

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA

Seventy-eighth meeting of the Standing Committee  
Geneva (Switzerland), 3-8 February 2025

Species conservation and trade

Fauna

Elephants (Elephantidae spp.)

ETIS CATEGORIZATION OF PARTIES

1. This document has been prepared by the Secretariat.
2. At its 19th meeting (CoP19, Panama City, 2022) the Conference of the Parties adopted Decisions 19.97 and 19.98 on *ETIS categorization of Parties*, as follows:

***Directed to the Secretariat, in consultation with the MIKE-ETIS Technical Advisory Group and TRAFFIC***

**19.97** *Subject to external funding, the Secretariat shall, in consultation with the MIKE-ETIS Technical Advisory Group and TRAFFIC, develop draft criteria for the categorization of Parties based on the ETIS analysis and seizure data relating to elephant specimens submitted to TRAFFIC; and submit the draft criteria to the 78th meeting of the Standing Committee for consideration.*

***Directed to the Standing Committee***

**19.98** *The Standing Committee shall consider the draft criteria for the categorization of Parties based on the ETIS analysis referred to in Decision 19.97 and recommend the adoption of criteria for the categorization of Parties, as appropriate, to the 20th meeting of the Conference of the Parties.*

3. The evolution of the National Ivory Action Plans (NIAPs) process can be traced back to when the Conference of the Parties first decided on the need for national plans to strengthen the implementation of Resolution Conf. 10.10 (Rev. CoP12). Although the *Guidelines to the NIAP process* (Annex 3 to Resolution Conf. 10.10), were agreed by Parties at the 17th meeting of the Conference of the Parties (CoP17; Johannesburg, 2016) ([CoP17 Com. II. 17](#)), Parties of concern with respect to illegal trade in ivory have been identified in documents considered by the Conference of the Parties since the 12th meeting (CoP12; Santiago, 2002) (document [CoP12 Doc. 34.1](#)). The background and legal basis for the NIAP process are set out in paragraphs 5 to 16 of document [CoP17 Doc. 24 \(Rev. 1\)](#).
4. As the process and methodologies evolved, the description or categorization of the Parties affected by illegal trade also evolved from CoP12 to CoP19 from Parties of major concern, Parties implicated in the illicit trade, Parties of primary – and secondary concern and important to watch, to the current category A, B, and C<sup>1</sup> as described in *Guidelines to the National Ivory Action Plan Process* which is contained in Annex 3 to Resolution Conf. 10.10 (Rev. CoP19). These descriptions provide some indication to differentiate between the

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<sup>1</sup> *Category A (most affected by illegal trade in ivory), B (markedly affected by illegal trade in ivory), or C (affected by illegal trade in ivory) Parties*

categories, but specific definitions to explain and describe the meaning and exact limits of each category have not been agreed by Parties.

5. The assignment of Parties into the categories (Category A, B and C) is done by TRAFFIC by interpreting the results of the cluster analysis based on the raw data and contextual data, including published literature that provides contextual information (note: no thresholds have been used in previous reports to differentiate between categories). The report prepared by TRAFFIC that contains the analysis, interpretation and categorization is submitted to the MIKE-ETIS Technical Advisory Group (TAG) for advice relating to the analysis and interpretation as required in the MIKE-ETIS TAG [Terms of Reference](#).
6. In implementing Decision 19.97, it was necessary to start by gaining clarity on how TRAFFIC has identified Parties requiring attention in terms of the illegal trade in ivory and other elephant specimens in the past. The Secretariat therefore requested TRAFFIC to provide an overview of the methodologies used, which is contained in Annex 1 to the present document and covers from the 12th meeting of the Conference of the Parties (CoP12, Santiago, 2002) to CoP19. In addition, the Secretariat and TRAFFIC compiled the information associated with the Parties identified and categorized in the reports from CoP16 to CoP19 (noting, that based on the report to CoP16, 19 Parties were requested to prepare NIAPs). The summary is contained in Annex 2 to the present document.
7. The Secretariat and TRAFFIC submitted these two documents for consideration by the MIKE-ETIS TAG at its 20th meeting (TAG 20, Nairobi, November 2024) and extracted key data elements used to categorize Parties in the ETIS CoP19 report as potential criteria<sup>2</sup>. The MIKE-ETIS TAG:
  - a) indicated that because there are no clear definitions for the categories in Annex 3 to Resolution Conf. 10.10 (Rev. CoP19), it is difficult to develop detailed criteria for each category;
  - b) agreed that the information in Annexes 1 and 2 to the present document provides a comprehensive summary of the ETIS analysis and data used to categorize Parties since CoP12; and
  - c) recommended that the key data elements used to categorize Parties in the ETIS CoP19 report, as extracted by the Secretariat, could be proposed to serve as criteria to be considered in the categorization of Parties in future reports, but specific thresholds cannot be set for each.

Identification of Parties requiring attention by TRAFFIC in the context of Step 1 paragraph a) of the *Guidelines to the National Ivory Action Plan Process*: Draft criteria to be used by TRAFFIC

8. The *Guidelines to the NIAP Process*, Step 1, paragraph a) indicate that the foundation for identifying Parties to participate in the NIAP process is the ETIS report submitted to each meeting of the Conference of the Parties under Resolution Conf. 10.10 (Rev. CoP19).
9. Based on the advice provided by the MIKE-ETIS TAG and after obtaining further clarification from TRAFFIC on the use of the key data elements, the Secretariat proposes the following draft criteria to be used by TRAFFIC in Step 1 paragraph a) of the *Guidelines to the NIAP Process*:
  - a) *Exclusion criteria – countries NOT to be included in analysis (as established in the ETIS trend analysis):*

Parties that over a 10-year period scored less than 100 based on seizure-in or seizure-out data using the following formula:

$$1 \times \text{number of small-scale seizures (less than 10 kg)} +$$
$$10 \times \text{number of medium seizures (between 10 kg and 100 kg)} +$$
$$100 \times \text{number of large-scale seizure (at least 100 kg)}$$
  - b) *Categorization criteria – Based on ETIS data (Note: Thresholds per category are not specified):*

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<sup>2</sup> The following submitted to the MIKE-ETIS TAG: Exclusion criteria (Score less than 100); Measure of scale (mean weight); Percentage / Proportion of large-scale seizures to mean weight; Corruption Perception Index (proxy to measure law enforcement efficiency); Law enforcement effort [ratio of sz-in/(sz-in+sz-out)]; Organized Crime Index (a measure of the level of organized crime within each country or territory); Reporting (to ETIS as detailed in each cluster / group); Other elements (PIKE, CITES Annual reports).

- i) *Categorization criterion 1*): Measure of scale of trade based on seizure-in and seizure-out bias-adjusted variables summarized as:
  - A. Number of seizures by ivory type and weight classes
  - B. Total weight
  - C. Percentage volume of trade

The above criterion will be used as follows to inform the three NIAP categories:

*Category A: A Party with among the highest volume of illegal trade compared to others.*

*Category B: A Party with large volume of illegal trade compared to others.*

*Category C: A Party with medium volume of illegal trade that could potentially escalate and become of greater concern if not closely monitored and addressed.*

- ii) *Categorization criterion 2*): Illegal ivory trade links and measure of law enforcement effort [LE ratio of seizure-in/(seizure-in+seizure-out)<sup>3</sup>]

The above criterion will be used as follows to inform the three NIAP categories:

*Category A: Parties regularly associated with ivory seizures made elsewhere and that fail or often fail to detect illegal consignments originating from, transiting through or entering their territories (low law enforcement ratio).*

*Category B: Parties occasionally associated with ivory seizures made elsewhere, and that successfully intercept most illegal ivory consignments originating from, transiting through or entering their territories (medium to high law enforcement ratio)*

*Category C: Parties that are implicated in ivory seizures for the first time or are part of an emerging trend in terms of implicated records and vary in terms of law enforcement (low or medium law enforcement ratio)*

10. In addition to the draft criteria in paragraph 9 above, the following information is currently considered by TRAFFIC as contextual information:
  - a) *Corruption Perception Index (CPI)* (proxy to measure law enforcement efficiency): A higher CPI indicates the country is perceived as having less corruption.
  - b) *Organized Crime Index (OCI)* (a measure of the level of organized crime within each country or territory): A higher OCI indicates higher levels of organized crime.
  - c) *Published literature, CITES reports and peer-reviewed literature*: Contextual information including special operations done in countries to curtail organized crime, notable court cases or legislation targeting illegal ivory or other illegal wildlife trade, information based on forensic analysis and trends in movement of ivory from origin and export countries, and other relevant information from CITES reports and peer-reviewed literature.
11. The Secretariat is of the view that the above should remain contextual information and should not be considered as criteria to inform the categorization of Parties. There are some concerns relating to the indices, including the data sources that inform them and while published literature, CITES reports and peer-reviewed literature provide context, this information is used as it becomes available and as relevant and cannot be applied in a consistent manner.

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<sup>3</sup> *LE ratio of seizure-in/(seizure-in+seizure-out) also abbreviated as LE ratio of sz-in/sz-in+sz-out. Seizures made within country or territory are referred to as seizure in and seizures in which the Party was implicated along the trade chain as a country or territory of origin, re-export, export, or destination are referred to as seizure out.*

## Identification of Parties to participate in the National Ivory Action Plan Process by the CITES Secretariat

12. For Parties identified through the ETIS report to CoP as requiring attention, as described in Step 1, paragraph a) of the *Guidelines*, the CITES Secretariat, in cooperation and consultation with the Party concerned, must determine whether additional information should be considered when developing its recommendation to the Standing Committee regarding the Party's inclusion in the process. If needed, the Secretariat may engage with other experts and conduct country missions to assist in this process.
13. The Secretariat proposes the following process in the context of Step 1 paragraphs b) and c) of the *Guidelines*:
  - a) The Secretariat will prepare a compilation of the information in the ETIS report relevant to the Party concerned, highlighting the key issues, and formally inviting the Party to submit any additional information it deems relevant for determining its participation in the NIAP process.
  - b) In its letter, the Secretariat will request the Party concerned to provide additional, targeted information focusing on key issues relevant to addressing illegal trade in elephant ivory. This includes legislation and regulations, national level enforcement action and inter-agency collaboration; international and regional enforcement collaboration, and outreach, public awareness and education. The Party will be requested to provide corroborating documentation to the Secretariat in this regard.
  - c) Should the Secretariat consider that further information is needed to make an informed decision, it will formally consult with the relevant entities and experts, and conduct country missions to assist in this process, as necessary.
14. Based on the [template for the development of a National Ivory Action Plan](#) and the [Guidance to Parties developing and implementing National Ivory Action Plans \(NIAPs\)](#), Parties identified in the ETIS reports have guidance at hand to enable them to provide additional information relevant to the process to the Secretariat.
15. As required in Step 1, paragraph c) of the *Guidelines to the National Ivory Action Plan Process*, the Secretariat will formulate a recommendation to the Standing Committee as to whether or not a Party should be included in the process, taking into consideration the ETIS report and the additional information provided by Parties.
16. Through this process, the Standing Committee is expected to have the necessary information relevant to all aspects of the NIAPs to consider and determine whether a Party should participate in the NIAP process or whether the Party appears to be already taking all the required measures to address illegal trade in ivory, making a NIAP unnecessary.

## Conclusions

17. The Secretariat proposes the draft criteria in paragraph 9 a) and b) to be used by TRAFFIC to identify Parties requiring attention by TRAFFIC in the context of Step 1 paragraph a) of the *Guidelines to the National Ivory Action Plan Process*.
18. The Standing Committee should consider whether there are any concerns relating to the contextual information used by TRAFFIC to further inform categorization and referred to in paragraph 10 (CPI, OCI, published literature that provides contextual information on any of the variables including special operations done in countries to curtail organized crime, notable court cases or legislation targeting illegal ivory or other illegal wildlife trade, information based on forensic analysis and trends in movement of ivory from origin and export countries, and other relevant information from CITES reports and peer-review literature).
19. The Secretariat proposes in paragraph 12 the process for the implementation of Step 1 b) and c) of the *Guidelines*, including the scope of information to be requested from Parties to inform the recommendations to be developed for consideration by the Standing Committee.

## Recommendations

20. The Standing Committee is invited to:

- a) review the draft criteria in paragraph 9 a) and b) of the present document and agree whether to recommend the adoption of the draft criteria for the categorization of Parties at the 20th meeting of the Conference of the Parties;
- b) review and agree the contextual information in paragraph 10 of the present document used by TRAFFIC to inform the categorization of Parties; and
- c) review and agree the process proposed by the Secretariat in paragraph 13 of the present document as part of the consultation process with Parties identified in the ETIS reports in the implementation of Step 1 b) and c) of the NIAP process.

OVERVIEW OF METHODOLOGIES FOR THE EVALUATION OF PARTIES REQUIRING ATTENTION UNDER THE NATIONAL IVORY ACTION PLAN (NIAP) PROCESS AS PUBLISHED IN THE ELEPHANT TRADE INFORMATION SYSTEM (ETIS) REPORTS TO CITES CONFERENCE OF THE PARTIES

Prepared by TRAFFIC

1. This report was prepared by TRAFFIC at the request of the CITES Secretariat in relation to Decision 19.97. It covers the methodologies used to identify CITES Parties requiring attention under the National Ivory Action Plan (NIAP) process<sup>Error! Bookmark not defined.</sup> as implemented with ETIS reports to each CITES Conference of the Parties (CoP). The purpose of this report is not to track which Parties were identified as requiring attention<sup>4</sup>, but rather to detail the methodologies and processes used to categorize countries in the ETIS report submitted for consideration by the Conference of the Parties to CITES, and how they evolved over time.
2. It is noted in the context of Decision 19.97 that no precise definitions were ever published as to what constitutes Parties of NIAP Categories A, B or C. The general naming convention of *most affected (Category A)*, *markedly affected (Category B)*, and *affected (Category C)* was proposed by the Secretariat after consultation with TRAFFIC (see paragraphs 149 and 150 in [SC69 Doc. 29.3](#)). The proposal was to change Parties of 'primary concern' to Category A Parties (Category A consists of Parties most affected by the illegal trade in ivory); Parties of 'secondary concern' to Category B Parties (Category B consists of Parties markedly affected by the illegal trade in ivory) and Parties of 'importance to watch' to Category C Parties (Category C consists of Parties affected by the illegal trade in ivory). ETIS was requested to make use of the new names of the categories in reports.
3. The categorization by ETIS in the former "categories" was based on 1) initial statistical analysis to identify Parties with similar, low or high trade characteristics (cluster analysis), and 2) quantitative and qualitative assessment of the role of the Party in the illegal ivory trade based on volume and trade links from the ETIS data as well as contextual variables. However, as noted in the ETIS report to CoP19, no specific definitions exist as to "... *what most affected, markedly affected, and affected mean in terms of quantifiable illegal trade characteristics*" (Cop19 Doc. 66.6).
4. It is further noted that the identification of Parties of concern in the illicit trade in ivory in the ETIS reports to CoP have been conducted since CoP12 in 2002. While the Parties used the ETIS report as a foundation to inform processes such as the 'CITES action plan for the control of trade in elephant ivory' adopted at CoP13, this occurred prior to the initial implementation of the NIAP process at SC63 in 2013<sup>5</sup> and prior to the adoption of the Guidelines for the NIAP Process by CoP17 in 2016.
5. Once the NIAP process was established, the methodologies to identify Parties requiring attention under NIAP and the subsequent ETIS reports have been reviewed by the MIKE-ETIS Technical Advisory Group (TAG) before submission to CoP. The remainder of this report covers methodologies and processes implemented as far back as the first ETIS report to CoP12, when Parties of concern in the illegal trade in ivory were first noted.
6. This report narrative provides definitions, logic and step by step procedures of the methodology used in each ETIS report to CoP, and it highlights changes made between analyses. Annex 1.1 provides a tabular summary of the methodologies including: the terminology of Parties identified<sup>6</sup>; the cluster analysis steps; the duration of time series used to summarize the ETIS data; the cluster analysis input variables and any conditions as to which Parties were included in the analyses; the dendrogram cut height and number of resulting clusters; and the contextual variables used to provide additional information on Parties identified

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<sup>4</sup> CITES maintains a website that tracks the history of NIAP process including which Parties participated in NIAP based on the ETIS analysis: [https://cites.org/eng/prog/niaps/history\\_niaps\\_process](https://cites.org/eng/prog/niaps/history_niaps_process)

<sup>5</sup> At SC63 the Standing Committee first requested the Secretariat to help eight Parties in developing national ivory action plans ([SC63 Summary Record](#))

<sup>6</sup> The terminology of Parties identified as requiring attention changed from Parties of primary or secondary concern and Parties to watch to Parties of NIAP categories A (*most affected*), B (*markedly affected*) and C (*affected*) following CoP17 ([https://cites.org/eng/prog/niaps/history\\_niaps\\_process](https://cites.org/eng/prog/niaps/history_niaps_process)).

as requiring attention. It is noted that there is a difference between *analysis input variables*, which refers to the variables input to the cluster analysis to arrive to the resulting groupings of Parties based on their illegal ivory trade characteristics, and *contextual variables*, which refers to variables that provided additional context in how to interpret the cluster analysis results in order to identify Parties requiring attention. The exact details for each variable component are described in the methodologies and processes used for each CoP analysis that follows and are summarized in the table in Annex 1.1 of this report.

### ETIS report to CoP12

7. The first analysis to identify Parties that require attention given illegal ivory trade data related to their country or territory was explained in the ETIS report to CoP12 in 2002 (CoP12 Doc. 34.1). The report laid the foundation to the variable selection and analysis choice that were then used in subsequent CoP reports. The goal of the analysis was to answer the following questions:
  - Which countries or territories are playing leading roles in the illicit trade in ivory?
  - What are the characteristics of this involvement?
8. Two analysis approaches were compared: a 7-step decision tree *exploratory analysis* (Annex 1.2) and a *statistical cluster analysis*. Both approaches resulted in similar identification of Parties requiring attention, and the authors of the ETIS report to CoP12 recognized that the selection of criteria thresholds in the exploratory analysis can be subjective and arbitrary. Therefore, only the statistical cluster analysis was carried forward in subsequent ETIS reports to CoP.

### *Statistical cluster analysis*

9. **Input data.** The input data summarized for each Party consisted of seizures made within country or territory (hereafter referred to as *seizure in*) and of seizures in which the Party was implicated along the trade chain as a country or territory of origin, re-export, export, or destination (hereafter referred to as *seizure out*). *Seizure in* and *seizure out* data were summarized for the following data elements:
  - *Frequency*, or the number of *seizures in* or *seizures out* summarized across a specified time frame (sz-in or sz-out);
  - *Scale*, or the total kg weight of raw ivory equivalent<sup>7</sup> volume represented in the sz-in and sz-out data (wt-in or wt-out);
  - *Period of most activity*, or a measure of difference in volume traded between early and more recent periods represented in the ETIS data; periods were defined as a yearly range for each analysis and were applied for all Parties.
10. **General approach.** Input variables derived based on these data element definitions were analyzed using an agglomerative hierarchical clustering approach and the Ward's method to identify groups of countries or territories with similar patterns of seizure data (see section *A Word on Statistical Methods* in Annex 2 of CoP12 Doc. 34.1). Under this statistical cluster algorithm, an initial group or cluster of two Parties was identified by calculating the Euclidean distance between the input variables of each pair of Parties and choosing the pair with the smallest distance. Subsequent groupings were made in the algorithm processing by adding Parties to cluster groups to minimize the within-cluster sum of squared errors. The algorithm results were reported as the grouping of Parties into relatively homogeneous groups with regards to the input variables, while maintaining differences between groups.
11. The resulting clustering was graphically displayed as a dendrogram (e.g., Figure 4 in Annex 2 of CoP12 Doc. 34.1; Annex 1.3 of this report) such that the hierarchical structure and grouping of Parties can be deduced. A cut was determined post-hoc at a height of vertical separation of five units<sup>8</sup>, resulting in 13 cluster groups. It is noted that while the dendrogram cut-off value chosen was primarily based on what was considered to be useful for interpreting the dendrogram results, the cut-off height did not affect the

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<sup>7</sup> *Raw Ivory Equivalent (RIE) weight refer to the adjusted weight for worked ivory pieces after accounting for 30% wastage as detailed in Annex 1c of SC74 Doc. 68.*

<sup>8</sup> *See Annex 1.3 of this document for an explanation on the influence of dendrogram cut height on the grouping and classification of Parties based on their illegal trade characteristics.*

structure of the dendrogram or the position of any country in it; rather it simply determined the number of cluster groups for describing the ivory trade characteristics (see detailed explanation in Annex 1.3 of this report). Once cluster groups were identified, their main characteristics were summarized for contextual data that consisted of: analysis input variables that informed the cluster analysis (i.e., mean no. of seizures, mean weight kg) and additional contextual variables (also referred to in the report as subsidiary data; i.e., mean Corruption Perception Index of Transparency International, mean law enforcement ratio, mean market score)<sup>9</sup>.

12. It is stressed that **only analysis input variable informed the cluster analysis and the resulting grouping of Parties, and that the contextual variables were used in the interpretation of cluster analysis results to further refine Parties of concern** (e.g., for a given Party with similar input variable data characteristics, a country may be identified as being of higher concern if its law enforcement efforts are low, and mean market score is high). It is also important to note that the interpretations informing the identification of Parties of concern were made for *each country or territory separately* as appears in the narrative of the CoP report; however, for ease of reporting, data were summarized collectively for each group in Table 7 of the ETIS report to CoP12 (Annex 2 of CoP12 Doc. 34.1).

13. **Step-by-step analysis.** With the analysis input variables and statistical methods defined, the following three steps were used to identify Parties of concern in the illegal ivory trade:

1) *Preliminary data screening* – countries or territories were included in the cluster analysis if they had **at least 20 seizure cases and 100 kg of raw ivory equivalent seized as reported in the ETIS database from 1989 – 2002**. This step was used to remove countries or territories with a relatively insignificant role in the illegal ivory trade.

2) *Preliminary cluster analysis* – to further refine the identification among remaining countries or territories, an initial cluster analysis focused on the following weight input variables:

*wt.in.1* = total weight from sz-in made between 1989-1995

*wt.out.1* = total weight from sz-out made between 1989-1995

*wt.in.2* = total weight from sz-in made between 1996-2002

*wt.out.2* = total weight from sz-out made between 1996-2002

*wt.dif* = change in total weight from seizures made between 1989-1995 and those made between 1996-2002

The period breaks (1989–1995 and 1996–2002) were justified based on change in data collection methodology, overall change in patterns of activity in ivory trade, and the change in listing of some elephant populations into Appendix II in the latter period. The preliminary cluster analysis resulted in two groups of countries or territories with relatively lower, and higher, mean weight and number of seizures.

3) *Final cluster analysis* – the countries or territories with the higher values based on the preliminary cluster analysis were analyzed using the following five variables derived from the most recent ETIS data (1996 – 2002):

*sz.in* = total number of sz-in

*sz.out* = total number of sz-out

*sz.ratio* = ratio of  $sz.in / (sz.in + sz.out)$  to indicate law enforcement effort

*wt.in* = total weight (raw ivory equivalent) from sz-in

*wt.out* = total weight (raw ivory equivalent) from sz-out

14. To further examine the characteristics of the resulting 13 groups of countries or territories, *frequency*, *scale*, and *period of most activity* variables were summarized for each of the clusters (Table 7 in Annex 2 of CoP12

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<sup>9</sup> Readers are referred to Annex 2 of CoP12 Doc. 34.1 for additional information on the derivation of law enforcement ratio (similar to current ETIS analyses e.g., CoP19 Doc. 66.6) and on the derivation of market scores (Table 6 in Annex 2 of CoP12 Doc. 34.1) and to Annex 1 of CoP12 Doc. 34.1 for reference on sources and detailed description of derivation of other ETIS subsidiary data components referenced in this report.



Doc. 34.1). Additionally, contextual variable information based on the subsidiary databases were also presented for each group. The report authors discussed the results for each cluster and identified eight Parties that have “*most problematic characteristics*” or of “*major concern*” and additional Parties with “*pivotal countries or territories, which have the potential for fairly rapid movement into the above mentioned groups*”. These identified Parties consisted of the higher illegal trade characteristics as indicated in their dendrogram grouping (Figure 4 in Annex 2 of CoP12 Doc. 34.1) and had lower degree of enforcement (as indicated by the *law enforcement effort* contextual variable; Annex 1 of this report), higher degree of corruption (as indicated by the *CPI* contextual variable), and higher market scores (as indicated by the *Market Score* contextual variable).

15. It is noted that while authors explain the degree of contextual variables that contributed to the grouping of Parties requiring attention, e.g., “*largest unregulated ivory markets*” or “*poor law enforcement effort and efficiency*”, **no precise thresholds of inclusion or exclusion in the categorization were specified** (but see general relationship with each contextual variable as indicated in Table A1 in Annex 1.1 of this report). Additionally, unlike the exploratory analysis that was also presented in the CoP12 ETIS report and is detailed in Annex 1.2 of this report, in which countries of *primary* or *secondary* concern were identified, no conclusive final list of Parties requiring attention was provided based on the cluster analysis.

#### ETIS report to CoP13

16. The CoP12 report laid the foundation for the analyses to identify Parties requiring attention given their role in the illegal ivory trade. As previously mentioned, it was recognized that the cluster analysis is a more robust statistical method that has less subjective intervention than the 7-step exploratory analysis; hence, starting with the ETIS report to CoP13, only the cluster analysis was used in subsequent reports to identify Parties requiring attention. Additionally, as more data were collected and time series to be analyzed increased, there were slight modifications between analyses as to the definitions of period breaks (Annex 1 of this report). Finally, slight modifications were made to the definitions and bias-adjustment of the analysis input variables informing the cluster analysis as follows:

- In the *preliminary cluster analysis*, instead of using the total weight differences between two periods (1989 – 1995 and 1996 – 2002), a weight ratio (*wt.ratio*) variable was introduced; the latter was calculated as the ratio of the total weight in the second period of the analysis over the total weight in the whole period of the analysis.
- Additional steps were introduced between the *preliminary cluster analysis* and the *final cluster analysis* as an attempt to account for differences in the data when considering varying reporting and seizure efforts by different Parties. Three steps were used to bias-adjust for variability in the seizure in data across Parties: 1) the number of seizures was regressed against two subsidiary variables, *ETIS data collection score* (DCS) and *Corruption Perception Index* (CPI); 2) a standardized number of seizures for each country or territory and year was calculated as the difference between the reported and predicted (based on the regression) number of seizures; 3) the total standardized number of seizures for the country was summed across all years. A similar approach was used for the adjusted total weight of seizures, where only *DCS* was used in the regression because *CPI* was not a significant predictor of the weight seized.

17. Similarly to the CoP12 report, the cluster analysis dendrogram was “cut” at the 2.5 unit height resulting in 13 clusters. Each cluster was described in terms of contextual variables and six Parties “*most implicated in the illicit trade in ivory*” were identified as well as a group of Parties that were “*playing important roles in the trade*”. The differentiation between these categories of Parties was determined similarly to the previous report by factoring in the results of the cluster analysis with the degree of the contextual variables (Annex 1.1), but **no precise thresholds for inclusion into categories of concern were set or specified**.

#### ETIS report to CoP14

18. The cluster analysis methodology in the ETIS report to CoP14 followed the same methodologies used in the CoP13 report with the following changes:
  - In the *preliminary cluster analysis*, the *wt.ratio* variable was defined as the ratio of total weight between the earlier (1989 – 1997) and the more recent (1998 – 2006) reporting periods.

- The domestic ivory market score (*dims*)<sup>10</sup> was included as an input variable in the *final cluster analysis*. The *dims* variable was constructed based on the number of items offered for sale and their weight as detected in market monitoring surveys, as well as scoring of Parties' compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets (described in detail in Annex 1 of CoP12 Doc. 34.1, and Table 6 in Annex 2 of CoP12 Doc. 34.1).

19. A cut was made at the 3.5 unit height of the resulting dendrogram, creating 13 clusters. Contextual variables data were used to discuss each cluster and five Parties that were “*most heavily implicated in the illicit trade*” were identified along with Parties “*playing important roles in the illicit ivory trade*” and a group of Parties “*to be monitored closely*” were also noted. Again, the differentiation among these categories of Parties was determined by factoring in the results of the cluster analysis with the degree of contextual variables (Annex 1), but **no precise thresholds for inclusion into categories of concern were set or specified**.

#### ETIS report to CoP15

20. The cluster analysis methodology in the ETIS report to CoP15 followed the same methodologies used for the CoP14 report with the introduction of an additional contextual covariate, *large-scale seizures (LSSZ)*. LSSZ was constructed to account for the presence of organized criminal activity in the illicit ivory trade. The variable was calculated as the percentage of the trade volume (kg) that consisted of large seizures equal to or greater than one tonne in total raw ivory equivalent weight<sup>11</sup>.

21. The dendrogram was cut at a height of 3.5 units to provide 14 clusters. Countries or territories in each cluster were reviewed based on contextual covariates including LSSZ, and Parties *most heavily implicated*, or of *secondary level of concern*, or where *illicit ivory trade remains a persistent challenge* were identified in the report. Similar to previous analyses, the differentiation among these categories of Parties was determined by factoring in the results of the cluster analysis with the degree of contextual variables (Annex 1.1), but **no precise thresholds for inclusion into categories of concern were set or specified**.

#### ETIS report to CoP16

22. The CoP16 analyses represented the first time when the output transaction indices from the trend analysis were used as input variables to the cluster analysis. Therefore, the preliminary data screening and bias-adjustment steps were removed as they were already included as part of the trend analyses. Additionally, a *preliminary cluster analysis* focused on weight variables was not performed; instead, variables related to large scale seizures equal to or greater than one tonne in weight were included as input data to the cluster analysis. The revised methodologies had the following analysis steps:

1) *Trend analysis* using Bayesian hierarchical modeling was used to bias-adjust ETIS data for seizure and reporting rates. *Law enforcement ratio* based on ETIS data and the World Bank's *rule of law* covariates were used to model seizure rate, while the variables of ETIS *data collection effort score* and *CITES annual reporting scores* were used to model reporting rate. Model outputs were relativized to the 1998 level, which was set to 100, as this represented the first full year after the adoption of Res. Conf. 10.10, the transfer of three African elephant population from Appendix I to Appendix II, and the development of ETIS. Model outputs were reported as Transaction Indices that were estimated for six ivory class and weight categories: small (less than 10 kg), medium (10 kg to 100 kg), and large (100 kg or more) for raw and worked ivory. The Transaction Indices for each category were used as input variables to the cluster analysis.

2) *Cluster analysis* using the following input variables for the years 2009 - 2011:

Transaction Index by ivory type and weight class (six variables)  
 Total number of large seizures over one tonne in total weight (raw and worked combined)  
 Total weight of large seizures over one tonne  
 Total number of sz-out

<sup>10</sup> As specified in Annex 1 of CoP12 Doc. 34.1, the domestic ivory market score (*dims*) was based on the Domestic Ivory Markets Database, “...a component of ETIS to track the relative scale of major domestic ivory markets globally” that consisted of results of recent market survey studies. Additionally, cumulative scoring of compliance was done in relation to how Parties with domestic ivory markets complied on activities specified by Res. Conf. 10.10. (Rev) as requiring attention including registration of dealers, having adequate trade controls, effective reporting and effective enforcement (see example in Table 6 of Annex 2 of CoP12 Doc. 34.1).

<sup>11</sup> It is noted that the threshold of large seizures was not incorporated into Res. Conf. 10.10 until Rev. CoP16, when Parties adopted a 500kg threshold to identify large seizures in the context of forensic analysis (see paragraph 53.2 of CoP16 Com. II Rec. 6 (Rev. 1), CoP16 Comm. II 26, and Res. Conf. 10.10 (Rev. CoP16)).

#### Total weight of sz-out

23. The resulting dendrogram was cut at the 5-unit height resulting in 12 clusters. The same contextual covariates were used to discuss countries or territories in each cluster group, with the exception that the *rule of law* variable was used instead of *CPI*, as the former was used instead of the latter in the bias-adjustment step. Two Parties were identified as *most heavily implicated*, with ten additional Parties identified as a “secondary level of concern as they repeatedly play important supporting roles in the illicit ivory trade. Similar to previous analyses, the differentiation among these categories of Parties was done factoring in the results of the cluster analysis with degree of contextual variables’ value (Annex 1), but no thresholds for inclusion into categories of concern were set or specified.

#### ETIS report to CoP17

24. The following changes to the methodologies noted in the ETIS report to CoP17 were mostly related to the trend analyses that informed the input variables of the cluster analysis:
- The analysis time frame was restricted to start in 2007 as it was seen as an inflection point based on previous trend analyses, and it was the year just before the one-off sale of ivory that took place in 2008. The transaction indices were therefore relativized to the first year in the time series, 2007.
  - The medium and large weight categories for worked ivory were unified into one large worked ivory category, as it was deemed that 10 kg, which was used as the lower limit of the medium category, is already a very large weight of worked ivory.
  - A selection criterion was introduced to determine which countries or territories to include in the trend (and therefore also cluster) analysis; the score was based on the number of seizures a Party makes (or is implicated in along the trade route) in each weight category, and a threshold score of 100 was selected for inclusion in the analysis.
  - For the bias-adjusting step of the trend analysis, only *law enforcement ratio* was selected as a predictor of seizure rates, while both *CITES annual reporting score* and *Data collection effort score* were maintained as predictors for reporting rates.
25. The remaining methodologies of the cluster analysis steps followed those used in the CoP16 report where: the same input variables were used, analysis was focused on the most recent 3 years of complete data, a 5-unit height cut was applied to the resulting dendrogram resulting in 13 clusters, and the same contextual variables were discussed for each cluster. It is noted that for the first time in the CoP17 report, the Parties in the 13 resulting clusters were listed under “*Countries of primary concern*”, “*Country of secondary concern*”, and “*Countries important to watch*” sections of the report, with African and Asian Parties noted under each category. Similar to previous analyses, the differentiation among these categories of Parties was determined by factoring in the results of the cluster analysis with degree of contextual variables (Annex 1.1), but **no precise thresholds for inclusion into categories of concern were set or specified.**

#### ETIS Report CoP18 Doc. 69.3 (Rev. 1)

26. The analysis approach established in CoP1 was followed for the CoP18 report with few methodology changes:
- A new covariate, *Trade Chain Index (TCI)*, was introduced to model seizure rate in the trend analysis to account for the fact that destination Parties may have higher law enforcement ratios simply because a shipment is less likely to leave their borders. The index characterizes the Party’s role on the trade chain as a ratio of destination and non-destination scores.
  - The input data to the cluster analysis summarizing frequency and scale of large seizures was calculated at a threshold of 500 kg rather than one tonne of total seizure weight. Additional variables summarizing the bias-adjusted seizures out and the weights in and out both above and below this 500 kg threshold were introduced.
  - The *Corruption Perception Index* was used in place of the *rule of law* as a contextual covariate.
27. The dendrogram was cut at the 5-unit height resulting in 15 clusters, which were reviewed in the context of input data and additional information. For the first time, and following amendments to Res. Conf. 10.10 (Rev.

CoP17), Parties were listed as requiring attention under the NIAP process as category *A (most affected)*, *B (markedly affected)*, or *C (affected)* Parties. Similar to previous analyses, the differentiation among these categories of Parties was determined by factoring in the results of the cluster analysis with degree of contextual variables (Annex 1.1), but **no precise thresholds for inclusion into categories were set or specified as no published criteria for inclusion as NIAP Categories A, B, or C existed.**

ETIS Report CoP19 Doc. 66.6

28. Methodologies used in the ETIS report to CoP19 were similar to those used in the CoP18 report with the omission of market scores and large-scale seizure to mean weight (LSSZ) as contextual variables and the addition of *Organized Crime Index* as a new contextual variable. Additionally, the cluster analysis input variables were displayed as a heat map depicting the dendrogram results whereby Parties with relatively lower input data values (yellows) were differentiated from those with relatively higher input data values (reds). Similar to CoP18 analyses, the dendrogram was cut at the 5 unit level resulting in 15 clusters, and Parties with higher input variables relating to seizures out (i.e., seizures of 500kg or more that implicated the Parties on the trade chain) were identified as A or B categories (left of dashed line in Figure 4.B in CoP19 Doc. 66.6).
29. As in previous analyses, to further differentiate Parties requiring attention under the NIAP process as *NIAP Category A, B, or C*, the results of the cluster analysis were factored in with degree of contextual variables, but no precise thresholds for inclusion into categories were set or specified as no published criteria for inclusion as NIAP Categories A, B, or C existed. However, report authors added that "...more refinements might be made in future assignments of Parties under the NIAP process to Category C, as well as Categories A and B, as better definitions are developed by the Parties as to what *most affected*, *markedly affected*, and *affected* mean in terms of quantifiable illegal trade characteristics."

**Annex 1.1 – Summary table of methodological approaches to identify Parties that require attention based on their data on illegal ivory trade as summarized in the ETIS reports to the CITES Conference of the Parties.** Party categorization refers to the terminology used to identify Parties requiring attention based on the characteristics of their illegal trade in ivory. Variable names are in bold, and grey highlights indicate a difference from the previous report. Unless otherwise specified, sz-in and wt-in refer to seizures made and total weight within the country or territory, and sz-out and wt-out refer to the total number of seizures and total weight for seizures in which the country or territory was implicated along the trade chain. Contextual variables listed are in addition to the *frequency*, *scale*, and *period of most activity* variables which were derived based on the input ETIS data to the cluster analysis. An asterisk near the time series range denotes that the most recent year(s) of ETIS data were dropped due to incomplete data.

<b>CoP Report and Party categorization</b>			<b>Cluster analysis steps</b>	<b>Time series considered</b>	<b>Analysis input variables and conditions</b>	<b>Dendrogram cut height and no. of clusters</b>	<b>Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention</b>
CoP12	Doc.	34.1	1. Initial screening	1989 – 2002	Include $\geq 20$ total <b>sz-in</b> and $\geq 100\text{kg}$ total <b>wt-in</b> and <b>wt-out</b> if:		
Parties requiring attention were not listed with the cluster analysis in this report (but Parties of <i>primary</i> or of <i>secondary</i> concern were listed with the exploratory analysis detailed in Annex 1.2 of this report)			2. Preliminary cluster analysis	1989 – 1995 1996 – 2002	<b>wt.in.1:</b> Total weight of sz-in 1989-1995 <b>wt.out.1:</b> Total weight of sz-out 1989-1995 <b>wt.in.2:</b> Total weight of sz-in 1996-2002 <b>wt.out.2:</b> Total weight of sz-out 1996-2002 <b>wt.dif:</b> Change in total weight from 1989-1995 to 1996-2002		
			3. Final cluster analysis	1996 – 2002	<b>sz.in:</b> total no. of sz-in <b>sz.out:</b> total no. of sz-out <b>sz.ratio:</b> ratio of sz-in/(sz-in+sz-out) <b>wt.in:</b> total weight (RIE) of sz-in <b>wt.out:</b> total weight (RIE) of sz-out	5 units, 13 clusters	<b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption. <b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country. <b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets. <b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.

<b>CoP Report and Party categorization</b>			<b>Cluster analysis steps</b>	<b>Time series considered</b>	<b>Analysis input variables and conditions</b>	<b>Dendrogram cut height and no. of clusters</b>	<b>Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention</b>
CoP13	Doc.	29.2	1. Initial screening	1989 – 2004	Include if: ≥20 total <b>sz-in</b> and <b>sz-out</b> AND ≥100kg total <b>wt-in</b> and <b>wt-out</b>	2.5 units, 13 clusters	<p><b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets.</p> <p><b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
			2. Preliminary cluster analysis	1989 – 1996 1997 – 2004	<b>wt.in.1:</b> Total weight of sz-in 1989-1996 <b>wt.in.2:</b> Total weight of sz-in 1997-2004 <b>wt.out.1:</b> Total weight of sz-out 1989-1996 <b>wt.out.2:</b> Total weight of sz-out 1997-2004 <b>wt.ratio:</b> ratio of total weight in 1997-2004 to total weight in 1989-2004		
			3. Final cluster analysis	1997 – 2002*	<b>sz.in.adj:</b> standardized no. of sz-in as the difference between the reported sz-in and the predicted sz-in based on linear regression: $sz-in \sim Data\ collection\ score\ (DCS) + Corruption\ Perception\ Index\ (CPI)$ <b>sz.out:</b> total no. of sz-out <b>sz ratio:</b> ratio of sz-in/(sz-in+sz-out) <b>wt.in.adj:</b> standardized wt-in as the difference between the reported wt-in and the predicted wt-in based on linear regression: $wt-in \sim Data\ collection\ score\ (DCS)$ <b>wt.out:</b> total weight (RIE) of sz-out		
CoP14	Doc.	53.2	1. Initial screening	1989 – 2006	Include if: ≥20 total <b>sz-in</b> and <b>sz-out</b> AND ≥100kg total <b>wt-in</b> and <b>wt-out</b>		
Parties most heavily implicated, of important role in trade or to be closely monitored			2. Preliminary cluster analysis	1989 – 1997 1998 – 2006	<b>wt.in.1:</b> Total weight of sz-in 1989-1997 <b>wt.in.2:</b> Total weight of sz-in 1998-2006 <b>wt.out.1:</b> Total weight of sz-out 1989-1997 <b>wt.out.2:</b> Total weight of sz-out 1998-2006 <b>wt.ratio:</b> ratio of total weight in 1989-1997 to total		

CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention
			weight in 1998-2006		
	3. Final cluster analysis	1998 – 2006	<p><b>sz.in.adj:</b> standardized no. of sz-in as the difference between the reported sz-in and the predicted sz-in based on linear regression: <math>sz-in \sim Data\ collection\ score\ (DCS) + Corruption\ Perception\ Index\ (CPI)</math></p> <p><b>sz.out:</b> total no. of sz-out</p> <p><b>sz ratio:</b> ratio of sz-in/(sz-in+sz-out)</p> <p><b>wt.in.adj:</b> standardized wt-in as the difference between the reported wt-in and the predicted wt-in based on linear regression: <math>wt-in \sim Data\ collection\ score\ (DCS)</math></p> <p><b>wt.out:</b> total weight (RIE) of sz-out</p> <p><b>dims:</b> domestic ivory market score</p>	3.5 units, 13 clusters	<p><b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets.</p> <p><b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
CoP15 Doc. 44.1	1. Initial screening	1989 – 2009	Include if: ≥20 total <b>sz-in</b> and <b>sz-out</b> AND ≥100kg total <b>wt-in</b> and <b>wt-out</b>		
Parties most heavily implicated, or of secondary level of concern, or where illicit trade remains a persistent challenge	2. Preliminary cluster analysis	1989 – 1998 1999 – 2009	<p><b>wt.in.1:</b> Total weight of sz-in 1989-1998</p> <p><b>wt.in.2:</b> Total weight of sz-in 1999-2009</p> <p><b>wt.out.1:</b> Total weight of sz-out 1989-1998</p> <p><b>wt.out.2:</b> Total weight of sz-out 1999-2009</p> <p><b>wt.ratio:</b> ratio of total weight in 1989-1998 to total weight in 1999-2009</p>		
	3. Final cluster analysis	1999 – 2009	<p><b>sz.in.adj:</b> standardized no. of sz-in as the difference between the reported sz-in and the predicted sz-in based on linear regression: <math>sz-in \sim Data\ collection\ score\ (DCS) + Corruption\ Perception\ Index\ (CPI)</math></p> <p><b>sz.out:</b> total no. of sz-out</p> <p><b>sz ratio:</b> ratio of sz-in/(sz-in+sz-out)</p> <p><b>wt.in.adj:</b> standardized wt-in as the difference</p>	3.5 units, 14 clusters	<p><b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input. A higher</p>

CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention
			<p>between the reported wt-in and the predicted wt-in based on linear regression: wt-in ~ <i>Data collection score</i> (DCS)</p> <p><b>wt.out:</b> total weight (RIE) of sz-out</p> <p><b>dims:</b> domestic ivory market score</p>		<p>score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Percentage of large-scale seizures to mean weight (LSSZ):</b> the percentage of the traded weight generated by seizures equal to or greater than one tonne of RIE in weight; a higher score indicates larger involvement of organized crime in the illegal trade.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets.</p> <p><b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
CoP16 Doc. 53.2.2 (Rev. 1)	1. Trend analysis	1996 – 2011*	<p>– Bias adjustment variables:</p> <p><b>Law enforcement ratio 1-year lag effect:</b> ratio of sz-in/(sz-in+sz-out) based on previous year's data</p> <p><b>Rule of law:</b> from the World Bank's governance indicators</p> <p><b>CITES annual reporting score:</b> the number of years the Party has submitted an annual report to CITES over the total number of years the Party has been a signatory to CITES.</p> <p><b>Data collection effort score:</b> describing the process under which the ETIS data were collected: targeted, routine, prompted or passive.</p>		
Parties most heavily implicated of major concern, transit Parties of concern, source Parties of greatest concern, or Parties of secondary level of concern <sup>12</sup>	2. Cluster analysis	2009 – 2011	<b>transaction indices:</b> by ivory type and weight class	5 units, 12	<b>Rule of law:</b> from the World Bank's

<sup>12</sup> In Paragraph D of the Comments from the Secretariat in CoP16 Doc. 53.3.3. (Rev. 1), the Secretariat categorized as Parties of primary concern the nine countries or territories categorized by the ETIS report as most heavily implicated or of major concern, transit Parties of concern, source Parties of greatest concern. The 10 countries or territories categorized as secondary concern in the ETIS report remained referenced as Secondary concern so in the Secretariat's Comments.



CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention
	analysis		<p>as derived from trend analysis results</p> <p><b>seizures &gt;1 tonne:</b> total number of large seizures over 1 tonne</p> <p><b>weight &gt;1 tonne:</b> total weight of large seizures over 1 tonne</p> <p><b>sz-out:</b> total number of seizures out</p> <p><b>wt-out:</b> total weight of seizures out</p>	clusters	<p>governance indicators. A higher score indicates better rule of law.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Percentage of large-scale seizures to mean weight (LSSZ):</b> the percentage of the traded weight generated by seizures equal to or greater than one tonne of RIE in weight; a higher score indicates larger involvement of organized crime in the illegal trade.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets.</p> <p><b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
<p>CoP17 Doc. 57.6 (Rev. 1)</p> <p>Parties of <i>Primary concern, Secondary concern, and Important to watch</i></p>	1. Trend analysis	2007 – 2014*	<p><u>Inclusion criterion:</u> Sum of <b>inclusion criterion score</b> is <math>\geq 100</math> points, where 1 point, 10 points, or 100 points are respectively given for every implicated seizure in small, medium and large weight classes.</p> <p><u>Bias adjustment variables:</u> <b>Law enforcement ratio 1-year lag effect:</b> ratio of sz-in/(sz-in+sz-out) based on previous year's data <b>CITES annual reporting score:</b> the number of years the Party has submitted an annual report to CITES over the total number of years the Party has been a signatory to CITES. <b>Data collection effort score:</b> describing the process</p>		

CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention
			under which the ETIS data were collected: targeted, routine, prompted or passive.		
	2. Cluster analysis	2012 – 2014	<p><b>transaction indices:</b> by ivory type and weight class as derived from trend analysis results</p> <p><b>seizures &gt;1 tonne:</b> total number of large seizures over 1 tonne</p> <p><b>weight &gt;1 tonne:</b> total weight of large seizures over 1 tonne</p> <p><b>sz-out:</b> total number of seizures out</p> <p><b>wt-out:</b> total weight of seizures out</p>	5 units, 13 clusters	<p><b>Rule of law:</b> from the World Bank's governance indicators. A higher score indicates better rule of law.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Percentage of large-scale seizures to mean weight (LSSZ):</b> the percentage of seizures equal to or greater than one tonne of RIE in weight; a higher score indicates larger involvement of organized crime in the illegal trade.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets. <b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
CoP18 Doc. 69.3 (Rev. 1)  Parties of NIAP Category A (most affected), B (markedly affected), or C (affected) as defined in Annex 3 of Res. Conf.	1. Trend analysis	2008 – 2017	<p><u>Inclusion criterion:</u> Sum of <b>inclusion criterion score</b> is <math>\geq 100</math> points, where 1 point, 10 points, or 100 points are respectively given for every implicated seizure in small, medium and large weight classes.</p> <p><u>Bias adjustment variables:</u> <b>Law enforcement ratio 1-year lag effect:</b> ratio of sz-in/(sz-in+sz-out) based on previous year's data <b>Trade chain index (TCI):</b> characterizes a Party's role in the illegal trade chain.</p>		

CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention
10.10 (Rev. CoP17). <sup>13</sup>			<p><b>CITES annual reporting score:</b> the number of years the Party has submitted an annual report to CITES over the total number of years the Party has been a signatory to CITES.</p> <p><b>Data collection effort score:</b> describing the process under which the ETIS data were collected: targeted, routine, prompted or passive.</p>		
	2. Cluster analysis	2015 – 2017	<p><b>transaction indices:</b> by ivory type and weight class as derived from trend analysis results</p> <p><b>sz-out &lt;500 kg:</b> total of seizures out less than 500 kg</p> <p><b>sz-out ≥500 kg:</b> total of seizures out over 500 kg</p> <p><b>wt-in &lt;500 kg:</b> total of weights in less than 500 kg</p> <p><b>wt-in ≥500 kg:</b> total of weights in over 500 kg</p> <p><b>wt-out &lt;500 kg:</b> total of weights out less than 500 kg</p> <p><b>wt-out ≥500 kg:</b> total of weights out over 500 kg</p>	5 units, 13 clusters	<p><b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption.</p> <p><b>Law enforcement effort:</b> ratio of sz-in/(sz-in+sz-out); same as sz.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country.</p> <p><b>Percentage of large-scale seizures to mean weight (LSSZ):</b> the percentage of seizures equal to or greater than one tonne of RIE in weight; ; a higher score indicates larger involvement of organized crime in the illegal trade.</p> <p><b>Market Score:</b> constructed based on the no. of items and weight detected in market surveys as well as scoring of compliance with Res. Conf. 10.10 regulations of legal domestic ivory markets. A total higher score indicates more ivory was detected at the markets and lower compliance was recorded with the regulation of the markets.</p> <p><b>Reporting status:</b> to ETIS as detailed in</p>

<sup>13</sup> Following Decision 17.74 and as reported at SC69, the Secretariat reviewed current names of the categories used in the ETIS report and suggested that Parties of primary concern become Category A Parties (most affected by the illegal trade in ivory), Parties of secondary concern become Category B Parties (markedly affected), and Parties of importance to watch become Category C Parties (affected). No additional information on the definition of these categories was provided. The Standing Committee adopted the Secretariat's recommendation and requested ETIS to use the new names in future ETIS reports.

CoP Report and Party categorization	Cluster analysis steps	Time series considered	Analysis input variables and conditions	Dendrogram cut height and no. of clusters	Contextual variables presented for each cluster group to provide additional information on Parties identified as requiring attention narrative to each cluster.
<p>CoP19 Doc. 66.6</p> <p>Parties of NIAP Category A (most affected), B (markedly affected), or C (affected) as defined in Annex 3 of Res. Conf. 10.10 (Rev. CoP18).</p>	1. Trend analysis	2008 – 2020	<p><b>Inclusion criterion:</b> Sum of <b>inclusion criterion score</b> is <math>\geq 100</math> points, where 1 point, 10 points, or 100 points are respectively given for every implicated seizure in small, medium and large weight classes.</p> <p><b>Bias adjustment variables:</b> <b>Law enforcement ratio 1-year lag effect:</b> ratio of <math>sz\text{-in}/(sz\text{-in}+sz\text{-out})</math> based on previous year's data <b>Trade chain index (TCI):</b> characterizes a Party's role in the illegal trade chain. <b>CITES annual reporting score:</b> the number of years the Party has submitted an annual report to CITES over the total number of years the Party has been a signatory to CITES. <b>Data collection effort score:</b> describing the process under which the ETIS data were collected: targeted, routine, prompted or passive.</p>	5 units, 15 clusters	<p><b>Corruption Perception Index (CPI):</b> proxy to measure law enforcement efficiency. A higher score indicates the country is perceived as having less corruption. <b>Law enforcement effort:</b> ratio of <math>sz\text{-in}/(sz\text{-in}+sz\text{-out})</math>; same as <math>sz</math>.ratio input variable. A higher score indicates better law enforcement effort at intercepting seizures that originate, are exported, transited or destined to the country. <b>Organized Crime Index:</b> a measure of the level of organized crime within each country or territory. A higher score indicates higher levels of organized crime. <b>Reporting status:</b> to ETIS as detailed in narrative to each cluster.</p>
	2. Cluster analysis	2018 – 2020	<p><b>transaction indices:</b> by ivory type and weight class as derived from trend analysis results. <b>sz-out &lt;500 kg:</b> total of <i>seizures out</i> less than 500 kg <b>sz-out <math>\geq 500</math> kg:</b> total of <i>seizures out</i> over 500 kg <b>wt-in &lt;500 kg:</b> total of <i>weights in</i> less than 500 kg <b>wt-in <math>\geq 500</math> kg:</b> total of <i>weights in</i> over 500 kg <b>wt-out &lt;500 kg:</b> total of <i>weights out</i> less than 500 kg <b>wt-out <math>\geq 500</math> kg:</b> total of <i>weights out</i> over 500 kg</p>		

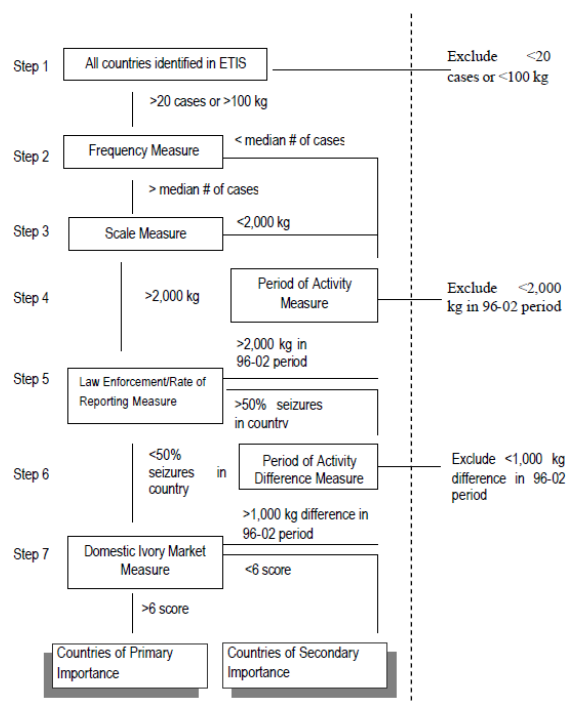
## Annex 1.2 – Description of Exploratory analysis implemented in the ETIS report to CoP12.

Figure A2.1 (originally Figure 3 in Annex 2 of CoP12 Doc. 34.1) outlines the steps of the exploratory analysis based on summaries of ETIS data ranging from 1989 – 2002. The criteria for inclusion at each step related to ETIS data elements summarized for each Party while taking into account seizures made by the Party in country or territory (sz-in) as well as those that implicated the Party on the trade chain (sz-out). The definition of the data elements were:

- *Frequency*, or the number of sz-in + sz-out summarized across a specified time series;
- *Scale*, or the total kg weight of raw ivory equivalent<sup>14</sup> volume represented in the sz-in and sz-out;
- *Period of most activity*, or a measure of difference in volume traded between early (1989 – 1995) and more recent (1996 – 2002) periods represented in the ETIS data.

Using these three variables, the following seven steps were implemented to differentiate countries or territories of *primary* and *secondary concern* among over 150 countries or territories that were represented in the illegal ivory trade data in the ETIS database:

- 1) Countries or territories were included if they had at least 20 seizure cases (sz-in + sz-out) or 100 kg of raw ivory equivalent (wt-in + wt-out) in the database. Countries or territories not meeting these criteria were excluded from further consideration.
- 2) Remaining countries or territories were included if they had at least 55 seizure cases; 55 was chosen as it was the median of the number of seizure cases per country or territory in the database.
- 3) Remaining countries or territories were included if the total volume of ivory trade exceeded 2,000 kg. It is noted that the median of the distribution of total volume of ivory trade per country or territory was 5,000 kg, but this was determined to be too high, and 2,000 kg was used as a criterion instead.
- 4) Excluded countries or territories from step 2 and 3 were re-evaluated in terms of shifts in periods of activity in the illegal trade summarized for the periods 1989 – 1995 and 1996 – 2002; if the difference in the total volume of trade between the more recent and the less recent periods was greater than 2,000 kg, then the country or territory was added to the remaining countries or territories under consideration.
- 5) Remaining countries or territories were included if their law enforcement ratio, calculated as  $\text{sz-in}/(\text{sz-in}+\text{sz-out})$ , was less than 50%.
- 6) Excluded countries or territories from step 5 were re-evaluated in terms of shifts in periods of activity in the illegal trade summarized for the periods 1989 – 1995 and 1996 – 2002. This is similar to step 4, only the criterion to include countries or territories was a total difference of more than 1,000 kg.
- 7) Using the subsidiary data in ETIS on domestic ivory markets, a domestic ivory market score was used to evaluate the Parties. The score was a sum of a market monitoring score for the number and total weight of ivory products found based on market surveys, as well as scoring of compliance with the directive of Res. Conf. 10.10. (Rev.) in terms of registrations, controls, reporting and effective enforcement of domestic ivory markets (see Table 6 in Annex 2 of CoP12 Doc. 34.1). Using the cumulative final score, the remaining countries or territories were considered as *Countries of Primary Importance* if they had a score of 6 or more, while countries with a score of less than 6 were defined as *Countries of Secondary Importance* (Table 6 of CoP12 Doc. 34.1).

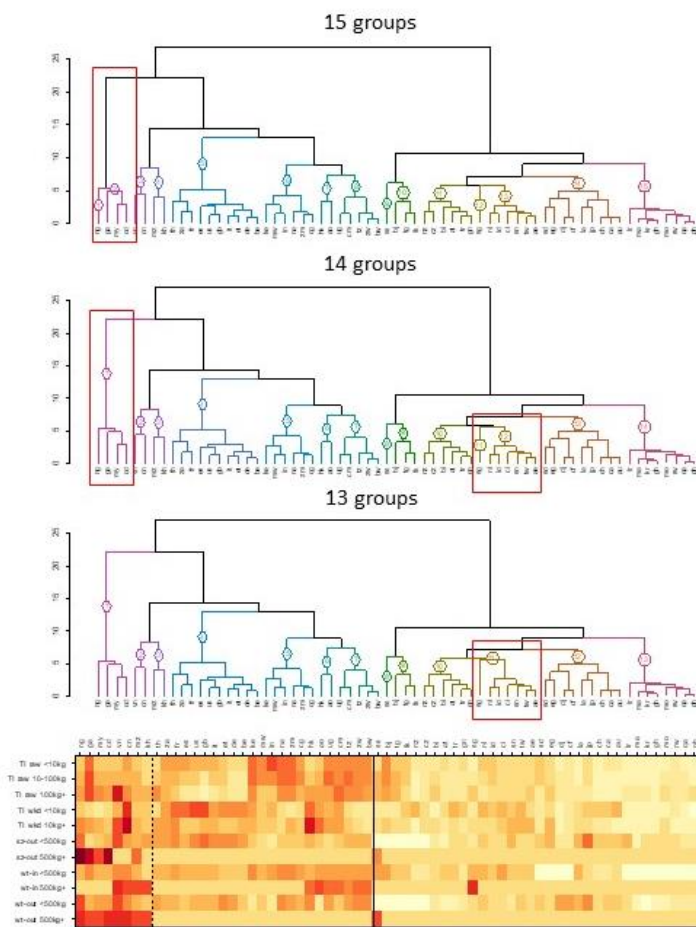


**Figure A2.1.** The exploratory model for identifying countries of primary and secondary importance as published originally in CoP12 Dec. 34.1.

<sup>14</sup> Raw Ivory Equivalent (RIE) weight refer to the adjusted weight for worked ivory pieces after accounting for 30% wastage as detailed in Annex 1c of SC74 Doc. 68.

### Annex 1.3 – A note about the selection of cut height on the cluster analyses dendrogram.

The cluster analysis produces the dendrogram presented in the ETIS reports to CoP whereby, based on input variables summarizing ETIS data for each Party, clustering or grouping of Parties with similar illegal ivory trade characteristics is produced (Burn and Underwood (2013), Underwood et al. (2013), CoP19 Doc. 66.6). Parties with relatively low input values are grouped together, and the dendrogram cut-off values (or cut height) determines the resulting number of groups. As explained in SC69 Inf. 22, the cut-off is determined post-hoc once the dendrogram has been produced; it is a relative measure and the value chosen is primarily based on what is considered to be useful for interpreting the results. Determination of the cut-off point is not a technical statistical decision, nor is it necessarily based on previous analyses, and all ETIS reports have described between 12 and 15 clusters. Importantly, and as depicted in Figure A3.1, the cut-off point doesn't affect the structure of the dendrogram or the position of any country in it; rather it simply determines the number of clusters for describing the ivory trade characteristics. The dendrogram is purposely included in the report so that Parties can see for themselves the similarities and differences between countries and assess how changing the cut-off would alter the number of groups.



**Figure A3.1** – Three different cluster analysis dendrogram cut-off heights resulting in 13, 14, and 15 cluster groups based on illegal ivory trade characteristics for data analyzed for the ETIS report for CoP19 (CoP19 Doc. 66.6). Input variables used in analysis are depicted in heatmap at bottom panel while the dendrograms are specified at different cut height to produce 13 – 15 groups. As the number of groups changes, the order of the countries remains the same. Red rectangles demonstrate the change in clustering with different number of groups.

ETIS – CATEGORISATION OF PARTIES: CoP16 to CoP19

Prepared by the CITES Secretariat and TRAFFIC

CoP	Notes re: analysis	Country / -ies	Justification
<p>CoP16 <a href="#">CoP16 Doc. 53.2.2 (Rev. 1)</a></p> <p>[NIAP process initiated at CoP16 where Decisions were adopted relating to engagement with Parties of secondary concern to develop country specific actions and deadlines (<a href="#">CoP16 Com. II 22</a>)]</p> <p><a href="#">Report to CoP16 submitted by TRAFFIC but amendment to Annex 1 to Res Conf. 10.10 adopted – The CITES Secretariat to report on ETIS to CoP (see <a href="#">CoP16 Com. II. 26</a>)</a></p>	<p>Transaction Index – new feature in ETIS analysis: Depicts global illegal ivory trade in 6 ivory type and weight categories and provides a measure of the frequency of raw and worked ivory transactions occurring from 1996 onwards.</p> <p>The 6 ivory type and weight categories are:</p> <ul style="list-style-type: none"> <li>- Raw &lt;10 kg</li> <li>- Worked &lt;10 kg</li> <li>- Raw 10 – 100 kg</li> <li>- Worked 10 – 100 kg</li> <li>- Raw 100kg+</li> <li>- Worked 100 kg+</li> </ul> <p>Weight Index – relative weight of ivory in trade by ivory type and in three weight classes (&lt;10kg, 10 – 100 kg and 100kg+)</p> <p>Cluster analysis: Clusters on the far right-hand side of the dendrogram, have the greatest degree of separation from all other clusters in the analysis (priorities of greatest concern).</p>	<p><b>Priorities of greatest concern in the illicit trade in ivory:</b></p> <p>Thailand, Malaysia, Philippines, Viet Nam, Hong Kong SAR of China, South Africa, Kenya, Tanzania, China</p>	<p><i>Measure of scale (Mean weight):</i> from 10,923 to 28,804kg <i>Percentage of weight in recent period:</i> 75 – 83 <i>Percentage of large-scale ivory seizures to mean weight:</i> 0.65 – 0.94 <i>Mean market score:</i> 5.7 – 7.5 (one cluster with Hong Kong SAR of China, ZA, KE, TZ with mean market score of 1.6 – lower than other clusters)</p> <p>These groups are regularly involved in illicit ivory trade and collectively account for three quarters of the total mean weight of the ivory represented by the ETIS data in Table 2 of document CoP16 Doc. 53.2.2 (Rev.1).</p> <p>Trade chain perspective considered:</p> <ul style="list-style-type: none"> <li>- Destinations of illicit trade (China &amp; Thailand),</li> <li>- Transit countries and trade routes for large quantities of illicit ivory (Hong Kong SAR of China, Malaysia, Philippines and Viet Nam),</li> <li>- source and exit points for large amounts of ivory leaving Africa (Kenya, Tanzania and South Africa)</li> </ul> <p>All four of these groups have been far more active in the illicit ivory trade over the last three years and are prominently involved or implicated in large-scale transactions of ivory that represent higher-level criminal activity.</p> <p>In some cases, governance issues could be an inhibiting factor lying behind seizure and reporting rates for these countries and territories.</p> <p>Finally, these groups contain some of the largest ivory markets in the world at that point in time.</p> <p>Issues highlighted:</p> <ul style="list-style-type: none"> <li>- Large consignments</li> <li>- Law enforcement at retail markets rare (consumer countries)</li> <li>- Requirements of Res Conf. 10.10 (Rev.CoP15) for internal ivory trade in ivory are not fully implemented</li> <li>- Market surveys – no of carvers / persons active in markets (consumer countries)</li> <li>- Compliance with regulatory provisions</li> <li>- Reporting to ETIS</li> </ul>

CoP	Notes re: analysis	Country / -ies	Justification
		<p><b>Second tier level of concern:</b> Nigeria, Ethiopia, Egypt, Gabon, Congo, Uganda, Mozambique, Democratic Republic of Congo, Taiwan province of China, Cameroon</p>	<ul style="list-style-type: none"> <li>- Transit points for large-scale movements of ivory</li> <li>- Ivory stock management</li> </ul> <p><i>Measure of scale (mean weight):</i> 1088 – 2042 kg <i>Percentage of weight in recent period:</i> 15 &amp; 59 <i>Percentage of large-scale ivory seizure to mean weight:</i> 0.24 <i>Mean market score:</i> 4.5 – 6.4</p> <p>Mix of source, entrepôt/transit and exit countries and territories for illicit consignments of ivory from Africa or, in the case of Taiwan Province of China, a potential transit point for ivory moving through Asia.</p> <p>Egypt, the Democratic Republic of Congo, Mozambique and Nigeria all have important domestic ivory markets in their major cities that remain unregulated.</p> <p>These countries and territories typically exhibit poor values for law enforcement effort and are occasionally involved in large-scale movements of ivory, especially Nigeria, Mozambique, Uganda and Cameroon, which indicates the involvement of organised crime syndicates.</p> <p>Issues highlighted:</p> <ul style="list-style-type: none"> <li>- Sources of illicit ivory</li> <li>- Unregulated domestic markets</li> <li>- Transit / Transport hub</li> <li>- Large scale movements</li> </ul>
		<p><b>Emerging concerns – important to watch:</b> Angola, Laos Cambodia Qatar United Arab Emirates Japan</p>	<p><i>Measure of scale (mean weight):</i> 709 kg <i>Percentage of weight in recent period:</i> 60 <i>Percentage of large-scale ivory seizure to mean weight:</i> 0.23 <i>Mean market score:</i> 5.1</p> <p>Key export or transit countries for large consignments of illicit ivory (Japan – as ivory importing country)</p>
<p>CoP17 <a href="#">CoP17 Doc 57.6 (Rev. 1)</a></p>	<p>Assignment of country of origin to ivory seizures following DNA assessment: records modified for the period 2005 – 2014 to reflect outcomes of DNA assessments</p> <p><u>Note on methods:</u></p> <ul style="list-style-type: none"> <li>• <i>Period:</i> 2007 – 2014</li> <li>• <i>Weight classes:</i> medium (10 – 100kg) and large (&gt;100kg) weight classes combined</li> <li>• <i>Selection of countries:</i> Scoring system based on weight classes used to assess each country</li> </ul>	<p><b>Countries of primary concern:</b> China, Hong Kong SAR of China, Kenya, Malawi, Malaysia, Singapore, Tanzania, Togo, Uganda,</p>	<p>Greatest quantity of illegal ivory in trade according to seizure data in ETIS</p> <p><i>Measure of scale (Mean weight):</i> 3,220 – 41,257 kg <i>Percentage of weight in recent period:</i> No longer included in table <i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.56 – 0.95 <i>Mean market score:</i> -1.5 to 7.0(KE and TZ -1.5)</p> <p>Countries have been highly implicated in illicit ivory trade movements over the last three years.</p>



CoP	Notes re: analysis	Country / -ies	Justification
	<p>(countries need to score at least 100 points over eight years of data to be considered in the analysis)</p> <ul style="list-style-type: none"> <li>• <i>Bias adjustment of ETIS seizure data:</i> Bias arises owing to differences in the ability of countries, firstly, to make seizures and, secondly, to report the seizures they do make to ETIS. Bias correction makes it possible to produce relative estimates of seizure and reporting rates for each country in each year which allows for meaningful comparisons to be made between countries over time. TRAFFIC identified the following proxy variables to account for differences in seizure and reporting rates over time: <ul style="list-style-type: none"> <li>○ <i>law enforcement effort (LE) ratio</i> – proxy for law enforcement effort</li> <li>○ a single covariate was used to determine the seizure rate</li> <li>○ <i>a combination of the CITES Annual Reporting Score and the Data Collection Effort Score, which is accorded to each individual seizure record to describe the process under which it was collected (i.e. targeted, prompted or passive)</i> – proxy for reporting</li> </ul> </li> </ul> <p>These bias adjusting factors were applied to the data to obtain relative indicators of numbers and weights of illegal ivory transactions by ivory type and weight class.</p>	<p>Viet Nam</p> <p><b>Countries of secondary concern:</b> Cambodia, Cameroon, Congo, Ethiopia, Gabon, Nigeria, Sri Lanka, South Africa, Thailand</p> <p><b>Countries important to watch:</b> Angola, Democratic Republic of Congo, Egypt, Japan, Lao PDR, Mozambique, Philippines, Qatar, United Arab Emirates</p>	<p>Part of the trade chains in 94% of the large-scale ivory seizures reportedly made that represent higher-level criminal activity since 2009.</p> <p>Six of these countries, plus Hong Kong SAR of China, were previously identified as first-tier priorities in the analysis to CoP16 and are already part of the NIAP process which is unfolding under the direction of the CITES Standing Committee.</p> <p>On the basis of the analysis, Malawi, Singapore and Togo emerged as countries which the Parties could consider for inclusion in the CITES oversight process to address illegal trade in ivory.</p> <p><i>Measure of scale (Mean weight):</i> 180 - 3,220 kg <i>Percentage of weight in recent period:</i> No longer included in table <i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.51 – 0.83 <i>Mean market score:</i> 4.8 - 5.4</p> <p>Countries repeatedly play important supporting roles in the illicit ivory trade, especially large movements of ivory. Five of these countries were previously assigned this category of prioritisation at CoP16.</p> <p>Thailand and Cambodia already have developed NIAPs and are engaged in implementation.</p> <p>Other countries which fall in <b>residual cluster groups</b> that may not adequately highlight the salient attributes of their involvement in ivory trade, several countries are noted as 'countries important to watch'.</p> <p>This is done in order to raise attention and track existing and emerging developments which could potentially become problematic in terms of sources, trade routes or markets in future iterations of the ETIS analysis.</p> <p><i>Measure of scale (Mean weight):</i> 601 – 2,960 kg <i>Percentage of weight in recent period:</i> No longer included in table <i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.90 – 0.98 (some clusters 0.00) <i>Mean market score:</i> 3.0 – 6.3</p> <p>All of these countries were previously prioritized in the CoP16 analysis.</p>
CoP18		<b>Category A:</b>	<p><i>Measure of scale (Mean weight):</i> 16,849 – 32, 054 kg <i>Percentage of weight in recent period:</i> No longer included in table</p>

CoP	Notes re: analysis	Country / -ies	Justification
<a href="#">CoP18 Doc. 69.3 (Rev. 1)</a>		Malaysia, Mozambique, Nigeria and Viet Nam	<p><i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.69 – 0.75  <i>Mean market score:</i> 4.67 – 6.00</p> <p>Collectively account for over half (51%) of the seized and reported estimated ivory weight in this time period, of which nearly three-quarters represents large-scale seizure events that point to higher-level criminal activity</p>
		<p><b>Category B:</b>            Kenya, United Republic of Tanzania, Uganda, China and Hong Kong SAR of China</p>	<p><i>Measure of scale (Mean weight):</i> 11,836 – 13,919 kg  <i>Percentage of weight in recent period:</i> No longer included in table  <i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.57 – 0.59  <i>Mean market score:</i> 1.33 – 6.50</p> <p>Account for another 27% of the estimated ivory weight between 2015-2017, with 58% representing transactions involving large-scale movements of ivory that are believed to be put together by organised criminal syndicates.</p> <p>Whilst the scale of involvement in illegal ivory trade is significant, these groups exhibit the highest LE Ratio values</p>
		<p><b>Category C:</b>            Democratic Republic of Congo, Congo, South Africa, Cameroon, Gabon, Zimbabwe Angola, United Arab Emirates, Ethiopia, Cambodia, Singapore, Lao People's Democratic Republic, Turkey</p>	<p><i>Measure of scale (Mean weight):</i> 2,490 – 3,589 kg  <i>Percentage of weight in recent period:</i> No longer included in table  <i>Proportion (no longer percentage) of large-scale ivory seizure to mean weight:</i> 0.00 – 0.45  <i>Mean market score:</i> 3.43 – 4.17</p> <p>Countries in Africa</p> <ul style="list-style-type: none"> <li>- continue to be major sources of ivory in a subregion where elephant populations have experienced major declines, but still exhibits the highest percentage of illegally killed elephants (PIKE) values for 2017, indicating a very serious poaching threat still remains.</li> <li>- Although their identification as countries of origin in many illegal ivory transactions is often lost in terms of the known trade route information, all of these countries have relatively high weight values in the period 2015-2017.</li> </ul> <p>Countries in Asia</p> <ul style="list-style-type: none"> <li>- three countries have relatively high weight values when ivory trade flows are considered using trade chain information irrespective of where seizures actually occurred</li> <li>- some countries primarily function as end-use destinations with growing domestic ivory markets, but also sometimes play the role of transit countries for ivory moving to other locations</li> </ul>
<a href="#">CoP19 Doc. 66.6</a>		<p><b>Category A</b>            Nigeria,</p>	<p>Category A and B selection of these countries was based on:</p> <ul style="list-style-type: none"> <li>- higher overall illegal trade activity within country,</li> </ul>

CoP	Notes re: analysis	Country / -ies	Justification
		Democratic Republic of the Congo, Viet Nam	- higher large-scale illegal trade activities that occurred in the country undetected – i.e., large seizures in which the country was implicated as country of origin, export/re-export, or transit, or destination in the illegal trade chain.  Differentiation to determine ranking of the Parties in those clusters as Category A or B was done in the context of the overall bias-adjusted <b>illegal trade volume (or weight seized), and the reported role, of the country in the illegal trade chain.</b>  Large-scale seizures in which the illegal trade chain implicated the country
		<b>Category B</b> Gabon, Malaysia, China, Mozambique, Cambodia	Countries with more small-scale seizures made in country
		<b>Category C</b> South Sudan	Data for one seizure-in was obtained from open sources, and the country was also implicated by another Party submitting seizure data to ETIS (notable seizure – 3.2 tonnes of raw ivory).  Lowest CPI score indicating high corruption in the country  Estimated low LE ratio of 0.33

#### SIMPLIFIED SUMMARY – COUNTRIES PER CATEGORY

Priority ranking	ETIS REPORT TO COP16 <sup>15</sup>	ETIS REPORT TO COP17 <sup>16</sup>	ETIS REPORT TO COP18	ETIS REPORT TO COP19
<b>Countries / territories of 'primary concern' / Cat A - Parties most affected by illegal trade</b>	<b>China</b> , Hong Kong SAR of China, <b>Kenya</b> , <b>Malaysia</b> , <b>the Philippines</b> , South Africa, <b>United Republic of Tanzania</b> , <b>Thailand</b> , <b>Viet Nam</b>	China, Hong Kong SAR of China, Kenya, <b>Malawi</b> , Malaysia, Singapore, Tanzania, <b>Togo</b> , Uganda, Viet Nam	Malaysia, Mozambique, Nigeria and Viet Nam	Nigeria, Democratic Republic of the Congo, Viet Nam,

<sup>15</sup> Parties highlighted in blue were requested to develop NIAPs at SC63 ([SC63 SR](#)) and Parties highlighted in green were requested to develop NIAPs in paragraph b) of Decision 16.79 ([Decisions adopted at CoP16](#))

<sup>16</sup> Parties in bold were requested to develop NIAPs by the Standing Committee through a postal procedure after CoP17 ([Notification to the Parties No. 2017/042](#))

<p><b>Countries of 'secondary concern' / Cat B - Parties markedly affected by illegal trade in ivory</b></p>	<p><b>Cameroon, Congo, Democratic Republic of the Congo, Egypt, Ethiopia, Gabon, Mozambique, Nigeria,</b> Taiwan Province of China, <b>Uganda</b></p>	<p>Cambodia, Cameroon, Congo, Ethiopia, Gabon, Nigeria, Sri Lanka, South Africa and Thailand</p>	<p>Kenya, United Republic of Tanzania, Uganda, China and Hong Kong SAR of China</p>	<p>Gabon, Malaysia, China, Mozambique, and Cambodia</p>
<p><b>Countries 'important to watch' / Cat C - Parties affected by illegal trade in ivory</b></p>	<p><b>Angola, Cambodia,</b> Japan, <b>Lao PDR,</b> Qatar, United Arab Emirates</p>	<p>Angola, Democratic Republic of the Congo, Egypt, Japan, Lao PDR, Mozambique, the Philippines, <b>Qatar,</b> United Arab Emirates</p>	<p>Democratic Republic of Congo, Congo, South Africa, Cameroon, Gabon, Zimbabwe Angola, United Arab Emirates, Ethiopia, Cambodia, Singapore, Lao People's Democratic Republic, Turkey</p>	<p>South Sudan</p>