



African and Asian Rhinoceroses – Status, Conservation and Trade

A report from the IUCN Species Survival Commission (IUCN/SSC) African and

Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat

pursuant to Resolution Conf. 9.14 (Rev. CoP15)*

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1. Introduction

The CITES Parties, through Resolution Conf. 9.14 (Rev. CoP15), have mandated IUCN/SSC's African Rhino Specialist Group (AfRSG), Asian Rhino Specialist Group (AsRSG) and TRAFFIC to prepare a report for the 16th meeting of the Conference of the Parties (CoP16) "on the national and continental conservation status of African and Asian rhinoceros species, trade in specimens of rhinoceros, stocks of specimens of rhinoceros and stock management, incidents of illegal killing of rhinoceroses, enforcement issues, and conservation actions and management strategies, with an evaluation of their effectiveness" and "measures by implicated states to end illegal use and consumption of rhino parts and derivatives. This report primarily deals with trends since CoP15 and constitutes fulfilment of that mandate.

2. African Rhinos

2.1 Status and trends

Continental rhino numbers were updated at the AfRSG meeting in March 2011, with estimates reflecting the population status of Africa's rhinos as of December 2010. The AfRSG should be able to provide Parties with updated statistics as of December 2012 at CITES CoP16. Despite high and increasing levels of poaching, both rhino species have continued to increase in the wild, with **white rhino** (*Ceratotherium simum*) up from 17,475 in 2007 to 20,165 and **black rhino** (*Diceros bicornis*) up from 4,230 in 2007 to 4,880 (Table 1 & Figure 1). The IUCN Red List status of the two African species remains unchanged with the white rhino *Near Threatened* and the black rhino *Critically Endangered*.

* The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

Table 1: Estimated numbers of African rhino by country as of 31 December 2010 (IUCN/SSC AfRSG)

Species Subspecies	White rhino				Black rhino				
	<i>C.s.cottoni</i>	<i>C.s.simum</i>	Total	Trend	<i>D.b.bicornis</i>	<i>D.b.michaeli</i>	<i>D.b.minor</i>	Total	Trend
	(northern)	(southern)			(south-western)	(eastern)			
Angola					1			1	?
Botswana		135	135	Up			7	7	Up
Kenya	4	361	365	Up		594		594	Up
Malawi							24	24	Up
Mozambique		6	6	Down			1	1	?
Namibia		469	469	Up	1,750			1,750	Up
South Africa		18,796	18,796	Up	171	60	1,684	1,915	Up
Swaziland		88	88	Up			17	17	Stable
Tanzania						88	25	113	Up/Down?
Uganda		9	9	Up					
Zambia		7	7	+Intro			27	27	Up+Intro
Zimbabwe		290	290	Down			431	431	Down
Totals	4	20,160	20,165	Up	1,920	740	2,220	4,880	Up

(With exception of northern white rhino subspecies, Continental totals rounded to nearest 5)

The majority of Africa's (black and white) rhinos (98.3 %) continue to be conserved by four range States: South Africa, Namibia, Kenya and Zimbabwe (Table 1). Botswana, Tanzania and Swaziland each conserve over 100 rhinos with smaller numbers in Zambia, Malawi, Uganda, Mozambique and Angola.

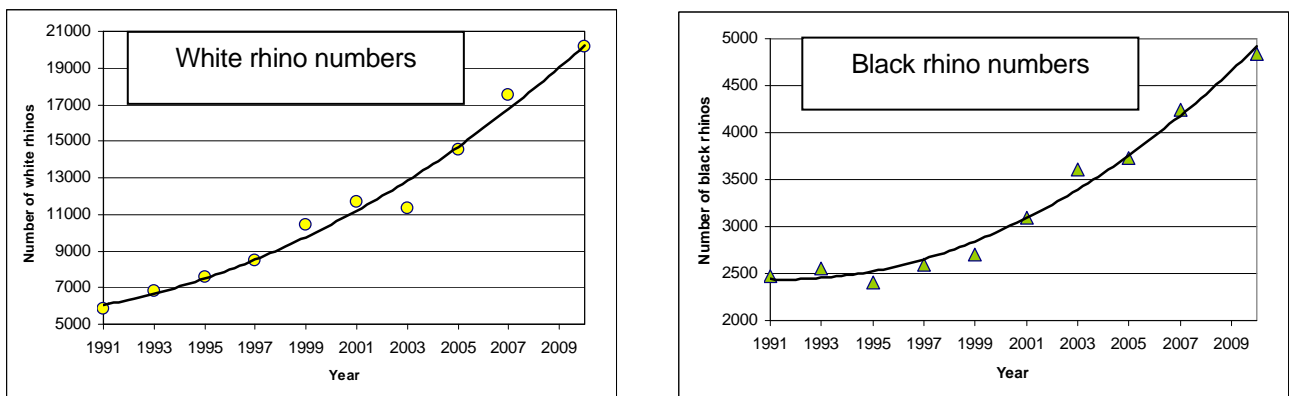
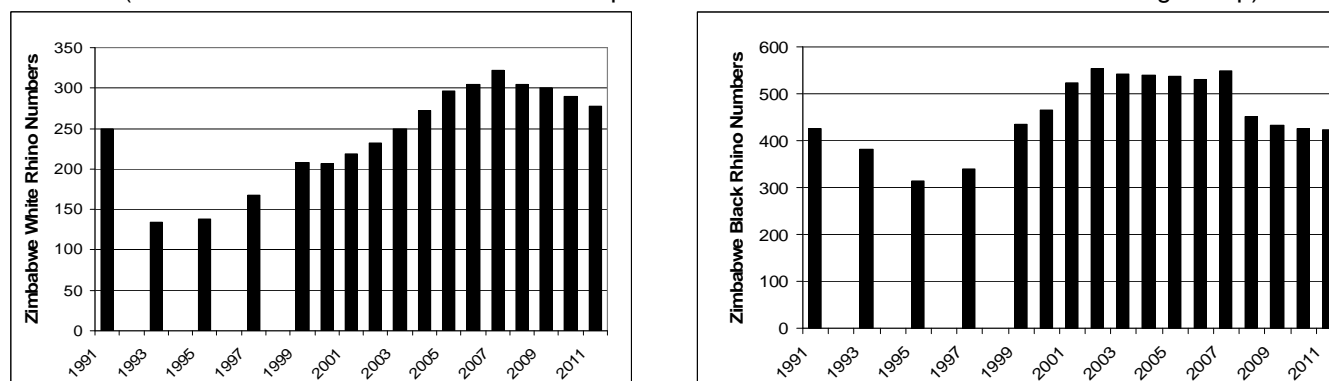


Figure 1: Changes in numbers of white and black rhino in Africa 1991-2010 (IUCN/SSC AfRSG data)

Since 1991 white rhino numbers in Africa have increased by an average of 6.8 % per annum (Figure 1). South Africa remains the major white rhino range State conserving 18,800 individuals (93.2 %). Total white rhino numbers in other range States have also increased, reaching a total of 1,370 by the end of 2010 with Namibia and Kenya accounting for over 300 each. White rhino numbers in Zimbabwe have declined 19 % since 2007 with numbers dropping below 300 (Figure 2), primarily due to declines in some State run reserves negating increases elsewhere. Numbers in Botswana, Swaziland and Uganda continue to grow and a small number of white rhinos have been introduced (out of historical range) to a location in Zambia. While all four northern white rhino translocated to Kenya from Dvur Kralove Zoo in the Czech Republic have mated, there are no confirmed pregnancies yet.

Figure 2: White and black rhino population trends in Zimbabwe 1991-2011
(IUCN/SSC AfRSG data and Zimbabwe report to CITES Secretariat/ CITES Rhino Working Group)



Since black rhino numbers reached their nadir at 2,410 in 1995, numbers in the wild have doubled to 4,880 (an average annual increase of 4.8 %). Updated subspecies totals in 2010 were 2,200 *D. b. minor*, 1,920 *D. b. bicornis* and 740 *D. b. michaeli* distributed across 11 countries in Africa (Table 1).

At the end of 2010 there were an estimated 121 AfRSG-rated **Key** and **Important** populations of conservation significance (based on population sizes and trends Emslie *et al.*, 2007) in Africa, conserving 85.5 % and 83.1 % of the continent's white and black rhino respectively. This is down from 133 in 2007, due to heavy poaching in and translocations from some previously rated populations. This represents the first decline in the number of AfRSG-rated populations since the system was started in 1995.

In IUCN/TRAFFIC's CoP15 report, Zimbabwe was the only one of the four major rhino range States where poaching had reached sufficient levels to reduce overall rhino numbers, with black rhino numbers declining by almost a quarter from 558 to 424 between 2007 and 2009. However, following a significant reduction in poaching since it peaked in 2008, Zimbabwe's black rhino numbers have stabilised at around 425-430 with the lowveld continuing to be the rhino stronghold.

2.2 Poaching and Illegal Killing

From 2006 through September 2012, a minimum of 1,997 rhino were reportedly poached in 11 of the 12 rhino range States in Africa – only Uganda had no poaching incidents. Data for Tanzania could be incomplete and therefore poaching might be higher than indicated in Table 2. Since 2006, 91.2 % of all reported poaching deaths in Africa have occurred in Zimbabwe and South Africa (Table 2 and Figure 3); with Kenya and Mozambique accounting for most of the remainder. Since CoP15 the illegal killing of rhinos has markedly escalated and the projected estimate for 2012 is expected to reach 650 rhinos, the highest level in two decades. In spite of many measures taken to deter rhino poaching and rhino horn trade, losses in South Africa continue to drive the escalating trend with record poaching deaths for the fifth straight year in a row. High prices in illegal Asian markets, criminality in the wildlife industry, government policy lapses and occasional complicity, and Asian-run criminal syndicates stand behind the continuing attrition in South Africa (Milliken and Shaw, 2012). While the majority of rhinos continue to be shot, in some cases poachers are using quieter methods to avoid detection including the use of silencers, veterinary immobilizing drugs and poison. Elsewhere in Africa, Zimbabwe and Kenya follow South Africa with the next greatest numbers of rhino losses, although rhino poaching in both countries has apparently declined in 2012. The fourth highest number poached (and highest relative level of poaching) was in Mozambique (Table 2), where the situation remains grave with virtually all known animals in areas adjacent to Kruger National Park having been poached. Most of the recent poaching in Mozambique involved rhino that have migrated into the country from Kruger Park in South Africa. Since CoP15, Botswana, Malawi and Swaziland have also recorded their first instances of rhino poaching in recent years. Only in Uganda has the small introduced population of white rhinos, under 24-hour field protection, not experienced any poaching since 2006.

Conserving 83 % of Africa's rhinos and 73 % of wild rhinos in the world, South Africa is the premier rhino range State globally. Since 2009, South Africa has continued to experience the highest absolute levels of poaching, and in 2010/11 these losses represented a 1.9 % average annual mortality against the country's historical (1992-2010) rhino population growth rate of +6.9 % per annum. Relative annual poaching levels in Kenya remain similar to South Africa, albeit at slightly higher levels (2.4 % per annum for 2010/11). This is why overall rhino numbers in South Africa and Kenya have continued to increase in spite of persistent poaching (Table 2 and Figure 4). However, if poaching were to continue to increase between +34 % to +46 % a year, as it has done in South Africa over the last two years, it is estimated that deaths could begin to exceed births as early as 2015-2016. Poaching levels have declined in Zimbabwe since 2008, but relative poaching rates for 2010 and

2011 still represented at least 6.0 % of the total population annually. In the first nine months of 2012, poaching levels have increased in South Africa to 2.7 % of the population, but encouragingly poaching has declined in both Kenya and Zimbabwe to 1.7 % and 2.4 % of the population respectively. Poaching levels remain very low in Namibia, and the country has been developing a security strategy to increase protection of its elephants and rhinos. It is projected that the *number of recorded rhinos poached in 2012 could exceed 650*.

Table 2: Minimum numbers of recorded poached rhinos in Africa, 2006 – September 2012
(Data from AfRSG, TRAFFIC and CITES Rhino Working Group)

Country	2006	2007	2008	2009	2010	2011	9/ 2012	Countr y Totals
Botswana	0	0	0	0	0	2	0	2
DR Congo	0	0	2	2	0	0	0	4
Kenya	3	1	6	21	22	25	12	90
Malawi	0	0	0	0	0	0	1	1
Mozambique	0	9	5	15	16	10	12	67
Namibia	0	0	0	2	2	1	0	5
South Africa	36	13	83	122	333	448	425	1,460
Swaziland	0	0	0	0	0	2	0	2
Tanzania	0	0	2	0	1	-	0	3
Uganda	0	0	0	0	0	-	0	0
Zambia	0	1	0	0	0	0	0	1
Zimbabwe	21	38	164	39	52	35	13	362
Total	60	62	262	201	426	523	463*	1,997

Looking at South Africa in more detail, the left hand bars in Figure 3 show that illegal killing of rhino has increased every year since 2007. This has occurred despite CITES bans on legal horn trade, increased law enforcement effort in the field (South African National Defence Force and police personnel being stationed in Kruger National Park since August 2011), increasing arrests, and a good conviction rate in cases that come to court with some significant sentences being handed down and in other cases asset forfeiture being imposed. Rhino losses continue to mount with more than 1.5 rhinos being killed each day in 2012. While Figure 3 shows that rhino poaching in South Africa levelled off for four consecutive quarters from October 2010 through September 2011 the upward trend in poaching has subsequently continued. The impact of a protracted strike by field rangers in Kruger National Park in early 2012 on poaching levels remains unclear, but intelligence has indicated that some Mozambican poachers were aware and took advantage of the situation. It is difficult conclusively to determine the causes behind short-term fluctuations in rates of poaching in South Africa and other countries without undertaking a full analysis of the key drivers that operate along the entire rhino horn trade chain. However the decision to prevent nationals of Viet Nam from obtaining hunting licenses, and changes to the law requiring a law enforcement official to attend every hunt, and to require prospective hunters to demonstrate their *bona fides* (i.e. they are genuine sport hunters) appears to have significantly constricted the illicit rhino horn supply from pseudo-hunting; and this might have resulted in shifts to other sources of horn such as poaching (the largest source of illegal horn), illegal dehorning, or thefts. However other factors that are completely unrelated to South Africa's policy decisions and legislative and law enforcement changes (such as increasing corruption, the emergence of new markets or the escalation in existing demand, etc.) could be behind these increases.

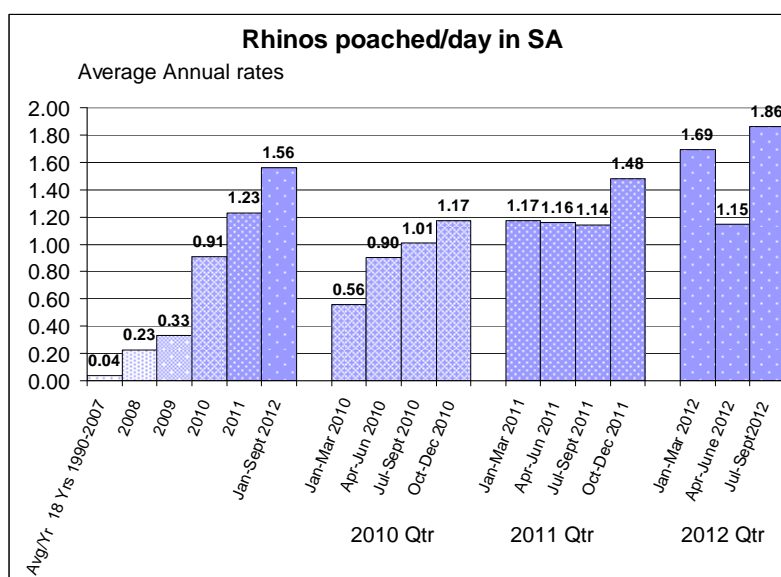


Figure 3: Rhino poaching per day in South Africa by year and by quarter since January 2010
(South African National Wildlife Crime Reaction Unit and Department of Environmental Affairs)

2.3 Trade

Since CoP14, TRAFFIC and IUCN's AfRSG have documented a steady increase in the volume of rhino horns illegally leaving the African continent (Milledge, 2007; Milliken *et al.*, 2009). In terms of trade routes and dynamics, illegal killing has centred upon southern Africa, while the principal end-use market has been Viet Nam. At CoP15, the Parties adopted Decision 15.71 calling for the CITES Secretariat to “*examine the implementation of Resolution Conf. 9.14 (Rev. CoP15) in those range States where illegal killing of rhinoceros poses a significant threat to populations of rhinoceros, particularly Zimbabwe and South Africa*” and to “*examine progress with regards to curtailing illegal trade in rhinoceros parts and derivatives by implicated States, particularly Viet Nam.*” Since then, rhino poaching and illegal horn trade have continued to escalate to the highest levels recorded in over 20 years.

The collective loss of horns from poaching, thefts from natural mortalities, government stocks and especially museums and private collections, suspected abuse of legal trophy hunting, and illegal private sector sales suggest that criminals have attempted to move over a minimum of 4,286 rhino horns into illegal trade over the last 45 months including September 2012 (Table 3). This suggests that criminal activity has involved an estimated mean of 95 rhino horns each month during this period, which is nearly three times the 34 rhino horns that were estimated to be moving into trade each month in the 45-month period from 2006 to September 2009 (Milliken *et al.*, 2009). Using appropriate average weights for black and white rhino horn given in Pienaar *et al.* (1991), and assuming that 85 % of horn exports (apart from pseudo-hunting) were white rhino horn, in the region of 12.6 tonnes of rhino horn were sourced in Africa for illegal Asian markets between 2009 to September 2012.

Table 3: Estimated number of rhino horns going to illegal markets in Asia from Africa, 2009 to September 2012 (TRAFFIC, IUCN/SSC AfRSG)

Description of source or recovery of horns	Number of horns
Source of horns to illegal markets	
Horns taken from poached rhinos	3,226
Horns stolen from natural mortalities (estimate)	36
<i>Thefts from government stockpiles</i>	10
<i>Other thefts in Africa</i>	44
Horns illegally sold from private stocks (estimate)	250
White rhino horns obtained from legal trophy hunts (estimate)	720
Subtotal:	4,286

Description of source or recovery of horns	Number of horns
<i>Recovery of illegally obtained horns by government enforcement agencies</i>	
Confiscations/seizures in Africa	213
Recoveries in the field of horns from illegally killed rhino (estimate)	10
Subtotal:	223
Balance of horns leaving Africa en route to illegal trade in Asia	4,063

South Africa remains the principal source of rhino horn for the illicit trade. In the wake of scaled-up law enforcement actions against rhino crime in South Africa, neighbouring Mozambique appears to be emerging as a highly important entrepôt and transit country as well as the source of many of the poachers operating in South Africa constituting the highest number of foreign national arrests. An increasing number of rhino horns are believed to be moving out of Mozambican exit ports, including the international airport in Maputo, with horns then moving on to airports in Kenya (Nairobi), Ethiopia (Addis Ababa) and Mauritius for onward export to Asia. Despite inadequate legislation in Mozambique having been identified as a serious issue as far back as CoP14, rhino poaching and trading in horn is still only treated as a misdemeanour and not a criminal offence. In terms of final destinations, Viet Nam continues to be identified as the leading country of import, but Chinese involvement in the trade has increased as evidenced by the number of seizures in that country (including Hong Kong SAR) since CoP15 (Table 4).

Although the Viet Nam government has reported to the CITES Secretariat and Rhino Working Group in September 2012 that “*rhino horns are neither commonly nor widely used in Viet Nam as mentioned by a couple of NGOs*”, the evidence overwhelmingly suggests otherwise. South Africa’s data on rhino hunting applications and exports of hunting trophies all point to Viet Nam as the leading country involved in the trade (Figure 5). The recruitment of sport hunters in the Czech Republic and Poland to obtain rhino horns in South Africa on behalf of Vietnamese operatives is further evidence. Seizure data in South Africa also implicates Viet Nam: of 43 documented arrests of Asian nationals for rhino crimes in South Africa, 24 were Vietnamese (56 %), 13 were Chinese (28 %), with the remainder from Thailand and Malaysia (Milliken and Shaw, 2012); Vietnamese nationals have also been arrested in Mozambique with rhino horns. Law enforcement data in the US also overwhelmingly implicates Viet Nam as the primary destination for rhino horns sourced in North America. Viet Nam also appears to be the only country in the world where rhino horn paraphernalia (bowls with serrated surfaces for grinding) to facilitate home medication are widely available and where fake rhino horns are commonly found in the marketplace, the offer for sale of which is not apparently a criminal offense under the country’s wildlife trade law.

In addition to Viet Nam, China also appears to be emerging as a country of concern on the basis of Asian seizure data (Table 4), the large number of European export permits issued in the recent past to move auctioned rhino horns and antique libation cups to China (G. Jeldon, pers. comm. to T. Milliken) and the large number of live white rhino that were imported to China apparently by a private company interested in the production of rhino horn medicines (Beech and Parry, 2011; Nowell, 2012). For these reasons, the rhino horn trade in China is more active than previously recognized and needs to be assessed more deeply.

Beyond Africa, thefts of displayed rhino horns throughout Europe have increased, with further reports coming from the United States and even Argentina. Data based largely on EUROPOL reports indicate that since 2009, 94 rhino horns (82 in 2011) have been stolen, including 12 imitation horns, and five rhino horn carvings or libation cups. These thefts represent highly organized criminal activity systematically targeting museums, antique dealers, auction houses, taxidermists and private collectors. The marked increase in thefts (which until recently were very rare) has coincided with the escalation of poaching in Africa. Museum taxidermy specimens have also often been destroyed or damaged in the process of removing rhino horns. In total, these data represent 80 different thefts in 18 countries worldwide. Strengthening the issuance of export permits for rhino horns from Europe has coincided with significantly fewer horns being stolen in the first half of 2012. Interestingly, in two separate events, China seized rhino horns coming from Denmark and the Netherlands within months of horn thefts from the Zoological Museum in Copenhagen and the Museum of Natural History in Rotterdam (EUROPOL data). Whether these seizures can be linked to these particular thefts needs to be determined but rhino horn entering illicit trade from either of these European countries is not typical. Rhino horn thefts on this scale attest to the globalized nature of the current rhino horn trade and present a severe challenge to law enforcement. In addition, law enforcement investigations in the US suggest that at least

another 160 rhino horns were illegally sourced and allegedly exported mainly to Viet Nam but also China since CoP15 in 2010 (USFWS, pers. comm. to T. Milliken).

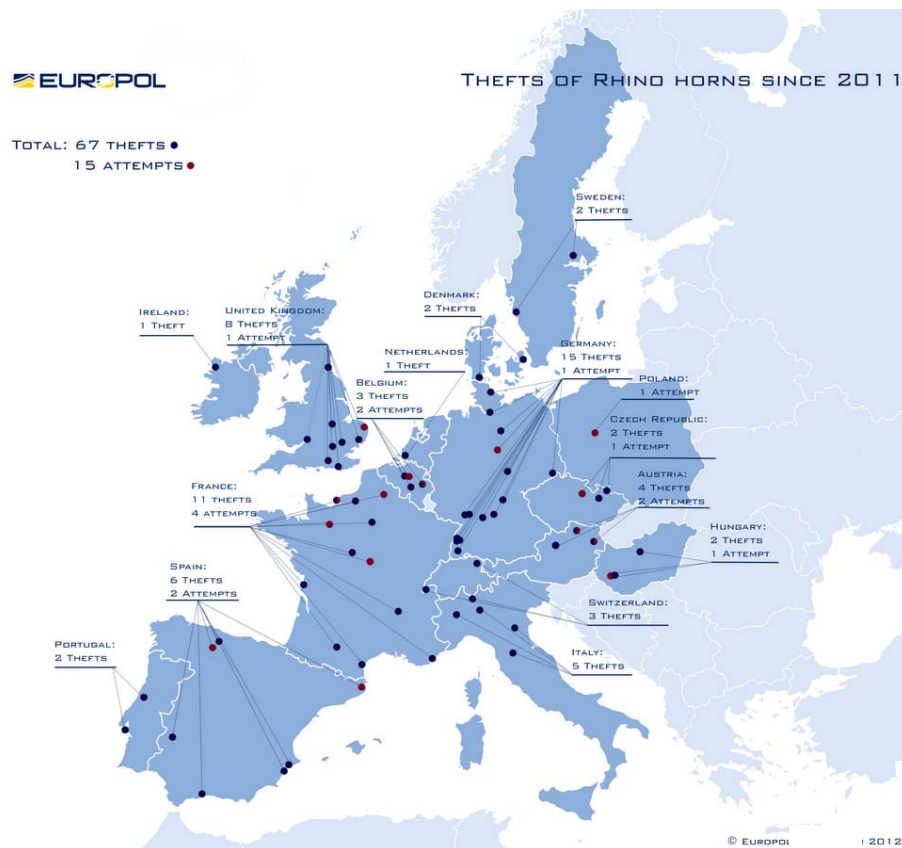


Figure 4: Thefts and attempted thefts of rhino horns in Europe since 2011 (EUROPOL)

Rhino horn seizure data for China (including Hong Kong SAR), Viet Nam and Thailand indicate that, in 38 separate incidents, approximately 98 rhino horns, weighing an estimated 227 kg, have been seized between January 2009 and September 2012 (Table 4). China accounted for nearly 80 % of the reported seizures in Asia, accounting for two-thirds of the estimated number and weight of horns seized since 2009. Further, the data suggest that China is steadily becoming more prominent as a destination for illegal rhino horn shipments, although evidence of cross-border trade between China and Viet Nam is restricted to only two separate events, in which China seized three rhino horns coming from Viet Nam. Although Viet Nam is believed to be the world's leading consumer country, in terms of seizures it ranks second to China, suggesting a much poorer level of law enforcement. Further, Viet Nam recently provided penalties given for rhino crime offences, the majority of which appeared to be unspecified "administrative fines", with jail sentences never apparently being imposed. Thailand has made only two seizures during this period, but it is not known whether the rhino horns were for local consumption or re-export to other Asian markets.

Table 4: Rhino horn seizures in Asia, January 2009 – September 2012
 (Data from ETIS; China Ecomessage report; Viet Nam CITES Management Authority to CITES Rhino Working Group, September 2012; TRAFFIC)

Year	China (including Hong Kong SAR)			Viet Nam			Thailand		
	Number of rhino horn seizures	Estimated number of rhino horns	Estimated weight (kg) of rhino horns	Number of rhino horn seizures	Estimated number of rhino horns	Estimated weight (kg) of rhino horns	Number of rhino horn seizures	Estimated number of rhino horns	Estimated weight (kg) of rhino horns
2009	3	5	4.90	3	15	37.10	-	-	-
2010	10	12	22.46	-	-	-	1	1	1.33
2011	14	49	123.47	2	4	11.76	1	3	2.7
2012	3	1	1.10	1	8	22.00	-	-	-
Total	30	67	151.93	6	27	70.86	2	4	4.03

An estimated 4,063 rhino horns, (approximately 12 tonnes), are believed to have been illegally exported from Africa between 2009 through September 2012 (Table 3). Seizure data (Table 4) indicate that 2.3 % of the potential illegal rhino horns landed in Asia are being detected and seized by Asian law enforcement authorities. This very low rate of interdiction calls for far more attention to be placed on detecting and seizing illicit rhino horn trade in the region. In Africa, ongoing recoveries of horn from law enforcement actions have yielded at least 223 rhino horns, representing an interdiction rate of 5.2 %. This is far lower than recent recovery rates which have steadily declined since 2001 when 68 % of horns were recovered through law enforcement actions (Milliken *et. al.* 2009). The drop in law enforcement effectiveness has coincided with increasing involvement of organised criminal syndicates with rapid, highly adaptable distribution channels in place.

The trade in live rhinos was highlighted in the IUCN/TRAFFIC CoP15 report with China's acquisition of large numbers of live rhinos from South Africa requiring clarification. Since then, it has been reported that most of these rhinos were to be used as part of an undisclosed commercial rhino farming venture of a private pharmaceutical company for the future production of rhino horn medicine for domestic consumption (Beech and Perry, 2011). UNEP-WCMC CITES data indicate that live sales between South Africa and China have continued. In 2009 and 2010, South Africa reportedly exported 52 live rhinos to China, whilst China reports receiving 42 animals. Viet Nam and Myanmar each received six live white rhino from South Africa. Since 2011, South Africa's policy has been to consult the World Association of Zoos and Aquaria (WAZA) to determine appropriate destinations for export. Regardless, current numbers and the status of live rhinos that have been legally exported to Asian countries that have traditionally used rhino horn as medicine is not known as there is no formal reporting procedure to track these animals following importation or any horn stockpiles resulting from mortalities. While it is now a legal requirement in South Africa for any rhino moved to be DNA sampled, this was not done for most of the live rhino previously exported to Asia.

Vietnamese nationals have continued to be active participants in the sport hunting of white rhino in South Africa since 2003. Overall Vietnamese citizens have hunted more than 400 rhino legally on privately-owned properties throughout the country over the last nine years (Milliken and Shaw, 2012). Serious discrepancies between the rhino horn trophy export data from South Africa and the import data of Viet Nam previously noted in the IUCN/TRAFFIC CoP15 report have continued with only about a quarter of legally exported rhino horn trophies from South Africa being declared at the point of importation in Viet Nam (Table 5). Milliken and Shaw (2012) stated:

The failure to adequately account for legal rhino horn trophies is a serious issue and serves to foster a legal channel of trade into an otherwise illegal market for rhino horn. Under the CITES provisions that govern the export of C. s. simum white rhino trophies, legitimate rhino horn trophies are not eligible for commercial trade and are to remain non-commercial "personal effects" in perpetuity. To be effective, however, this condition requires the government of Viet Nam to account for such trophies at the point of importation and, thereafter, have a mechanism to monitor their ownership once they are within their country.

Table 5: South Africa's reported exports of rhino horn contrasted with Viet Nam's reported imports of rhino horn, 2006-2009 (CITES annual report data; data presented to CAWT meeting, September 2011; data from Viet Nam CITES Management Authority to CITES Rhino Working Group, September 2012)

Year	No. of rhino horns exported from South Africa to Viet Nam (CITES Annual Report Data)	No. of rhino horns imported by Viet Nam from South Africa (CITES Annual Report Data)	No. of rhino horns imported by Viet Nam from South Africa (Viet Nam CAWT presentation, September 2011)	No. of rhino horns imported by Viet Nam from South Africa (Viet Nam letter to CITES Rhino Working Group, September 2012)
2006	98	12	8	12
2007	146	26	42	42
2008	96	60	22	18
2009	136	26	14	14
2010	131	30	20	16
2011	-	-	24	32
08/2012	-	-	-	36
Total	607	154	130	170

'Trophies' counted as two horns.

Viet Nam's September 2012 report to the CITES Secretariat for consideration by the CITES Rhino Working Group indicates that the country has no legal provisions governing what happens to privately possessed rhino horn trophies that were legally imported. The results of 40 "random checks" of such trophies showed potential for illegal trade in 82.3 % of the cases examined (33 out of 40 cases), including the 27.5 % (11 hunters) who were not available and nothing is known about the status of their horns. In only 17.5 % of the cases could it be confirmed that the horns imported were still in an unadulterated form (7 out of 40). The report states that horns are being crafted into lamps, candle stick holders, bowls and cups, but there is no indication of how the shavings, powder and other waste material resulting from the manufacturing process is disposed of, allowing another potential avenue of illicit trade.

For Viet Nam, the number of horns imported has varied with CITES Annual Report data, information presented by Viet Nam to a September 2011 Coalition Against Wildlife Trafficking (CAWT) meeting, or Viet Nam's letter to the CITES Rhino Working Group in September 2012 showing different figures. CITES annual report data also indicate that, from 2009-2011, South Africa exported 34 rhino horns to China, Thailand and Laos as hunting trophies, of which only six were reported as imports. During the same period, the Czech Republic and Poland also reported receiving 20 and 28 rhino horns from South Africa, respectively. The Czech Environmental Inspectorate has subsequently confirmed that *"the horns are imported as hunting trophies but the purpose of the import is ... delivery to the Vietnamese market"*. Vietnamese based in the Czech Republic were reportedly behind the recruitment of individuals to hunt rhino in South Africa and bring the trophies back to Europe for onward trade to Asia (Rihova, 2012). Similar suspicions were raised concerning the sudden entry of Polish hunters into the South Africa rhino hunting trade.

Criminal syndicates quickly adapted to changes in South Africa's law restricting hunting to one rhino per person per year by recruiting individuals to pose as hunters. In some cases Professional Hunters in South Africa, rather than the "hunter" listed on the permit, illegally shot the rhino, which is a violation of the country's hunting laws. In February 2012, South Africa's National Department of Environmental Affairs recommended that provinces not issue hunting permits to Vietnamese citizens until Viet Nam had satisfactorily reported back on the status of previously exported hunting trophies to demonstrate that an effective national control system was in place. This was followed in April 2012 with the publication of revised laws for marking rhinos and rhino horn, and for trophy hunting of rhino. Compulsory attendance by a provincial official at all hunts, and hunting CVs from applicants which demonstrate membership in a bona fide hunting organisation in their country of origin together with details of their African hunting experience are now required before permits can be granted. DNA sampling of horns is also mandatory. In April 2012, the Minister formally suspended the issuance of hunting permits to Vietnamese citizens. These measures have led to a marked decline in rhino hunting applications by citizens from Southeast Asia, the Czech Republic and Poland (Figure 6). According to South Africa's Department of Environmental Affairs (DEA), there has been a significant reduction in rhino hunting applications

in 2012 compared to 2011; and as of September 2012 there had not been a single white rhino hunting permit application by a resident of Viet Nam, China or Thailand since the measures were implemented.

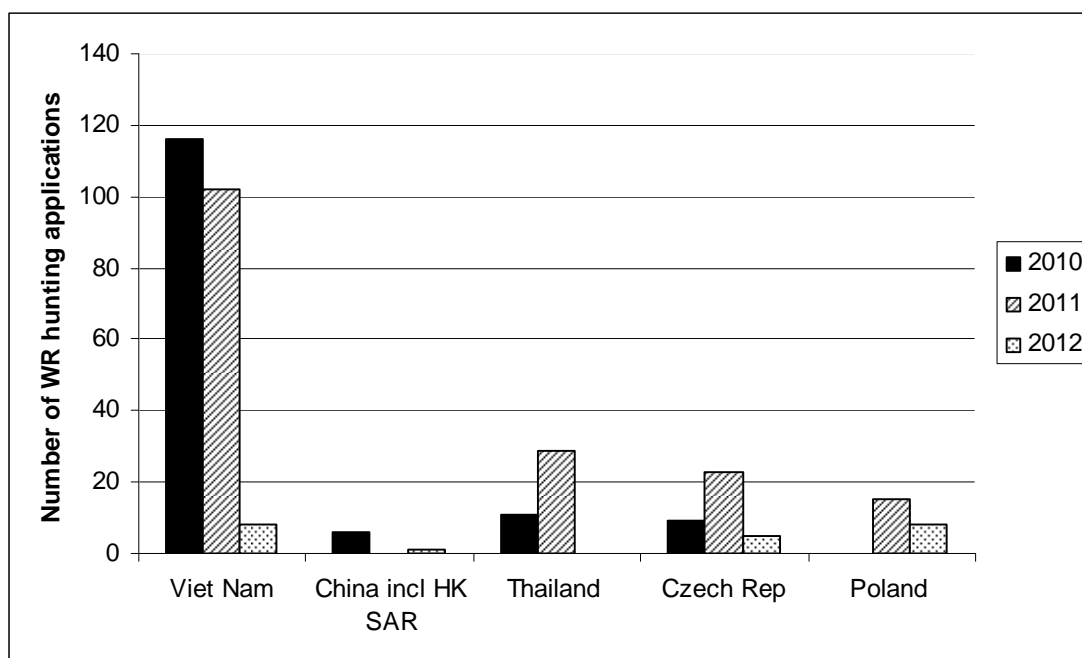


Figure 5: Data on rhino hunting applications in South Africa from key countries
(Data from South Africa's Department of Environmental Affairs)

Sport hunting prices escalated once pseudo-hunting commenced, pricing many hunters from traditional hunting countries out of the market. The recorded average number of white rhinos hunted each year in South Africa over the period 2007 through 2010 was 116, with Asian hunters predominating. Prior to this development, 35-70 white rhino had been hunted each year. With the clampdown on pseudo-hunting, it is expected that the number and price of rhino hunts will decline and hunters from traditional rhino hunting countries, such as the US, Germany and Spain, will return as the principal clients. However, given the use of proxy hunters from the Czech Republic and Poland to acquire rhino horns for Asian markets in 2011, there remains a continued need to be vigilant in ensuring that only bona fide hunters are granted permits.

Legal internal trade in live rhinos in South Africa is also being undermined. Although private rhino owners in South Africa conserve more rhinos than there are in the rest of Africa, the escalation in poaching has significantly increased security costs and risks to rhinos and staff. This has led to a decline in live rhino sale prices from 2008 through 2011, with an estimated decline of USD63 million in the value of the country's white rhino. In 2012, white rhino live sales are expected to decline further, but exports to Namibia's private sector are increasing and may provide some respite. At the same time, the number of private rhino owners in South Africa disinvesting in rhinos has increased. There is concern that the move away from rhino ownership may ultimately threaten the biological management of white rhinos, as the private sector greatly contributed to the rapid increase in numbers in the past. The escalating poaching threat combined with declining financial incentives threatens to curtail and may ultimately reverse the expansion of rhino range and numbers in South Africa. Reduced live sales may also seriously affect conservation budgets of both state agencies and private sector owners at the very time increased resources are needed to support rhino protection.

2.4 Major conservation actions and field activities

The overall increase in rhino numbers since 1995 (Figure 1) is the result of protracted investment in field conservation efforts, including protection, monitoring and translocations, to maintain productivity of established populations and to create additional populations with good growth prospects. Many rhinos today occur in fenced sanctuaries and intensive protection zones where law enforcement effort can be effectively concentrated.

In Zimbabwe, in response to poaching, disturbance and land pressure issues in some areas, vulnerable rhinos have been caught and taken to locations that are considered safer. Despite declining poaching losses in Zimbabwe, rhino numbers in the country have continued to decline since CoP15 in 2010. The recent re-allocation of hunting concessions to new partners in the Save Valley Conservancy, a rhino stronghold in the

country, could pose additional economic threats if the funding available for monitoring and anti-poaching efforts operations is reduced as a result.

In South Africa, there have been a number of initiatives since CoP14 in 2007 to deal with the escalating poaching challenge. Measures taken include increased numbers of personnel (rangers, army and police) in selected locations such as Kruger National Park; the formation of an interim National Wildlife Crime Reaction Unit bringing together wildlife investigators, police dealing with organized crime, the national prosecuting authority, revenue services, army and the asset forfeiture unit; the elevation of rhino crime to be a top priority crime; increased intelligence gathering; appointment of experienced advocates to prosecute cases; and regular use of DNA evidence. These efforts have led to increasing number of arrests, convictions with significant custodial sentences, and the imposition of significant asset forfeitures and additional fines. With support from the CITES Secretariat, the Governing Council of the Global Environment Facility (GEF) has indicated the possibility of making a \$2.7 million grant towards strengthening the current wildlife forensic capabilities in South Africa and South Africa is busy developing a proposal.

The RhODIS™ rhino DNA database developed and run from South Africa's University of Pretoria's Veterinary Genetics Lab (VGL) continues to expand and DNA analyses are increasingly being used in criminal investigations and prosecutions. A total of 12,000+ samples from 5,600 rhino have been collected and submitted to the VGL. Since April 2012, South Africa legally requires horn stockpiles and trophies to be DNA-sampled, as well as all animals that are immobilised in management operations. Special collection kits have been developed to ensure that the chain of evidence is maintained. There are plans for a similar system to be developed for Asian rhinos. A motion passed at the recent IUCN World Conservation Congress called upon African range States to expand further the use of DNA profiling of horns (using the RhODIS) as an innovative means of combating the illegal killing of rhinos and the trafficking of horn.

In Kenya, measures taken have included increasing numbers of rhino rangers; the conversion of rhino scouts on private rhino lands into Kenya Police Reservists; the enhanced use of sniffer, tracker and search dogs at the ports of entry/exit; and the relocation of rhinos from high-risk areas. Intelligence networks have also been strengthened.

2.5 Management plans and strategies

Botswana, Kenya, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe all have national rhino strategies that were mostly developed following stakeholder workshops and generally employ a logical framework approach using recommended conservation strategies for African rhinos. These plans are reviewed every 5-10 years. Since CoP15 in 2010, Kenya and Tanzania have completed revisions of their rhino strategies; a revised South African black rhino biodiversity management plan awaits the Minister's approval, and a South Africa white rhino plan has been drafted; a revised Zimbabwean plan has been completed, but its publication is awaiting final approval from the Minister of Environment. A draft revised Botswana plan is also apparently nearing finalisation and official approval. Rhino conservation strategies are only as good as the degree to which they are implemented on the ground and insufficient coordination and implementation remains a concern in some countries, particularly Tanzania. Further, the lack of a conservation plan for rhino in Malawi remains a serious concern.

At the global level, the rhino motion (M026) passed at the September 2012 IUCN World Conservation Congress in Jeju, South Korea encouraged "*range States to maintain enabling land-use and investment policies together with support for appropriate and well-managed, sustainable, income-generating options that encourage investment in rhinos, sustainable populations and which help fund effective conservation*". The IUCN motion also provided recommendations addressing poaching, monitoring and management issues to support rhino population growth. The motion has now been formalized as IUCN Recommendation #138 which can be viewed here (<http://portals.iucn.org/docs/iucnpolicy/2012-recommendations/en/WCC-2012-Rec-138-EN%20Conservation%20of%20rhinoceros%20species%20in%20Africa%20and%20Asia.pdf>).

2.6 Coordination and implementation mechanisms

Rhino range States promote Africa-wide coordination through membership in the IUCN/SSC AfRSG. Regional coordination occurs through various forums and groups, including the Southern African Development Community's Rhino Management Group (SADC-RMG) and the Rhino and Elephant Security Group/Interpol Environmental Crime Working Group, which benefit from regular meetings. The East African Community Rhino Management Group (EAC-RMG) has also been formed to consolidate rhino conservation efforts in that region but differing views on wildlife management seemingly prevent close collaboration.

There has been a noticeable increase in public engagement on rhino issues in South Africa during 2012 including a South African Parliamentary Portfolio Committee meeting in January, and the start of a major National Rhino Dialogue process under a Rhino Issues Manager. The latter process has included seven consultative meetings on a range of rhino issues and a report is being prepared for the Minister with recommendations. A government-commissioned study on dehorning as a means to protect rhinos has been completed, and another commissioned feasibility study assessing the lifting of the national moratorium on horn sales is at the final review stage. In addition, an expert workshop was held to evaluate the risks and benefits of alternative management strategies. Civil society, including the media, is also playing an increasingly prominent role in awareness and funding-raising for anti-poaching activities.

2.7 Rhino horn stocks

Within Africa, rhino horn stocks grew from a reported 19,850 kg in 2006 to 21,078 kg in 2007. At the 2011 IUCN/SSC AfRSG meeting, eight rhino range States provided information on rhino horn stockpiles, which combined with previous estimates from Botswana, totalled nearly 23,700 kg. Updated data, however, were not provided by Botswana, Tanzania, Mozambique and Angola. At CITES CoP15 in 2010, another 5,219 kg of rhino horns was reportedly held by five other CITES Parties. Estimates of continental stockpiles will be updated at the next IUCN/SSC AfRSG meeting in February 2013.

2.8 Legislation and prosecutions

Many African rhino range States have mandated jail terms and fines to serve as a deterrent to rhino crime. Prescribed fines with maximum amounts, however, often lose their value after a few years due to inflation. With the rapid increase in black market prices, mandated maximum fines also now often bear little relation to the value of rhino crimes to organised criminal syndicates, and may be acting to incentivise criminals. For example, maximum fines in Kenya are currently only USD500 and bear no relation to the economic value of the crime, but moves to significantly increase financial penalties are well advanced. It is important that, whenever possible, rhino criminals are prosecuted using a combination of laws which carry the highest penalties. Given that even fines of USD125,000 represent only a small tax on syndicate turnover, it is important that prosecutors wherever possible seek custodial sentences (possibly with additional fines and asset forfeitures) rather than just fines whenever possible.

Resolution Conf. 9.14 (revCoP15) calls upon range States “to be vigilant in their law enforcement efforts including ... the application of appropriate penalties to act as effective deterrent”. As previously reported, there is a need for some countries, especially Mozambique (where rhino poaching and horn dealing are still only misdemeanours and not criminal offences), to revise their legislation to introduce penalties that act as a deterrent. Proposed changes to Mozambique’s legislation have not yet been approved by the Council of Ministers. In Zimbabwe, a recommendation for minimum sentences has been submitted to the Attorney-General’s office for consideration and revision of the low penalties in Kenya is also under consideration.

In South Africa, the number of rhino-related arrests and convictions with deterrent custodial sentences without the option of a fine has increased. A number of jail terms of 6-12 years have been handed down, whilst a Thai national was sentenced to 40 years imprisonment, a Vietnamese citizen to 25 years and South African and Mozambican poachers to 29 years each. However, most arrests concern lower level operatives, whilst the leadership of syndicates generally evade arrest. The increased use of asset forfeiture and multiple charges suggests that rhino crimes will not be tolerated, including one case where the accused face 1,872 charges and have had some USD6.7 million of their assets secured prior to finalisation of the case. In another case, a person convicted of un-permitted dehorning and illegally trying to sell horn from dehorning (i.e. no rhinos were poached) was sentenced to eight years, plus a fine of USD125,000 to go to the Environmental Management Inspectorate as well as forfeiting an additional USD1.39 million worth of assets. The use of asset forfeiture and charging the accused under a suite of laws is a strategy that other range states may wish to consider.

3. Asian rhinos

3.1 Status and trends since CoP15

Current estimates of Asian rhino species by range State are summarized in Table 6 based on information being collated and maintained by the IUCN/SSC AsRSG.

Table 6: Estimate of Asian rhino numbers by country, species and subspecies with trends since CoP15 report (IUCN/SSC AsRSG June 2012).

Species	Greater One Horned		Lesser One Horned				Sumatran			
	<i>R.unicornis</i>	Trend	<i>R.s.sondaicus..</i>	<i>R.s.annsmiticus</i>	Total	Trend	<i>D.s.sumatrensis</i>	<i>D.s.harrissoni</i>	Total	Trend
India	2730+	Up								
Nepal	534+	Up								
Pakistan	??	Unknown								
Indonesia			35-45		35-45	Stable	120-180		120-180	Down
Malaysia							??	20-30	20-30	Down
VietNam				Extinct	0	Extinct in 2010				
Total	3,264	Up	35-45	Extinct	35-45	Stable/Down?	120-180	20-30	140-210	Down

The **greater one-horned rhino** (*Rhinoceros unicornis*) is now distributed primarily in the eastern part of its former range and is rated Vulnerable in the IUCN red list. The most recent surveys as of June 2012 confirm numbers continue to increase, reaching 3,624, up from 2,800 in January 2007. Assam is the stronghold for the species in India with about 2,501 rhinos in four populations. The state of West Bengal in India has about 200 rhinos, with the remainder in India occurring in Uttar Pradesh. The largest population of rhino in India increased from, 2,048 in 2009 to 2,290 in 2012. Over the last 4-5 years 3-4 free ranging rhinos have also been moving in and around an area in Uttar Pradesh. Previous reports have recorded that Nepal's greater one-horned rhinos had suffered heavy poaching during a period of socio-political unrest in the country, with numbers falling by almost one-third from the 612 present in 2000. Encouragingly, surveys in 2011 found numbers in Nepal had increased to 534 from the 435 counted in the last census in 2008. As in India, the majority of rhinos in Nepal occur in one population, which has increased from 408 in 2008 to 503 in 2011.

Since CoP15 in 2010, the Indochinese subspecies of **Javan rhino** (*Rhinoceros sondaicus annsmiticus*) has gone extinct with the last individual being shot in Cat Tien National Park, Viet Nam for its horn in 2010. The **Critically Endangered Javan rhino** (*Rhinoceros sondaicus sondaicus*) is now only found in one population in a National Park in west Java, Indonesia with a population of 35-45 rhinos (based on 2011/12 camera trapping results). While there is no evidence of any Javan rhinos being poached in this park since CoP15, in the absence of active biological management to improve rhino nutrition and encourage reproduction, the population has stagnated and even declined slightly from an estimated 43-57 in 1995. The need for improved biological management is clear when one considers that had a 5 % annual net metapopulation increase (minimum metapopulation growth target for African rhino) been achieved over the same period, Javan rhino numbers would have more than doubled to 91-124 today. The current range of the Javan rhino is also vulnerable to potential volcanic activity and tsunami destruction. Thus on biological management and strategic grounds, there is an urgent need to translocate some animals out of the existing population to establish a second wild population in a sufficiently large area of suitable habitat that can be well protected and where the population has room to grow. Reducing densities in the existing, donor population should also improve dietary quality and breeding of remaining animals. Possible additional actions to increase rhino numbers in the original population could include alien plant control and a possible reduction in numbers of a potential competing herbivore,

The **Sumatran rhino** (*Dicerorhinus sumatrensis*) is currently restricted to a few isolated populations in Sabah-Malaysia and Indonesia. No confirmed records are available to indicate that any Sumatran rhino remain in Myanmar, Thailand or Cambodia. In contrast to India and Nepal and a number of African rhino range States, there has been very limited government support and funding for rhino conservation efforts in Southeast Asia. Vast areas of suitable rhino habitat have been altered for palm oil cultivation and other forms of development, leaving rhinos vulnerable to poaching. In some cases, protected areas have also suffered human encroachment and clearing. As previously reported, the status of Sumatran rhino in Peninsular Malaysia is unclear and needs confirmation. Since 2011, Malaysia's Department of National Parks and Wildlife Conservation undertook surveys of previous known rhino range in peninsular Malaysia, but no evidence of Sumatran rhino was found. Thus the species has probably gone extinct in Peninsular Malaysia: if any still survive, they are unlikely to constitute viable populations. Elsewhere in Malaysia, the current population of the Sumatran rhino subspecies *D. s. harrissoni* in Sabah on Borneo is estimated at between 20 and 30 rhinos in two areas, with another location in south-western Sabah possibly holding a few more animals. Any non-viable pockets of small numbers of rhino in Sabah need to be captured and consolidated to facilitate breeding.

The Sumatran rhino population in Indonesia *D. s. sumatrensis* is also facing challenges from habitat alteration and invasive species and total numbers in Indonesia appear to be slightly declining with around 120-180 rhinos as of June 2012 distributed in three main conservation areas (based on footprints encountered during regular anti-poaching patrols). Since the 2009 IUCN/TRAFFIC CoP15 report the clearance of encroaching settlement in one important protected area has now been completed, natural vegetation has grown back and is now

attracting Sumatran rhinos. The authorities have also initiated an eviction drive against settlement in a second national park, but some encroached areas remain and still have to be cleared.

3.2 Poaching

Sumatran rhino poaching data in the major range state of Indonesia is scarce. Since CoP15 in 2010, Rhino Protection Units working in Sumatran rhino areas have not detected any Sumatran rhino carcasses on their patrols. The failure to find any firm evidence for the continued presence of Sumatran rhino in Peninsular Malaysia over the past eight years raises the likelihood that populations from Peninsular Malaysia have been wiped out due to poaching, habitat conversion and management neglect.

While the last remaining animal of the Vietnamese subspecies of Javan rhino in Cat Tien National Park in Viet Nam has been shot since CoP15 in 2010; there is no evidence of any Javan rhinos being poached in the one remaining population in Indonesia over the last three years.

Since CoP15, greater one-horned rhino poaching in Nepal has declined, and in the last 17 months only one rhino has been poached in the country's main rhino population (which conserves 94 % of Nepal's rhinos) with no reported poaching in 2011. UNESCO has applauded the Nepalese authorities for their successful efforts to protect threatened species, particularly rhinos, since the heavy poaching that occurred during socio-political unrest in the late 2000s. From 2010 until June 2012, India lost about 40 rhino to poaching including two of the rhinos translocated to a national park in Assam. After a five-year period of no poaching in another small Assamese population, four rhino were poached in 2011-2012. These combined annual losses represent a low level of illegal off-take equivalent to 0.6 % of overall Indian numbers and the national population continues to increase. Following severe seasonal flooding, increased poaching of rhinos that moved outside the largest national park population has been reported. However compared to many African range States, poaching levels in India remain low and one can speculate that the dramatic increase in prices paid for African horn and the greater amount of horn/rhino in Africa might be reducing pressure on Asian rhino. However there is no room for complacency.

3.3 Trade

The 2009 IUCN/TRAFFIC report to CoP15, which was based upon law enforcement personnel interrogations of arrested poachers and traders, showed that the major trade route for rhino horns from South Asia was from Assam to Kathmandu in Nepal, via Siliguri or Kakarbhita, and then on to Tibetan Autonomous Region with the ultimate destination being China. Previous reports also suggested that only about one-tenth of Indian rhino horn moves to end-use destinations through the India-Myanmar border. The extent of Asian rhino horn usage and trade in consumer markets in China, Viet Nam and other east and southeast Asian countries is not well known and further work is required to assess this important issue.

3.4 Major conservation actions and field activities

Just as in Africa, the greatest successes with rhino conservation in Asia have occurred where there has been significant political will and dedicated staff commitment to undertake effective field conservation action. In India, anti-poaching and, more recently, reintroductions into former range are key components of rhino conservation. As part of the Indian Rhino Vision 2020 (IRV 2020) project, between 2008 and March 2012, a total of 18 greater one-horned rhinos were translocated from two source populations in Assam to re-establish the species in an Assamese protected area that had lost all of its rhinos during a period of socio-political unrest. The proposed next step under IRV 2020 is to re-establish another population in an Assamese wildlife sanctuary that had previously held about 70 rhinos until 1985 when all rhinos were poached during a period of local socio-political instability.

Greater one-horned rhinos in Nepal's second biggest population are being monitored using ID-based approaches to assist management. The Nepalese authorities are presently preparing a strategy on anti-poaching and illegal wildlife trade. They have also initiated trans-boundary relations with a tiger reserve in India through formal information sharing with officials and local communities. Despite the negligible poaching in Nepal recently, the regular arrest of poachers indicates that the threat posed by the illegal rhino horn trade remains. It is hoped that the strategy of heightened anti-poaching operations, together with improved management of habitat, will continue to positively impact on rhino numbers.

In Indonesia, following rapid assessment of potential areas for a second population of Javan rhino, attention has focused on an approximately 150 km² area near the existing population which has been identified as suitable for the establishment of a second population. This second population would be closely monitored and

protected, with unpalatable invasive species like *Arenga* being controlled to improve habitat for Javan rhino. Whilst the setting up of this second population is still at the planning stage, it does appear that a translocation exercise may finally occur.

Taman Negara National Park is being given the highest priority for wildlife protection by the government in Malaysia. However this appears to be a case of too little too late with no recent sightings or camera-trap photographs of Sumatran rhinos in this Park (or indeed elsewhere in Peninsular Malaysia despite surveys).

In Sabah in Malaysia, inadequate field protection and, in some places, destruction of natural habitat to make way for oil palm plantations has resulted in numbers of the rarest subspecies of Sumatran rhino (*D. s. sumatrensis*) declining to low numbers. Some of the remaining animals are now isolated in small unviable groups. In an attempt to prevent the extinction of this subspecies in the wild, the newly formed Borneo Rhino Alliance (BORA) is taking steps to strengthen Rhino Protection Units (RPU) and to increase monitoring. Wildlife authorities in Sabah have developed a small 20 ha fenced 'Borneo Rhino' area within one wildlife reserve which is being stocked with rhino translocated from unviable outlier sites to provide mating opportunities and provide better protection and monitoring.

3.5 Management plans and strategies

In 2006, the Nepalese government developed a Greater One-horned Rhinoceros Conservation Action Plan for Nepal (2006-2011) and this is now due for revision. India still does not have a national rhino strategy, as conservation is currently coordinated at the state level. There is an urgent need to develop a national plan in India to complement the efforts of state authorities in Assam, West Bengal and Uttar Pradesh. The IUCN/SSC AsRSG is negotiating with the Indian government to prepare such a plan. In Malaysia, BORA has initiated the Sabah Rhino Plan with a goal of preventing extinction of the Sumatran rhino in Sabah and rebuilding numbers to viable levels through minimizing poaching and consolidating outlier rhino populations. In Indonesia, the government has produced the Indonesian Rhino Conservation Strategy and Action Plan 2007-2017 for both Javan and Sumatran rhinos. Its value will depend on the level of implementation, but long-term goals call for increasing rhino numbers and creating a number of significant populations. Up to 30,000 km² of forest are earmarked in four to five national parks under the plan to secure the future of Sumatran rhino in Indonesia. For the Javan rhino, the immediate action plan target is to increase numbers in the wild through improved biological management and especially the creation of a second population in suitable habitat.

3.6 Coordination and implementation mechanisms

Increasing alarm for the fate of the two rarest rhinoceros species, the Javan and Sumatran rhino, and growing concern over the increased illegal hunting of rhinos and demand for rhino horn affecting all five species of rhino, prompted President Susilo Bambang Yudhoyono of Indonesia to declare 5 June 2012 as the start of the International Year of the Rhino reflecting his government's commitment to emergency actions to save the Javan and Sumatran rhinos from extinction. Proposed actions include: establishing a high-level task force of national and international experts on rhino population and habitat management; identifying the most suitable areas for establishing free-ranging rhinoceros populations; allocating sufficient resources to enforce their protection, to maximize the breeding potential of the remaining animals; and conducting regular, frequent and intensive monitoring of all rhino populations. The President took this step at the request of IUCN, other conservation organisations and 11 rhino range States in Africa and Asia, which gave their formal support for the initiative. The Year of the Rhino draws attention to the plight of rhinos and the need for increased conservation action to secure the future of all five species of rhino in Africa and Asia. It recognises that actions speak louder than words, and seeks to encourage political will and, in particular, increase field conservation action to achieve these aims. However, as of mid-September 2012, the proposed high-level Rhino Task Force has not yet been constituted. A meeting of the SSC Chair, AsRSG Chair and Indonesian delegates was held at the IUCN Congress in Jeju, South Korea in September 2012 where it was emphasised that the Indonesian Government should at the earliest opportunity convene a Rhino Task Force that will be chaired by the Indonesian Minister for Forests to catalyse implementation of field actions needed to monitor, biologically manage and protect Javan and Sumatran rhinos and their habitats. In addition, following consultation of both African and Asian rhino range States, a motion (M026) on the conservation of rhino was approved at IUCN's World Conservation Congress in September 2012 and has now been formalized as IUCN Recommendation #138 (<http://portals.iucn.org/docs/iucnpolicy/2012-recommendations/en/WCC-2012-Rec-138-EN%20Conservation%20of%20rhinoceros%20species%20in%20Africa%20and%20Asia.pdf>).

Since 2010, there has been one full meeting of the AsRSG in Assam in February 2010 and a Southeast Asia meeting of AsRSG members in March 2012.

3.7 Horn stockpiles

Despite the CITES request for data pursuant to Decision 4.88, no rhino horn stock information was made available by any Asian range States for this report. In India, based on the forest department rhino horn stock registry, more than 1,500 rhino horns have reportedly been deposited in various treasuries, with more than 90 % in Assam. There, most rhino horn stock is from recoveries from natural mortalities, but about 10 % of the horns derive from seizures. Through 2008, in West Bengal, 20 rhino horns were recovered from natural mortalities, with a further 13 horns from seizures. Rhino horn stocks in Nepal, Malaysia and Viet Nam are not known, but in Indonesia, a few horns are reportedly in government custody. Overall, there remains considerable room for improvement in the management and reporting of rhino horn stocks in Asia. The extent of rhino horn stocks in some previous horn consuming nations, including Thailand, is also unknown.

3.8 Legislation

Overall, most Asian range States provide full protection to rhino species under their wildlife legislation. Jail terms are generally high, but compared to the illegal value of horns to criminals, fines in both India and Nepal remain extremely low. Convictions are few and sentences are often lenient. Capturing rhino poachers and traders, and collecting sufficient evidence for successful convictions, has proved to be very challenging. As part of attempts to counter the lucrative illegal wildlife trade, in September 2010, the President of India amended the 2009 Wildlife Protection (Assam Amendment) Act to increase sentences for offenders in the state of Assam. The minimum term for imprisonment of convicted offenders was increased from three to seven years in jail, whilst a second conviction leads to ten years in jail. Fines have also been increased to from USD190 to USD950. A third-time offender now stands to get life imprisonment with a USD1,400 fine. While these increased fines may represent a significant amount to a poor rural subsistence farmer, they bear no relation to the economic value of rhino crimes to organised criminals. The Assamese government has also provided immunity to all forest officers under Code of Criminal Procedure (CrPC) 1973. This gazetted notification enables forest officials to exercise their duties with more legal teeth and support. These Assamese initiatives are likely to be copied by other states in India to strengthen efforts to combat wildlife crime. In Nepal, stiff penalties for poaching continue to be applied. In December 2006, four rhino horn smugglers were sentenced to 14 years imprisonment and fined USD1,360 each.

4. Measures by implicated states to end illegal use and consumption of rhino parts and derivatives

In CITES Decision 15.71, Viet Nam was identified as an “implicated State” in terms of “illegal trade in rhinoceros parts and derivatives”. Pursuant to the CITES Notification to the Parties 2012/14 and a request from the CITES Rhino Working Group outlined in SC62 Inf. 13, the government of Viet Nam provided a report to the CITES Secretariat on various issues related to the trade in rhino horn. In terms of measures taken to reduce illegal trade in rhino horn, Viet Nam noted the need to improve passenger and cargo controls on traffic from Africa; to enhance cross-sectoral cooperation in the domestic market; to hold workshops and training on rhino horn trade issues for enforcement agencies; to sign and implement a Memorandum of Understanding on Biodiversity Conservation and Protection between Viet Nam and South Africa; to raise public awareness through information presented on government websites; to monitor live captive rhinos in the country’s zoos; to improve management of rhino horn trophies; and to conduct investigations and market surveys on rhino horn trade in domestic markets and over the internet. It is not clear, however, how actively these measures are currently being implemented to address rhino horn trade issues. In reviewing this submission, members of the CITES Rhino Working Group have highlighted areas of concern, especially Viet Nam’s inability to monitor legally imported rhino horn trophies to ensure that they never become part of the illegal trade. Overall, further clarification is sought on whether or not the selling or offer for sale of ‘fake’ rhino horn on the market constitutes a criminal offence; whether or not current penalties serve as an effective deterrent to rhino crime in the face of escalating illicit market prices; and whether or not rhino horn as medicine is sanctioned in any manner. Concerning this latter point, NGOs have reported that “between 2002 and 2007, at least five comprehensive Vietnamese-language traditional medicine pharmacopoeias were published which feature sections on rhino horn as medicine” (Milliken and Shaw, 2012).

Although not subjected to the same oversight scrutiny as Viet Nam, China has also submitted a report to the CITES Rhino Working Group indicating that it has banned all international and domestic trade in rhino horn and its product since 1993 and that all stockpiled rhino horns have been registered and sealed since that time. Permits from the State Forestry Administration (SFA) are required for captive breeding of rhinos, the purchase and sale of live rhinoceros requires approval by SFA, and any rhino horn produced by such facility needs to be sealed under the supervision of forestry department personnel to prevent it from entering the illegal market. Approved research on the medicinal effect of rhino horn is the only avenue of usage allowed in China at this

time. The maximum penalty for rhino horn trade infractions under China's Criminal Law is life imprisonment, concurrently with a confiscation of personal property. The control of trade in rhino is treated a priority agenda item at various training events for wildlife enforcement personnel in China.

5. Conclusions and recommendations

Rhinos are facing a crisis and there is no room for complacency. If not halted, the continuing escalation of rhino losses in Africa, especially in South Africa, Zimbabwe and Mozambique, threatens to reverse the commendable conservation achievements of the last two decades. Southern Africa remains at the epicentre of the largest flow of illicit rhino horns in over 20 years to Asia, especially Viet Nam and possibly China, for a revived trade largely driven by new uses and trade dynamics. Whilst the countries noted in CITES Decision 15.71 (South Africa, Zimbabwe and, more recently, Viet Nam) have provided updates and reports to the CITES Standing Committee since CoP15 in 2010, the CITES Parties have generally noted these reports without requiring any further specific actions for addressing problematic issues. The CITES Rhino Working Group, however, has made some specific recommendations for consideration at the 63rd meeting of the CITES Standing Committee. If agreed, the process for monitoring progress on the implementation of any recommended actions, and the remedial steps needed if there is lack of progress, remain to be determined, but should be considered as an integral part of the effort to mitigate rhino poaching and curtail illegal trade.

Of the four most important rhino range States in Africa, Zimbabwe's situation remains serious. Although in absolute terms poaching has declined (Table 2), poaching levels since CITES CoP15 have caused the country's rhino population to decline (Figure 2). **Zimbabwe should, therefore, remain one of the leading priorities in any future CITES review process that examines the implementation of Resolution Conf. 9.14**, keeping a focus upon monitoring rhino and poaching and the status of law enforcement actions, including the investigation and prosecution of rhino crime.

Since CITES CoP15 in 2010, year-on-year rhino losses in South Africa have continued to increase with each successive year reaching new heights despite the allocation of more resources and manpower in the field, more regulation with respect to rhino hunting and ownership, greater numbers of arrests and increasingly more stringent penalties. Although national rhino numbers continue to increase, as the country is losing the greatest number of rhinos to poaching and the source of the greatest number of horns for illegal markets **South Africa also remains a priority for CITES attention under Resolution Conf. 9.14**, especially with respect to improving coordinated information management at the national level on rhino numbers and horn stocks in the private sector, the occurrence and details of sales of live rhinos, and translocations (including exports). The very positive effects of measures taken early in 2012 to clamp down on leakage of horn into illegal markets through pseudo-hunting is commendable, but all Parties should remain vigilant and work with the South African government to ensure that import permits for hunting trophies are only given to *bona fide* hunters.

Cross-border issues with Mozambique are another significant factor impacting the current situation in South Africa. On a bilateral basis, South Africa has accorded Mozambique elevated attention, and this should continue as many of the poachers in South Africa come from Mozambique given its proximity to Kruger National Park and since rhino poaching in Mozambique is still only a misdemeanour and not a criminal offence. Mozambique is also increasingly playing the role of a major entrepôt and export country for illicit horns to Asian markets. For this reason, **Mozambique should also be made a priority country for CITES review under Resolution Conf. 9.14** and should be asked to report back on steps taken to reduce poaching by its citizens, progress towards making rhino crimes a criminal offence with appropriate penalties as well as efforts to control illegal trade in rhino horns.

Given the history of rhino horn trade in Africa, there is an inherent risk that the scale of poaching in southern Africa could quickly spread and affect other range States, especially as organised, innovative, well-financed and highly-mobile criminal groups with direct linkages to Asian consumer countries are most heavily implicated in the illicit trade. For this reason, **any signs of increased rhino poaching in Kenya, or any other rhino range State, need to be carefully monitored to support "early warning" and the ability to react with effective law enforcement responses. Further, increased efforts under Resolution Conf. 9.14 to promote cross-regional collaboration and contact between African and Asian law enforcement authorities are needed.**

The use of standardised DNA profiling (using RhODIS protocols for African rhino horn and a similar initiative for Asian horn) needs to be expanded to other States around the world with ex-situ rhinos and horn stocks (particularly zoos and museum specimens) to facilitate monitoring and investigations with regard to illegal trade in horn.

In Asia, since CITES CoP15 in 2010, positive conservation efforts have been noted in India and Nepal where rhino numbers are increasing. Nepal, in particular, seems to have successfully addressed a serious poaching crisis that was reported to CITES CoP14 in 2007. **The main concerns in Asia now lie in Malaysia and Indonesia.** With the extinction of the Javan rhino in Viet Nam, there remains an urgent need to create another secure wild population of Javan rhino using founder stock from Indonesia's sole Javan rhino population. Further, **Indonesia and Malaysia are encouraged to enhance field protection, monitoring and biological management of their remaining Sumatran and Javan rhino**, especially in Sumatra and Sabah. It is also recommended that rhino poaching cases in Asia are more formally documented both within and outside protected areas to better ascertain the number of rhinos killed and to strengthen enforcement and intelligence. **Asian rhino range States are once again requested to formally report on their rhino horn stockpiles to the CITES Secretariat.**

With respect to end-use markets, **Viet Nam should remain a priority country for CITES oversight attention under Resolution Conf. 9.14 as the situation requires urgent attention.** In particular, Viet Nam needs to demonstrate strong political will to curtail the country's thriving rhino horn trade; develop a robust regulatory framework for ensuring that legally-imported rhino horn trophies are not entering commercial trade; strengthen legislation concerning the sale, offer for sale, or possession of fake rhino horns and improve law enforcement capabilities to prohibit rhino horn sales and use in internal markets and through the internet. There are worrying signs that corruption remains a challenge to effective law enforcement.

The role of China in the rhino horn trade needs to be further assessed but seizure data and exports from Europe suggest far more illegal rhino horn activity in that country than was previously documented. The status of previously imported live white rhino in China should be tracked in view of documented business plans for commercial harvesting of rhino horn for the production of items marketed as medicine. For this reason, **China should also be considered a priority country for continuing assessment pursuant to Resolution Conf. 9.14.**

IUCN also draws the attention of Parties to recommendations in Motion 26 passed at the 2012 IUCN World Conservation Congress in Jeju, South Korea which has now been formalized as IUCN Recommendation #138 (<http://portals.iucn.org/docs/iucnpolicy/2012-recommendations/en/WCC-2012-Rec-138-EN%20Conservation%20of%20rhinoceros%20species%20in%20Africa%20and%20Asia.pdf>). Parties may wish (as happened at CITES CoP15) to consider drafting recommendations they support as Decisions for consideration by CITES CoP16. Finally, Parties and donor agencies are requested to continue supporting TRAFFIC and IUCN's AsRSG and AfRSG to enable them to collect, compile and analyse data and to write summary reports for CITES meetings to support rhino conservation around the world.

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