THE ELEPHANT TRADE INFORMATION SYSTEM (ETIS) AND THE ILLICIT TRADE IN IVORY

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Introduction

Resolution Conf. 10.10 (Rev. CoP14) mandates "*a comprehensive report to each meeting of the Conference of the Parties*" on the data held in the Elephant Trade Information System (ETIS), one of the two monitoring systems for elephants under CITES. The objectives of ETIS, which has been managed and operated by TRAFFIC since 1997, are:

i) *measuring and recording levels and trends, and changes in levels and trends, of illegal hunting and trade in ivory in elephant range States, and in trade entrepôts;*
ii) *assessing whether and to what extent observed trends are related to changes in the listing of elephant populations in the CITES appendices and/or the resumption of legal international trade in ivory;*
iii) *establishing an information base to support the making of decisions on appropriate management, protection and enforcement needs; and*
iv) *building capacity in range States.*

This report is the fourth major assessment of the ETIS data for presentation to the CITES Parties (see CoP12 Doc. 34.1 Annex 1; CoP13 Doc.29.2, Annex; and CoP14 Doc. 53.2 Annex, all of which are available on http//www.cites.org), and constitutes TRAFFIC's reporting obligations for CoP15. Prior to submission to the CITES Secretariat, it was reviewed by members of the ETIS Technical Advisory Group. TRAFFIC would like to acknowledge with gratitude the funding support from the United Kingdom's Department of Environment, Food and Rural Affairs (Defra), the European Union via a grant to the CITES Secretariat and WWF who have all provided support for the operation and management of ETIS since CoP14, including the production of this report.

Descriptions of the ETIS structure, database components, basic conceptual framework and methodological approaches to the CoP analyses have been presented in the three previous ETIS reports. Interested readers are advised to review those documents for details in this regard as this report will only address the most recent findings. Further, information concerning the general development and operation of ETIS since CoP14 is also not offered in a detailed manner as such information is regularly submitted to the MIKE-ETIS Sub-Group of the CITES Standing Committee (SC) in quarterly reports. This report aims to fulfill all of the reporting requirements to the Conference of the Parties for ETIS as specified in Resolution Conf. 10.10 (Rev. CoP14).

A note about this analysis and the future of ETIS:

It needs to be pointed out that, as more time goes by, the methods used in the present analysis are becoming more limited in their capacity to model the data from the earlier years reliably. The time period spanning 1989 through 1996 occurred before there was a mandate under Resolution Conf. 10.10 for the CITES Parties to report elephant product seizures through an approved process under the Convention. As many long-term observers appreciate, in those early years TRAFFIC independently developed a database approach (known as the Bad Ivory Database System or BIDS), which used ivory seizure information for tracking changing trade dynamics in the post-CITES ivory ban period when conventional sources of relevant trade data were no longer available. To populate BIDS with data, TRAFFIC periodically conducted targeted data collection exercises

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focused upon selected countries in Africa, Asia and Europe which actively 'mined' archived law enforcement records held by wildlife and other relevant authorities to obtain ivory seizure case information. These actions produced hundreds of reliable seizure records which would otherwise not be part of ETIS today, but these efforts have had the inadvertent effect of introducing bias into the system, especially when compared to the more passive data collection framework that has characterized the ETIS programme since the CITES Parties mandated its development in 1997. Although one of the subsidiary databases of ETIS is designed to render a 'data collection score' for each country in each year over time as a means to compensate for the inherent bias generated by instances of active data collection, there is some degree of instability in the model, especially with respect to 'extreme data' points that result from the occurrence of irregular, large-scale seizure events. Consequently, it is becoming increasingly difficult to model the earliest years of the ETIS data effectively. For this reason, the current analysis of the data to produce a trend covers the period from 1992 onwards instead of 1989 as in previous years. As the predominant interest and focus of the CITES Parties is really to understand contemporary trade dynamics more than historical trade patterns which occurred more than two decades ago, the trend analysis in this report covers the 18-year period from 1992 through 2009.

The ETIS report to CoP15 will be the last report in which the methods of analysis that were basically established in the first ETIS analysis to CoP12, in 2002, will be employed. From the outset, there have been no "off-the-shelf" statistical tools available for the purposes of analysing the ETIS data and meeting the CITES mandate for periodic analytical assessments. It needs to be appreciated that, beyond considerable investment in the initial design of ETIS in the late 1990s, only limited resources have been available for further evolutionary development that not only promotes long-term sustainability, but keeps abreast of rapidly evolving 'best practices' in terms of data collection, management, analysis and reporting. To date, examination of ETIS data has proceeded rather sporadically in response to the CITES reporting cycles generated by Conferences of the Parties and, occasionally, Standing Committee meetings. As a result, limited financial and human resources have been predominantly directed towards the production of periodic reports, rather than the stepwise exploration and development of the analytical framework.

All this is about to change. We are very pleased to report that the School of Biological Sciences at the University of Reading, in collaboration with TRAFFIC, has secured a three-year Darwin Initiative Grant from Defra in the United Kingdom which is specifically aimed at enhancing the ETIS system to devise better methods for future analyses. Although this grant does not directly support the daily operational costs of ETIS, for the first time since the inception of the monitoring system, the Darwin Initiative Grant will allow for a protracted period of work to build a firmer foundation and framework for sustaining ETIS into the future by focusing on three key elements:

- strengthening structural elements, operational procedures and analytical capabilities;
- communicating technical results; and
- building capacity for participation.

The overall strategy for addressing the above issues is to develop an improved methodological framework and tools for collecting, recording and using seizure records to underpin CITES policy review and revision, including the development of a new database software and the use of secondary data sources to correct inherent biases.

PART I: THE ETIS DATA

Number of Records:

Data entry functions into ETIS were temporarily suspended on 24 August 2009 in order to produce this analysis. As of that date, ETIS comprised 14,364 elephant product seizure records, representing law enforcement actions in 85 countries or territories since 1989. In comparison to the ETIS analysis prepared for CoP14 in 2007, this analysis is based upon 1,986 more records of elephant product seizures (Annex 1). It should be appreciated that the ETIS seizure data continue to comprise the world's largest collection of law enforcement records on illegal trade in elephant products.

The number of elephant product seizure records by country by year is presented in Annex 2 It should be noted that validation of another 396 seizure records remains pending, including 92 cases which the World Customs Organizations (WCO) provided in the context of an annual data exchange. Unfortunately, these records use descriptions that require further verification in order to understand the ivory type (i.e. raw, semi-worked or worked) involved to ensure that they do in fact represent bona fide elephant ivory seizures. Finally, another 423 records have been rejected since CoP14, with 189 cases representing duplicate entries already in ETIS, whilst another 145 cases concern incomplete, archived data relating to Switzerland that can not be further verified in order to obtain missing information to meet the minimum data entry requirements for ETIS. Most other rejections concerned cases which did not involve an elephant product or did not actually involve a seizure.

Table 1: African and Asian Elephant range States which rarely, if ever, report ivory seizures, but are implicated in ivory seizures that occur elsewhere in the world with some degree of frequency (ETIS 24 August 2009)

Country	No. of seizure cases made & reported to ETIS 1989-2009	No. of seizure cases implicated in 1989-2009	Law enforcement effort ratio
AFRICA			
Democratic Republic of Congo	6	396	0.01
Angola	0	160	0.00
Congo	6	119	0.05
Ghana	2	111	0.02
Senegal	0	95	0.00
Gabon	8	75	0.10
Equatorial Guinea	0	55	0.00
Togo	0	47	0.00
Rwanda	5	42	0.11
Central African Republic	4	41	0.09
Mali	1	41	0.02
Guinea	1	40	0.02
Benin	1	38	0.03
ASIA			
Indonesia	0	51	0.00
Cambodia	0	26	0.00

Key - Law enforcement effort ratio:

0.00-0.10 No effective law enforcement – virtually all illicit ivory trade leaves or enters the country without being seized.

0.11-0.25 Very poor law enforcement – most illicit ivory trade leaves or enters the country without being seized.

It is worth noting that the rate of data submission to ETIS appears to have slackened somewhat since CoP14. It was previously noted that, during the 32-month period of time between the ETIS reports issued at CoP13 and CoP14, an average of 92 elephant product seizure cases were reported each month. Over the 30-month period since the ETIS database was closed to prepare the analysis for CoP14, an average of 66 elephant product seizure cases have been received on a monthly basis, a decline that should not be interpreted as indicative of a real decrease in illicit ivory trade. More importantly than the overall rate of reporting under ETIS, it remains a matter of concern that 13 out of the 37 African Elephant range States and two of the 13 Asian Elephant range

States have made and reported fewer than 10 elephant ivory seizure cases over the 21-year period from 1989 to 2009, but have been implicated in at least 21 other seizures over the period in question (Table 1). There is a basic expectation that, in those countries where populations of elephants occur, conservation and protection measures will periodically result in law enforcement actions in which elephant products are seized and reported to ETIS. In fact, that is rarely, if ever, the case for the elephant range States listed in Table 1, all of which demonstrate extremely poor law enforcement effort in support of elephant conservation.

Converting 'numbers of pieces' to 'weight' in the seizures database:

Many ETIS records specify only 'number of pieces' by ivory type, but fail to record the 'weight in kg'. As weight is the critical constituent for assessing the impact of ivory trade on elephant populations, it is necessary to derive the missing weight value through analysis of data where both the number of pieces and weight is given by ivory type. Whilst various predictive models can be used, no method is flawless given the degree of variability in the data. In this analysis, weights were estimated from number of pieces by separating seizures of raw, worked and semi-worked ivory where the records contained both weights and number of pieces. Regression models representing the relationship between the number of pieces and weights were then fitted to these subsets of records. As the relationship between number of pieces and total weight was non-linear, a generalized additive model or GAM, was fitted to 'predict' or estimate the weights for records where only the number of pieces was known (Wood, 2006). This method was done separately for seizures of raw, semi-worked and worked ivory (Figures 1, 2 and 3, respectively), with solid lines representing the weight estimation and dashed lines the confidence limits.

Figure 1: Estimating weights from number of pieces for 'Raw Ivory' (with 95% confidence bands) (ETIS 24 August 2009)

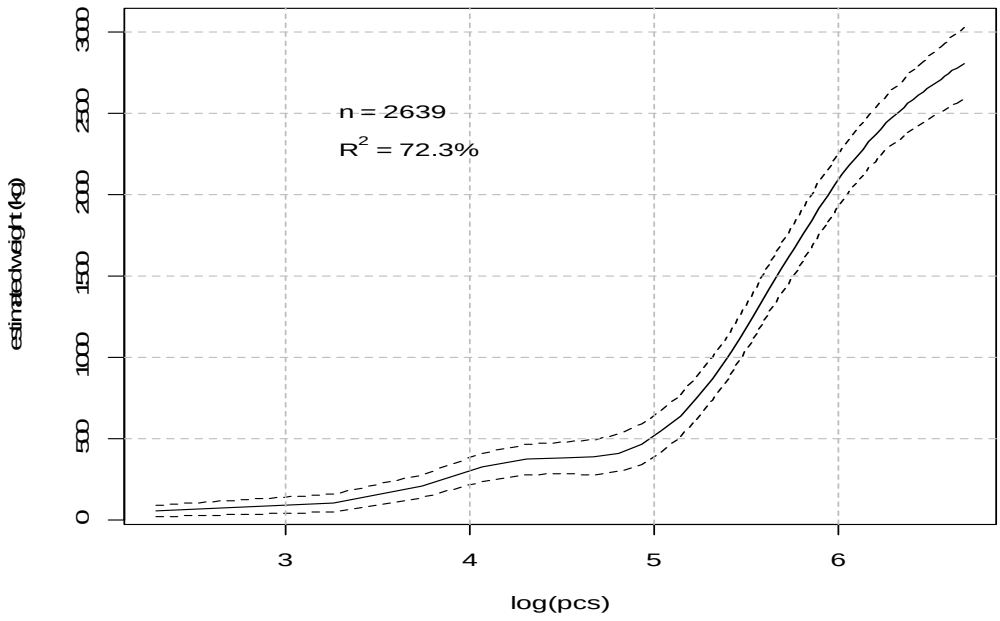


Figure 2: Estimating weights from number of pieces of 'Semi-worked Ivory' (with 95% confidence bands) (ETIS 24 August 2009)

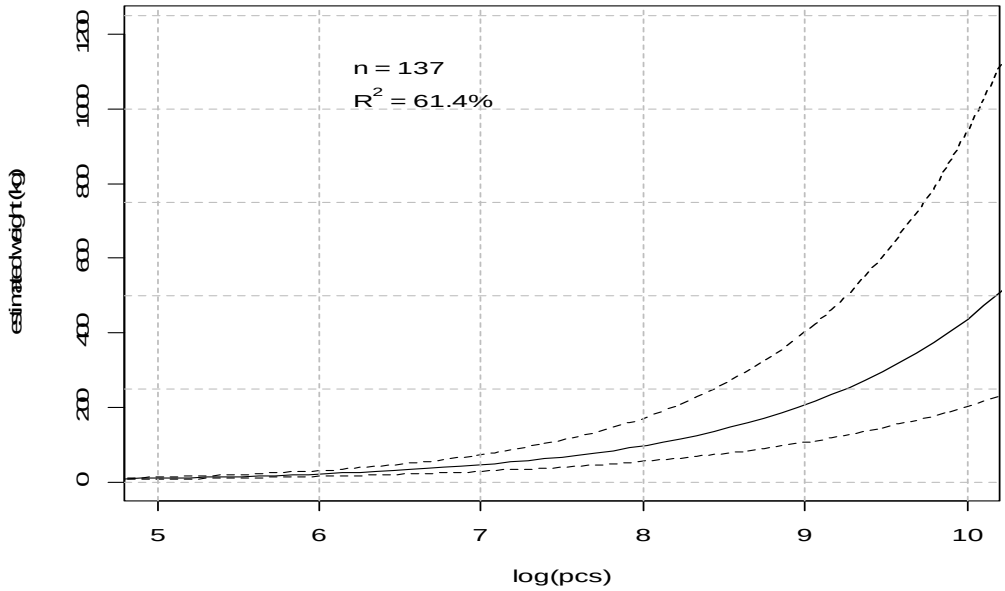
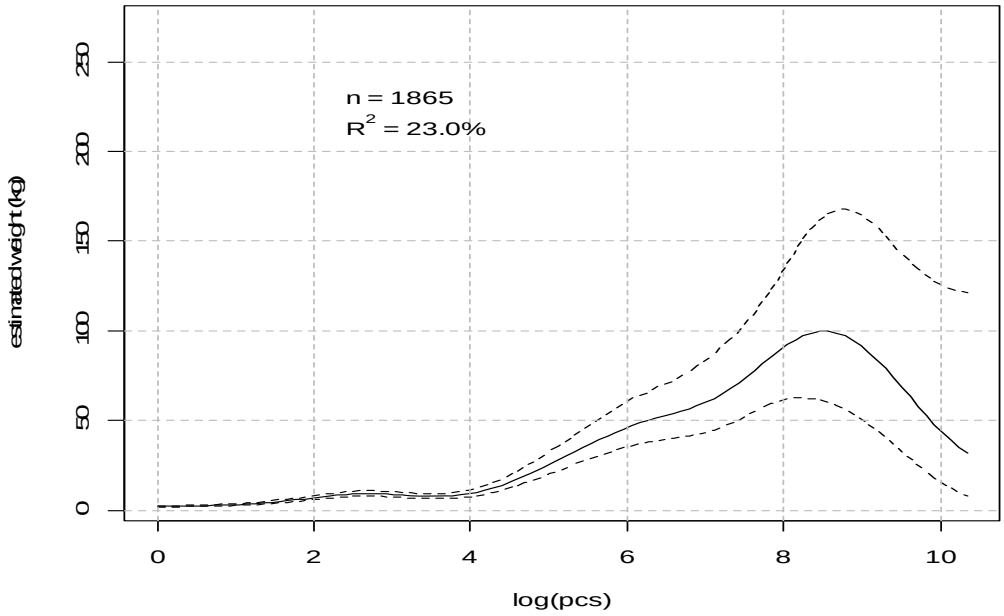


Figure 3: Estimating weights from number of pieces for 'Worked Ivory '(with 95% confidence bands) (ETIS 24 August 2009)



The use of non-linear generalized additive models in the regression analysis provides more precision and has been a feature used in ETIS since the analysis for CoP14 (Milliken *et al.*, 2007). It needs to be appreciated, however, that some variation in the results will occur over time. With respect to 'raw ivory' depicted in Figure 1, the confidence limits remain very narrow throughout the entire model, demonstrating a strong degree of precision at any point. Figures 2 and 3 for 'semi-worked' and 'worked ivory', however, indicate that accuracy is most precise for seizure cases involving fewer numbers of pieces, but demonstrate less precision as the number of pieces increases. It is also worth noting that, with respect to worked ivory, in the current regression model, the total weight of the seizure decreases after a certain point as the number of pieces increases, indicating that such seizures typically involve numerous but rather small ivory items; this result (based upon an

additional 175 data points) stands in contrast to the regression model used for the CoP14 analysis which indicated a steadily increasing weight throughout the model.

Table 2: Estimated volume of ivory in 'raw ivory equivalent' terms represented by ETIS seizure data, 1989-2009 (ETIS 24 August 2009)

Year	Raw ivory Weight (kg)	Semi-worked (kg)	Worked ivory weight (kg)	Total (kg)
1989	**18,314**	**778**	**440**	**19,532**
1990	**7,704**	**2,063**	**5,934**	**15,700**
1991	**12,647**	**631**	**4,531**	**17,809**
1992	**14,245**	**235**	**5,240**	**19,721**
1993	**14,242**	**1,296**	**3,437**	**18,976**
1994	**14,715**	**659**	**1,754**	**17,128**
1995	**7,161**	**483**	**1,963**	**9,607**
1996	**16,526**	**1,691**	**2,326**	**20,543**
1997	**7,629**	**463**	**1,765**	**9,857**
1998	**10,923**	**105**	**3,337**	**14,365**
1999	**16,410**	**175**	**3,356**	**19,941**
2000	**17,254**	**750**	**2,398**	**20,401**
2001	**14,367**	**62**	**4,881**	**19,310**
2002	**26,018**	**1,823**	**6,274**	**34,115**
2003	**11,873**	**20**	**3,335**	**15,229**
2004	**8,300**	**45**	**2,991**	**11,336**
2005	**14,484**	**90**	**2,952**	**17,525**
2006	**24,085**	**536**	**2,536**	**27,157**
2007	**8,463**	**49**	**2,256**	**10,768**
2008	**5,184**	**46**	**2,094**	**7,324**
2009	**14,723**	**0**	**327**	**15,051**
Total	**285,268**	**12,001**	**64,126**	**361,394**

Volume of ivory represented in the seizures database:

All ivory seizure data in this report are presented as 'raw ivory equivalent' values, thus an effort has been made to account for the loss of scrap and wastage that occurs during the manufacturing process where semi-worked and worked ivory products are concerned (see CoP14 Doc. 53.2 Annex for a description of methods in this regard). Table 2 provides a summary of the volume of ivory represented by the ETIS data in raw ivory equivalent terms as of 24 August 2009. Collectively, it is estimated that over 361 tonnes of ivory has been seized throughout the world and reported to ETIS from 1989 onwards.

Figure 4: Estimated weight of ivory and number of seizure cases by year, 1989-2009 (ETIS 24 August 2009)

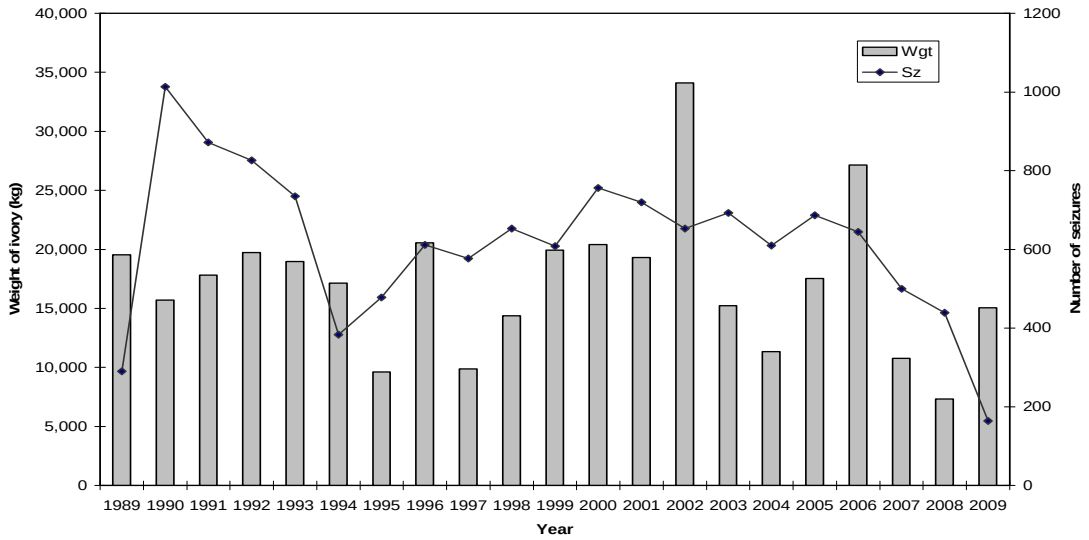


Figure 4 depicts the weight of ivory seized and reported to ETIS, along with the number of seizure cases for each year since 1989. As emphasized in each and every previous ETIS analysis, bias and incompleteness in the data prevents this representation of the raw data from being interpreted as a trend nor is it suggestive of absolute trade volumes over time.

PART II: THE TREND ANALYSIS

Background:

Resolution Conf. 10.10 (Rev. CoP14) calls for ETIS to measure "*levels and trends, and changes in levels and trends*" of illegal trade in ivory. The methods used for this temporal assessment have been described in previous analytical reports on the ETIS data to the CoPs and the current trend analysis is based upon the same methodology. In this rendering, the analysis was restricted to the 18-year period of 1992 to 2009. Although only 168 seizure cases have been reported in 2009, and (at the time of this analysis) over four months of time remains before that year ends, a decision was taken to include 2009 data in this analysis as preliminary modelling indicated that it exerted a significant influence on the trend. Whilst it goes without saying that the real effect of 2009 will only be measurable at some point in the future and the current representation of the data for these years is by definition 'tentative', it is expected that the general result expressed here will become even more pronounced as additional seizure records become available. (Indeed, it is anticipated that, if resources are available, an update analysis will be undertaken prior to CoP15 and circulated as an information document to augment this report now).

The ETIS database contained 14,364 seizure records, of which 1,452 records (10%) relate exclusively to non-ivory elephant products. These data were excluded from this analysis. As noted, the years 1989 through 1991 were also excluded, leaving 10,737 records which involved seizures of ivory in one form or another from 85 countries or territories around the world. As described in previous analyses, it is necessary to address inherent issues of bias in the ETIS data and to make adjustments to mitigate its influence on the trend. To adjust for bias, the data were fitted to a linear mixed-effects model (Pinheiro and Bates, 2000) and then the estimated effects were removed from the response. The adjusting variables that were fitted were:

sz.ratio	ratio of seizures made 'in-country' to total number of seizures which country made or was implicated in: *sz.in.2/(sz.in.2+sz.out.2)*
rep.ratio	CITES Annual Report Ratio
dcs	ETIS Data Collection Score
cpi	Corruption Perception Index (Transparency International)

Of these, only *dcs* and *sz.ratio* were statistically significant as regressor variables ($P < 0.0001$ for each). The *dcs* variable was then fitted as a random effect (i.e. its coefficient was allowed to vary from country to country). While overall *sz.ratio* was significant, but not in its effects in terms of between-country variation, it was fitted as a simple fixed-effect explanatory variable. Accordingly, *cpi* and *rep.ratio* were not used in the subsequent trends analysis. The total volume of ivory for each country in each year was then adjusted by removing the contributions from *dcs* and *sz.ratio*. These adjusted weights were then summed over countries to provide a total adjusted estimate of the volume of ivory in raw ivory equivalent terms for each year.

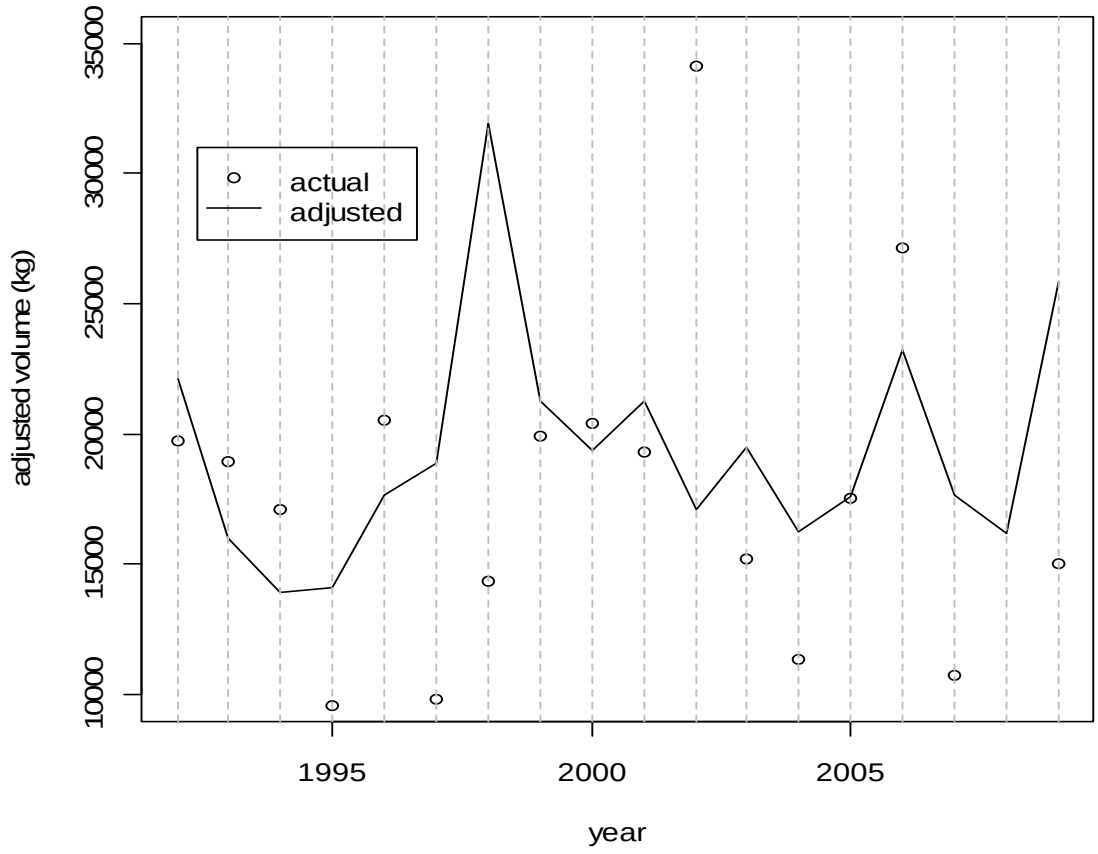
The unsmoothed trend:

With the bias reduced as described above and the data adjusted accordingly, it is possible to estimate a trend. Using a solid line, Figure 5 shows the adjusted total volume of ivory seized in each year, as represented by the ETIS data during the period under examination. This trend line is shown in relation to the unadjusted data points rendered as small circles, which correspond to the annual totals of ivory seized as presented in Table 2 and Figure 4 of this report. In years where data collection has been most passive, the trend line is adjusted upwards, while in years where data collection has been more actively pursued it is adjusted downwards. Adjusting for the bias in this manner allows for the underlying trend to become evident.

In the current analysis, with 284 additional ivory seizure cases for the years 2005 and 2006, the adjusted trend for those years indeed confirms a much steeper increase from 2004 through 2006 as anticipated. The trend line then, however, drops appreciably over the next two years to 2008 to reach a low point commensurate with that previously established in 2004. But, if the ETIS data for 2009 are included in the analysis, an exceptionally sharp increase subsequently results, in spite of the fact that, with only 164 ivory seizure cases, 2009 stands as an inherently incomplete and data deficient year. There is every expectation that the collection of more data will only enhance this result further, making 2009 a pivotal year in terms of escalating illicit trade in ivory.

At CoP14, the adjusted trend for illicit trade in ivory from 1989-2006 showed a marked decline from 1989 to 1994, thereafter increasing steadily to peak in 1998 under the impact of newly emergent ivory demand from unregulated markets in Asia and Africa. The trend then experienced a somewhat erratic decline over the next six years, only to show a sharp increase from 2005 through 2006, although those years were believed at the time to be somewhat data deficient. The key message from the ETIS analysis delivered to CoP14 was that illicit trade in ivory was on the increase since 2005 and that the CITES '*action plan for the control of trade in African elephant ivory*' required more forceful attention in order to reverse this worrying development.

Figure 5: Adjusted trend 1992-2009 with actual volume of ivory in 'raw ivory equivalent' terms (ETIS 24 August 2009)



Smoothing the trend:

A better graphic representation of the underlying trend becomes possible if the results are fitted to a generalized additive model with a cubic spline smoother (Wood, 2006). Figure 6 depicts a smoothed adjusted trend line for the illicit ivory trade by removing the more extreme fluctuations exhibited in Figure 5. The salient feature in this depiction is that illicit trade in ivory exhibits a very gradual increase from 2003/2004 through 2007, but then shows a much sharper increase to 2009 towards, but not quite reaching, the high point previously established in 1998.

In Figure 7, the smoothed adjusted trend line (the solid line) is shown against the actual

data (dots) and the adjusted trend before smoothing (the dashed line). Accepting that the trend exhibited in Figure 7 satisfactorily reflects the pattern of illegal trade in ivory globally during this period of time, the illicit trade once again appears to be rapidly increasing. As this result directly follows the CITES-approved one-off ivory sale in November 2008 between four African producer countries and two Asian consumer countries, as well as a further iteration of the mandate in Decision 13.26 to curtail the world's unregulated domestic ivory markets, it is difficult to view the most recent manifestation of the trend without some degree of concern.

Figure 6: Smoothed adjusted trend 1992-2009 with actual volume of ivory in raw ivory equivalent' terms (ETIS 24 August 2009)

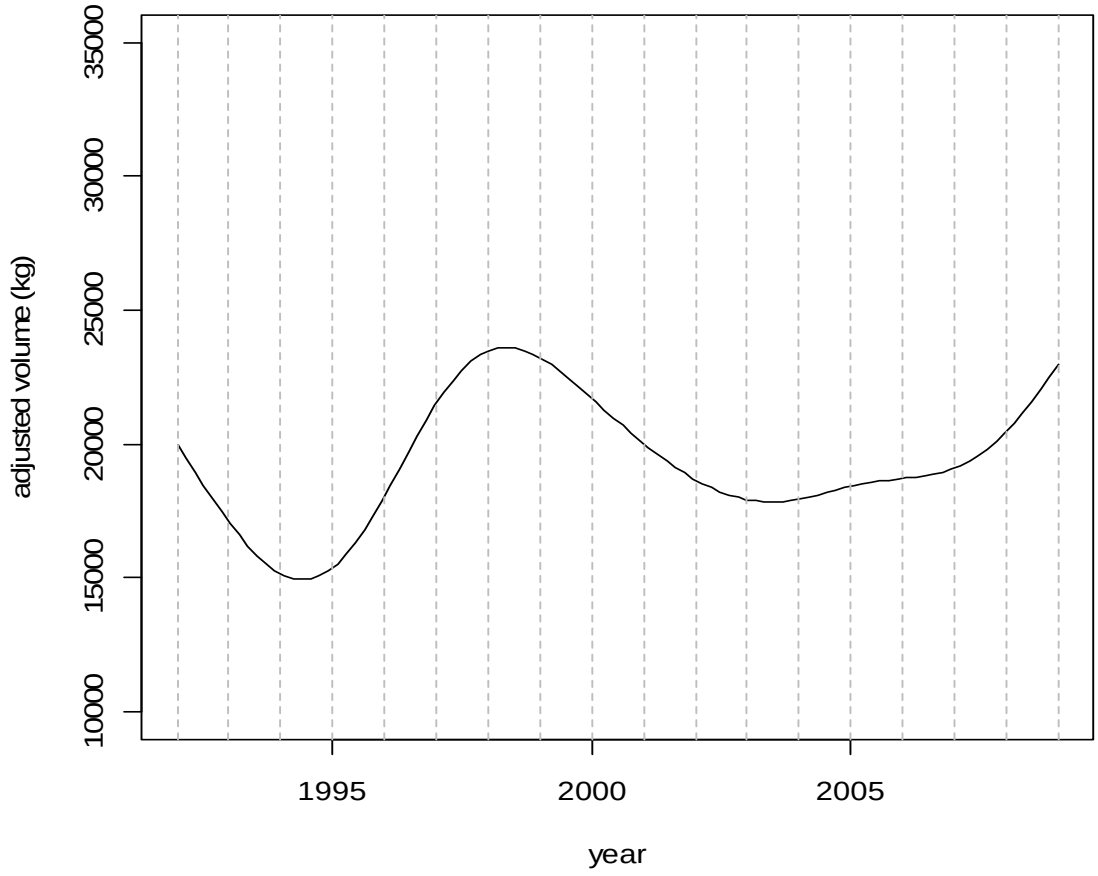
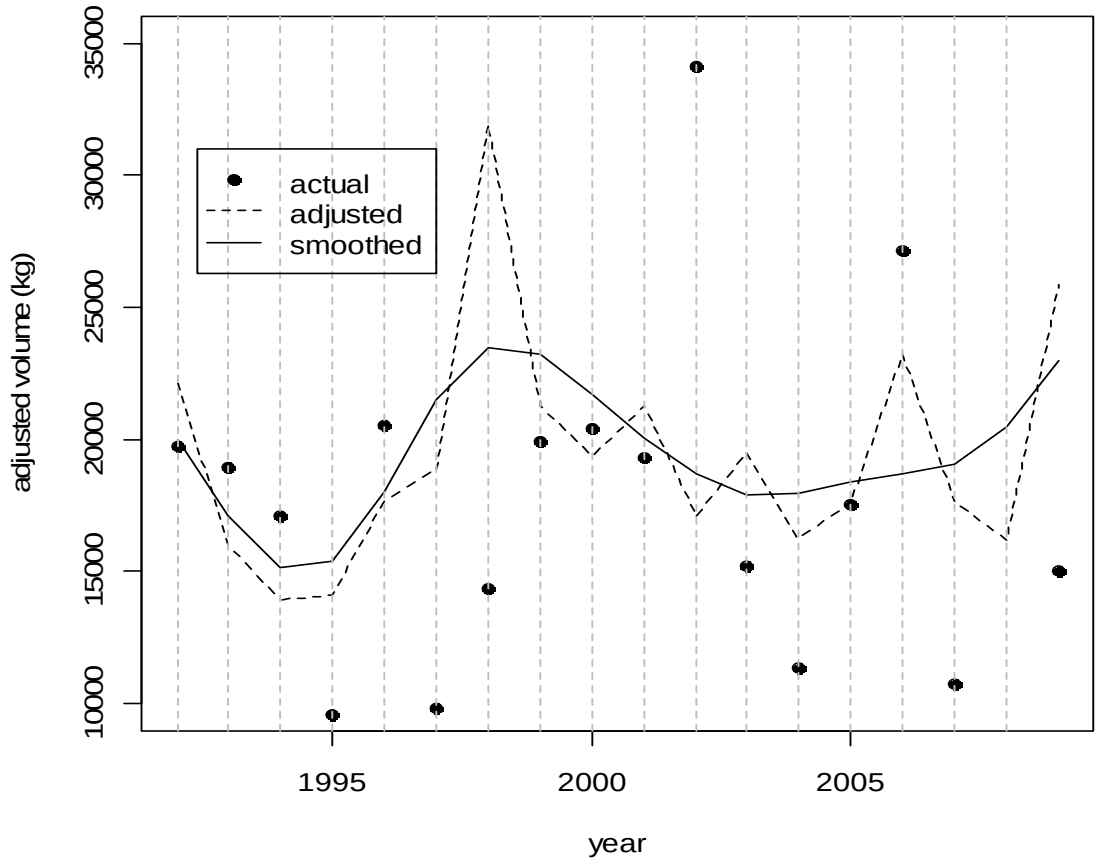


Figure 7: Smoothed adjusted trend 1992-2009 with actual and adjusted volume of ivory in 'raw ivory equivalent' terms (ETIS 24 August 2009)



PART III: THE CLUSTER ANALYSIS

Background:

Resolution Conf. 10.10 (Rev. CoP14) calls for ETIS to establish "*an information base to support the making of decisions on appropriate management, protection and enforcement needs*". An analysis of the ETIS data to identify those countries or territories most prominently implicated in the illicit trade in ivory and where management, protection and enforcement needs are likely to be the most acute has been a feature of each of the analytical reports presented to the CITES Parties to date.

As in the past, this exercise is based upon agglomerative hierarchical cluster analysis (Everitt *et al.*, 2001), using Ward's method with standardized variables by means of the R software package (R Development Core Team, 2006). This method of analysis serves to isolate those countries that, according to the ETIS data, account for the largest proportion of the illegal trade in ivory in the time period under consideration, while countries and territories of lesser importance are screened out of the analysis. This statistical technique ultimately results in a dendrogram depicting a series of well-defined clusters of countries that exhibit similar patterns in the seizure data. It is then possible to describe the characteristics of these groupings in terms of numbers of seizures, volumes of ivory seized and other key factors in order to understand with better clarity underlying trade dynamics and factors. In this manner, cluster analysis serves to eliminate a considerable portion of the 'background noise' and sharpen the focus on the most important players in the illicit trade in ivory.

Of the 14,364 records currently in ETIS, 12,912 relate to trade in ivory or ivory products over the 21-year period of 1989 to 2009. This dataset comprises seizures made by 85 countries or territories, and collectively implicates a total of 167 countries or territories around the world in the illicit trade in ivory. The data for each country and for each year from 1989-2009 included the number of seizures reported by the country itself, plus the number

of seizures that occurred elsewhere in which the same country was implicated as either the country of origin, re-export, export or destination. These data were treated separately as (*sz in*) and (*sz out*) for each country by year, and the corresponding weights of the volume of ivory in raw ivory equivalent terms were also summed to produce corresponding (*wt in*) and (*wt out*) data sets. To distinguish between historical and relatively recent patterns of trade, the ETIS data were divided into two periods: 1989-1998 and 1999-2009. The period 1999-2009 is of primary interest because these years most directly reflect contemporary ivory trade dynamics.

Preliminary data screening:

An initial subjective screening of the data eliminated those countries implicated in fewer than 20 seizures overall and with a total raw ivory equivalent (RIE) weight of less than 100 kg over the entire 21-year period. This reduced the number of countries under consideration from 167 to 93, while continuing to include those entities that account for the bulk of the ETIS data.

Further reduction of the data was achieved through a preliminary screening cluster analysis based on the following variables:

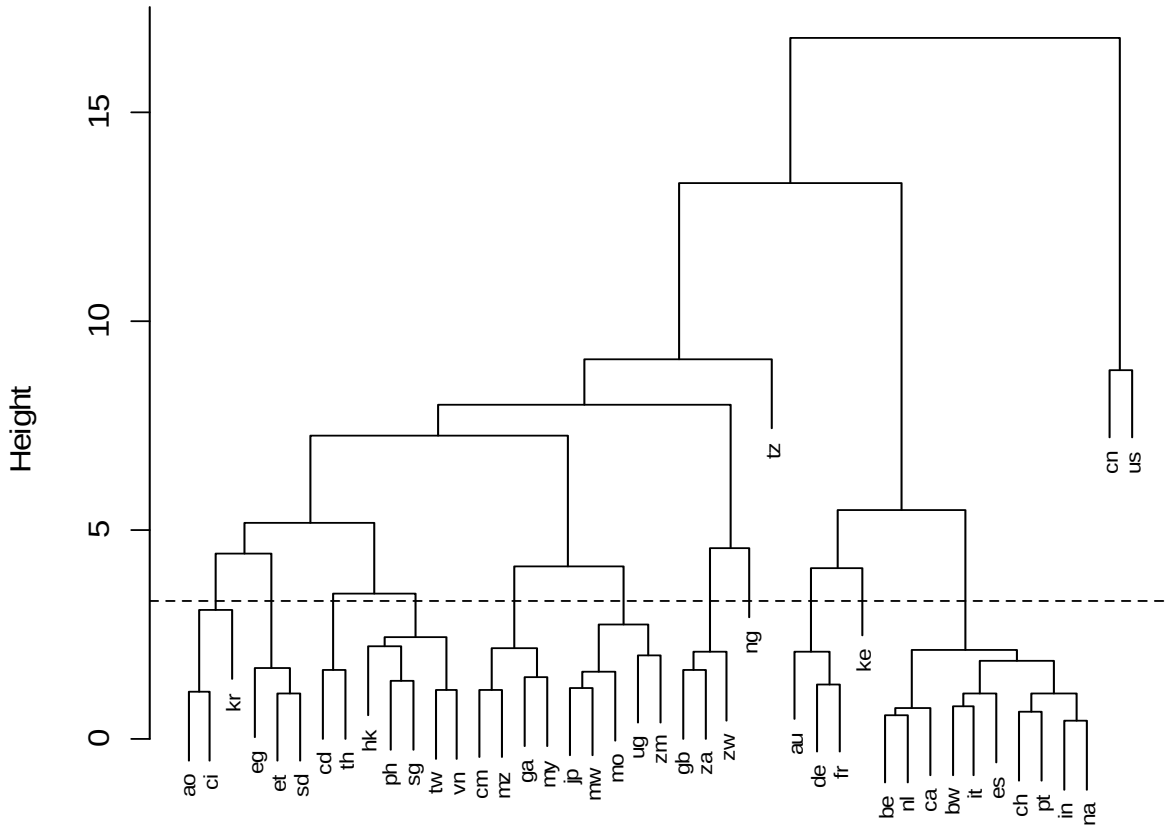
wt.in.1	total weight seizures reported 'in-country', 1989-1998
wt.in.2	total weight seizures reported 'in-country', 1999-2009
wt.out.1	total weight seizures reported elsewhere, implicating the country, 1989-1998
wt.out.2	total weight seizures reported elsewhere, implicating the country, 1999-2009
wt.ratio	ratio of total weight 1989-1998 to total weight 1999-2009

This clustering identified 43 countries whose mean weight (over the entire period 1989-2009) was 14,066 kg with a mean number of seizures of 461. The corresponding mean weight for the remaining 50 countries was 657 kg, and the mean number of seizures was 36. This residual group of 50 countries were excluded from the analysis, leaving the 43 countries which are most profoundly implicated in the illicit trade in ivory. It should also be noted that the difference between the first and second steps in the data reduction exercise is that the groupings that result from the cluster analysis are statistically determined by the data itself and do not entail any subjective intervention.

Adjusting to remove bias in the data:

As previously noted, there are a number sources of bias in the ETIS data. To be able to make comparisons between countries and through time, it is necessary to adjust the number of seizures and weight of seizures made in-country to account for differing degrees of effort in terms of data collection, law enforcement and reporting. Statistical adjustments were made to both weights and numbers of seizures to account for bias due to these factors. The variables used for these adjustments were the Data Collection Score (*dcs*), as a proxy measure for variability in data collection effort, and the Corruption Perception Index (*cpi*), for variability in law enforcement efficiency and rates of reporting. The method of adjustment was to fit regression models and removed the estimated effects due to these variables from the response variable.

Figure 9: The cluster analysis



Key: AO- Angola; CI-CÔte d'Ivoire; KR-Republic of Korea; EG-Egypt; ET-Ethiopia; SD-Sudan; CD-Democratic Republic of the Congo; TH-Thailand; HK-Hong Kong; PH-Philippines; SG-Singapore; TW-Taiwan; VN-Viet Nam; CM-Cameroon; MZ-Mozambique; GA-Gabon; MY-Malaysia; JP-Japan; MW-Malawi; MO-Macao; UG-Uganda; ZM-Zambia; GB-United Kingdom; ZA-South Africa; ZW-Zimbabwe; NG-Nigeria; TZ-Tanzania; AU-Australia; DE-Germany; FR-France; KE-Kenya; BE-Belgium; NL-the Netherlands; CA-Canada; BW-Botswana; IT-Italy; ES-Spain; CH-Switzerland; PT-Portugal; IN-India; NA-Namibia; CN-China; US-United States

The cluster analysis:

The 43 countries identified by the preliminary screening to represent the greatest portion of the trade as described above were classified according to a cluster analysis covering the period 1999-2009 based on the following variables:

sz.in.adj	adjusted number of seizures reported in-country
sz.out	total number of seizures implicating the country
sz.ratio	ratio of seizures made 'in-country' to total number of seizures which country made or was implicated in: *sz.in.2/(sz.in.2+sz.out.2)*

wt.in.adj adjusted total weight of seizures reported in-country

wt.out total weight of seizures implicating the country

dims domestic ivory market score

The later period was used so that more contemporary patterns in the trade were elicited. This analysis resulted in the dendrogram presented in Figure 9, a hierarchical configuration where the 'height' axis indicates a relative measure of dissimilarity between clusters. The degree of vertical separation between various clusters along this axis is determined by their different attributes. It is useful to conceptualise the dendrogram as a 'mobile' with all end points hanging to the 0 point on the height axis (even those clusters such as CN and US on the far left that now appear higher up in the configuration). Cluster groupings of various dimensions can be obtained by 'cutting' a horizontal line at any point across the figure. The points where the vertical lines intersect with the horizontal line produce cluster groupings with a particular measure of refinement. In this regard, placing the horizontal line at higher points along the height axis results in fewer, highly aggregated clusters of countries, while putting the line at the lowest point, just above '0' point for example, would result in the total separation of all countries in the configuration. While various groupings are possible, in the hierarchical representation for this analysis, a 'cut' (represented by the dashed line in Figure 9) was made at approximately 3.5 units, resulting in the formation of 14 separate clusters. These groupings include five single country clusters, one cluster of two countries, four clusters of three countries, one cluster of four countries, two clusters of five countries or territories, and one cluster of ten countries. This represents one more group than the cluster analysis presented at CoP14 (Milliken *et al.*, 2007).

Innovations since CoP14:

In contrast to previous ETIS analyses to the CoP, a new explanatory variable has been added to the table, a measure for assessing the relative degree of involvement of organised crime in the trade. As explained in the notation to the table below, this measure is derived from the percentage of the 'mean weight' variable in each cluster that relates to large-scale ivory seizures events. Large-scale seizures (LSSZ) have been defined as those which involve one tonne of ivory or more (using raw ivory equivalent weight values). Currently, there are 55 such seizure cases in the ETIS data, representing seven more cases than the CoP14 analysis. Although by number these seizures correspond to not even one-half of one percent of the total number of ivory seizure cases in ETIS, collectively they comprise 124,260 kg of ivory, which represents more than 34% of the total volume of ivory seized. As 'extreme data', large-scale ivory seizure events exert a huge influence on the data as a whole. The ability to move large volumes of ivory at a single time is indicative of greater sophistication and criminalization that typically involves the use of organized covert channels for the illicit procurement and movement of ivory, greater levels of finance, investment in facilities for storage and staging purposes, and the ability to exploit trading links and networks between source countries and end-use markets (Cook *et al*., 2002). Organized crime is often effective through means of collusion, corruption and protection that covertly link private sector operatives with public sector regulators and law enforcers at important trade bottlenecks such as border crossings, airports or seaports (Gastrow, 2001a and 2001b). Like assessing the relative scale and degree of regulation in domestic ivory markets, gauging the relative presence of organized criminal activity in the illicit ivory trade is an important element in understanding underlying trade dynamics.

Table 3: Summary statistics for the 14 groups of the cluster analysis (1999-2009)

		Measure of Frequency	***Measure of Scale***	***Measure of Period of Activity***	***Measures of Law Enforcement Effort Efficiency and Rates of Reporting***		***Measure of Organised Crime***	***Measure of Internal Ivory Trade***
Group	**Countries**	**Mean no. of seizures[1]**	**Mean weight (kg)[2]**	**Percentage of weight in recent period[3]**	**Mean CPI[4]**	**Mean LE ratio[5]**	**Percentage of large-scale ivory seizures to mean weight[6]**	**Mean market score[7]**
1	NG	341	10,361	63	1.8	0.00	60	16.0
2	CD, TH	158	10,900	63	2.6	0.11	58	15.2
3	EG, ET, SD	140	4,956	62	2.7	0.68	21	11.8
4	CN	999	42,772	87	3.4	0.56	60	11.5
5	US	1,334	11,462	49	7.5	0.83	18	10.5
6	AO, CI, KR	90	1,133	24	2.9	0.11	0	9.8
7	CM, GA, MY, MZ	101	10,718	85	3.4	0.18	75	8.9
8	HK, PH, SG, TW, VN	75	10,943	65	5.6	0.24	82	8.4
9	GB, ZA, ZW	413	6,334	45	5.2	0.40	16	7.5
10	JP, MO, MW, UG, ZM	73	10,741	73	4.3	0.57	77	5.0
11	AU, DE, FR	505	3,229	46	7.8	0.87	0	3.0
12	BE, BW, CA, CH, ES, IN, IT, NA, NL, PT	190	2,682	34	6.5	O.79	4	2.1
13	TZ	162	38,531	57	2.7	0.72	69	-0.5
14	KE	425	19,020	78	2.1	0.85	28	-2.5

(1) *Frequency* is measured by the 'mean number of seizures' in the period 1999-2009 (i.e. the total number of all seizures which were made or have implicated a particular country/territory divided by the number of entities in the cluster); high numbers indicate greater frequency; low numbers indicate lesser frequency.
(2) *Scale* is measured by the 'mean weight' in the period 1999-2009 (i.e. the total volume of ivory represented by all seizures which were made or have implicated a particular country/territory divided by the number of entities in the cluster); high numbers indicate greater volumes of ivory; low numbers indicate lesser volumes of ivory.
(3) *Period of activity* is measured by the 'percentage of weight in recent period' (i.e. the total weight in the period, 1999-2009, divided by the total weight from both periods 1989-2009); values show the percentage of the total weight which represents activity in the recent period.
(4) *Law enforcement effort, effectiveness, and rates of reporting* is measured, firstly, by the 'mean CPI' (i.e. the total Corruption Perception Index score for each country in the period 1999-2009 divided by the number of entities in the cluster divided by the number of years); scores range from 1.0 (highest perception of corruption) to 10.0 (lowest perception of corruption).
(5) *Law enforcement effort, effectiveness and rates of reporting* is measured, secondly, by the 'mean LE/reporting ratio' in the period 1999-2009 (i.e. the total number of in-country seizures divided by the total number of seizures divided by the number of entities in the cluster); ratios range from 0.00 (no law enforcement effort) to 1.00 (best law enforcement effort).
(6) *Involvement of organised crime* is measured by taking the percentage of the mean weight that represents large-scale ivory seizures (i.e. those seizures which are equal to or greater than one tonne of ivory raw ivory equivalent weight); high values indicate the presence of organised crime in the movement of ivory; low values indicate the absence of organised crime in the movement of ivory.
(7) *Internal ivory trade* is measured by the 'mean market score'; scores range from –4 (no or very small, highly-regulated domestic ivory markets and carving industries) to 20 (extremely large, completely unregulated domestic ivory markets and carving industries).

Discussion: assessing the results:

Table 3 presents aggregated statistics for the 14 groups which serve to highlight the salient characteristics of the illicit ivory trade from various perspectives in each of the clusters. For single country clusters, the statistics definitively reflect the data for that particular country, but for clusters comprised of two or more countries, the statistics represent the mean of all of the constituent components. It goes without saying that from the standpoint of illicit trade in ivory, some clusters are clearly more problematic the others. As in previous ETIS reports, the clusters in Table 3 have been arranged according to their 'mean market score' that derives from the *Domestic Ivory Market Database* in ETIS, but that does not necessarily constitute the ultimate ranking of the groups in terms of problematic features. The following can be said about the 14 groups of countries and territories that derive from the cluster analysis:

Group 1 – ***Nigeria*** *(NG)*: For the first time, Nigeria finds itself on its own in the single most problematic cluster in this analysis. An African Elephant range State but with a very small population, Nigeria ranks in the higher middle range in terms of frequency and scale of the trade. Both of these variables are all the more remarkable as they derive entirely from data provided by other countries; for its part, Nigeria has not made and reported a single ivory seizure to ETIS over the last 18 years. Likewise, with respect to the period of activity, nearly two-thirds of the illicit trade involving Nigeria has transpired over the last decade, indicating continuing active movement of ivory to international destinations. Nigeria holds the regrettable distinction of having the highest perceptions of corruption and the lowest level of law enforcement effort of any group assessed in this analysis. With such ostensibly fertile ground for crime, it is not surprising that 60% of the trade by weight has derived from large-scale ivory seizures, indicating a strong presence of organised criminal groups in the trade. Further, Nigeria has the highest score for its domestic ivory market, indicating a large, unfettered internal trade in ivory operating with the apparent absence of any effective law enforcement on the part of the government. Whilst no recent assessment of Nigeria's domestic ivory market has been undertaken since the work done in June 2002 when all indications were that the market was expanding (Courouble *et al.*, 2003), credible reports of quantities of ivory products being offered for sale in the departure lounge area of the country's main international airport in Lagos continue to be received (E. Mrema, UNEP Principal Legal Officer, pers. comm., June 2008). In the past, considerable cross-border movement of ivory from Cameroon to Nigeria has also been documented in the past (Courouble *et al.*, 2003), a feature that undoubtedly links with large-scale movements of ivory out of Nigeria. Recent ivory seizures in the Central African Republic also confirm an ongoing trade link with Nigeria (O. Drori, LAGA, pers. comm., October 2009). Overall, these disturbing results essentially mirror those found in previous ETIS reports; it is disheartening to note that there continues to be no evidence of any responsive remedial action on ivory trade issues in Nigeria since CoP14, much less since the first ETIS analysis in 2002.

Group 2 – ***Democratic Republic of the Congo*** *(CD)and* ***Thailand*** *(TH)*: For the fourth consecutive time, these two countries, both of which are elephant range States, fall in the same cluster that again exhibits rather problematic characteristics. In terms of frequency and scale, the Democratic Republic of the Congo and Thailand rank in the middle range, indicating recurring involvement in the illicit trade in ivory. Neither country routinely reports ivory seizure information to ETIS; since CoP14, nothing has been received from the

Democratic Republic of the Congo and only three seizure cases have been submitted from Thailand. On the other hand, these countries together have been implicated in an additional 59 ivory seizure cases made elsewhere in the world during the same period. In terms of period of activity, these two countries are becoming increasingly more active in the illicit trade, with 63% representing transactions in the recent period, 1999-2009. As ever, effective law enforcement remains illusive as evidenced by the third lowest score for CPI and the second lowest score for the law enforcement effort ratio. The measure for organised crime indicates that 58% of the ivory attributed to these countries has been seized in the context of large-scale movements of ivory, suggesting that organised criminal syndicates are deeply involved in the ivory trades in each of these countries. In fact, Thailand and the Democratic Republic of the Congo have been involved in at least three of the six largest seizures which have transpired since 2007. Whilst the domestic ivory market score shows marginal improvement since CoP14, this cluster nonetheless continues to rank second to Nigeria in terms of harbouring formidable unregulated internal ivory markets. An assessment of the Bikeko market in Kinshasa, the capital city of the Democratic Republic of the Congo, in May 2009, found 2,650 ivory items weighing some 345 kg openly displayed for sale with no apparent evidence of any effective control; this five-country assessment concluded that, within the Central African region, only the ivory trade in Kinshasa was stable and had not changed since a similar analysis was conducted in 2007 (Lagrot, in prep.). The study also confirmed that Kinshasa carvers are regular suppliers of ivory products to ivory markets in Luanda and Cabinda, Angola and Pointe-Noire, Congo (Lagrot, in prep.). There is also evidence to suggest that the Democratic Republic of the Congo is the source of some of the ivory found in large consignments destined for Asian markets through Uganda, Kenya and Tanzania (ETIS data, this report). Within Asia, Thailand continues to reign as the largest unregulated ivory market, a position confirmed by a recently published study that documented the presence of 26,277 ivory products in 270 outlets in five cities (Stiles, 2009). The report also highlighted legal loopholes in Thailand's legislation that seemingly prevent effective law enforcement at the retail level. Recent large-scale ivory seizures at Bangkok's international airport serve to buttress the fact that illicit importation from Africa and local ivory carving continues, although the precise scale of the local carving industry is unknown owing to its increasingly clandestine nature. Inexplicably, the governments of both the Democratic Republic of Congo and Thailand reported in their responses to the CITES Secretariat on the *Elephant and Ivory Trade Questionnaire* pursuant to the Decision 13.26 (rev. CoP14) process that they, for the most part, are fully implementing the requirements of Resolution Conf. 10.10 with respect to domestic trade in ivory. To the contrary, the results of this analysis – indeed, for the fourth ETIS analysis in a row – strongly suggest that these two countries have made little progress towards implementing Resolution Conf. 10.10 (Rev. CoP14) requirements for internal trade in ivory or the requirements of the CITES action plan pursuant to Decision 13.26.

Group 3 – ***Angola*** *(AO),* ***Côte d'Ivoire*** *(CI) and* ***Republic of Korea*** *(KR)*: This cluster of two African elephant range States and one small-scale Asian transit/consumer country emerges for the first time as a group, which on the surface appears somewhat counterintuitive in terms of a cohesive relationship. Neither Côte d'Ivoire nor Republic of Korea make and report ivory seizure cases to ETIS with any degree of regularity, and Angola, the only non-CITES Party in all of sub-Saharan Africa, has never reported a single case. Thus, most involvement of this group in illicit ivory trade comes from evidence reported by other countries, a fact that probably serves to understate the true dimensions of the trade within and from these countries. Therefore, it is not surprising that this cluster is the third lowest group in terms of frequency and in the last group in terms of scale, indicating that, so far, most seizures have involved smaller worked ivory products rather than larger consignments of raw ivory. Only slightly less than a quarter of this trade falls in the most recent period and so far none of it has transpired in the context of large-scale ivory seizures. The lack of effective law enforcement is a concern as this group demonstrates a high perception of corruption with its very low CPI score, the third poorest law enforcement effort ratio at only 11%, and a fairly high mean market score indicating the presence of open, unregulated domestic ivory markets. Indeed, Angola hosts perhaps the largest uncontrolled ivory markets in southern Africa: an ivory trade study focused upon Luanda, Angola documented the presence of more than 1,5 tonnes of worked ivory products in 41 different outlets in June 2005 (Milliken et al., 2006). A November 2007 assessment of the ivory market in Abidjan, Côte d'Ivoire's capital city, found that the availability of ivory products had declined considerably over an earlier study conducted in 2002 owing to political unrest, a drop in tourism and general economic hardship. Still, 565 kg of worked ivory was observed in 24 outlets, whilst a small carving industry dependent on the illegal import of raw ivory from Central African sources was continuing to operate (Lagrot, in prep.). Very little is known about the ivory market in the Republic of Korea, but it is believed to be rather small. This cluster has some problematic variables, but overall is not a top-tier group of concern in this analysis. The provision of more and better data could change things in the future, and Angola, in particular, could move into a more problematic position given its very large domestic ivory market and evidence of cross-border ivory movements from the Democratic Republic of Congo.

Group 4 – ***Egypt*** *(EG),* ***Ethiopia*** *(ET) and* ***Sudan*** *(SD)*: These three geographically contiguous countries in the northeast of Africa appear in a cluster together for the first time in this analysis. For Ethiopia, which in the CoP14 analysis had shown impressive improvement by dropping from a position of problematic prominence into a cluster of far more benign impact, this current alignment should be interpreted as retrogressive

movement. Collectively, the values for frequency and scale fall at the lower end of the range, indicating that very few transactions involve large consignments of ivory. In terms of period of activity, 62% of the trade falls in the most current period, demonstrating that involvement in the ivory trade is contemporary. Organised criminal activity in the form of large-scale ivory movements does occur, but at 21% is also a relatively low value. The rather low CPI score, suggesting a high perception of corruption, is offset by the far more robust law enforcement effort ratio, signifying far better than expected performance in terms of law enforcement action. Indeed, each of these countries have had sporadic periods of focused law enforcement action that account for a large number of in-country seizures: in Egypt this occurred from 2000 through 2002, and in Ethiopia in 2004 and 2005, whilst in Sudan it has been an ongoing feature in 2008 and 2009. Unfortunately, with respect to Egypt and Ethiopia, such impressive efforts were not positively sustained for more than a couple of years at a time, although Sudan may alter this perception if the current performance of making and reporting large numbers of ivory seizures continues into the future. Substantial domestic ivory markets have been documented in all three countries, but no new assessments have transpired in Egypt or Sudan since the work of Martin and Milliken (2005) and Martin (2005), respectively. In Ethiopia, however, a significant resurgence of trade has been documented with the number of ivory products in the Addis Ababa market, increasing from 78 ivory items in 16 outlets in 2005 to 1,340 ivory products for sale in 37 outlets in July 2009 (Martin and Vigne, in prep.). Whilst not the most problematic cluster overall, these countries exhibit some worrying characteristics, and compliance with the requirements for internal ivory markets of Resolution Conf. 10.10 (Rev. CoP14) need careful attention. Further, of the three countries, Sudan is currently making and reporting ivory seizures with far greater frequency than either Egypt or Ethiopia, who both need to be encouraged to address the serious gaps in their reporting record to ETIS.

Group 5 – ***China*** *(CN)*: As has been the case in every cluster analysis to date, the characteristics of China are so unique that the country continually forms a single country cluster. Once again, China demonstrates the second highest values for the 'mean number of seizures' and the highest value for 'mean weight'. China also ranks first in terms of having the highest percentage of its trade by weight occurring in the most recent period of time since 1999. For these reasons, China remains the most important contemporary player in the illicit trade in ivory. To counterbalance this fact, there continues to be evidence of positive action on the part of China's authorities to address and actively suppress instances of illicit trade with dedicated law enforcement action. Whilst the CPI score and law enforcement effort ratio are unchanged from the previous analysis, the latter score remains a respectable 56% but will be better once China's seizure data for 2009 are reported to ETIS. Further, the score would be even better if China also regularly reported confiscations and forfeiture of personal effects in non-criminal cases as part of its ETIS submission, something that currently is not occurring. Since CoP14, China's domestic ivory market score has also again declined, albeit very modestly, owing to continued investment in the implementation of the official control system. Regardless, China's retail ivory market remains comparatively large to most other clusters in this analysis and some measure of illegal processing and retail sale remains a persistent threat to the legal ivory trading system. Beyond China's borders, ongoing evidence of the complicity of Chinese nationals based throughout Africa in the illicit procurement of ivory in African Elephant range States, including involvement in the movement of large volumes of ivory (ETIS data, this report), is a major concern. Indeed, a total of 60% of the trade by weight represents large-scale ivory seizures, suggesting that highly organised crime syndicates are actively engaged in the ivory trade to China. The large number of ivory seizure cases made outside of China, but which link to China as the ultimate destination, stands as the primary reason why China's involvement in the illicit ivory trade has not declined more noticeably in this analysis. For example, in 2008 and 2009, China itself made 51 ivory seizures but was implicated in 120 other seizures which took place elsewhere in the world, many of which resulted in the arrest of Chinese nationals. China, during the 55th meeting of the CITES Standing Committee, indicated that it would conduct a mission to Africa to address this issue through an outreach programme directed at Chinese communities on the African continent, however, it is not clear that this action has yet transpired. China, along with Japan, was the legal recipient of some of the 107 tonnes of ivory offered in CITES-approved one-off sale that transpired in November 2008. As such, China needs to be especially diligent in maintaining a strong proactive approach to law enforcement and strict implementation of its national regulatory system, especially as large-scale seizures of ivory have again surfaced in 2009 in countries which share common borders with the Chinese mainland.

Group 6 – ***United States*** *(US)*: Reporting over four times as many seizures as any other country in ETIS, the United States continues to rank highest in terms of 'mean number of seizures', but has also now moved into the high middle range in terms of scale for the first time. The average seizure size in the United States continues to indicate that the typical case involves small ivory products which are most likely personal effects. In terms of the measure for period of activity, just less than half of the illicit trade activity now falls in the most recent period, perhaps signalling that U.S. consumers abroad are increasingly refraining from ivory purchases. The very high values for CPI and the second highest law enforcement effort ratio again creates a very favourable portrait of effective law enforcement in the United States. The U.S. has also been involved in only a single large-scale ivory seizure event, which accounts for the low percentage (18%) of its trade that readily links to the prospect of organised crime. The only worrying sign is that the domestic ivory market score has increased considerably in

this analysis to the high middle range, owing to the findings of a recent ivory trade study that documented a total of 24,004 ivory products in 657 outlets in 17 American cities (Martin and Stiles, 2008). The authors cautioned that some 31% of the items seen appeared to be new and possibly from China in their judgment, but such observations remain speculative. Still, key markets, especially the largest ones in California, New York and Hawaii, need to be watched carefully and the degree of compliance with the requirements for internal trade in ivory in Resolution Conf. 10.10 (Rev. CoP14) carefully assessed.

Group 7 – ***Cameroon*** *(CM),* ***Mozambique*** *(MZ),* ***Gabon*** *(GA) and* ***Malaysia*** *(MY)*: All countries in this group are elephant range States, but three are in Africa and one in Southeast Asia. Mozambique, Gabon and Malaysia were all together in a group of eleven countries in the ETIS analysis to CoP14 where it was suggested that unless remedial actions were taken to improve a range of ivory trade variables, Mozambique and Gabon would probably move into a more problematic cluster in the future; this has now occurred with Malaysia also in the mix. On the other hand, Cameroon's entry into this grouping could be seen as some measure of positive improvement over that country's previous performance in the ETIS analyses; indeed, at CoP12, CoP13 and CoP14, Cameroon continually fell in the most problematic clusters, but in this analysis moves into a secondary level of concern for the first time. Indeed, Cameroon's profile has benefited in large part due to the regular provision of credible ivory seizure data from the non-governmental organization the Last Great Ape Organization (LAGA). Whilst the three African countries are all important sources of ivory and, sometimes, entrepôt for staging large-scale consignments of ivory off the African continent, Malaysia primarily functions as a port of call, but not an end-use destination, along one of the main Asian trade routes. Malaysia has progressively gained prominence in successive ETIS analyses as a transit country for African ivory possibly as a regional substitute for Singapore where the perception of better law enforcement may prevail owing to its role in the spectacular seizure of 7.2 tonnes of ivory in 2002; for its part, Malaysia has yet to make a single large-scale ivory seizure itself. Both Gabon and Mozambique have only emerged as significant producers of ivory recently, although both countries' role in the trade is certainly understated as they rarely provide data to ETIS. Further, within ETIS, many large-scale ivory seizures from African remain unclassified in terms of country of origin, but DNA examination holds the prospect of linking at least some part of this trade to Gabon or Mozambique, as has already been demonstrated in several recent cases since CoP14 (Wasser *et al*., 2008; 2009). Overall, this group falls in the middle range in terms of the measures for frequency and scale, but plays a very contemporary role as 85% of the trade (second to China in this analysis) falls in the most recent time period. Collectively, these countries have a fairly low CPI value, indicating a high perception of corruption, which is negatively complimented by having the fourth worst law enforcement effort ratio owing to the fact that none of these countries apparently make ivory seizures and report them to ETIS on a regular basis. Another disturbing variable is that three-quarters of the trade is linked to large-scale ivory seizures, indicting that organised criminal elements play a major role in the illicit ivory trades within, from and through these countries. And finally, with the exception of Malaysia, the domestic ivory markets in the African countries are relatively substantial and remain mostly unregulated. Ivory market surveys conducted in 2008 and 2009 in Mozambique found at least 2,487 ivory products for sale in 65 outlets in four cities (Milliken, in prep.). Of major concern, even in March 2009, ivory was still being openly offered for sale in violation of CITES at the international airport in Maputo, Mozambique's capital city, in spite of such trade being brought to the attention of the authorities on numerous occasions in the past (Milliken, in prep.). Whilst the smaller domestic ivory markets in Gabon and Cameroon appear to be declining (Lagrot, in prep.), ivory products can still be found in local curio markets.

Group 8 – ***Hong Kong SAR*** *(HK),* ***the Philippines*** *(PH,* ***Singapore*** *(SG),* ***Taiwan, province of China*** *(TW) and* ***Viet Nam*** *(VN)*: The first three countries or territories appeared in the same cluster in the ETIS analysis to CoP14, whilst Singapore and Taiwan, province of China, were previously seen together in the ETIS analysis to CoP13. Now, Viet Nam joins this group which collectively function as major transit countries or territories for illicit consignments of ivory which are believed to be destined for China although the documentation remains unclear in this regard in many cases. There is little doubt that Hong Kong SAR has the best long-term reporting record to ETIS amongst this group, followed by Taiwan, province of China, whilst Viet Nam has also recently established a good reporting record as well. On the other hand, both Singapore and the Philippines almost never provide elephant product seizure data to ETIS. Overall, this cluster is in the lower range in terms of the 'mean number of seizures', but simultaneously exhibits a relatively high 'mean weight' as a representation of scale. Thus, whilst ivory seizures occur rather infrequently on the whole, when incidences do occur they often involve high-volume cases. Not surprisingly, this cluster exhibits the highest value for the measure of organised crime; 82% of the trade by weight has involved large-scale ivory seizures, suggesting that organised crime elements play an overwhelmingly dominant role in moving major consignments of ivory to, through or out of these countries or territories within Asia. In fact, all of these entities share the characteristic of having major seaports with large container shipping industries, becoming almost by *default* either staging or transit points for large-scale movements of illicit ivory between Africa and Asia, or within Asia. Collectively, these five countries and territories have been involved in nearly half of the 25 largest ivory seizures in ETIS that have transpired outside of Africa over the last decade. The action is increasingly contemporary as some two-thirds of the illicit ivory trade has occurred in the recent period since 1999. Overall, the CPI score falls in a rather acceptable mid-

range position, but at an individual country level the perception of corruption is many times greater in the Philippines and Viet Nam (for example, 2.3 and 2.7 in 2008, respectively), than it is in Hong Kong and Singapore (8.1 and 9.2 in 2008, respectively). Indeed, the emergence of trade to and from the Philippines and Viet Nam in recent years is probably related to this fact. Also of major concern is the law enforcement effort ratio which, at 24%, is rather poor given the reputation many of these countries and territories have for efficiency. The aggregated domestic ivory market score holds a mid-range position. The ivory market in Hong Kong SAR remains one of the largest in Asia (Martin and Stiles, 2003), but recent survey work has not been conducted and most stock displayed for retail sale is believed to entail production from the period prior to the CITES trade ban when Hong Kong had the largest manufacturing industry in the world. Thus, Hong Kong SAR is no longer viewed as a end-use market destination for newly manufactured ivory products. The much smaller domestic ivory markets in Singapore and in Taiwan, province of China, also appear to be steadily declining (Martin and Stiles, 2002; 2003). For its part, Viet Nam recently reported, in the '*Elephants and ivory trade questionnaire*' delivered to the CITES Secretariat pursuant to the Decision 13.26 (rev. CoP14) process, that it completely prohibits the import of ivory in all forms and does not allow any domestic trade in the substance. Accordingly, one would assume that ivory products would rarely, if ever, be found on local Vietnamese markets, but a recent assessment in 2008 found 2,444 ivory items for open sale at 73 retail outlets in eight cities (Stiles, 2008). The situation in the Philippines also needs to be reviewed as anecdotal reports of an emergent ivory carving industry continue to be received.

Group 9 – ***Japan*** *(JP),* ***Malawi*** *(MW),* ***Macao SAR*** *(MO),* ***Uganda*** *(UG) and* ***Zambia*** *(ZM)*: Whilst Japan, Malawi and Zambia were aligned together in a cluster described in the CoP14 analysis, Macao SAR and Uganda now join this group. As a result, three elephant range States that function as ivory source and transit countries in Africa, are grouped with tiny Macao, a special autonomous region of China and transit port in the ivory trade, and Japan which looms large as one of Asia's top ivory consumers and a two-time beneficiary of the CITES-approved one-off ivory sales in 1999 and 2008. Collectively, this group has the lowest value for 'mean number of seizures', the frequency measure, but the 'mean weight' measure falls in the mid-range, once again indicating that most seizure events entail substantial volumes of ivory. In fact, this is the binding characteristic between this seemingly disparate group of countries and territories. More than three-quarters of the trade by weight is linked to large-scale ivory seizure events, indicating that highly organised criminal activity is a major feature of ivory movements involving this group. Malawi, with a relatively small elephant population itself, usually deals in ivory that comes from neighbouring Zambia or Mozambique, whilst Uganda plays a similar role with respect to ivory from the Democratic Republic of the Congo. Just under three-quarters of this activity is accounted for in the most recent period, 1999-2009, suggesting that all countries are currently active in the illicit ivory trade. The CPI score falls in the middle range, but the aggregated value more strongly reflects the influence of Malawi, Uganda and Zambia where there is a high perception of corruption, rather than Japan where the opposite is true. The aggregated law enforcement effort ratio is also in the middle, indicating a better than average performance in terms of interdiction of illicit consignments of ivory within these countries, but there is considerable variability at the individual country level. The domestic ivory market score is also in the lower mid-range, but the availability of ivory in Japan, where a government regulated legal trade exists, is by far the most robust. In Macau SAR, the availability of ivory is waning (Martin, 2006), whilst the three African countries generally suppress ivory trade and only modest opportunistic domestic ivory markets sporadically manifest themselves.

Group 10 – ***United Kingdom*** *(GB),* ***South Africa*** *(ZA)and* ***Zimbabwe*** *(ZW)*: Just as in the report to CoP14, the United Kingdom, South Africa and Zimbabwe form a cluster together. Zimbabwe and South Africa are African Elephant range States whose populations are in Appendix II of the Convention and both countries were beneficiaries in the one-off ivory sale agreed at CoP14 and undertaken in November 2008. The United Kingdom has waned considerably in its historical role as a transit route linking African producers to Asian consumers and increasingly functions as a minor consumptive market of worked, often antique, ivory products. Whilst the United Kingdom is a regular contributor of data to ETIS, the provision of seizure reports from both Zimbabwe and South Africa appears to have suffered lapses in recent years. In the upper middle range for 'mean number of seizures', these countries are very regularly involved in ivory trade transactions, but the relatively low value for 'mean weight' continues to indicate that most activity involves small worked ivory products. Since 1997, Zimbabwe has been allowed to export ivory carvings for non-commercial purposes under CITES, but some CITES Parties, through stricter domestic measures, do not accept such exports even with the appropriate CITES documentation. This confounds the data to some extent as trade legally sanctioned by Zimbabwe is subject to some measure of confiscation abroad. More importantly, however, is the fact that abuse of local regulatory measures within Zimbabwe, including the export of raw ivory in the guise of worked ivory products, has repeatedly surfaced in recent years, leading to the suspension of trade by the Zimbabwe government on at least two occasions. In terms of period of activity, less than half of the activity by weight (45%) has occurred in the recent period since 1999, and this grouping also exhibits a low value for the organised crime measure. Where organised criminal activity is captured in this grouping, it relates entirely to Zimbabwe, where reports of the involvement of politicians, military personnel and Chinese nationals in the illicit

wildlife trade have surfaced (Anon., 2009 a; 2009 b). The CPI score continues in the mid-range overall, but has dropped since CoP14 due to some erosion in the scores for all three countries. Regardless, the perception of corruption is most influenced by the situation in Zimbabwe, which is now ranked eleventh amongst the 180 countries evaluated by Transparency International in 2008. The law enforcement effort ratio has also dropped to 40% (a decline of 4% from the CoP14 analysis), indicating a less than average performance collectively. Once again, however, this decline is attributable to the situation in Zimbabwe. The domestic ivory market score also falls in the lower mid-range, but the market in Zimbabwe continues to be about twice the size of that found in either South Africa or the United Kingdom. It would not be surprising if this is the last analysis in which the United Kingdom is linked with South Africa and Zimbabwe in the same cluster, and there are seriously worrying signs that Zimbabwe will move into a more problematic grouping in the future unless firm steps are taken to arrest the causes of a diminishing performance overall.

Group 11 – ***Australia*** *(AU),****Germany*** *(DE)and* ***France*** *(FR)*: This group of countries comes together in a cluster for the first time in this analysis. With the third highest score for 'mean number of seizures', these countries are frequently making and reporting ivory seizures to ETIS. Indeed, next to the United States, France and Germany have reported more elephant product seizures than any other countries in ETIS, whilst Australia holds the fourth position in this regard. Overall, this group also has the third lowest value for 'mean weight' which clearly indicates that almost all law enforcement events involve small volumes of ivory that are typically personal effects rather than commercial scale shipments. With only 46% of this activity in the most recent period from 1999 onwards, there is some suggestion that Australian, German and French tourists are increasingly refraining from the purchase of elephant products. Not surprisingly, none of the countries have ever been associated with a large-scale ivory seizure event. Collectively exhibiting the best law enforcement effort ratio of any cluster, the best values for the CPI score and the relatively low market score all support the conclusion that these countries are doing almost everything right: this cluster arguably exhibits the best variables of any grouping in this analysis!

Group 12 – ***Belgium*** *(BE),* ***Botswana*** *(BW),* ***Canada*** *(CA),* ***Switzerland*** *(CH),* ***Spain*** *(ES),* ***India*** *(IN),* ***Italy*** *(IT),* ***Namibia*** *(NA),* ***Netherlands*** *(NL) and* ***Portugal*** *(PT)*: These ten countries, the largest grouping in this analysis, comprise another 'catch-all' mix of low-volume ivory trade, high performing elephant range States (Botswana and Namibia in Africa and India in Asia) and fairly minor transit or consumer countries (Belgium, Switzerland, Spain, Italy, Netherlands and Portugal in Europe and Canada in North America). The Netherlands and Spain appear in the ETIS cluster analysis for the first time, while all other countries have featured in previous reports. In terms of frequency, this cluster is in the middle ranking with fairly regular elephant product seizures, but in terms of scale the group is second from the bottom with a very low weight value. Most seizures, therefore, involve small ivory products. The 'period of activity' measure strongly suggests that involvement in the illicit trade in ivory is decreasing with only 34% of the trade transpiring since 1999, the second lowest value in this analysis. The percentage of the trade by weight related to large-scale ivory seizure events is also a negligible 4%. The relatively high CPI score and law enforcement effort ratio indicates good governance is operative in these countries not only as a general attribute, but also with specific reference to the interdiction of contraband ivory. Further, as an aggregated group, the domestic ivory market score is also the third lowest in this analysis, another positive characteristic. Overall, the countries in this cluster exhibit a highly commendable performance and it is reassuring to note that Botswana and Namibia, two of the four African countries whose elephant populations are in Appendix II of the Convention, are amongst them.

Group 13 – ***Tanzania*** *(TZ)*: As is usually the case, Tanzania, an elephant range State with the second largest elephant population on the African continent, stands alone in a single country cluster. With a solid mid-point value for 'mean number of seizures', this ranking probably underestimates Tanzania's true position to some extent as the reporting of elephant product seizure cases to ETIS has dropped off considerably in recent years, with only four records received since 2007 (other data, recently received, are pending entry into ETIS; see Annex 2). Regardless, Tanzania has the second highest value of any cluster next to China for 'mean weight'. Whilst this was also the case in the CoP14 analysis, at that time Tanzania's weight value was only 70% of China's; remarkably, in this analysis that value has increased dramatically to 90%. This strongly demonstrates that Tanzania remains heavily involved in the movement of large-scale consignments of illicit ivory. In fact, the most worrying feature of this cluster is the measure for assessing the involvement of organised crime: 69% of the trade by weight has involved large-scale ivory seizures, indicating the presence of active and entrenched organised criminal syndicates in the country's ivory trade. Indeed, Tanzania has either made itself or otherwise been implicated in 15 of the 55 highest volume ivory seizures reported to ETIS, including the third largest seizure event in the ETIS data which recently occurred in Viet Nam in 2009. (Another pending case concerning a large-scale ivory seizure in the Philippines also involves Tanzania as the country of export). Not surprising, Tanzania exhibits the greatest average seizure size of any country in ETIS. With 57% of Tanzania's total trade by weight occurring in the period 1999-2009, this percentage is likely to increase somewhat if Tanzania moves forward to report internal ivory seizures that have occurred since 2007. The low CPI value suggests a fairly high perception of corruption, but, at 72%, the relatively good law enforcement effort ratio continues to suggest an

acceptable rate of interdiction, although it should be noted that this figure has progressively dropped from a superlative 91% in the earliest ETIS analysis in 2002. (The current variable, however, will become more favourable once the outstanding data from Tanzania are entered into ETIS). Finally, next to Kenya, Tanzania continues to exhibit the second lowest domestic ivory market score indicating almost no evidence of ivory openly for sale in the internal market. As in the past, Tanzania clearly functions as an important transit country, with its ports of Dar es Salaam and Tanga in particular providing access to global markets for illicit ivory that is likely to originate, at least in some part, from other neighbouring countries in Africa, especially Central Africa. Thus, the impact of the ivory trade from Tanzania also impacts elephant populations which exist outside of the country. It is worrying to note that, the 'perfect record' Tanzania had established between 1989 through 2002 in terms of seizing all large-scale ivory consignments itself before they left the country, has seriously eroded since 2003; since then only one out of the last eight (soon to be nine) large-scale ivory consignments have been interdicted before export by the Tanzanian authorities themselves. Such events, by definition, are suggestive of organised crime and the ability of the country to meet this challenge seems to have become significantly compromised.

Group 14 – ***Kenya*** *(KE)*: Like in the analysis to CoP14, Kenya, an elephant range State, once again features in a single country cluster. Holding the fourth highest value for 'mean number of seizures' and the third highest value for 'mean weight', Kenya's data underscores a steady, vigilant stance against illicit trade in ivory. With 78% of the trade by weight transpiring in the most recent period, 1999-2009, this variable has increased by 5% since CoP14, indicating that Kenya remains an important link on trade routes to international destinations for illicit consignments of ivory. At 28%, Kenya's percentage of the trade that relates to large-scale ivory seizure events is indicative of some degree of organised criminal activity in the country. Since 2002, Kenya has been implicated in two large-scale consignments of illicit ivory that reportedly originated in the Central African region and were staged from neighbouring Uganda using Kenya's principal seaport, Mombasa. Thus, as reported previously, the greatest impact of the illicit ivory trade associated with Kenya appears to be external to the country. Once again Kenya demonstrates the second lowest CPI score in this analysis, indicating that the perception of corruption remains great, but this continues to be offset by the country enjoying the second highest law enforcement effort ratio in this analysis, a very commendable attribute. This strongly indicates that Kenya's wildlife sector, at least with respect to illegal trade in ivory, is not affected by the poor governance that is perceived to prevail in the country as a whole (although at least two large-scale ivory seizures seized elsewhere in the world since 2002 have implicated Kenya as the country of export). The exceptionally low domestic ivory market score again demonstrates that Kenya's remains committed to 'zero' tolerance when it comes to domestic trade in elephant ivory.

<u>Correlated relationships which drive illicit trade in ivory</u>:

The description of the individual clusters above serves to bring out the salient characteristics and key relationships of each group. Table 4 presents a statistical correlation of the variables given in the summary statistics found in Table 3. As was the case with all previous analyses of the ETIS data, there continues to be a highly significant negative correlation between the domestic ivory market score and the law enforcement effort ratio. In the analysis to CoP14, this correlation was -0.77, with a stronger P-value of <0.001, whilst in this rendering it has dropped to -0.68, with a P-value of <0.007. This correlation generally indicates that those countries which have large, unregulated domestic ivory markets (i.e. high scores) continue to also show the poorest law enforcement effort (i.e. low ratios), although this relationship has marginally weakened in contrast to previous analyses of the ETIS data. Whilst those countries or territories which exhibit this characteristic still remain important drivers of the illicit trade in ivory, other factors also appear to be eroding this prominence to some extent. Indeed, another major driver of illicit trade in ivory emerges in this analysis and that is the significance of large-scale ivory seizures. There is a strong correlation between the occurrence of large-scale ivory seizures and the second period encompassing the most recent years 1999 through 2009, as well as a lesser, but still significant relationship between large-scale ivory seizures and the mean weight (a result that could be anticipated given the significance of large-scale ivory seizures in the more recent period). This indicates that the involvement of organised crime syndicates is increasingly becoming a major factor in the illicit ivory trade over the last decade. Finally, as in previous analyses to CoP12 and CoP13, some degree of positive correlation was also found between the CPI score and the law enforcement effort ratio, as well as a negative correlation between mean weight and the percentage of trade in the second period 1999-2009, but these relationships are weaker in contrast.

Table 4: *Correlation between variables in Table 3*

	Mean Seizure	Mean Weight	% in Period 2	Mean CPI	LE Ratio	Market Score
Mean Weight	0.33 (ns)					
% in Period 2	0.08 (ns)	0.55 (0.04)				
Mean CPI	0.39 (ns)	-0.33 (ns)	-0.41 (ns)			
LE Ratio	0.41 (ns)	0.19 (ns)	-0.06 (ns)	0.47 (0.09)		
Market Score	0.13 (ns)	-0.17 (ns)	0.08 (ns)	-0.21 (ns)	-0.68 (0.007)	
Large-Scale Seizures	-0.24 (ns)	0.50 (0.07)	0.73 (0.003)	-0.40 (ns)	-0.41 (ns)	0.18 (ns)

Key: ns = not significant

Numbers in brackets represent P-values

Note: In this ETIS analysis, a P-value of <0.10 suggests a correlated relationship, whilst <0.05 is good evidence for such a relationship.

Assessing the results of the cluster analysis:

With one or two exceptions, each of these clusters demonstrate some factors that give rise to concern. The most important variables for determining the most problematic clusters include the measures for assessing law enforcement effort, effectiveness and rates of reporting, the involvement of organised crime and the scale and degree of regulation of internal ivory markets.

With that in mind, the two clusters which hold Nigeria (Group 1) and the Democratic Republic of the Congo and Thailand (Group 2) continue to play the most problematic contemporary roles in the illicit trade in ivory. It can not be overstated that this result echoes a consistent finding from the three previous ETIS analyses since 2002.

- A complete CITES trade ban has been imposed upon **Nigeria** since 19 July 2005 because of "insufficient progress … in relation to its action plan to improve implementation of CITES" (CITES, 2005). Over four years later this directive remains in effect, leaving the distinct impression that the Nigerian government remains unconcerned about its general standing within the Convention, much less its ongoing ivory trade problems. Serious engagement with Nigeria to address this impasse and ongoing illicit ivory trade issues is warranted.

- To the contrary, and for the first time, **Thailand** finally appears to be actively engaged in an internal process to address its extremely large and challenging domestic ivory market. The revision of key legislation, including the drafting of an elephant-specific law, and the adoption of regulatory requirements for ivory dealers to provide inventories of their stock are in progress (A. Noochdumrong, Thai Management Authority, pers. comm., June 2009), but the precise outcomes of these initiatives are yet to be demonstrated, and there is some concern that they may simply 'legalize' the status quo to the detriment of elephant conservation. To improve law enforcement training events in ivory identification and ETIS participation have also been initiated for law enforcement authorities by Thailand's CITES Management Authority, in collaboration with TRAFFIC, in recent months. Any positive impact from these encouraging developments, however, is not yet discernible in the trade patterns elucidated by the ETIS data. The fulfilment of basic recommendations in Resolution Conf. 10.10 (Rev. CoP14), such as the timely provision of seizure data to ETIS, remain an outstanding challenge, and law enforcement actions in the marketplace will certainly be required before Thailand's position shifts appreciably in a future ETIS analysis.

- **Democratic Republic of the Congo** is also not fulfilling basic CITES recommendations for internal trade in ivory. As in Thailand, training events for government officials have been convened by TRAFFIC to support participation in ETIS and to improve law enforcement on ivory trade issues in Kinshasa, the capital city, but to date no data have been forthcoming from the government on any elephant product seizures. Further, it appears that local ivory markets remain unaffected by any kind of effective law enforcement action (Lagrot, in prep.), which is certainly a prerequisite before any improvement for the Democratic Republic of the Congo will be noted in future ETIS analyses.

A secondary level of concern should be directed towards Cameroon, Gabon, Malaysia and Mozambique (Group 7) and Hong Kong SAR, the Philippines, Singapore, Taiwan, province of China, and Viet Nam (Group 8). These countries and territories exhibit a range of associations with the illicit trade in ivory.

- Whilst **Cameroon** encouragingly shows some improvement and is no longer grouped with Nigeria in this cluster analysis, illicit trade in ivory remains an ongoing problem. Ongoing law enforcement pressure on domestic ivory trading is producing some positive results (Lagrot, in prep.) and needs to continue. Of far greater concern in terms of trade volumes, governance issues and law enforcement challenges is the clandestine transport of ivory through Cameroon, particularly across southern and south-eastern portions of the country, some of which likely originates from neighbouring Central African Republic and Congo and certainly from **Gabon**. Indeed, DNA testing has implicated Gabon as a major source of ivory behind some of the largest ivory movements in ETIS (Wasser *et al*., 2008). Such ivory is typically shipped to Asia either through the port of Douala or, in smaller consignments, through the airports at Yaounde or Douala. As recently as 2006, Cameroon was the staging ground for a highly organised Asian criminal syndicate that had earlier roots in Nigeria (H. Njike, LAGA, pers. comm., October 2007); whilst law enforcement action in Hong Kong and then follow-on action in Cameroon certainly disrupted this particular crime cell (with international warrants for the arrest of named Chinese individuals being communicated by Interpol in connection with this high-profile case), the prospect of some kind of regrouping and resumption of illicit trade from strategically advantageous Cameroon needs to be careful watched. On the other hand, in the face of such disruption, a trade shift to Gabon's ports can also not be ruled out. Unlike Cameroon, Gabon has not really demonstrated any kind of proactive engagement with ETIS, and it remains to be seen whether the country will be able to rise to the challenge of large-scale ivory trading through its ports. Both countries need to remain cognizant of the fact that illicit ivory trade to international destinations is often masked as part of legitimate timber exports, their major export commodity.
- **Mozambique**, in contrast to previous analyses, has rapidly assumed an overtly problematic position in this analysis due to the continuation of its large and unregulated domestic ivory market, recent movements of considerable volumes of ivory to Tanzania and to Viet Nam, and ongoing thefts of ivory stocks from government custody (Milliken, in prep.). These latter two developments worryingly indicate the growing influence of organised criminal activity in the trade which ostensibly confounds or co-opts the law enforcement capacity and response of government authorities. In the meantime, recent law enforcement actions, all of which have focused upon Maputo, the capital city, remain sporadic and appear insufficient in scope; ivory products remain openly sold in many other markets throughout the

country (Milliken, in prep.). Mozambique's position within the illicit ivory trade is actually expected to worsen in the future unless a stronger commitment to the management of government ivory stocks and law enforcement emerges and seizure data are regularly reported to ETIS. The illicit movement of ivory with timber shipments also appears to be a developing issue of concern.

- The fairly recent history of large-scale ivory seizures occurring in **Hong Kong SAR**, and **Singapore** stands as the fundamental challenge for these bustling Asian ports which function as important transit territories or countries within the region. **Malaysia**, although from a separate cluster, should also be considered in this same context as its presence in the second tier countries of concern is probably related to its emerging role as a regional substitute port for Hong Kong and Singapore. The sheer volume of cargo through these ports, involving millions of containers a year, means that careful targeting is required for law enforcement to be effective. Hong Kong SAR, Singapore and Malaysia should focus on shipments originating from key export countries in Africa, and remain cognizant that, in the recent past, contraband ivory has been hidden amongst shipments of a wide range of other commercial commodities.
- The **Philippines** also has emerged as an important transit point for large-scale ivory movements within Asia. This role became clearly evident in the face of three successive large-scale ivory seizures implicating the Philippines in 2005 and 2006; one more large-scale ivory seizure has occurred in 2009, but remains pending in ETIS as verified information has only recently been communicated to TRAFFIC by the Philippine authorities. Poor governance and possible linkages to organised crime were demonstrated in the disappearance of 3.7 tonnes of ivory from the custody of Customs in 2006 (CITES, 2006). The Philippines remains a country to watch closely in future ETIS analyses.
- Ivory trade activity in and out of **Taiwan**, province of China, appears to have waned since 2006 when two spectacular and directly related seizures occurred at the port of Kaohsiung. On the other hand, large-scale movements of ivory to **Viet Nam** have increased significantly over the same time period, raising the possibility of shifting trade routes for the benefit of China. Taiwan, province of China, and Viet Nam need to be diligent in continuing to screen and target container cargo that originates from Africa, especially the countries noted in the cluster analysis such as Tanzania, Mozambique, Cameroon and Nigeria. It is encouraging to note that the authorities in both Viet Nam and Taiwan, province of China, have been sensitized to these issues and hopefully will be able to meet any future challenge in this regard. Further, Viet Nam's substantial land border with China also requires some dedicated attention to prevent movements of ivory between the two countries.

<u>Focusing on China and Japan</u>:

China and Japan deserve special focus as both countries hold a unique position of responsibility within CITES in terms of legal trade in ivory. First Japan, and then China, were approved by the CITES Standing Committee as designated importing countries for the second one-off ivory sale that was initially approved at CoP12 in 2002, and then later refined and expanded at CoP14 in 2007. In November 2008, four southern African countries, Botswana, Namibia, South Africa and Zimbabwe exported 107,770 kg of raw ivory valued at nearly USD15.5 million to China and Japan.

In this cluster analysis, when compared to previous ETIS reports, China has demonstrated some further measure of progress in terms of improving upon a range of negative ivory trade variables since 2002. Whilst this is encouraging, China still remains the single most important country in terms of influence on the illicit trade in ivory. The ETIS data show that, since 2006, China has been directly implicated in only one of the 12 largest ivory seizures during this time. That fact has certainly helped to shape China's current profile in this analysis. To some extent, however, this result may be compromised by insufficient information as the final destination remains very unclear concerning many of the large-scale ivory seizures in recent years. For example, there is speculation[1] that China was the likely destination for four seizures (totalling nearly 12 tonnes of ivory) that occurred in Hong Kong SAR or Taiwan, province of China in 2006, and two others which occurred more recently in Viet Nam (involving over 7.6 tonnes of ivory) in 2009. The prospect of China being the final destination for all or some of these consignments looms large, but it can not yet be demonstrated as an incontestable fact in the context of ongoing investigations. Still, China itself seized one consignment of 1.8 tonnes of ivory in 2006 which clearly indicates that some attempt continues to be made to move large volumes of ivory onto the Chinese mainland. This fact raises the spectre that China may still be home to clandestine, extra-legal production systems of some description or that, to some extent, ivory from illegal sources is

[1] *ETIS requires some form of tangible evidence in terms of country of destination in order to assign a country as being implicated in a particular seizure event. Thus, in all of these cases, China is not identified as the country of destination, nor will it be until those investigating these cases communicate a result based on investigative evidence.*

infiltrating accredited manufacturing channels. At this point, neither possibility can be concretely demonstrated, but China needs to remain diligent and continue to probe and assess its domestic ivory producing and trading systems to ensure strict compliance with established regulatory mechanisms. Currently, related industries, particularly those engaged in producing worked products from mammoth ivory, need close scrutiny to ensure that elephant ivory is not also being processed surreptitiously and marketed within the country. Monitoring and analysis of data relating to raw ivory stocks and worked ivory production levels amongst China's registered ivory processing companies also needs to be undertaken periodically in order to ensure that plausible levels of manufacturing are maintained.

Another matter for renewed attention concerns China's outreach and awareness initiatives directed at Chinese communities living abroad. The improved domestic ivory market score and better than average law enforcement effort ratio is indicative of the serious commitment to ivory trade regulation on the part of the Chinese government on the home front. On the other hand, domestic actions to restrict ivory trading within a narrow regulatory framework in China may not necessarily be widely appreciated by Chinese nationals living abroad and in positions to acquire ivory from illicit sources and transport it back home. Chinese nationals have been arrested within or coming from Africa in at least 134 ivory seizure cases, totalling over 16 tonnes of ivory, and another 487 cases representing almost 25 tonnes of ivory originating from Africa was seized en route to China. Indeed, as in previous analyses, China continues to hold the key for reversing the upward trend in illicit trade in ivory.

With respect to **Japan**, it is encouraging that the country has not been implicated in any major seizure cases since CoP14, according to the ETIS data. Overall, evidence of large movements of illicit ivory to Japan have been very sporadic in the past, including a 2.9 tonne seizure in mid-2006 and implication as the potential destination for the huge consignment of 7.1 tonnes of ivory seized in Singapore in 2002. Prior to that the ETIS data indicate only a single large-scale seizure event in 1990, shortly after the ivory trade ban imposed by a decision of the CITES Parties. Another hopeful fact in this analysis, and one that stands in sharp contrast to the data for China, is that Japanese nationals are rarely implicated in seizure events that have taken place within or coming from Africa. Further, worked ivory products coming from Japan are infrequently seized by other countries around the world, indicating that most consumption of ivory remains within the country as obligated in the country's legislation. Still, as Japan harbours one of the world's major ivory processing industries and consuming markets, strict vigilance is required on the part of the Japanese authorities to ensure that illicit trade in ivory does not manifest itself.

In conclusion, as designated ivory importing countries under CITES, both China and Japan remain enormously important countries in the ivory trade equation and, therefore, have an elevated responsibility under the Convention to ensure that their legal trade in ivory does not produce unintended consequences in terms of illegal trade flows.

PART IV: ASSESSMENT OF FACTORS GIVING RISE TO ILLICIT TRADE IN ELEPHANT IVORY

Resolution Conf. 10.10 (Rev. CoP14) mandates that ETIS assess "*whether and to what extent observed trends are related to changes in the listing of elephant populations in the CITES appendices and/or the resumption of legal trade in ivory*".

Correlation between CITES-approved one-off ivory sales and the trend in illicit ivory trade:

The question of whether the observed trends in the illegal trade in ivory are related to events and decisions under CITES has been discussed in all previous ETIS analysis. At this point in time, the paramount question is: "Did the CITES-approved one-off ivory sale (which took place between 28 October and 06 November 2008) subsequently stimulate an increase in illegal trade in ivory?" Looking back to the first conditional one-off ivory sale which transpired in June 1999, it has been demonstrated in previous ETIS analyses, and again in this one, that the trend in illicit trade in ivory (as measured by the smoothed and adjusted trend line) subsequently declined for five consecutive years between 1999 until 2004. The adjusted but unsmoothed trend, showing year to year fluctuations, also results in a progressive decline to 2004, albeit with some moderate variation from year to year. Overall, either presentation of the trend in the ETIS analysis provides no evidence that the first one-off ivory sale under CITES resulted in any overall increase in illicit trade in ivory, but on the contrary the opposite was likely.

The question now is: "Is this still the case?" The trend in illicit trade in ivory, as depicted in the ETIS analyses, is presented to give both macro (Figure 6) and micro (Figure 5) views of the trade. That is to say that the smoothed, adjusted trend presents the underlying 'big picture' changes in the data by smoothing out the 'noise' inherent in the annual fluctuations. This macro view is a useful means to gauge the essential pattern in the data overall and, generally speaking, becomes the primary point of reference for general discussion on whether the

trend is increasing, stable or declining. On the other hand, the micro view, without the benefit of smoothing, allows for the year-to-year nuances of the data to be better examined against a variety of specific time-based factors and developments. In this analysis, looking at the last five years, both views of the trend demonstrate agreement by commencing at low points in 2004 and coalescing at end points in 2009 which point to a pronounced upward movement in illegal trade (Figure 7). It is the points in between, especially the years 2007 and 2008, however, that introduce an element of inconsistency between the macro and micro representations of the trend.

Looking at the macro view first, as represented by the smoothed adjusted trend line, since 2004, there has been an uninterrupted upward trajectory, indicating a steady increase in illicit trade in ivory globally throughout this time. In the ETIS analysis to CoP14, which projected the trend through 2006, the incline of the smoothed adjusted trend line between 2004 and 2006 was rather steep, but now it is less so owing to the influence of subsequent years. In this analysis, the period of more rapid increase is now reflected as occurring from 2007 to 2009. The nuances of past and present analyses aside, the primary consideration is that the illicit trade in ivory has essentially been progressively increasing over the last five years. In other words, the macro view of global illicit ivory trade shows an increasing trend that predates the recent one-off ivory sale by some four years. If that is the case, then it stands to reason that something other than CITES one-off ivory sale events has principally been driving the illegal trade in elephant ivory.

Looking at the micro view of the trend, however, a somewhat different perspective can be seen. The actual volumes of ivory seized in 2007 and 2008 represent some of the lowest annual totals in 21 years of ETIS data, owing to the total absence of any large-scale ivory seizures in 2008 and only two such seizures in 2007. In contrast, the greatest number of large-scale ivory seizures (six events in total) occurred in 2006, a year that now represents the third highest annual peak in the data over the last 12 years. Consequently, in looking at the adjusted (but unsmoothed) trend line in this analysis, a sharp decline actually occurs in the years 2007 and 2008, before commencing a very pronounced upward projection in 2009. It goes without saying that 2009, by definition, represents an incomplete set of data but immediately follows the one-off ivory sale under CITES. Taking only the adjusted trend (and ignoring the macro perspective offered by the adjusted and smoothed trend), it could equally be argued that illicit trade in ivory has increased directly and substantially following the one-off ivory sale in late 2008.

As a consequence of these somewhat conflicting trade patterns, it is not possible to interpret either the macro or the micro trends in this ETIS analysis unambiguously and without reservation. Indeed, in the context of this analysis, both representations of the trend are essentially accurate, but neither allow unequivocal consistent interpretation of the relationship between the status of the illicit trade in ivory today and the one-off ivory sale that recently transpired under CITES. On the other hand, the fact that both depictions of the trend demonstrate a significant increase between 2004 and 2009 should be cause for great concern, and should provide sufficient justification for a more forceful approach to the implementation of the '*action plan for the control of trade in African elephant ivory*' articulated in Decision 13.26.

Whether the apparent increase in illicit ivory trading in 2009 is a direct result of the one-off ivory sale under CITES or some other cause or group of causes remains to be conclusively established. Further time and more data and information will no doubt result in a clearer interpretation of this issue in the future. For the moment, however, it is abundantly clear that it is the large-scale ivory seizure events of 2009 that are now pushing the trend dramatically upward in 2009. With five months still remaining in 2009 (at the time data entry into ETIS was suspended for this report), four large-scale seizure events, involving nearly 10.7 tonnes of ivory, have already occurred and are part of the data in this analysis (whilst a fifth case concerning some 4.8 tonnes of ivory seized in the Philippines is pending entry and will be part of any subsequent analysis that may be conducted prior to CoP15).

The uncertainty concerning interpretation of both the macro and micro trends in ETIS gives rise to any number of considerations or possible scenarios to explain the inconsistent trend results. Did the success of law enforcement action in 2006, resulting in the interdiction of some 16.4 tonnes of ivory in six large-scale seizures, cause the collapse of some organized criminal structures in the interceding period of 2007 and 2008? It is known, for example, that in Cameroon one such network was abruptly abandoned in the face of the subsequent investigation (H. Njike, LAGA, pers. comm., October 2007). Did this disruption occur elsewhere too? Has it taken some two years to re-establish a physical base and *modus operandi* for such trade to commence again? Are we dealing with veteran ivory traders or have newcomers moved in to fill a void created by the law enforcement actions of 2006? Another important issue is how much time is required to amass the volumes of ivory represented by the large-scale ivory seizures which have already occurred in 2009? Were these transactions actually set in motion long before the one-off ivory sale under CITES took place and, therefore, were not influenced by it one way or another? Or can the peaks and troughs in the ETIS data be related to CITES events and decisions? If the increase in 2009 is in fact a consequence of the one-off ivory

sale in 2008, can it be presumed that it will be a sustained phenomenon and continue well into the future, or will it only produce a short-lived 'bump' effect? None of these critical questions can be adequately answered at this time and more compelling resolution of this conundrum will require the acquisition of further information and data before a clearer understanding eventually emerges.

And finally, if it were concluded that CITES events are not the principal driving force behind illicit trade in ivory, what is? As before, the answer in part has to be the ivory markets themselves, particularly those which are unfettered by regulation and devoid of law enforcement actions. Indeed, it is a fundamental principle that not all markets are equal, and those which are based upon a solid regulatory structure and exhibit proactive investment in terms of law enforcement are less likely to attract persistent volumes of illegal ivory than those which are not. All four ETIS analyses to date have continually and unequivocally demonstrated a highly significant negative correlation between the domestic ivory market score and the law enforcement effort ratio. This result continues to validate without reservation the notion that, at the end of the day, the illicit flow of ivory inevitably moves along the path of least resistance. The degree to which this path is directly stimulated by CITES decisions and events is the question that remains to be resolved. The current analysis renders an inconclusive result in this regard.

Assessing the issue of governance:

If unregulated and poorly policed ivory markets attract illicit sources of ivory, 'governance' establishes the underpinning enabling environment within which such markets exist. Likewise, the presence or absence of organized criminal syndicates in the trade can also be greatly influenced by the state of 'governance'. The World Bank defines 'governance' as "*the manner in which power is exercised in the management of a country's economic, social and natural resources for development*". Increasingly, the issue of governance is playing the defining role in determining the success of government conservation policy, including that for the survival of African and Asian elephants at the national level. In many elephant range States, wildlife use and trade issues continue to lack dedicated attention, and instances of illegal killing and exploitation are not regarded as serious crime. In the worst case scenarios, the very agencies charged with law enforcement duties become complicit in illegal trade. At a sub-regional level, this seems especially true in West and Central Africa and Southeast Asia, where ivory seizures are rarely made and reported to ETIS, resulting in a very low law enforcement ratio for most countries in these regions. The ETIS analyses demonstrate that there is a statistically significant correlation between the perception of corruption (a measure of governance) and the law enforcement effort ratio. Governance indicators and their relationship to positive elephant conservation and law enforcement need to be further assessed as a key factor determining eventual outcomes for African and Asian elephants in various range States.

PART V: CONCLUSIONS AND RECOMMENDATIONS

Conclusions of the trend analysis:

This analysis has been able to update the trend in illicit trade in ivory to include the current year 2009, albeit with some measure of conditionality. In this respect, ETIS is demonstrating a clear capacity to present a very contemporary look at global ivory trade developments. With respect to the trend analysis, the following conclusions can be made:

- When adjusted to reduce bias and smoothed to indicate the underlying trend more clearly (Figure 6), the seizure data in ETIS indicate that illicit trade in ivory has been continually increasing from 2004 to the present and that the rate of increase has moved sharply upward in 2009 in spite of the fact that data for the current year remain very incomplete for obvious reasons.
- Looking at the adjusted (but not smoothed) trend, where annual fluctuations are more vividly depicted, the upward trajectory of the trade has been largely driven by major ivory flows in 2006 and 2009, with a period of diminished trade in between owing to the lack of large-scale ivory seizures.
- The increasing trend in levels of illicit trade in ivory from 2004 onwards is similar to the result reported in the ETIS analysis to CoP14. The fact that the trend has continued to increase for three more years calls into question whether Decision 13.26 and the steps taken to implement the '*action plan for the control of trade in African elephant ivory*' since CoP13 have had any merit. Whilst Decision 13.26 remains the Convention's principal vehicle for closing unregulated and illicit domestic markets in Africa and Asia, its implementation has not effected any significant change since CoP13. Once again, the increasing trend is a clear signal that measures taken to date to implement Decision 13.26 have not been sufficient to demonstrate any positive impact.

Conclusions of the cluster analysis:

With respect to the cluster analysis, the following conclusions can be made:

- On the basis of agglomerative hierarchical cluster analysis, the three countries most heavily implicated in the illicit trade in ivory are the Democratic Republic of the Congo, Nigeria and Thailand. All three of these countries featured in the ETIS analyses to CoP12, CoP13 and CoP14 as countries of major concern. So far, the efforts directed at these countries by CITES have completely failed to affect meaningful change. At the present time, only Thailand appears to be charting a course of action to remedy the situation and address illicit ivory trade issues on the domestic front, but no clear results are yet at hand. In sharp contrast, once again there appears to be no improvement in the situation in the Democratic Republic of the Congo or Nigeria where ongoing illegal ivory trade problems of a serious dimension remain to be tackled.
- Another nine countries and territories - Cameroon, Gabon, Hong Kong SAR, Malaysia, Mozambique, the Philippines, Singapore, Taiwan (province of China) and Viet Nam – represent a secondary level of concern as they repeatedly play important roles in the illicit ivory trade. Representing a mix of producers, transit country and end-use markets, these countries typically are part of clusters that exhibit poor law enforcement effort, substantial domestic ivory markets and/or frequent involvement in large-scale ivory seizures which indicates the involvement of organised crime syndicates. Ivory trade issues deserve greater focus in terms of national agendas, so that none of these countries or territories become more prominent problematic players in the future.
- Another group of countries or territories, including China, Egypt, Ethiopia, Japan, Malawi, Macao SAR, Sudan, Tanzania, Uganda and Zambia, appear in the cluster analysis. While these countries or territories generally demonstrate better law enforcement effort, illicit ivory trade remains a persistent challenge.
- As was the case with all previous analyses of the ETIS data, there is a highly significant negative correlation between the domestic ivory market score and the law enforcement effort reporting ratio. This indicates that illicit trade in ivory continues to be most directly related to the presence of large-scale, inadequately regulated, domestic ivory markets in Asia and Africa. In such places, law enforcement effort is lax commensurate with the scale of the illicit trade challenge, allowing markets to function with little regulatory oversight or impediment.
- This time there is also a strong correlation between the occurrence of large-scale ivory seizures and illicit trade in ivory in the second period from 1999 to 2009. This indicates that the involvement of organised crime syndicates, especially Asian-run networks operating from bases within Africa, has increasingly become a major feature of the illicit ivory trade over the last decade.
- Poorly regulated domestic ivory markets continue to demand special attention and Decision 13.26, originally adopted at CoP13, needs to be further strengthened in terms of its implementation if it is to produce measurable impacts in a future ETIS analysis. It needs to be emphasized that the same countries continue to emerge as major offenders in the cluster analysis time and time again.

Conclusions of assessment of factors giving rise to illicit trade in elephant ivory:

With respect to assessing the causes of illicit trade in elephant ivory, the following conclusions can be made:

- The ETIS analyses have consistently indicated that, following the first conditional one-off ivory sale under CITES in June 1999, illicit trade in ivory subsequently declined for five consecutive years between 1999 until 2004 (as measured by both the adjusted and the smoothed and adjusted trend lines). This result provides no evidence that the first one-off ivory sale under CITES resulted in any increase in illicit trade in ivory globally.
- With respect to the second conditional one-off ivory sale under CITES in October and November 2008, the pattern in the trend is not so clear. The macro representation of the illicit trade in ivory, as depicted by the smoothed and adjusted trend line, shows that illegal ivory trade has been steadily increasing since 2004, with the increase predating the recent one-off ivory sale by approximately four years. On the other hand, the peaks and troughs of the micro representation of the trend, as depicted by the adjusted trend line, show a decline in illegal trade activity in 2007 and 2008, followed by a significant upsurge in 2009.
- The consequence of these somewhat conflicting trade patterns is that it is not possible to interpret the trend in this ETIS analysis unambiguously and without reservation. Whether the apparent increase in illicit ivory trading in 2009 is a direct result of the one-off ivory sale under CITES or some other cause or group of causes remains to be conclusively established. It is believed that further time and the collection of more data and information will lead to a more lucid and compelling interpretation of this issue in the future.
- One thing that is clear, however, is the fact that, in both representations of the trend, the year 2004 represents the low point and the year 2009 represents the high point for illicit trade in ivory over the last decade. This result is cause for concern and sufficient justification for a more forceful approach to the

implementation of the '*action plan for the control of trade in African elephant ivory*' articulated in Decision 13.26.

- The frequency of large-scale ivory seizures is increasing and provides evidence that there is a growing involvement of organized crime in the illicit trade in ivory. Asian crime syndicates operating from bases in various parts of the African continent are an increasing dimension in the trade which produces major challenges for effective law enforcement and good governance both in Africa and Asia.
- The issue of governance and the ivory trade deserves greater attention as a root cause of illicit trade dynamics. There are governance implications at all levels of the ivory trade, including whether or not seizures are made, seizures are reported, ivory stock management systems are developed, legislation is amended or improved, or ivory trade offenders are investigated or prosecuted. Unless governance issues are firmly addressed at the national level, successful implementation of the CITES action plan will be seriously compromised in Africa.

Recommendations

The trend in illicit trade in elephant ivory continues to increase and is now marginally more strongly correlated to the presence of organized crime syndicates than to large-scale domestic ivory markets that are poorly regulated. At a national level, some countries, such as China, continue to mark progress in exerting law enforcement action against illicit ivory trade but, at the global level, CITES actions to reduce illegal trade in ivory have not been effective. Whilst the CITES Parties have mandated a mechanism for ensuring compliance with the requirements for internal trade in ivory articulated in Resolution Conf. 10.10 (Rev. CoP14) and Decision 13.26, the *action plan for the control of trade in African elephant ivory*, its effective implementation remains illusive. Countries which were identified in the first ETIS analysis in 2002 as actively engaged in undermining CITES policies which support elephant conservation are still being identified as major culprits in the illicit ivory trade. In the meantime, the illicit trade in ivory continues to grow and impact an increasingly large number of elephants, especially in Central Africa. So far, CITES mechanisms are failing to arrest this development and more stringent actions are required at national, regional and global levels if the Parties truly seek a decline in the trafficking on ivory. Towards that end, ETIS recommends the following:

- Decision 13.26, the *action plan for the control of trade in African elephant ivory* needs to be strengthened and actively implemented. The status of compliance with the requirements of Resolution Conf. 10.10 (Rev. CoP14) needs to be assessed and the obvious need for serious remedial measures should be addressed.
- Priorities for attention concern the three countries most heavily implicated in illicit ivory trade -- the Democratic Republic of the Congo, Nigeria and Thailand. Measures to ensure the effective implementation of the provisions for internal ivory trade articulated in Resolution Conf. 10.10 (Rev. CoP14) would certainly improve the status of these countries in future ETIS analysis. At this time, however, the status of these countries in the ETIS analyses has not changed appreciably since they were first identified at CoP12 as players of major concern. These countries should receive focused and unwavering attention as priorities with respect to the implementation of Decision 13.26.
- China and Japan, as 'designated ivory importing country' under CITES for the one-off ivory sale, hold a special responsibility for taking actions against the illicit ivory trade globally. China, in particular, needs to address the ongoing complicity of its citizens in ivory trafficking within Africa as a matter of urgent concern. Previously, the Chinese government made an undertaking to engage in a mission to Africa to raise awareness amongst Chinese nationals living abroad about the country's 'zero tolerance' for illegal trading in ivory. China's future delivery of this undertaking would hopefully serve to reverse the growing frequency of its citizens in illicit ivory trade activities within Africa.
- Other countries of concern in the cluster analysis should be carefully monitored in the context of the Decision 13.26 process, particularly those with significant domestic ivory markets and those which function as major trade entrepôt and staging posts for organized criminal networks.
- Those Asian and African elephant range States, transit countries and end-use consumers, which never or only rarely report ivory or other elephant product seizure information, should be encouraged to improve their participation in ETIS.
- Capacity building events to improve implementation of the Convention and law enforcement for wildlife trade issues should include modules which promote participation in ETIS and address ivory trade issues. Donors should be encouraged to provide funds for such events in priority countries.

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Annex 1: Number of ivory seizures by country by year (24 August 2009)

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Africa																						
Algeria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Benin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			0
Botswana	1	-	-	-	-	-	3	1	-	1	4	5	9	4	14	4	10	20	8	14	5	103
Burkina Faso	-	-	-	-	-	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-		1
Burundi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		1
Cameroon	-	-	3	-	3	2	-	-	-	-	-	12	1	-	-	4	3	15	5	4	6	58
Cape Verde	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Central African Rep.	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	1	-	-	-	-		4
Chad	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-		4
Comoros	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Congo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	1	-	-	2		6
Cote d'Ivoire	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1	2	1	-	-	-		11
Democratic Republic of the Congo	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	-	-		6
Djibouti	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-		2
Egypt	-	-	-	-	-	-	-	-	-	-	3	10	6	21	-	1	-	-	-	-		41
Equatorial Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Eritrea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Ethiopia	-	1	1	3	10	12	5	5	4	17	16	12	3	8	9	15	78	-		4	2	205
Gabon	-	-	-	1	-	-	-	1	-	1	-	-	-	-	-	1	3	-	-	1		8
Gambia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Ghana	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-		2
Guinea	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-		1
Guinea Bissau	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Kenya	-	1	1	17	20	7	24	8	6	2	10	33	32	29	36	21	58	57	27	30	30	449
Lesotho	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Liberia	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-		0
Libyan Arab Jamahiriya	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Madagascar	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		0
Malawi	22	12	27	26	25	4	9	2	1	1	4	1	4	2	5	2	7	0	-	-		154

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Mali	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-		1
Mauritania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Mauritius	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-		0
Morocco	-	-	-	-	-	1	3	1	-	-	-	-	1	-	-	-	-	-	-	-		6
Mozambique	-	-	-	-	-	-	-	-	-	-	1	1	-	1	1	2	3	-	-	20		29
Namibia	24	31	44	40	69	69	71	50	58	22	25	21	17	14	13	11	12	8	9	11	17	636
Niger	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-		1
Nigeria	8	2	2	-	-	-	-	-	-	-	-	-	-	0	0		-	-	-	-		12
Reunion	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	2	-	-		5
Rwanda	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	1	1	-	-		5
Sao Tome and Principe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Senegal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Seychelles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-		0
Sierra Leone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0		1
Somalia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
South Africa	3	7	47	40	47	22	16	26	49	62	63	13	9	25	14	10	2	6	1	4	2	468
Sudan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	10	3	41	57	112
Swaziland	0	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-		3
United Republic of Tanzania	34	20	41	25	29	21	11	19	17	10	5	6	13	29	13	10	7	41	4			355
Togo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Tunisia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Uganda	-	3	-	1	-	1	1	-	1	-	1	3	2	3	3	2	0	4	5	5	2	37
Zambia	17	16	21	17	9	10	6	3	4	1	-	1	-	3	17	26	13	23	2	1	1	191
Zimbabwe	4	16	21	22	27	5	17	12	28	35	39	29	19	9	10	3	24	20	2	14	5	361
Subtotal	113	109	208	193	239	155	167	128	169	157	171	152	119	158	140	120	225	210	67	152	127	3,279
Asia																						
Afghanistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Bangladesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Brunei Darussalam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Bhutan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-		0
Cambodia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
China	-	-	-	-	2	3	1	3	-	3	11	30	75	74	62	73	65	32	89	51	1	575
Hong Kong SAR	-	19	14	18	11	8	11	14	8	5	4	9	4	4	1	5	5	4	1	4	6	155
India	-	-	8	4	0	1	2	11	11	12	12	28	25	16	58	4	9	5	10	5	5	226
Indonesia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Iran	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Israel	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-		3
Japan	3	7	2	1	1	6	46	39	23	17	18	8	14	9	9	6	6	12	5	6	1	239
Jordan	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-		1
Kuwait	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Laos People's Democratic Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Macau SAR	2	1	0	7	3	3	3	2	-	-	-	-	1	2	1	0	0	0	-	-		25
Malaysia	0	0	0	11	2	0	0	-	-	1	-	-	2	-	1	1	-	-	-	-		18
Mongolia	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-		0
Myanmar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Nepal	1	-	-	-	-	-	-	-	-	-	1	2	-	-	-	1	1	-	1	-		7
Pakistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Philippines	-	-	-	-	-	-	-	1	3	1	-	0	0	-	-	-	4	1	-	-		10
Qatar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	1	-		7
Republic of Korea	0	0	0	0	2	0	1	-	1	-	-	4	-	-	-	1	-	-	-	-		9
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Singapore	0	1	1	1	3	2	1	-	-	-	-	-	-	2	-	-	-	2	-	-		13
Sri Lanka	-	-	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-	-	-	-		4
Syrian Arab Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Taiwan, province of China	-	-	1	1	6	13	10	10	11	15	13	7	-	-	-	-	1	2	2	2	1	95
Thailand	-	-	-	3	3	9	5	4	1	1	1	1	2	16	1	8	-	-	-	1	2	58
United Arab Emirates	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1		-	1	1	-		4
Uzbekistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Viet Nam	-	-	-	-	-	-	-	-	-	1	-	1	2	-	-	1	-	2	1	1	4	13
Yemen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Subtotal	6	28	26	46	33	45	80	84	59	56	66	91	125	123	134	100	93	66	111	70	20	1,462

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Europe																						
Albania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Austria	0	0	0	0	0	0	0	0	6	8	2	1	6	0	-	2	1	2	2	-		30
Azerbaijan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Belarus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-		0
Belgium	21	9	23	32	43	55	36	57	24	12	8	14	10	31	27	19	13	13	10	8		465
Bulgaria	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-		1
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Cyprus	-	-	-	-	-	-	-	1	2	-	-	1	-	-	-	-	-	-	-	-		4
Czech Republic	-	-	-	-	-	-	-	-	-	4	1	-	-	-	-	-	2	-	1	1	1	10
Denmark	1	5	3	6	7	5	5	1	1	10	3	2	1	2	6	6	5	2	1			72
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-		2
Finland	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2	-	-	-	-	-		4
France	2	85	79	116	91	-	1	-	1	1	25	141	89	60	29	7	37	57	20	10	4	855
Georgia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Germany	0	0	98	115	47	1	-	49	62	52	49	49	38	33	39	29	59	48	40	16	4	828
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Hungary	-	-	-	-	-	-	4	3	1	3	0	2	5	4	1	1	-	4		-	2	30
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Ireland	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0		-	-	-	-		1
Italy	0	1	2	2	49	2	2	-	4	1	1	8	8	35	25	9	15	8	5	3		180
Kazakhstan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		0
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Luxembourg	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-		1
Macedonia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Malta	0	0	0	0	-	0	-	1	1	0	0	0	0	0	0	1	-	-	-	-		3
Monaco	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-		0
Netherlands	-	-	-	1	-	1	-	4	1	1	2	30	19	31	31	2	3	5	14	5		150
Norway	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	3	-	1	1	-		8
Poland	-	-	-	-	-	-	-	-	-	-	9	3	4	2	4	5	-	5	-	2		34

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Portugal	3	17	8	15	16	0	-	-	-	-	1	10	16	4	33	43	32	30	50	25		303
Republic of Moldova	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-		0
Romania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-		2
Russian Federation	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-		1
Serbia and Montenegro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-		0
Slovakia	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	-	-		3
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1		3
Spain	9	54	6	2	7	1	12	36	5	21	14	24	21	15	17	10	10	7	-	-		271
Sweden	-	-	-	-	-	-	-	-	1	2	4	-	1	1	-	-	1	5	1	2		18
Switzerland	133	64	26	8	6	5	7	5	50	38	60	36	47	29	44	26	11	11	8	2	1	617
Turkey	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-		0
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
United Kingdom		170	118	44	26	1	4	57	7	55	12	11	32	27	32	15	26	24	11	7	8	687
Subtotal	169	405	363	341	292	71	71	215	167	209	194	332	298	277	292	179	216	224	166	82	20	4,583
North America																						
Canada	0	0	0	0	0	1	-	1	-	21	19	9	22	15	24	24	-	1	2	6		145
Mexico	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-		2
United States	-	452	264	234	172	112	199	218	194	221	182	227	185	157	148	172	174	165	146	110		3,732
Subtotal	0	452	264	234	172	113	199	220	195	242	201	236	207	172	172	196	174	166	148	116	0	3,879
Oceania																						
Australia	-	-	-	-	-	-	-	45	89	70	46	39	34	-	54	109	93	114	117	199		1,009
Fiji	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
New Zealand	10	31	18	16	-	-	-	8	-	-	-	7	30	10	-	-	-	-	13	5	1	30
Papua New Guinea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Palau	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Vanuatu	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-		1
Subtotal	10	31	18	16	0	0	0	53	89	70	46	47	64	10	54	109	93	114	130	204	1	1,040
Central and South America and the Caribbean																						
Antigua and Barbuda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Argentina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Bahamas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0

Region/ country/ territory	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Barbados	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Belize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Brazil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-	-	-	-		0
Chile	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-		1
Colombia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Costa Rica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Cuba	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Dominica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Dominican Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Ecuador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Grenada	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Guatemala	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Guyana	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Honduras	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Jamaica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Nicaragua	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Panama	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Paraguay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Peru	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-		1
Saint Kitts and Nevis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Saint Lucia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Saint Vincent and the Grenadines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Suriname	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-		0
Trinidad and Tobago	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Uruguay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0
Subtotal	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Grand Total	298	1,025	879	830	736	384	517	700	679	735	678	858	814	740	792	704	801	780	622	624	168	14,364

Annex 2: Number of seizure cases pending verification prior to entry into ETIS (14 October 2009)

Date Received	Country of Discovery	No. of Cases	Source	Comments
Year of Seizure Not Provided				
21/04/2004	Tanzania	1	Wildlife Division (TZ)	Incomplete data, pending clarification
05/10/2006	Tanzania	1	TANAPA	Incomplete data, pending clarification
28/07/2009	South Africa	1	DEAT	Pending clarification, incomplete data
Subtotal		***3***		
2000				
20/09/2006	France	3	World Customs Organisation	Pending verification
10/02/2007	Uganda	1	Lusaka Agreement Task Force	Pending verification
19/02/2007	Netherlands	2	EU Twix database	Pending verification
Subtotal		***6***		
2001				
30/09/2004	Tanzania	2	Iringa Zone Anti-poaching Annual Report/ Manyoni KDU Jan- Jun 01	Pending clarification, incomplete data
20/09/2006	France	1	World Customs Organisation	Pending verification
10/02/2007	China	1	Lusaka Agreement Task Force	Pending verification
19/02/2007	Netherlands	14	EU Twix database	Pending verification
13/05/2008	Portugal	1	World Customs Organisation	Pending verification
Subtotal		***19***		
2002				
20/09/2006	United Kingdom	1	World Customs Organisation	Pending verification
10/02/2007	Tanzania	1	Lusaka Agreement Task Force	Pending verification
10/02/2007	Egypt	1	Lusaka Agreement Task Force	Pending verification
10/02/2007	China	1	Lusaka Agreement Task Force	Pending verification
10/02/2007	Uganda	1	Lusaka Agreement Task Force	Pending verification
10/02/2007	Belgium	1	Lusaka Agreement Task Force	Pending verification
19/02/2007	Netherlands	16	EU Twix database	Pending verification
11/04/2007	Zimbabwe	5	Dept. of National Parks and Wildlife Management	Pending verification
Subtotal		***27***		
2003				
20/09/2006	France	2	World Customs Organisation	Pending verification
10/02/2007	Rwanda	1	Lusaka Agreement Task Force	Pending verification
19/02/2007	Belgium	1	EU Twix database	Pending verification
19/02/2007	Netherlands	11	EU Twix database	Pending verification
11/04/2007	Zimbabwe	6	Dept. of National Parks and Wildlife Management	Waiting verification
28/09/2009	Indonesia	2	Directorate of Investigation and Forest Protection	Just received
Subtotal		***23***		
2004				
03/08/2004	China	2	People's Daily Online	Pending verification
07/02/2005	Congo	1	Agence France-Presse	Pending verification
16/02/2005	China	4	Various newspaper	Pending verification
14/04/2005	Rwanda	1	The New Times (Kigali)	Pending verification
18/08/2005	Liberia	1	The Analyst (Monrovia)	Pending verification
20/09/2006	Denmark	1	World Customs Organisation	Pending verification
23/10/2006	USA	4	TRAFFIC North America	Pending verification
10/02/2007	Uganda	1	Lusaka Agreement Task Force	Pending verification
28/09/2009	Indonesia	2	Directorate of Investigation and Forest Protection	Just received

Date Received	Country of Discovery	No. of Cases	Source	Comments
Subtotal		***17***		
			2005	
10/02/2005	Belgium	1	TRAFFIC Europe	Pending clarification
24/05/2005	USA	1	Environment Canada	Pending verification, incomplete data
28/07/2005	Cote d'Ivoire	1	CITES Secretariat	Pending verification, CITES process
19/08/2005	Indonesia	1	The Australian	Pending verification, data incomplete
23/10/2006	USA	4	TRAFFIC North America	Pending verification
10/02/2007	Tanzania	1	Lusaka Agreement Task Force	Pending verification
Subtotal		***9***		
			2006	
21/02/2006	South Africa	1	News24	Pending verification
07/04/2006	Kenya	1	Mail and Guardian	Pending verification
01/05/2006	Tanzania	1	Environmental News Network	Pending verification
04/07/2006	Uganda	1	New Vision (Kampala)	Pending verification
07/07/2006	USA	1	North Country Gazette	Pending verification
13/08/2006	United Arab Emirates	1	Gulf News	Pending verification
12/10/2006	South Africa	1	SAPS News	Pending verification
10/02/2007	Tanzania	1	Lusaka Agreement Task Force	Pending verification
10/02/2007	Uganda	1	Lusaka Agreement Task Force	Pending verification
11/04/2007	Zimbabwe	1	Dept. of National Parks and Wildlife Management	Pending verification
13/05/2008	Portugal	14	World Customs Organisation	Pending verification
24/09/2009	Tanzania	8	Min. of Natural Resources and Tourism, Wildlife Division	Just received
28/09/2009	Indonesia	4	Directorate of Investigation and Forest Protection	Just received
Subtotal		***36***		
			2007	
07/02/2007	USA	1	Associated Press	Pending verification
20/12/2007	Canada	1	Canada.com	Pending verification
13/03/2008	China	1	Liaoning.com.cn	Pending verification
13/06/2008	Sweden	4	Swedish CITES Management Authority	Pending verification
25/06/2009	Netherlands	1	World Customs Organisation	Pending verification
25/08/2009	Zambia	14	ZAWA	Just received
24/09/2009	Tanzania	30	Min. of Natural Resources and Tourism, Wildlife Division	Just received
28/09/2009	Indonesia	4	Directorate of Investigation and Forest Protection	Just received
Subtotal		***56***		
			2008	
14/01/2008	Vietnam	1	The Standard (HK)	Pending verification
25/01/2008	China	2	Sina.com	Pending verification
25/01/2008	China	4	Hotlife.cn	Pending verification
29/02/2008	India	1	Indianmuslims.info	Pending verification
01/04/2008	Zambia	1	News24	Pending verification
20/05/2008	China	1	dsb.gd.gov.cn	Pending verification
23/07/2008	China	1	The Southern Daily	Pending verification
23/07/2008	USA	1	U.S. Customs and Border Protection	Pending verification
09/05/2009	China	1	www.cwca.org.cn	Pending verification
25/05/2009	China	1	China.view.com	Pending verification
31/05/2009	China	1	News.sina.com	Pending verification
25/06/2009	Germany	25	World Customs Organisation	Pending verification

Date Received	Country of Discovery	No. of Cases	Source	Comments
25/06/2009	Netherlands	1	World Customs Organisation	Pending verification
25/06/2009	Portugal	33	World Customs Organisation	Pending verification
24/09/2009	Tanzania	16	Min. of Natural Resources and Tourism, Wildlife Division	Pending verification
25/09/2009	Zambia	15	ZAWA	Just received
28/09/2009	Indonesia	2	Directorate of Investigation and Forest Protection	Just received
Subtotal		***107***		
2009				
16/01/2009	China	*1*	News.sohu.com	Pending clarification
17/01/2009	China	*1*	Xinhuanet.com	Pending clarification
13/02/2009	China	*1*	Shantou.customs.gov.cn	Pending clarification
19/03/2009	India	*1*	Indopia.in	Pending clarification
04/05/2009	India	*1*	Express News Service	Pending clarification
11/05/2009	Vietnam	*1*	www.monstersandcritics.com	Pending clarification
13/05/2009	USA	*1*	SunSentinel.com	Pending clarification
20/05/2009	United Kingdom	*1*	HM Revenue and Customs	Pending clarification
22/05/2009	China	*2*	Jisi.gov.cn	Pending clarification
25/06/2009	Germany	6	World Customs Organisation	Pending clarification
25/06/2009	Kenya	1	World Customs Organisation	Pending clarification
25/06/2009	Netherlands	2	World Customs Organisation	Pending clarification
23/08/2009	India	1	Samaylive.com	Just received
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14/10/2009	Ethiopia	2	Ethiopian Wildlife Conservation Authority	Just received
14/10/2009	Philippines	*2*	Bureau of Customs	Just received
Subtotal		***93***		
Total		**396**		