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) *Resolution Conf. 12.5 (Rev. CoP15)* on Asian big cats (ABCs) and associated CoP Decisions.

TRCs should submit adequate and timely reports on Asian Big Cats to the CITES Secretariat on measures taken to comply with CITES *Resolution Conf. 12.5 (Rev. CoP15)* and other relevant Decisions relevant to Tigers such as Decision 14.69.

2. Online Trade

TRCs should seek out and address any online Tiger trade, building on the proactive approach taken by China.

3. Information Sharing and Analysis

At the 16th CITES Conference of the Parties (CoP), the Parties engaged in the GTRP should develop a collaborative process for reporting to both CITES under *Resolution Conf. 12.5 (Rev. CoP15)* and the GTRP. The GTRP should develop and agree on a robust and timely reporting mechanism that will also fulfil the requirements of CITES for Tigers. This should be submitted to the Standing Committee (SC) 65. This level

of co-ordination would also assist in streamlining the reporting requirements for TRCs.

Software, such as i2, is proposed as a centralized system for the recording and analysis of transboundary organized Tiger trade at a regional level and enable regular data submission on a biannual / annual basis. TRCs are requested to consider feeding information into a tailored database managed by regional Wildlife Enforcement Networks (WEN).

TRCs should initiate intelligence sharing through INTERPOL Notices. Similarly, INTERPOL should consider ways in which actionable information from relevant non-governmental organizations can be utilised.

The Tiger DNA database project, currently being developed by TRACE², should be adequately funded and resourced to continue its application to all countries in the region housing captive Tiger populations to enable testing of seizures against the database to determine their source. Furthermore, DNA-testing should be mandatory for all Tiger seizures.

Governments should consider conducting in-depth assessments, examining the purpose of Tiger breeding facilities in their respective jurisdictions, and any connection to trade in Tigers and Tiger products.

4. Law Enforcement, Protection and Intelligence

As a minimum measure, park patrolling should be enhanced through the use of Spatial Monitoring and Reporting (SMART) Tools to all Tiger-inhabited Protected Areas.

All TRCs should consider the implementation of a multi-agency (border police, Customs, forestry police among others) national task force dedicated to addressing wildlife crime at the national level.

National law enforcement units similar to Wildlife Crime Control Bureaus (WCCB) already in existence in India and Nepal should be considered as model structures to be adapted by other TRCs.

²TRACE is an international NGO that aims to promote the use of forensic science in biodiversity conservation and the investigation of wildlife crime.

I. INTRODUCTION & BACKGROUND

Less than 100 years ago Tigers were found throughout much of Asia. Today their range has been reduced by 93% and wild populations now only exist in 13 countries: Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Viet Nam. At present, Tigers occur only in scattered populations in small, isolated and fragmented landscapes. To redress this, an International Tiger Conservation Forum was held in St. Petersburg, Russia in November 2010, resulting in the adoption of the St. Petersburg Declaration on Tiger Conservation which framed the objectives of the Global Tiger Recovery Program (GTRP). The GTRP lays out a comprehensive set of actions to help Tigers recover from their main threats: poaching, the illegal trade, human encroachment and destruction of habitat. Each TRC committed to a set of National Tiger Recovery Priorities (NTRP) and have since invested efforts to implement them.

In parallel to the Forum, the heads of CITES, INTERPOL, United Nations Office on Drugs and Crime (UNODC), the World Bank and the World Customs Organization (WCO) agreed to form the International Consortium on Combating Wildlife Crime (ICWC). This consortium aims to bring coordinated support to governments, national wildlife and forest law enforcement agencies and sub-regional networks to protect the world's natural resources from criminal exploitation. A year after the Tiger Summit, INTERPOL launched Project Predator with a global objective to aid the development of effective governance and to improve the quality of criminal justice responses to Tiger crime. In September 2012, INTERPOL launched the National Environmental Security Task Force (NEST) initiative within the framework of Project Predator. The NEST initiative aimed to establish a common platform and approach worldwide for national compliance and law enforcement responses. It calls upon the 190 member countries of INTERPOL to structure and equip themselves with the necessary tools to work towards the establishment of NESTs involving law enforcement, Customs, environmental agencies, prosecutors and other specialist agencies. Another high-level recognition of wildlife crime occurred in October 2012, when the United Nations Convention against Transboundary Organised Crime (UNTOC) recognized environmental crime, such as trafficking in wildlife, as a new form of transboundary organized crime requiring a greater response. During this meeting, a resolution was adopted by the participating countries which encouraged governments to further strengthen their domestic laws to prevent and combat criminality occurring at this level.

Despite these significant high-level commitments and worldwide efforts of transboundary enforcement organizations to protect one of the most iconic species on Earth, the pressure on Tiger populations and Tiger habitats has continued to intensify. Poaching persists in many countries, for example in India, where as many as 59 poaching incidents were reported in 2012. Large Tiger seizures reported in 2012 (eight Tiger skins and 22 Tigers skulls seized in Malaysia, eight Tiger skins seized in the Russian Far East and 11 Tiger skins seized in Indonesia) are indicative that the illegal trade in Tiger parts and derivatives undermines current conservation

efforts and remains a major threat to the recovery of wild Tigers population. The complexity of addressing poaching and the trade in Tigers requires multi-agency commitment from every TRC. Transboundary law enforcement networks such as ASEAN-WEN and SAWEN, coupled with engagement with China and Russia can provide mechanisms and platforms for inter-governmental collaboration and information exchange; however, higher-level political will and agency involvement, to commit to information sharing, are essential elements for combating organized wildlife crime.

BACKGROUND

In 2010 TRAFFIC produced ‘*Reduced to Skin and Bones: An Analysis of Tiger Seizures from 11 Tiger range Countries (2000-2010)*’. Key findings from that report included the analysis of 481 seizures from 11 of the 13 TRCs (excluding Bhutan and Cambodia, which did not provide information) between the period Jan 2000 to April 2010. Of the 11 TRCs analysed, India, China and Nepal ranked highest for the number of seizures, with India reporting by far the highest number of seizures (n=276). This pioneering analysis concluded that parts from at least 1069 Tigers were seized over the 10-year period. Building on the 2010 report, including addressing some data gaps and levels of analysis, this new report is prepared to coincide with the 16th Conference of the Parties to CITES and has been produced by a dedicated crime analyst.



Amur Tiger *Panthera tigris altaica*
Klein and Hubert / WWF

AIM & PURPOSE

The purpose of this current report is to provide an updated situational analysis of the Tiger trade picture in 2013 and to identify the greatest current threats to the Tiger. It aims to illustrate the need, use, practicability and direction that can be gained from the central collation and analysis of seizure data. Its conclusions will outline the requirement for Tiger range and consumer countries to agree on and adhere to a standardized format for sharing and reporting data on poaching and illegal trade. This report does not endeavour to examine the drivers of the illegal trade nor the motivations of offenders.

Using an innovative criminal analysis approach will assist in targeting and directing enforcement interventions. Findings will be used to inform national (police, Customs, border services, nature protection and other relevant agencies) and international law enforcement agencies (INTERPOL) and WENs. The report offers some recommendations on how to address specific Tiger trade issues at both regional and trans-regional levels and to enable the allocation of limited law enforcement resources to the specific problems causing significant harm.

2. METHODOLOGY

Seizure data have been compiled and analysed for the last 13 years (January 2000 - December 2012) for all TRCs, excluding Cambodia which has not reported any seizures since 1998. Information was collected from a variety of sources. Government data were received from the National Tiger Conservation Authority (India), Department of Wildlife and National Parks (Peninsular Malaysia), Department of Forests and Park Services (Bhutan), Department of Forest Inspection (Lao PDR) and the Ministry of Environmental Conservation and Forestry (Myanmar). Data were also sought from WWF Bhutan, WWF Nepal, WWF Russia, and WWF US, TRAFFIC offices in China, India, Malaysia and Russia, Malaysian Conservation Alliance for Tiger (MYCAT), WCS Indonesia and Conservation International (Cambodia). Further research online was also carried out.

This report will analyse Tiger seizures over a 13-year period which will allow for the reporting of indicative trends only, due to disparity in the collection of seizure data. Therefore, any trends discussed must be treated with caution. This report is intended as an update to '*Reduced to Skin and Bones: An Analysis of Tiger Seizures from 11 Tiger Range Countries (2000-2010)*' and will compare results with the original findings to ascertain if those previous threats are still apparent or whether new emerging threats now exist. Therefore this report will discuss, primarily, the current reporting period (2010-2012) in comparison to the previous (2000- 2009).

2.1 Analysis

To render seizure data comparable, records of seized items were assigned to one of the following three categories that could be used to calculate the minimum and maximum number of Tigers involved in each seizure based on methods used by Nowell and Xu (2007) and Shepherd and Nijman (2008).

1. Quantities of body parts equivalent to one or more Tigers - counted in seizure cases involving claws, canine teeth, heads, ribs, legs, penises, skulls and jaw bones. When seizure records were identified as involving "teeth", these records were assumed to represent canine teeth, as these are the most common Tiger teeth observed in trade. *Minimum Tiger counts:* For each seizure, the minimum number of whole Tigers that could yield the items present was calculated. Calculations were always to yield whole numbers of Tigers. For example, between one and 18 claws in a seizure were deemed to equate to a single Tiger because Tigers have 18 claws. Likewise, four claws, one head, and two ribs were also deemed to equate to a single Tiger because the parts involved amounted to no more than those present in one animal. The seizure of Tiger parts number / weight representing at least one Tiger present in a single seizure (**Figure 1**).

Figure 1: Examples of calculations of Tiger numbers based upon seized items (Verheij, 2010).

Tiger part	No. / Weight
Skin pieces any number	61
Parts any quantity	23kg
Bones	10kg
Bones any number	175
Meat any quantity	1.5kg
Canines	4
Claws	18

2. **Complete pieces that represented whole Tigers** - counted in seizure cases involving whole skins, full skeletons, complete carcasses, taxidermy mounts and live animals. Such instances required no minimum or maximum as the pieces, for example a skull or a whole skin could not have represented anything but a single Tiger.

3. **Quantities of Tiger derivatives** - counted in seizure cases of meat and processed products, like medicines, wine. *Minimum Tiger calculations:* For the purposes of analysis, 10 kg of bones were determined to be equivalent to one Tiger. This extrapolation is based on interviews with representatives of the Chinese medicine industry who noted that the annual removal of Tigers from the wild peaked in the 1960s at approximately 300 animals, yielding approximately three metric tonnes of Tiger bone (Jenkins 2006, Nowell and Xu 2007). In many cases, the exact dimensions of “skin pieces” and “bone pieces” were not recorded. Hence, seizures containing a number of skin or bone pieces (with or without addition of other parts) were conservatively considered to represent one Tiger. *Maximum Tiger calculations:* In order to avoid disproportionate Tiger numbers, no maximum calculations were made for weight specifications or “pieces”. Theoretically, 33 skin pieces could originate from one Tiger (minimum) or from 33 (maximum), and a kilogramme of parts could be derived from one Tiger to an unknown number of Tigers. The same methodology as for minimum numbers was applied in the case of item amounts given in kilogrammes or as numbers of “pieces”. Hence in the case of 33 skin pieces both calculations would yield one Tiger.

2.2 Hotspot Mapping – Crimestat III

Statistical mapping techniques have been applied to determine geographical areas of concern in the illegal Tiger trade. In essence, hotspot mapping is used as a basic form of crime prediction, relying on retrospective data to identify the areas of high concentrations of crime and where policing and other crime reduction resources should focus (Chainey *et al*, 2008). Crimestat III was used as a spatial statistics program in the analysis of crime incident locations to determine significant clusters of crime.

Due to the consistent compilation of data in India since 2000 and as compiled during the past four years (2009-2012) by the NTCA has meant it was possible to apply Nearest Neighbour Analysis (NNA) calculation to measure the distance of each point to its nearest neighbour (seizure). The technique was used to identify significant clusters of crime, based on the Indian data.

3. OVERVIEW

Current situation for each TRC

Figure 2: Overview of Tiger Range Countries

Tiger Range Country	No. of Seizures	Current Tiger Population	Corruption Perception Index Score (2012)	Tiger Action Plan	Wildlife Protection and Wildlife Trade Legislation	National Implementation of CITES	Regional Wildlife Enforcement Networks
Bangladesh	6	440	26	(2009-2017)	Bangladesh Wildlife (Preservation) Act, 1973	Yes	SAWEN
Bhutan	3	75	63	(2006-2015)	The Forest and Nature Conservation Act 1995 & Forest and Nature Conservation Rules 2006	Yes	SAWEN
Cambodia	0	20	22	(2011-2022)	Sub-Decree on International Trade of Endangered Wild Animal and Plant Species 2006 & Forestry Law 2002	Yes	ASEAN - WEN
China	58	45	39	(2010-2022)	Wild Animal Protection Laws of People's Republic of China	Yes	
India	336	1,706	36	(2011-2022)	Wildlife (Protection) Act 1972	Yes	SAWEN
Indonesia	42	325	32	(2007-2017)	"Act no.5 of 1990 concerning Conservation of Living Resources and their Ecosystems, Government's Regulation No. 8, 1999, "On the Utilization of Wild Plants and Animal Species" & Decree of the Ministry of Forestry, No.P.19/Ministry of Forestry-II/2005	Yes	ASEAN - WEN
Lao PDR	9	17	31	(2010-2020)	Wildlife and Aquatics Law 2007	No	ASEAN - WEN
Malaysia	33	500	49	(2008-2020)	International Trade in Endangered Species Act, 2008 (Act 686)	Yes	ASEAN - WEN
Myanmar	1	85	15	(dated 2003)	Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law (1994)	No	ASEAN - WEN
Nepal	68	155	27	(2008-2012)	National Parks and Wildlife Conservation Act (1973)	Yes	ASEAN - WEN
Russia	18	360	28	2010-2020	226.1 of the Criminal Code of Russia	Yes	
Thailand	30	200	37	(2010-2022)	Wild Animal Reservation and Protection Act, B.E. 2535, 1992	Yes	ASEAN - WEN
Viet Nam	50	20	31	(2005-2010)	"Government Decree 82/2006/ND-CP on the Export, Import, Re-export and Introduction from the Sea, Transit, Breeding, Rearing and Artificial Propagation of Rare, Endangered and Precious Wild Animals and Plants	Yes	ASEAN - WEN



The overview (**Figure 2**) provides information and statistics for each TRC. The Corruption Perception Index 2012 (measures the perceived levels of public sector corruption in 176 countries and territories around the world) provides the regional distribution of where TRC rank. Scores for Lao PDR, Cambodia and Myanmar are particularly low.

The latter part of **Figure 2** reviews legislation and signatories to wildlife enforcement networks all of which are essential for tackling trade at a regional level. The strengthening of wildlife laws and the national implementation of CITES is essential for combating illegal international trade. All TRCs are Parties to CITES, however in order for CITES to be effective each country needs to have enacted national legislation that implements the Convention, including sufficient provisions to deal with illegal wildlife trade. For the period of analysis, Lao PDR, Myanmar and Nepal did not have comprehensive CITES-enabling legislation³.

3.1 Wild Tiger Population

Currently listed as Endangered on the IUCN Red List of Threatened Species (IUCN, 2012), the distribution and range of the Tiger is estimated to have declined by as much as 70% over the last 30 years (WWF 2012), generally considered to be as low as 3200. The current population status needs to be treated with caution as most TRCs do not conduct periodic Tiger census so the estimated population provided may have remained the same for decades. Conversely, increases in population numbers should leave no room for complacency. For example, India recorded an increase in numbers surveyed between 2006 and 2011, followed by an observation in the decline in habitats occupied by Tigers (Global Tiger Initiative, 2012). As part of the GTRP process, TRCs are working towards implementing enhanced and regular scientific monitoring in their landscapes. These efforts will allow for more reliable and accurate Tiger population estimations for the future.



Male Amur Tiger
David Lawson / WWF UK

³ An update on progress with national legislation to implement CITES in these three countries is available from CITES CoP16 Doc. 28, Annex 2 (<http://cites.org/eng/cop/16/doc/E-CoP16-28-A2.pdf>)

4. RESULTS

4.1 Seizure Analysis

To understand the distribution and number of Tiger seizures occurring specifically within TRCs (except Cambodia which has not reported any seizures across this entire period), data were collected and analysed for a 13-year period (January 2000 - December 2012). In total, 654 Tiger seizures have been included in the analysis and **Figure 3** provides a breakdown for the total number of seizures recorded during 2000-2012 divided into two time periods (for comparison purposes) along with the percentage of seizures each TRC accounts for.

There are indications of change in the proportions over time. For most TRCs the change is minimal; however, while India accounted for 58% of the total number of seizures in 2000-2009, this decreased to 29% of seizures during 2010-2012. Conversely, the proportionality has increased for China, Malaysia, Nepal and Russia, but is most notable for Viet Nam in the 2010-2012 period. Any increases may be attributed to a rise in law enforcement efforts and any observable changes need to be treated with caution.

Figure 3: Number of Tiger Seizures by TRC 2000-2012.

Tiger Range Country	Total no. of seizures (2000-2009)	Percentage of Total	Total no. of seizures (2010-2012)	Percentage of Total	Changes in Proportion
Banladesh	4	1%	2	1%	No change
Bhutan	2	0%	1	1%	Increase
China	41	8%	17	12%	Increase
India	294	58%	42	29%	Decrease
Indonesia	31	6%	11	8%	Increase
Lao PDR	8	2%	1	1%	Decrease
Malaysia	18	4%	15	10%	Increase
Myanmar	1	0%	0	0%	Not applicable
Nepal	49	10%	19	13%	Increase
Russia	10	2%	8	6%	Increase
Thailand	21	4%	9	6%	Increase
Viet Nam	30	6%	20	14%	Increase
Total	509	100%	145	100%	

Data have also been collected from Taiwan since 2010 (**Figure 4**). These were predominantly of Tiger skin and bones although there are suspected to be more smaller cases involving medicine containing Tiger derivatives such as plasters (TRAFFIC staff in Taiwan, *in litt.*, to S. Stoner, TRAFFIC, 18th January 2013).

Figure 4: Tiger seizures in Taiwan (2010-2012)

Taiwan	2010	2012
No. of seizures	2	2

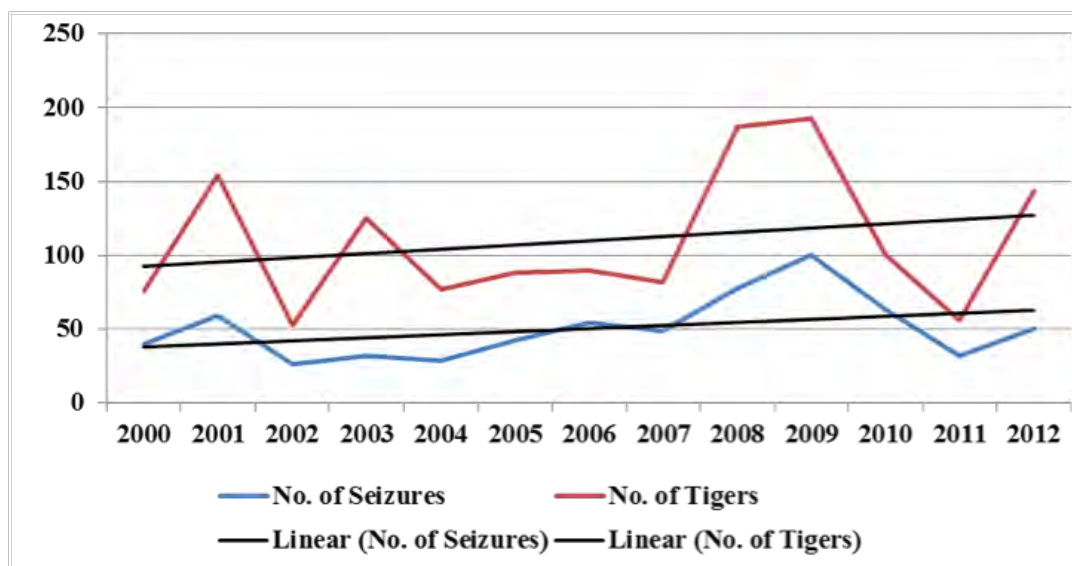
Figure 5 provides the distribution for the number of Tigers seized per country for the previous period as compared to the current period. This comparison identifies emerging areas of concern where the total number of Tigers being seized are numerous and include a genuine increase in Tiger trafficking or an increase in law enforcement efforts and reporting practices. The proportional increase as a percentage is most pronounced in Indonesia, Malaysia, Thailand and Viet Nam. This method also allows for the identification of TRCs where disparities exist between the number of seizures made, against the number of Tigers seized; Indonesia is one such example, where 11 seizures involved the seizure of 50 Tigers (2010-2012).

Figure 5: Number of Tigers Seized by TRC 2000-2012.

Tiger Range Country	Total no. of Tigers seized (2000-09)	Percentage of Total	Total no. of Tigers seized (2010-12)	Percentage of Total	Changes in Proportion
Bangladesh	6	1%	7	2%	Decrease
Bhutan	2	0%	1	0%	No change
China	135	12%	21	7%	Decrease
India	485	43%	44	15%	Decrease
Indonesia	44	4%	50	17%	Increase
Lao PDR	28	2%	11	4%	Increase
Malaysia	58	5%	36	12%	Increase
Myanmar	1	0%	0	0%	Not applicable
Nepal	134	12%	27	9%	Decrease
Russia	63	6%	20	7%	Increase
Thailand	79	7%	36	12%	Increase
Viet Nam	90	8%	47	16%	Increase
Total	1125	100%	300	100%	

At a superficial level, available data for both the number of seizures and the number of Tigers seized across all TRCs for the total period 2000-2012 shows a gradual increase (**Figure 6**). However, the reasons for this gradual increase are numerous and include a possible increase in law enforcement efforts and reporting practices. The systematic compilation and analysis of seizure data supplied by TRCs and analysis of enforcement and reporting effectiveness is necessary for understanding how reliable and reflective of the true picture these crude trends are.

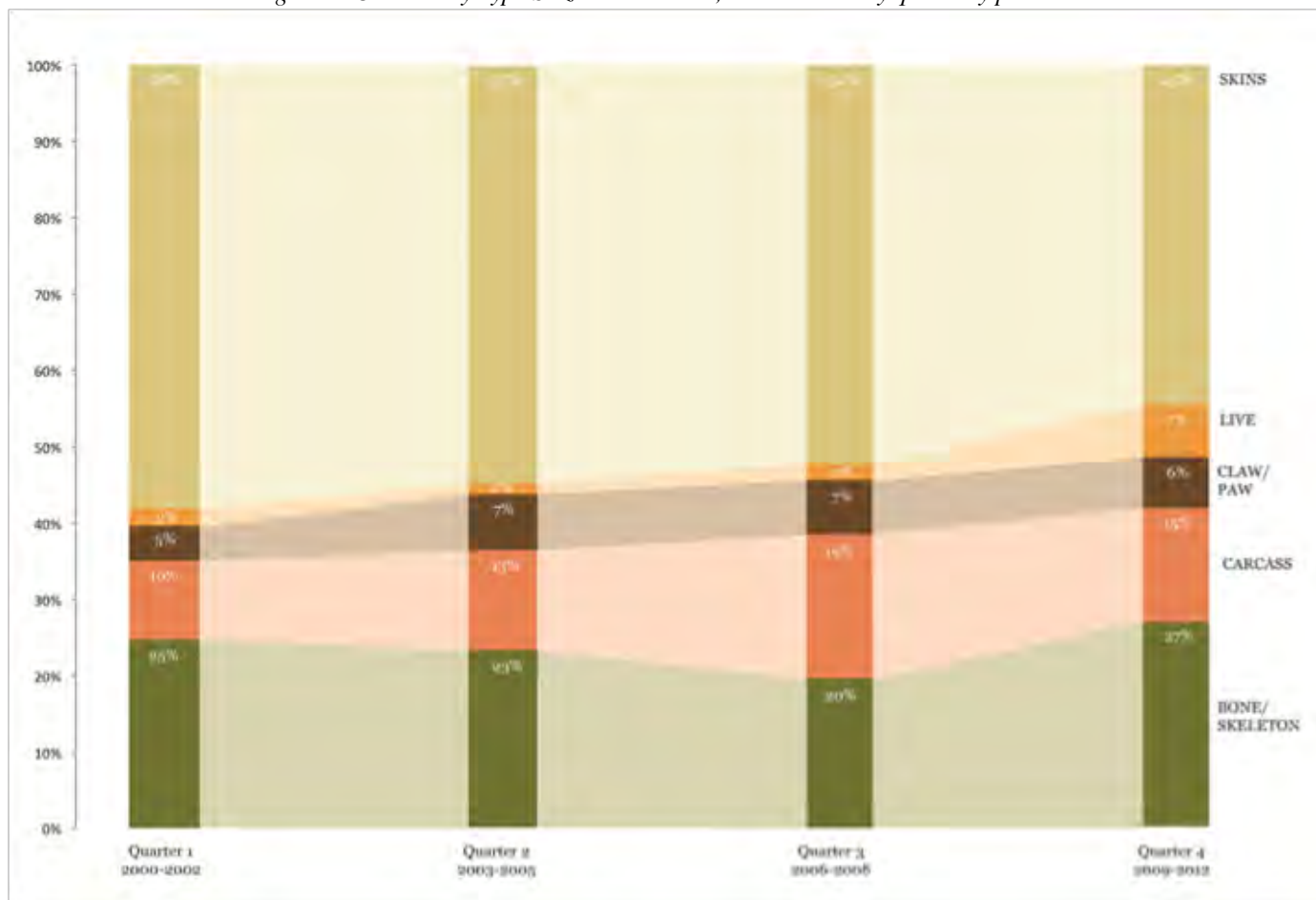
Figure 6: Total number of seizures and the total number of Tigers seized (2000-2012)



4.2 Movement in Commodity Type

Tiger skins (predominantly whole) have persisted as the most commonly seized items over the past 13 years (2000-2012), accounting for almost half of all commodity types seized (see **Figure 7**), although during the most recent three-year period this proportion has declined. Around one quarter of all seizures were of bones, skeletons and skulls which has increased during the most recent period. The increase in the seizure of live Tigers has been most noticeable in the last quarter, up to 7%, against the preceding quarterly periods when this commodity type consistently accounted for 2% of all seizures.

Figure 7: Commodity Type Seized 2000-2012, broken down by quarterly periods.



The commodity type breakdown (excluding teeth, meat and other parts) for each TRC between 2010-2012 clearly shows the geographical distribution of certain Tiger parts (**Figure 8**). The seizure of bones and skins are fairly common for most TRCs, however, skins are more often seized in India, Nepal and Indonesia.

Figure 8: Percentage and actual number of Tiger seizures by commodity type breakdown per Tiger range country (2010-2012)

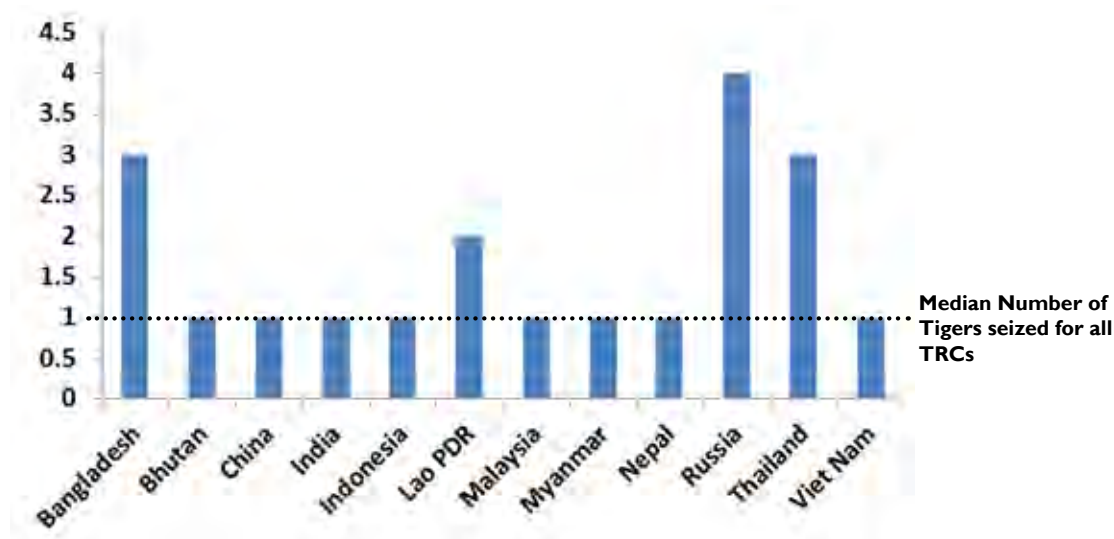
Tiger Range Country	Bone / Skeleton	Carcass	Claw / Paw	Live	Skin / Skin piece
Bangladesh	50% (2)			25% (1)	25% (1)
Bhutan					100% (1)
China	46% (5)	9% (1)	18% (2)	9% (1)	18% (2)
India	28% (13)	2% (1)	13% (6)		57% (26)
Indonesia	20% (3)	7% (1)		7% (1)	66% (10)
Laos PDR		50% (1)		50% (1)	
Malaysia	14% (1)	14% (1)	29% (2)	14% (1)	29% (2)
Nepal	23% (5)				77% (17)
Russia	29% (2)	29% (2)			42% (3)
Thailand	20% (2)	20% (2)		50% (5)	10% (1)
Viet Nam	32% (6)	63% (912)		5% (1)	

4.3 Significant Tiger Seizures

The estimated number of Tigers killed for their parts ranges from a minimum of 1425 to a maximum of 1618 (See 2.1 Analysis). Although the maximum number of Tigers was calculated, the total was not used in further analysis. Using this estimation it is calculated that the median number of Tigers represented per seizure is one.

Figure 1 provides the median⁴ number of Tigers represented for each TRC. This ensures that it is possible to highlight those countries which make seizures involving large numbers of animals, even if the total number of seizures they make may be small. As Figure 9 illustrates, Russia, Thailand, Bangladesh and Lao PDR, on average, record a higher number of Tigers per seizure.

Figure 9: Median Number of Tiger Killed Per Seizure (2000-2012)



4.4 Live Tigers

There appears to be an emerging trend concerning the trade of live Tigers. Since 2000, there have been 25 seizures totalling 123 live Tigers including a Vietnamese seizure of 42 live Tigers⁵. Overall, this equates to the seizure of 123 Tigers. However, a disproportionate number of live Tigers have been seized in the past

⁴ Using a median calculation will avoid skewing the figures when seizures of a large number of Tigers have occurred.

⁵ June 2008, in the southern province of Bing Dong.

three years. Sixty-one live Tigers were seized between 2010-2012, representing 50% of the overall total of live seizures made since 2000; **Figure 10** indicates where these seizures occurred. (See Section 5.2.5 for additional information.)

Figure 10: The Seizures of Live Tigers (2010-2012)

Tiger Range Country	No. of Live Tigers
Thailand	30
Laos PDR	11
Indonesia	9
Viet Nam	4
China	3
Bangladesh	3
Malaysia	1
Total	61

4.5 Suspects

Information on criminal suspects is available for one quarter of seizures (165 / 25%). Although the majority of arrests were of lone suspects, almost one-tenth of seizures involved three or more persons, on average suspects received sentences of 4.3 years⁶ and one suspect received a life sentence. The presence of organized crime is highlighted in Nepal, where in the last three years (2010-2012), 45 suspects been have arrested and linked to 13 Tiger seizures. This averages to some 3.4 suspects arrested per seizure, more than the average of 2.0 suspects arrested per seizure for the remaining countries. This may indicate a more organized element to trading in Nepal which represents both a source and transit country.

Seizures have been reported on the Russian side of the Russia-China border involving individuals attempting to cross the border either on public or private transport into China. Important intelligence-led action took place in 2012; with the seizure of eight Tiger skins, pelts of mink, otter, and fox hidden in refrigerators and closets, 100 bottles of ginseng vodka, 150 rifle cartridges and around USD150 000 were also discovered, illustrating the crossover with other types of crime.

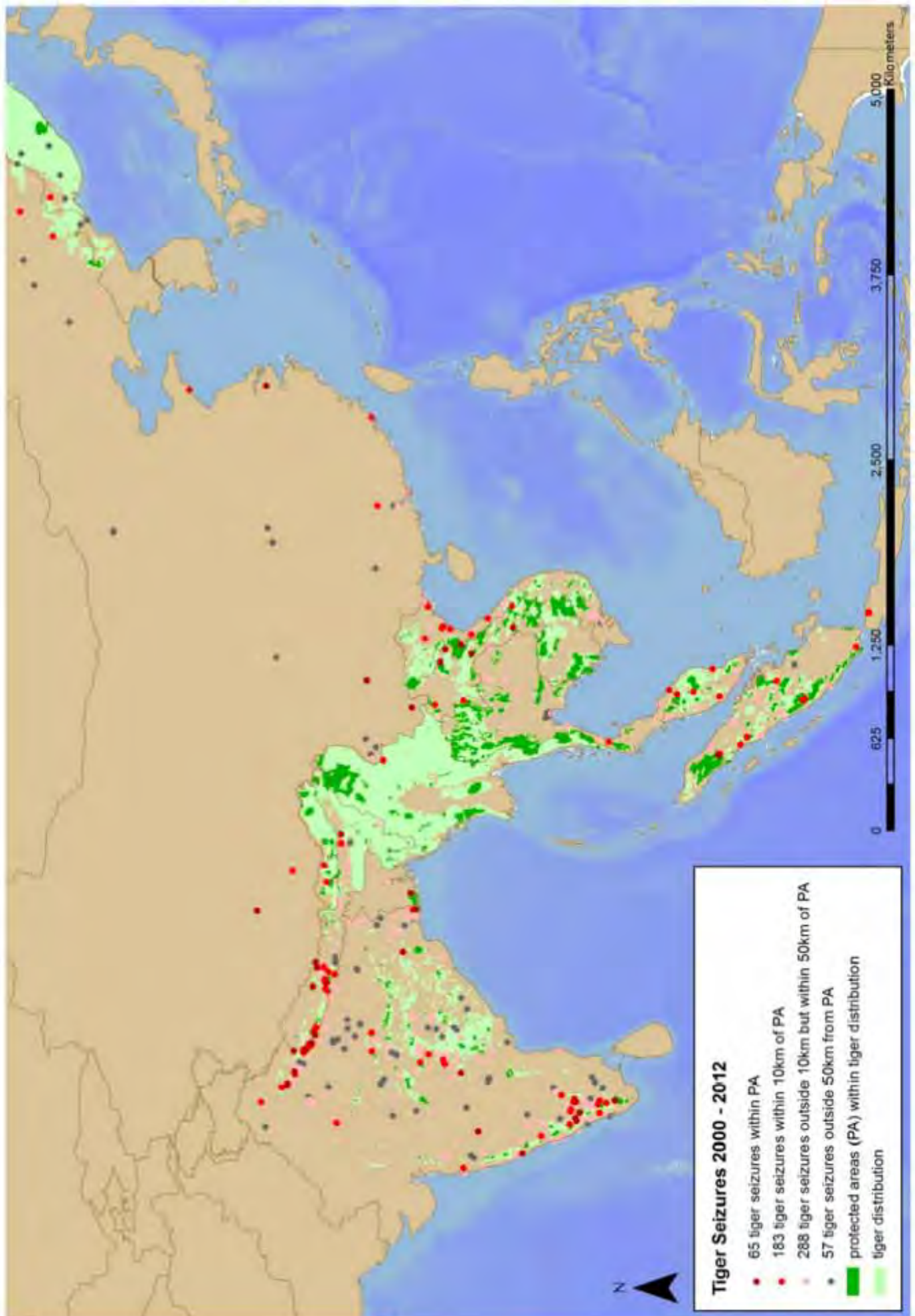
4.6 Location Analysis

Figure 11 shows the locations of all seizures compared to protected areas (PA)⁷ and Tiger distribution. Of the seizures that have been mapped (596, of which 58 seizures did not have specific co-ordinates), 65 occurred within a PA accounting for 11% of all seizures. Beyond this, 183 (31%) occur within 10km of a PA, 288 (48%) occur within 10-50km of a PA and the remaining 57 (10%) occur >50km from a PA.

⁶ Where this information was available

⁷ A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values, SOURCE: www.wdpa.org

Figure 11; All Tiger seizures 2000 -2012 overlaid with Protected Areas and Tiger Distribution



5. ANALYSIS AND DISCUSSION

5.1 Towards Trend Analysis

Since 2000, 654 reports of seizures have been reported across 12 TRCs. The inclusion of government data has assisted in filling some gaps present in the previous TRAFFIC analysis (Verheij, 2010) which reported on 481 seizures during January 2000-April 2010. This current report finds 535 seizures occurred for the same period, 54 more seizures than originally estimated for January 2000-April 2010. Moreover, the addition of these new data means that this current analysis has enabled the inclusion of more specific, directed and focused recommendations than those possible in 2010.

Available data indicate an increase in the number of known seizures reported and the estimated number of Tigers being seized. However, this increase could be attributed to a number of factors such as improved law enforcement, better recording or reporting practices and this could differ for each TRC and is not necessarily an increase in the actuality of trade. More comprehensive compilation and analysis of seizure data and assessment of enforcement and reporting effectiveness is needed to answer this and to generate the relevant response. **Figure 6** show these levels on a year by year level. The analysis finds that in Indonesia, Malaysia, Russia, Thailand and Viet Nam there has been both an increase in seizures and in the number of Tigers seized. This indicates that trade is still an issue in these TRCs, but there has been relatively effective law enforcement in response to this. In Lao PDR the number of Tigers seized has increased but the number of seizures has decreased showing that whilst trade persists, law enforcement needs to improve. In India decreases in both the number of Tigers being seized and the number of seizures may mean the actuality of crime is reducing or that poaching and trade is becoming more difficult to detect. In spite of this decrease in reported seizures it is estimated that as much as 50% of Tiger deaths within some of the best protected areas in India are due to poaching (Nagarahole, Bandipur, Bhadra, Biligirirangan Hills, Kudremukh, Anshi and Dandeli).

5.2 Trade hubs and the routes that supply them

Concentrations of Tiger crime are evident in Delhi, (India), Kathmandu (Nepal), the Amur-Heilong landscape (Russia-China), Hanoi and Ho Chi Minh City (Viet Nam). These locations have been active in terms of the number of seizures occurring there continuously throughout the total period examined (2000-2012). Whilst on some levels the law enforcement efforts are to be commended, it also highlights that law enforcement alone does not act as a deterrent. A more holistic, long-term, approach is needed at these specific locations to determine what is enabling criminal elements there. Changes in the data within this period also highlight emerging locations of concern such as Guangzhou (China) where seizures have increased over the past three years.

5.2.1 Indonesia: Domestic or International Trade?

Between 2010-2012, Indonesia seized the greatest number of Tigers of all TRCs, almost one fifth (n=50) seized during this period and therefore is identified as a significant current threat. In addition, the prevalence of large Tiger seizures in Indonesia is increasing. Since 2000, there have been 42 seizures, equating to an estimated 92 Tigers, but these have been made at a disproportionate rate. Fifty (52%) of these animals were seized in the last three years alone (2010-2012). Little is known of the intended destination of these large quantities. The largest seizure took place in July 2012 with the confiscation of the following consignment: 14 Tigers, two Leopards, *Panthera pardus*, one Clouded Leopard *Neofelis nebulosa*, one Lion *Panthera leo*, three Sun Bears *Helarctos malayanus* and one Asian Tapir *Tapirus indicus* together with two sacks full of Tiger “pelts”, one stuffed Tiger head and four deer heads. It is suspected that the Tigers originated from the Kerinci Seblat National Park (western Sumatra), the other species may have originated locally, however the lion is not native to Indonesia. This case serves to raise two questions; firstly what was the intended destination? Secondly, was this consignment collected as part of the activities of organized transboundary criminals which appears possible given the quantity and variety of the contents, but is exacerbated by the presence of non-native species.



One of eight Tiger skins seized in Kedah, Malaysia (2012)
Elizabeth John / TRAFFIC

Tiger trade surveys conducted by TRAFFIC in Sumatra found that the availability of Tiger parts decreased between 2002 and 2006 (Shepherd & Magnus, 2004, Ng & Nemora, 2007). This decrease is likely to have coincided with an increase in overt law enforcement which may have driven the domestic market underground. It is believed that a domestic market exists in Indonesia for Tiger parts such as claws and canines, with bones and skins being sought primarily for export.

KEY FINDING

Indonesia

Almost one fifth (18% / 50) of all Tigers seized in the past three years occurred in Indonesia. Furthermore, seizures containing a high density of Tigers are an increasing problem in Indonesia. A disproportionate number of Tigers have been seized in Indonesia (50 / 52%) during the past three years (2000-2012), in comparison to the preceding 10 years (2000-2009), when only 44 Tigers were seized. Indonesia currently has three government-led intelligence units in operation in Sumatra (Aceh and Lampung) and Java.

Knowledge Gaps

1. The intended destination of these seizures?
2. Is domestic trade driving demand or are shipments going overseas?

RECOMMENDATION

Intelligence received on Indonesia should be shared with INTERPOL via National Central Bureaus (NCBs) to establish whether the seizures are going overseas and the prevalence of organized crime.

5.2.2 Taiwan

In 2005 one of the largest ever single seizure of Tiger products took place at Kaohsiung Airport when over 140 kg of Tiger bones were confiscated, including 24 skulls, in a shipment from Jakarta, Indonesia. Traditionally there has been a market for Tiger and Tiger parts in Taiwan, particularly Tiger bone (LaBudde, 1993 and Nowell, 1993).

Further validation of an existing trade route between Indonesia and Taiwan was evidenced again recently when forensic identification tests were carried out on Tiger bones seized in August 2012 in Taiwan. The results determined the bones were of Sumatran origin of the subspecies *P.t sumatrae*. (TRAFFIC staff *in litt.*, 22nd January 2013 to S. Stoner, TRAFFIC).

During 1980-1990 Taiwan imported about 12 000 kg combined of Tiger and bear bone. Following diplomatic pressure to address this, Taiwan enacted the Wildlife Conservation Law in 1989 (this changed to the Wildlife Conservation Law (WCL) in 2007). As a former key consumer of Tigers, data on seizures made in Taiwan were collected and analysed to determine whether the threat still exists. In total, four seizures were reported in Taiwan for the period 2010-2012. Most of the seizures occurred following raids on uncertified medicine manufacturers, enforcement actions which were not motivated by concerns about wildlife trade. No reported seizures took place in any ports in Taiwan in 2010-2012. More information is needed to assess the current threat posed by Taiwan to establish if new stocks have been imported in recent times.

In 2009, TRAFFIC conducted a survey of retail shops of traditional Chinese medicine (TCM) and curios to gain an understanding of attitudes toward the use of Tiger products in Taiwan. Up to 4% of TCM retailers interviewed confirmed that they had a supply of Tiger bone products. In the absence of forensic testing and with a flourishing counterfeit product market, the verification of the products sold as containing Tiger is challenging. However, the continued purchase, supply, and transportation of Tiger products indicates the presence of market demand for endangered protected animals in Taiwan.

This advertisement (right) was found recently in Taiwan (2012), it offers to buy back Tiger bone wine produced in mainland China. It is believed that such products will then be resold in mainland China. The buying price is TWD 10,000 [USD 340] for a large bottle and TWD 5,000 [USD 170] for a smaller bottle. This advert may indicate demand in Taiwan is in decline while still persisting in mainland China.



5.2.3 Malaysia-Thailand

Tiger trade is known to have occurred across the Malaysia-Thailand border (*e.g.* Sungai Golok) (Verheij, 2010). Seizures in Malaysia during the current period were more common in the north of the peninsula and occurred on both sides of the border in 2012. **Figure 5** shows that since 2010, Malaysia and Thailand have each seized 36 Tigers, accounting for almost one quarter of all Tigers seized during this period (2010-2012). Thailand's status is further discussed below. Malaysia's high number of seized Tiger products is primarily due to one of the largest Tiger seizure ever made in Southeast Asia. In 2012, eight Tiger skins along with bags containing 22 Tiger skulls and bones and nine African Elephant *Loxodonta africana* tusks were seized close to the Thai border in Kedah. Kedah has seen the greatest number of Tiger seizures in the past five years in Malaysia, signifying the role it plays as a gateway for Tiger smuggling between the two countries⁸. The end destination for this consignment is unknown, but the quantity seized suggests an element of organization.

5.2.4 India–Nepal–Tibet Autonomous Region (TAR-China)

The India–Nepal–Tibet trade route has previously been documented and discussed (EIA 2008, Verheij 2010). In addition to this previous research, this report has identified a significant trade hotspot in India (**Figure 14**, hotspot #2) close to the Nepalese border. **Figure 11** shows the frequency of seizures along the Nepal–India border encompassing the Terai Arc landscape. In contrast, seizures on the Nepal–China, India–China borders are not so apparent.

In response to the implementation of *Resolution 12.5 (Rev. CoP15)*, China reported on its current status to CITES in anticipation of CoP16. Their report noted specific reference to the TAR (amongst other geographic areas), where a series of public awareness campaigns to combat illegal wildlife trade have been undertaken since 2010. China reported that “the illegal trade in Asian Big Cats in those areas has been effectively deterred” (CoP16 Doc.50 (Rev.1) Annex 3b- p.5).

In October 2011, a trilateral CITES Enforcement Training Workshop was held in Chengdu, China and attended by China, India and Nepal. This aimed to strengthen wildlife enforcement co-operation between the three countries. During the workshop the TRAFFIC presentation; Collaboration with Governments to Combat against Illegal Wildlife Trade stated that “during 2005 to 2011, the overt sale of Tiger parts and products declined and no Tiger skin product was found for open sale in local markets in TAR and other ethnic Tibetan regions”. However, few law enforcement incident reports exist for China's TAR relating to Tigers, and this represents a substantial knowledge gap for a previously identified trade hub.

⁸ A single offender was found guilty on two charges of illegal possession of Tiger parts and one for possession of African Elephant ivory, but will only serve 24 months in jail as the judge ordered that his sentences run concurrently.

5.2.5 Thailand-Lao PDR, Lao PDR-Viet Nam Trade Route

Since 2000, live Tigers consistently accounted for around two per cent of all seizures, however during 2009-2012 to rose to seven per cent (**Figure 7**). Since 2010, there have been 61⁹ live Tigers seized and almost three quarters (74% / 45) of these were seized within these three TRCs; Lao PDR, Thailand and Viet Nam. Prior to this in 2008; Viet Nam made the largest ever seizure of live Tigers, when 42 animals were found in the southern Vietnamese province of Binh Duong. The paucity of wild Tigers living in Thailand, Lao PDR and Viet Nam combined with the presence of Tiger breeding facilities within these three countries inevitably causes questions to be raised with respect to the source of Tigers in trade.

Thailand has two known facilities that currently breed relatively large numbers of Tigers: Sri Racha Tiger Zoo (Pattani) and Tiger Temple (Kanchanaburi), there are two such facilities in Lao PDR: Nonbouanoy (Thakek) and Tonpheung (Bokeo). Viet Nam currently has 11 registered Tiger breeding facilities.

As part of the UK-funded ASEAN Wildlife Forensics Network programme co-ordinated by TRACE¹⁰: Malaysia, Thailand and Viet Nam have all expressed interest in creating a DNA database of captive Tigers. Viet Nam has proactively sampled and DNA-tested Tigers from some captive facilities as part of an initial project scoping exercise. This process can only become truly effective if all countries in the region with captive-bred Tiger populations also support ‘in-country’ and ‘centralised’ Tiger DNA database schemes. Despite the development of new cost-effective and transferable DNA profiling techniques, the Tiger DNA database project is currently constrained by a lack of funding.

Seizures of live Tigers

Seizures of live Tigers appear to be on the increase, a trend which has become more prevalent in Thailand between 2010-2012. The low wild Tiger populations in Viet Nam, Lao PDR and Thailand coupled with the presence of commercial Tiger breeding facilities in these same three TRCs inevitably raises questions. The disposal of seized Tigers must also be transparent.

Knowledge Gap

1. The origin of Tigers seized in these three countries.
2. The end destination of Tiger, parts or and products?
3. Unclear disposal mechanism for seized live Tigers.

RECOMMENDATIONS

1. The Tiger DNA database project, currently being developed by TRACE, with funding from UK’s Darwin Initiative, needs sustainable funding to continue across all countries in the region which house captive-bred Tiger populations. The maintenance of DNA profiles in a controlled central database will aid in the identification of the source of captive-bred Tigers which enter into the trade chain.
2. Establish an effective monitoring mechanism for captive breeding facilities.

⁹ 123 live Tigers have been seized in total since 2000.

¹⁰ TRACE is an international NGO that aims to promote the use of forensic science in biodiversity conservation and the investigation of wildlife crime.

5.2.6 Viet Nam

The rapid expansion of Viet Nam's economy has contributed to an emerging sub-culture of consumers demanding endangered species and products such as Tiger bone wine and pangolins *Manis* spp (Akella and Allan, 2012). This finding is substantiated by five seizures in the past 12 months of frozen or whole Tigers and it is believed their bones are sought for use in traditional medicines.

Tiger bone is the most commonly used Tiger part in Viet Nam. These are boiled down until they form a glue-like substance, known as *cao*. This is then dried and ground to a fine powder to be consumed with alcohol. In 2010, Education for Nature – Viet Nam carried out an investigation into this trade. This revealed that Tigers sourced from farms in Lao PDR and elsewhere are typically frozen and smuggled into Viet Nam. Traders often sell the animals on to brokers that organise the glue-making operations. This *modus operandi* still appears to be ongoing (ENV 2010).



Tiger cub seized in Viet Nam, Sep 2012
Ha Tinh Forest Protection Department, Viet Nam

The identification and disruption of organized crime groups involved in the production and sale of Tiger bone glue would have the greatest impact in stemming the trade. More effective patrolling at weak border points would minimise trade between Lao PDR and Viet Nam. A better understanding of how trade occurs in this sub-region is crucial, if realistic proactive recommendations on how to identify suppliers and traders are to be made. Criminal investigations during 2012 uncovered a number of restaurants involved in the production of *cao* in Viet Nam. The first case occurred in January when two workers were found processing a large Tiger skeleton in a restaurant in the Hanoi's Thanh Xuan District¹¹. The restaurant owner had been arrested for making Tiger bone glue in 2007 in a separate incident. In September 2012, five people were discovered making *cao* from a frozen Tiger in Phú Thọ Province, near Hanoi¹².

The individuals hired to transport Tigers along the trade route are often the most visible. They are usually cheaply hired, but hold little information of others involved in the overall network. Considerable rigorous investigative work is required beyond the arrest of such couriers before action can be taken to disrupt the trade route and dismantle the criminal networks responsible for the trade in Tigers. Seized frozen specimens must be disposed of appropriately and live Tigers placed in appropriate government-approved facilities.

¹¹ Source: <http://tuoitrenews.vn>

¹² Source: An ninh Thu do

5.2.7 Myanmar

Given Myanmar shares borders with other TRCs (see **Figure 12**) experiencing high levels of trade, it is interesting to note that Myanmar has only reported one seizure of Tiger parts (canines) since 2000. The Tiger trade was closely examined between 2001 and 2010, and at least 157 Tiger parts were observed for sale in Myanmar (Oswell, 2010) as well as a number of other Asian big cat species. As already described, seizures are only indicators of where trade exists and law enforcement is effective.

During 2000-2012, seven Tiger seizures which originated from Myanmar were made in China. **Figure 13** presents the total number of known Tiger seizures originating from Myanmar but seized in China. The red dot denotes the one Tiger seizure that occurred in Myanmar in 2009. In addition Ruili (China) – a previous hotspot on the Myanmar-China border has not had any *reported* seizures since 2003.

It is important to point out that much of the observed trade in Myanmar occurs in areas which have not been under the control of the central government. This illustrates the challenges in achieving effective law enforcement specifically in these areas (Oswell, 2010).

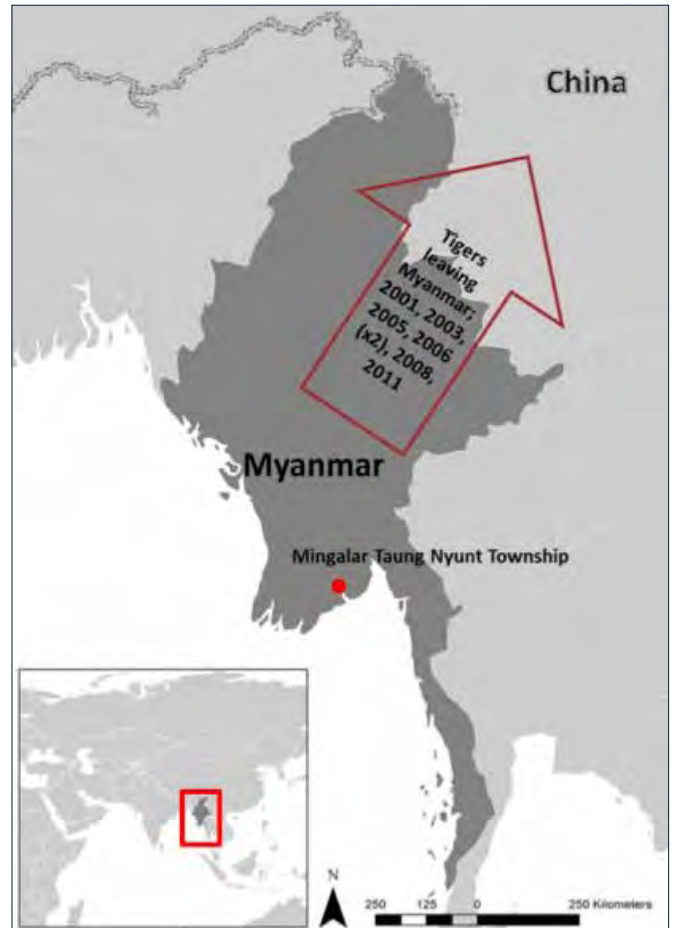


Figure 12; Seizures in and out of Myanmar

Myanmar

The Myanmar National Wildlife Law Enforcement Task Force has a membership taken from a number of agencies (Forestry Department, Police Force, Customs Department, Ministry of Border Affairs, Directorate of Trade, Ministry of Commerce etc.). While the country does have a specific wildlife law, each agency is also bound by specific laws relating to their core business. As with any task force comprising of a number of different agencies, communication and coordination is vital if such an initiative is to be truly effective.

RECOMMENDATION

The Forest Department, Ministry of Environmental Conservation and Forestry is the current ASEAN-WEN focal point for Myanmar. Consideration should be given by the Forest Department to develop and enhance the effectiveness of Myanmar National Wildlife Law Enforcement Task Force.



Adam Oswell / TRAFFIC

Tiger skin displayed for sale at one of the many retail outlets for Tiger products in Mong La Special Region 4, Shan State, Myanmar, June 2010.

KEY FINDING

Trade routes and hubs

In summary, though there is evidence to suggest these trade routes are in existence, the data is inadequate in enabling the identification of how and why these routes are used. This level of information is important to facilitate adequate intelligence, law enforcement and ultimately preventative solutions.

RECOMMENDATION

TRCs should consider the development of a Tiger trade monitoring system and a mechanism to enable regular data submission on a bi-annual / annual basis. Data collection and compilation can also provide an essential counterpart to landscape-level monitoring of Tiger populations and law enforcement against anti-poaching.

5.3 Online Trade

The online trade in wildlife has previously been investigated and documented (IFAW 2008, Wyler and Sheikh, 2008, Felbab-Brown, 2011). Further current research states the potential global scale of the illegal wildlife trade online (Sajevea *et al*, 2012). Improved law enforcement and the emergence of intelligence-led policing may mean that some aspects of the illicit trade are displaced to online markets. Clearly the demand still exists due to the number of Tigers being poached and seized. Online trade is a real and relevant threat for the following reasons:

AUTONOMOUS; selling online is largely unregulated and is rarely subject to review and therefore there is a minimal amount of monitoring of online sites.

GLOBAL REACH; online auctions break down and remove the physical limitations of traditional auctions such as geography, presence, time, space, and a small target audience.

POPULARITY; the widespread level of trading that takes place on auction sites and its popularity may be an attractive option for someone trying to sell products.

INVESTIGATION; locating where the seller is based is problematic when trying to establish which jurisdiction the investigation applies to. In addition, if monitoring were to happen it may be challenging to decide, where to start looking due to the sheer number of these types of sites.

NETWORKING; if trading is occurring on social networking sites, gaining access will be limited.

CLANDESTINE; can be used to circumvent key word searches, this was seen recently where the term ‘ox bone’ was being used to describe ivory on eBay. Guises are used as an effective way to evade detection.

China, including Taiwan

In a relatively short period of time, China went from being one of the range countries with the most Tigers to the range country with the least (Nowell & Xu, 2007). The principal cause of the Tiger’s demise was considered to be China’s use of Tiger bone in traditional medicine (Nowell 2000). There have been, however, concerted efforts to improve international and domestic trade laws, most recently with the creation of the Provincial Inter-Agency CITES Enforcement Coordination Groups (PICE-CG) and the National Inter-Agency CITES Enforcement Coordination Group (NICE-CG).

In 2011 TRAFFIC presented findings which noted that “during 2005 to 2011, the overt sale of Tiger parts and products declined and no Tiger skin product was found for open sale in local markets in Tibet Autonomous Region and other ethnic Tibetan regions”. It is likely that some of this decline can be attributed to improved law enforcement, but as poaching persists, it is suspected that trade has been displaced to other points of sale.

TRAFFIC conducted a number of surveys during July 2012 on online auction sites in China and found claims of 33 Tiger products for sale. Items included bracelets, pendants, plasters and Tiger bone wine and glue. Adverts promoted ‘blood being visible in items’ for sale as a unique selling point. Continued regular monitoring of websites in China (Aug-Dec 2012) identified a further 270 adverts purporting to offer illegal Tiger products.

Many of the adverts used only keywords to indicate the sale of Tiger parts and then directed interested buyers to communicate via QQ (a popular online messaging service in China). Members only websites were observed in use and aid in evading detection. International trading was also identified from advertisements alluding to Thai-language branded products, primarily Tiger bone glue.

In addition, in 2010 a Tiger skin was offered for sale on an online auction on a Chinese language website. The offender attempted to sale the skin for TWD 2 800 000 [USD 96 400] and it was claimed to be “the only legal whole Tiger skin in Taiwan” and was accompanied by with an import document. The import document was suspected to be the export document issued by the Macau government. However, the skin had not been registered to the relevant authority in Taiwan. According to Taiwan Wildlife Conservation Law, owners

have to register their possession with authorities to legally possess or display for sale the protected species (include Tiger). It is suspected that the Tiger skin was smuggled into Taiwan, even though the seller claimed to have the export permit issued by Macau. The seller was subsequently sentenced to seven months in prison in 2011.

Combating Illegal Trade

In June 2012, 15 of the leading e-commerce sellers operating in mainland China, including Alibaba, Taobao, and Tencent signed a declaration stating they have a zero-tolerance policy towards their services being used to conduct illegal wildlife trading. The statement stipulates sellers and buyers must comply with all aspects of China's Wild Animal Protection Law and regulations under CITES. The declaration was issued following a workshop on controlling online illegal wildlife trade organized by the National Forest Police Bureau of the State Forestry Administration (SFA).

KEY FINDING

Online Trade

These findings serve to illustrate is that the online trade in Tigers apparent. Largely, however, the illegal wildlife trade online is rarely examined and this represents a concerning knowledge gap. The monitoring undertaken by TRAFFIC may only uncover a small proportion of the actual amount of trade with China.

Knowledge Gaps

1. How great is the threat from online trade?
2. Is national legislation sufficient to address online trade in each of the Tiger range and consumer countries?

RECOMMENDATION

TRCs should consider addressing the illegal online trade in their respective jurisdictions, as has been pursued in China.

5.4 The Pareto Principle - Applying the 80-20 Rule

This final section will examine ways in which the collected and analysed seizure data be used as an essential tool to direct law enforcement efforts to focus on the issues that are having the greatest impact on the illegal Tiger trade. An important principle of crime prevention is that crime is highly concentrated on particular people, places and commodities. In essence; 20% are vital and 80% are trivial and focusing on the vital 20% will achieve the greatest impact on reducing crime. This principle has been designed to enable the prioritisation of those areas, individuals and trends that are causing the greatest threat and can be applied specifically to Tigers as illustrated in the following section. Earlier it was discussed the some governments and law enforcement agencies should be allocating more resources in the fight against the illegal Tiger trade. Applying the Pareto Principle will enable the identification of those key threats that account for the vital 20% of the problem. Approaching the problem in an analytical and intelligence-led manner will assist in combating illegal trade and will leave the greatest impact.

To understand the greatest threat to wild Tiger populations it is necessary to examine each of the three aspects of the problem analysis triangle with this principle in mind;

1. **SUSPECT**
2. **LOCATION**
3. **TARGET / VICTIM**



5.4.1 Suspects: the presence of organized criminality

Organized crime groups (OCGs) often operate across boundaries, both in terms of crime type and geography. It is suspected that OCG's are operating the illegal wildlife trade using the same sophisticated techniques and networks used for operating illicit trafficking in people, weapons, drugs and other contraband (Scanlon, 2012). This snapshot analysis of the offender base indicates that one-tenth of suspects implicated in the seizures (2000- 2012) examined could be part of an OCG. There are elements of serious and organized criminality identified in the seizure dataset, particularly within Russia and Nepal. Overwhelmingly, the lack of information impedes a comprehensive assessment on the scale of organized crime driving the illegal Tiger trade. More research and focused data collection is needed to understand the dynamics and motivations of organized criminal networks involved in Tiger criminality along with other types of crime (both wildlife and non-wildlife) that they may be engaging in.

In October 2012, the United Nations Convention against Transboundary Organized Crime (UNTOC) recognised environmental crime, including illicit trafficking in wildlife, as a new form of transboundary organized crime in need of a greater response. The meeting passed a resolution encouraging governments to further strengthen their domestic laws to prevent and combat these crimes. UNTOC encouraged countries to take action against trafficking in endangered species, and to consider making trafficking of endangered species a serious crime¹³. The UNTOC has designated a definition that applies to varying levels of organized and transboundary crime and there are some examples within the seizure data that meet these criteria, as shown by **Figure 13**.

¹³ The UNTOC does not describe a precise definition of 'transboundary organized crime'. Nor does it list the kinds of crimes that might constitute it. This lack of definition was intended to allow for a broader applicability of the Organized Crime Convention to new types of crime that emerge constantly as global, regional and local conditions change over time.

Figure 13: Examples of Organized Criminality in Tiger seizures (2000-2012)

UNTOC definition of an 'organized criminal group'. In Article 2(a);	Examples of organized crime within the seizure dataset (2000-2012)
A group of three or more persons that was not randomly formed;	Suspect information is available for 165 seizures (25%), equating to 349 individuals, averaging 2 suspects arrested per seizure. However, one tenth of the seizures were carried out by groups of three or more suspects.
Existing for a period of time;	More research is needed to fully determine this
Acting in concert with the aim of committing at least one crime punishable by at least four years' incarceration;	Information analysed of seizure outcomes found that the average sentence given was 4.3 years
In order to obtain, directly or indirectly, a financial or other material benefit;	Illicit wildlife trafficking (excluding fisheries and timber) is estimated to be worth between USD 7.8 billion and USD 10 billion per year (WWF / Dalberg, 2012)

KEY FINDING

Serious & Organized Crime

10% of the suspect base may be part of an organized crime group (OCG) according to the UNTOC definition. However, the actual number of individuals operating as part of an OCG is suspected to be much greater. Some elements of serious and organized crime has been identified In Russia and Nepal, but there is not enough information available to determine the extent to which this occurs.

RECOMMENDATION

Law enforcement agencies need to identify those organized crime networks engaging in the illegal Tiger trade. Disrupting the networks that operate across borders must be a priority. It is therefore essential that government and international law enforcement bodies share data more strategically to tackle transborder crime.

5.4.2 Location; Statistical Hotspot Analysis

Limited law enforcement resources make the fight against the illegal Tiger trade a challenge. To tackle this, is it essential that resources are focussed on those sectors of concern. In line with the Pareto Principle, a statistical mapping technique has been applied to illustrate the value of collecting data in a consistent and systematic manner. The seizure data, as already discussed, originates from a variety of sources and to some extent some of the results it produces may be speculative. India accounted for just under one third of all seizures during the past three years (29% / n=42), although the number of seizures occurring has decreased there in the longer term (2000-2012). The consistent and reliable manner in which seizures have been reported in India during the period 2000-2012, and during the past four years (2009-2012) which has been compiled and made publicly available by the NTCA, makes this the most indicative sub-set of data to use for further analysis. This has been conducted to derive five statistically significant 'hotspots'.

The following representation has been developed using the Crimestat Nearest Neighbourhood Measurement (see Methods section above). It presents images of ellipses to show where there are clusters of crime that are statistically significant (**Figure 14**). This analysis may provide guidance and further exploration to examine why seizures are more common at these spots. Each problem can be realised contextually and the right response should be developed based upon those findings.



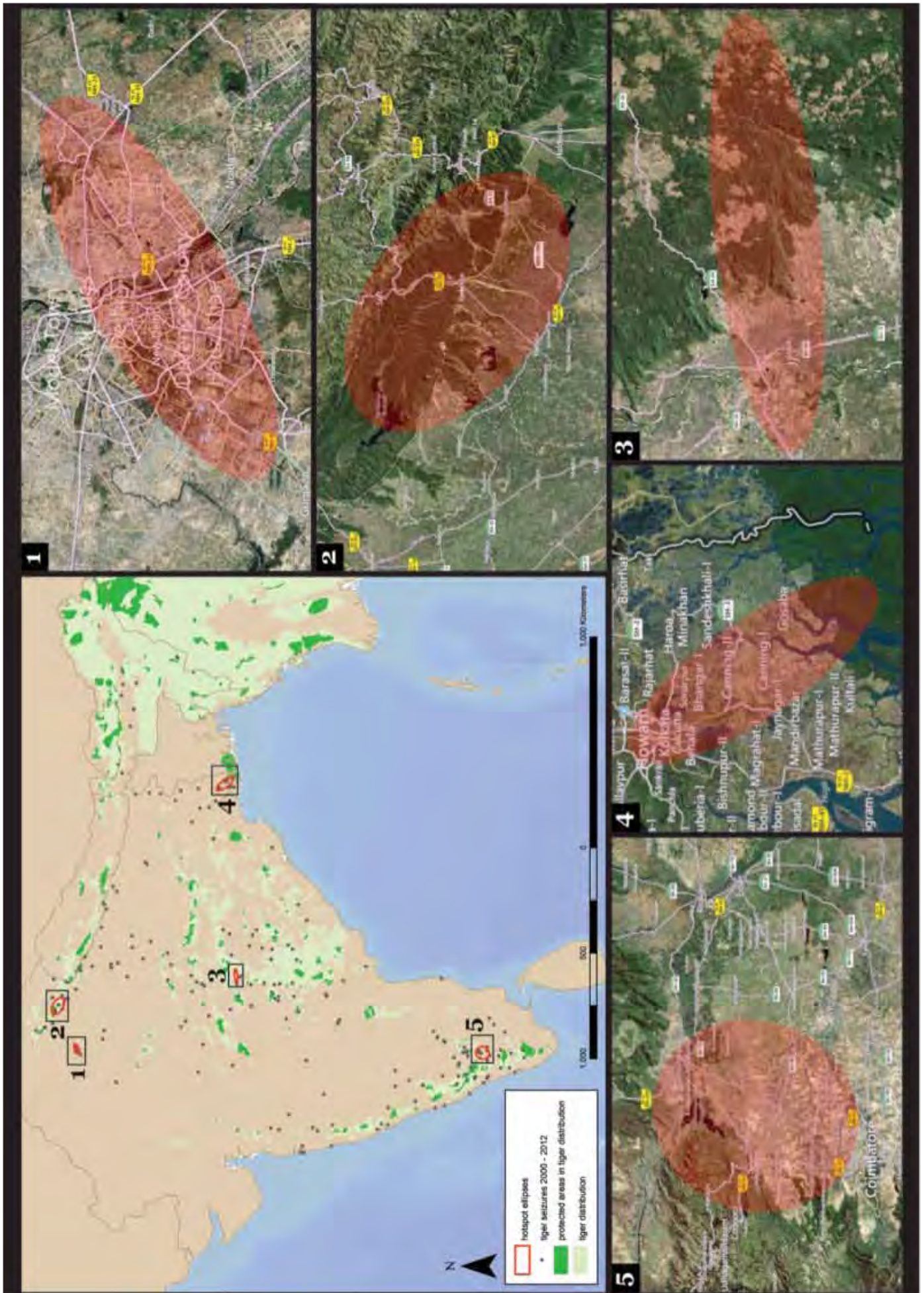
**A female Bengal Tiger
resting in the Sundarbans**
Tim Laman / WWF - Canon

‘Caveat’: although India’s data is considered to be more reliable than other TRC’s, attention needs to be given to the variety of sources in this dataset, which should be refined to increase accuracy of analytical insight.

HOTSPOT I: Delhi

Delhi (National Capital Region) is an exception among the hotspots as it is not located in or near to any Tiger landscapes. Given that Delhi is the capital of India one may expect law enforcement to be relatively effective and which accounts for an increased number of seizures occurring here. This finding is also consistent with an examination of Leopard *Panthera pardus* seizures in which Delhi also emerged as the most important hub of illegal trade in the country accounting for more than 26% of all Leopards seized. Leopard seizures in Delhi generally consist of a larger number of leopard parts (Raza *et al*, 2012). Tiger seizures within this hotspot are predominantly of skins, but there have been no significant seizures there since 2005.

Figure 14: Seizures across India (2000-2012), along with five statistically significant hotspots



HOTSPOT 2: Ramnagar

The town integral to this hotspot is Ramnagar which sits close to the entrance of Corbett National Park (NP). There exists also an arterial route that runs through the park and leads up to the Nepalese border which is open¹⁴ from India. Corbett NP had previously been cited as one of the densely populated Tiger reserves in India. Though Corbett and the adjacent Ramnagar Forest division have healthy Tiger populations they remain a prime target for poachers and in 2012 a poaching group were found hiding out in the protected zone of the park with traps¹⁵. Tiger skins were most commonly seized from this location.

HOTSPOT 3: Central India Region

Seizures at this spot have persisted throughout the 13-year period (2000-2012). Located within the Central India region and is close to the Kanha and Pench National Park. The town of Balghat sits to the right of the hotspot and is a central location to a number of arterial routes, which extend through parts of the Pench NP, Balihar Forest Range and Nainpur Forest Range. It is suspected that most of the Tigers are moved north as a number of seizures also occur in the city of Jabalpur, Madhya Pradesh.

HOTSPOT 4: Calcutta - Sunderbans

This hotspot refers to the area covering Calcutta and spans south to the edge of the Sunderbans. The Sunderbans is the largest single block of tidal halophytic mangrove forest in the world and is a UNESCO World Heritage Site covering parts of Bangladesh and the Indian State of West Bengal. Skins and whole carcasses are the most commonly seized commodity type, although seizures at this hotspot have reduced during the most recent period (2010-2012), in addition, recent newspaper reports states that poaching has been reduced to nil in the park¹⁶. Seizures on the Bangladeshi side have been at a much lower rate in comparison to India, the most recent seizure there was in 2011 when a suspect was found in possession of three Tiger heads, four Tiger skins, and 24 kg of bones.

HOTSPOT 5: Western Ghats

As is consistent with the other hotspots, skins were most commonly seized from this locality. This hotspot covers the southern edge of the Sathyamangalam Tiger Reserve, located in the Western Ghats landscape. The Sathyamangalam Tiger Reserve forms part of a landscape inclusive of Karnataka, Tamil Nadu and Kerala (Nagarahole, Bandipur, Wayanad, Mudumalai, Brahmagiri, Sathyamangalam, Biligiriranga Hills, and Cauvery Wildlife Sanctuary) and is probably the largest contiguous single population in the world with an estimated 354 to 411 total Tiger population (Jhala *et al*, 2011).

¹⁴ Article 7 of the 1950 India-Nepal Treaty of Peace and Friendship (official name Treaty of Peace and Friendship Between The Government of India and The Government of Nepal) states: "The Governments of India and Nepal agree to grant, on a reciprocal basis, to the nationals of one country in the territories of the other the same privileges in the matter of residence, ownership of property, participation in trade and commerce, movement and other privileges of a similar nature."

¹⁵ Source: India Today.

¹⁶ Source: Indian Express

It is of note that only a few seizures in India represent a significant number of Tigers in comparison to other TRCs during the last three years (2010-2012). It is inferred that Tigers are sourced from India and moved to other zones of distribution such as Nepal and Myanmar where stocks are built up and transported to consumer countries. Furthermore, two of the identified significant hotspots in India (see Hotspots 2 and 4, above) are located within close proximity to neighbouring country borders, Nepal and Bangladesh (see **Figure 14**). This should be used to create leverage for developing and enhancing cross border agreements.

Lastly, what these findings indicate is the close geographical relationship between incidents of poaching and seizures, the two are intrinsically linked. Establishing a clear picture of the association between the poaching and seizures and the individuals is essential. India is unique in that the National Tiger Conservation Authority (NTCA) now records and authenticates all reports of Tiger mortality, poaching and seizures on a database called Tigernet (www.tigernet.nic.in) which is available for public viewing. This central collection of data can assist further in identifying areas of concern, where both poaching and seizures are taking place.

Hotspots - India

Figure 14 presents the locations of five statistically significant hotspots. These are useful indicators for further exploration greatest impact. The central collation and analysis of seizure, poaching and natural mortality data occurs it can allow for the identification of statistically significant hotspots and areas of concern for further work where rates of seizures and poaching are high.

RECOMMENDATION

The continuous collection and analysis of reliable data can produce real, informative and proactive results. All TRCs are recommended to feed into a central database to enable further mapping to determine where law enforcement efforts should be focused.

5.4.3 Target /Victim: Crime Enablers

The third point to consider when applying the Pareto Principle is the vulnerability of the target, the Tiger. With this in mind, four barriers have been identified as hindering progression in the fight against the Tiger trade; poaching, legislation, corruption and the lack of information sharing. To varying degrees, some if not all, of these factors enable the illegal Tiger trade. The following section will provide examples of why TRCs should scrutinise each barrier to formulate a country level intervention which will prevent, deter or reduce the risk to Tigers.

Poaching at site level: stemming the source

The contribution of poaching to the decline in populations of endangered species has increased exponentially (McMurray, 2008). The need for protection is now crucial to safeguard the last few remaining populations and to prevent further fragmentations at a landscape level.

Figure 12 illustrates that the majority of Tiger seizures occur outside of the protected areas. This is particularly important as it simply reinforces the need to enhance landscape protection to ensure poachers are not only gaining entry into the protected area, but have a higher likelihood of being caught when attempting to remove the poached Tiger. Further to this is the necessity of intelligence-led law enforcement, without which anti-poaching and landscape protection cannot be truly effective.



A Sumatran Tiger killed in a snare in Riau, Indonesia
WWF Indonesia / Osmantri

Protection

Over one-tenth (65/11%) of seizures occur within protected areas, meaning most of the poached Tigers leave the scene of the crime. This simply reinforces the need for **a)** disrupting trade routes and that long-term intelligence-led investigation must aid law enforcement efforts as this is where most of the trade activity is centred – outside of the park **b)** increasing protection at a landscape level.

RECOMMENDATIONS

1. Intelligence must be used to direct resources to where trade exists; landscape protection alone cannot control the demand for Tigers. Once the Tigers have left the park intelligence is the key to identify how and where Tigers are being moved and traded.
2. The rollout of Spatial Monitoring and Reporting Tool (SMART) as a minimum measures to increase effective management of all Tiger-inhabited protected areas.

Inadequate Legislation Using Indonesia as a Specific Example

At an international level, the commercial trade in Tigers is prohibited by CITES. In order for CITES to be fully effective, Parties need to fully implement national legislation which enables the enforcement of the Convention within their borders. Furthermore, such legislation should be sufficient to fully address illegal trade at a national and international level. The example below provides some understanding of why this is necessary and the subsequent consequences, if loopholes exist.

In August 2012, the Nature Conservation and Forest Protection Agency in Cilandak (south Jakarta, Indonesia) seized a single Tiger skin and one stuffed Leopard *Panthera pardus*. Both species are listed as totally protected in the Act of the Republic of Indonesia No.5 of 1990 *Concerning Conservation of Living Resources and their Ecosystems*, commonly referred to as “Act No. 5”. Leopards are listed at a species level, meaning that all nine subspecies listed by the IUCN Red List are included (Miththapala *et al.* 1996, Uphyrkina *et al.* 2001). In contrast, Tigers are listed at a sub-species level with the Act naming just two; the Critically Endangered

Sumatran Tiger *P.t. sumatrae* and the extinct Javan Tiger *P.t. sondaica*. Since the law only protects Tigers if they are either from the Sumatran, or Javan subspecies, this translates into a situation where law enforcement agencies have to determine and prove exactly what sub-species of Tiger is involved before they can proceed with prosecution. In the 2012 case, forensic tests on the seized skin proved inconclusive and the authorities were unable to proceed with the case relating to the Tiger and were left with no choice but to abandon charging the accused for offences relating to the Tiger, and so laid charges for the Leopard only. While Indonesia has been Party to CITES since 1978, and has CITES-enabling legislation assessed as Category 1 standard, there remain difficulties with enforcing national legislation governing Tiger poaching and trade.

Though this example is quite specific and relates to just one country, it does introduce the possibility that other TRCs may be restricted in their ability to act against the trade due to the presence of poorly conceived national legislation. When the law fails, it cannot act as an adequate deterrent.

Legislation

According to Indonesian law, Tigers are only protected at a subspecies level, with only two being afforded protection under national law; one of which has been classified as extinct by the IUCN Red List in 2003. The CITES National Legislation Project has assessed Indonesia's laws as Category I, meaning that they have been deemed sufficient to allow for the full enforcement of the Convention (Notification No. 2012/036).

RECOMMENDATIONS

1. Indonesian legislation should be amended immediately to ensure that all Tigers are totally protected and that poaching and illegal trade can be prosecuted.
2. Relevant legislation pertaining to the trade in Tigers should be assessed for all TRCs and recommendations made detailing where improvements may be warranted. Any remaining legal anomalies in TRCs, as well as consumer countries and territories, which allow trade in Tigers, as well as their parts and derivatives, should be identified and addressed to prevent loopholes allowing any commercial trade.

Corruption

Corruption is difficult to quantify, monitor and prevent. Its presence is intrinsic in some cultures and its existence is particularly prominent in Asia (Myanmar, Laos, Cambodia; Corruption Perception Index 2012¹⁷). It can exist at all levels; from on the ground staff to high level governmental and ministerial levels which can hinder policy or law making (UNODC, 2012). Despite many countries having laws and monitoring agencies created to eradicate corruption it still persists. Often, however these laws rarely act as a deterrent as they are seldom enforced coupled with weak investigations and subsequent penalties are often low.

In 2002, the head of the Thailand CITES Management Authority was requested by Sri Racha Tiger Zoo to issue a licence to send its Tigers to Sanya Zoo in China's southern province of Hainan for feeding and breeding during October and December that year. The request was approved. However, prosecutors later ascertained that the request "was made for commercial purposes", and so were not in line with the law¹⁸. The Thai Wild Animal Reservation and Protection Act 1992 only allow for exports of protected wildlife species under government agreements for research and conservation purposes. In December 2012, the former head of the Royal Forest Department of Thailand was subsequently charged for authorising this transfer under an article in Thai law which includes the "*abuse of power, failing to carry out his duty and/or corruption*". What is not clear is why the charges took so long to be applied but it does exemplify the lack of prioritisation by prosecuting agencies to deal with corruption charges.

Knowledge Gap - Corruption

I. The number of Tiger range countries with anti-corruption agencies.

RECOMMENDATION

I. Establishment and reinforcement of anti-corruption agencies for each TRC where there are none in existence.

¹⁷ Source: Transparency International

¹⁸ Source: Bangkok Post

Lack of Information Sharing and Intelligence-Led Law Enforcement

The need and value of an intelligence-led approach in tackling the illegal Tiger trade is fundamental. When transboundary criminality does occur; with Tigers being killed in source countries and moved across transit countries and / or consumer countries, it is essential for information on these movements to be shared. One of INTERPOL's most important functions is to assist police (*via* INTERPOL NCBs) in its member countries to share critical crime-related information using I-24/7, the organization's secure communication network and the system of international Notices and Diffusions¹⁹. Information sharing with INTERPOL is essential to facilitate and enhance wider investigations. As an international agency INTERPOL has the necessary leverages through the NCBs at a national level but also perform a vital role monitoring trade globally.

INTERPOL Notices (**Figure 15**) are international requests for cooperation or alerts allowing police in member countries to share critical crime-related information. Notices are international alerts used by police to communicate information about crimes, criminals and threats to their counterparts around the world. Notices are circulated by INTERPOL to all member countries at the request of a country or an authorized international entity.

Figure 15: INTERPOL Notices

	<p>Red Notice</p> <p>To seek the location and arrest of wanted persons with a view to extradition or similar lawful action.</p>		<p>Yellow Notice</p> <p>To seek the location and arrest of wanted persons with a view to extradition or similar lawful action.</p>
	<p>Blue Notice</p> <p>To collect additional information about a person's identity, location or activities in relation to a crime.</p>		<p>Black Notice</p> <p>To seek information on unidentified bodies.</p>
	<p>Green Notice</p> <p>To provide warnings and intelligence about persons who have committed criminal offences and are likely to repeat these crimes in other countries.</p>		<p>Orange Notice</p> <p>To warn of an event, a person, an object or a process representing a serious and imminent threat to public safety.</p>
	<p>United Nations Security Council Special Notice</p> <p>Issued for targets of the UN Security Council Sanctions Committees.</p>		<p>Purple Notice</p> <p>To seek or provide information on <i>modi operandi</i>, objects, devices and concealment methods used by criminals.</p>

¹⁹ Similar to the Notice is another request for cooperation or alert mechanism known as a 'diffusion'. This is less formal than a notice but is also used to request the arrest or location of an individual or additional information in relation to a police investigation. A diffusion is circulated directly by an NCB to the member countries of their choice, or to the entire INTERPOL membership and is simultaneously recorded in INTERPOL's Information System.

6. CONCLUSION

The illegal trade in Tigers undoubtedly persists. It is not possible to discern with accuracy the trend in illegal trade levels, but data available to TRAFFIC show no sign of abatement. Since 2000 the number of seizures and the number of Tigers killed for trade has been gradually increasing. The seizure picture presented in this report can only be interpreted as an indication of where trade is concentrated and where law enforcement is effective. Therefore, while the analysis provides some important findings that could assist with prioritising interventions and initiating action, it is equally important to develop alternative meaningful ways in which trade can be systemically monitored in the future.

Where law enforcement is effective seizures occur. Where reported seizures are absent the trade, the evidence for trade is opaque. Encouraging TRCs to address the situation in light of a lack of evidence to suggest there is trade is problematic (Myanmar). Further concern is expressed with respect to TRCs where seizure numbers are low but the quantity of Tigers being seized is significant in comparison to other TRCs (i.e. Indonesia, Thailand). Some of the factors discussed within this report such as corruption and lack of information sharing persists which inevitably inhibit the exposure of the true level of trade.

The increase in law enforcement and awareness of the law may have led to the displacement of markets previously trading in Tigers. The monitoring of the online Tiger trade in China has led to the identification of deliberate methods to evade detection. Clandestine terminology is being used to circumvent key word searches, as is the use of password protected forums and online messaging services for negotiating sales. The perceived threat from online trade is suspected to be great when considering very little monitoring of online trade takes places. China has dealt with this by gaining the commitment of 15 leading online companies who have accepted a zero-tolerance policy towards their services being used to conduct illegal wildlife trading, and has instituted regular monitoring of compliance with this policy. Online trade is likely to occur in other TRCs given the popularity and relative autonomy of the Internet; therefore it is apparent that this should be given priority.

Engagement with INTERPOL is essential, as it has the capacity to address trans-boundary criminality and can analyse the situation at a regional level to identify those prolific organized crime networks threatening the existence of the Tiger. Furthermore, as an inter-governmental agency INTERPOL has the necessary leverage through the NCBs at a national level, as well as performing a vital role in monitoring trade at a global scale. There needs to be an increased effort to combat regional level illicit wildlife trade by enhancing regional collaborative work by the Tiger range countries. To some extent this is already happening, with the establishment of transboundary wildlife enforcement networks such as ASEAN-WEN and SAWEN. These platforms have encouraged the endorsement of bilateral Memoranda of Understanding that still need to be further contextualised into transborder governmental action plans. However, more coordination and support

is needed to enhance these tranboundary law enforcement networks already in place. Intelligence analysis produced by the systematic compilation of seizure data should be used to direct and focus their enforcements efforts and enable a plan of future resource prioritization.

Gaining commitment from some governments and / or law enforcement bodies to tackle the Tiger trade may be problematic. One reason for this could be due to the relatively small proportion of crime that the Tiger trade accounts for against other types of crime or indeed or other types of wildlife crime (ivory or pangolin trade for example). Using India's annual average of 28 seizures indicates the Tiger trade is clearly not a highly prevalent crime type. To combat this, the substantial impact the loss of one Tiger can have upon an already fragile population needs to be reiterated. More emphasis needs to be placed upon the subsequent effect and irreversible damage to the ecosystem should Tigers become extinct. Of equal importance is the need to demonstrate the role of organized criminality in the illegal killing and trade in Tigers and its relationship with other types of serious crime.

7. RECOMMENDATIONS

1. Governance and Policy

All Tiger range and consumer countries should fully implement the provisions of CITES *Resolution Conf. 12.5 (Rev. CoP15)* on Asian big cats (ABCs) (*all range countries and other relevant Parties to implement systems for the recording of illegal trade in Asian big cats and share information as appropriate to ensure co-ordinated investigations and enforcement*) and associated CoP Decisions, aimed at increasing regional cooperation, improving enforcement controls and procedures, reporting and compliance and encouraging use of a central trade recording database.

TRCs should submit adequate and timely reports on Asian Big Cats to the CITES Secretariat on measures taken to comply with CITES *Resolution Conf. 12.5 (Rev. CoP15)* and other relevant Decisions relevant to tigers such as Decision 14.69, and, particularly, report against the incidents of Tiger poaching and illegal trade in Tigers within their territory.

2. Online Trade

TRCs should consider addressing the illegal online trade in their respective jurisdictions, building on the proactive approach pursued by China. Findings should also be communicated to INTERPOL *via* NCBs for central monitoring and analysis.

3. Information Sharing and Analysis

At the 16th CITES Conference of the Parties (CoP), the Parties engaged in the GTRP should develop a collaborative process for reporting to both CITES under *Resolution Conf. 12.5 (Rev. CoP15)* and the GTRP. The GTRP should develop and agree on a robust and timely reporting mechanism that will also fulfil the requirements of CITES for Tigers. This should be submitted to the Standing Committee (SC) 65. This level of co-ordination would also assist in streamlining the reporting requirements for TRCs.

To facilitate wider intelligence sharing and crime prevention Tiger range countries should initiate intelligence sharing through INTERPOL Notices. Similarly, INTERPOL should consider ways in which actionable information from relevant non-governmental organizations can be utilised for enhancing law enforcement efforts against trans-boundary organized crime groups.

Software, such as i2, is proposed as a centralised monitoring system for the recording and analysis of transboundary organized Tiger trade at a regional level. i2 is a database application that contains unique collaboration and search capabilities enabling the capture, management of data and the dissemination of information in support of an intelligence-led approach. TRCs are requested to consider feeding information into a central monitoring systems. Intelligence must be used to direct resources to where trade exists;

landscape protection alone cannot control the demand for Tigers. The monitoring system will enable regular data submission on a biannual / annual basis to facilitate the following:

- Targeted law enforcement action;
- Highlighting cross-border activity and creates justification for transboundary collaboration;
- The establishment of an early warning system disseminated across Tiger range countries;
- Enable TRCs to channel information into a central database;
- Management of a database allowing for systematic data collection & analysis.

Data collection and compilation can also provide an essential counterpart to landscape-level monitoring of Tiger populations and law enforcement against anti-poaching. To facilitate wider intelligence sharing and crime prevention TRCs should initiate intelligence sharing through INTERPOL Notices.

INTERPOL to facilitate effective approaches in which actionable information from regional non- governmental organizations can be utilised to enhance law enforcement efforts against transboundary organized crime groups.

Governments should consider conducting in-depth assessments, examining the purpose of Tiger breeding facilities in their respective jurisdictions, and any connection to trade in Tigers and Tiger products.

The Tiger DNA database project, currently being developed by TRACE, should be adequately funded and resourced to continue its application to all countries in the region housing captive Tiger populations to enable testing of seizures against the database to determine their source. Furthermore, DNA-testing should be mandatory for all Tiger seizures.

4. Law Enforcement, Protection and Intelligence

As a minimum measure, park patrolling should be enhanced through the use of Spatial Monitoring and Reporting (SMART) Tools to all Tiger inhabited Protected Areas.

Each TRC to consider the implementation a national task force dedicated to addressing wildlife crime at a national level, in countries where they currently do not exist. Options for this include the National Environmental Security Task Force (NEST) advocated by INTERPOL to serve as a common platform and approach worldwide for national compliance and law enforcement responses. Similar collaborative efforts have been established in China with the formation of the Provincial Inter-Agency CITES Enforcement Coordination Groups (PICE-CG) of which there are currently 12, and the National Inter-Agency CITES Enforcement Coordination Group (NICE-CG). Malaysia and Thailand also have established national level Wildlife Enforcement Networks (WEN) comprising of various enforcement agencies, though the effectiveness of these platforms is unknown due to the lack of annual standardised monitoring mechanisms.

Both India and Nepal have central dedicated national Wildlife Crime Control Bureaus (WCCB) whose remit is to investigate wildlife crime should be considered as model structures to be adapted by other TRCs. In embracing an intelligence-led concept, each TRC may consider developing national databases to document and monitor trade, poaching and those suspects engaged therein.

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TRAFFIC, the wildlife trade monitoring network, works to ensure that trade in wild plants is not a threat to the conservation of nature.

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