

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



Monitoring the Illegal Killing of Elephants (MIKE) and  
Elephant Trade Information System (ETIS)

Sixteenth meeting of the Technical Advisory Group  
Online, 1 – 2 July 2020

MINUTES OF THE 16<sup>TH</sup> MEETING OF THE TECHNICAL ADVISORY GROUP

*In attendance:*

Participants	1 July 2020		2 July 2020
	Session 1	Session 2	Session 1
<b>TAG sub-regional representatives:</b>			
• Leonard Mubalama: Central Africa	✓	✓	✓
• Chris Thouless: Eastern Africa	✓	✓	✓
• Russell Taylor: Southern Africa	✓	✓	✓
• Sukumar Raman: South Asia	✓	✓	✓
• Aster Li Zhang: South East Asia	✓	Apology	Apology
<b>Global members:</b>			
• Holly Dublin	✓	✓	Apology
• Carl Schwarz	✓	✓	✓
• Andy Royle	✓	✓	✓
<b>Co-opted members:</b>			
• Benson Okita Ouma: Co-Chair, IUCN/SSC African Elephant Specialist Group	✓	✓	✓
<b>TRAFFIC – ETIS</b>			
• Thomasina Oldfield: Director – Programmes and Research	✓	✓	✓
• Sharon Baruch-Mordo: Senior Analyst – Elephant and Rhino Trade	✓	✓	✓
<b>MIKE Central Coordination Unit (CCU):</b>			
• Thea Carroll: Coordinator	✓	✓	✓
• Dave Henson: Programme Officer	✓	✓	✓
• Mrigesh Kshatriya: Data Scientist	✓	✓	✓
• Bernard Koech:		✓	✓
• Wubalem Negash:			✓
• Rachel Mwangi		✓	
<b>Sub-regional support Unit representatives – Asia</b>			
• Vivek Saxena: South Asia	✓	Apology	Apology
• Narayan Ishwar: South Asia	✓	✓	Apology
• Alexander McWilliam: South East Asia	✓	✓	✓

## Participants

### **TAG sub-regional representatives:**

- Emmanuel Hema: West Africa

### **Global member:**

- Hugo Jachmann

### **Sub-regional support Unit representatives – Asia**

- Scott Perkins

### **Co-opted members:**

- Vivek Menon: Chair, IUCN/SSC Asian Elephant Specialist Group

## 1 July 2020 – SESSION 1 (06:00 – 08:00 EAT)

### 1. Welcoming remarks

Thea Carroll opened the meeting and thanked the participants for attending. She highlighted that it is the first MIKE ETIS TAG online meeting and that the meeting will take place over three sessions to allow the maximum participation from TAG members spread throughout a large number of time zones. She briefly introduced the participants on the call and requested Thomasina Oldfield to introduce Sharon Barduch-Mordo, the Senior Analyst appointed by TRAFFIC after Tom Milliken (the former ETIS Director) retired at the end of 2019.

Thea Carroll also provided the MIKE ETIS TAG with a quick update on a few changes relating to means of implementation in Africa; future changes to the TAG representatives for Asia and status of projects currently being implemented:

- *MIKE implementation in Africa:* The agreement with the IUCN as it relates to the hosting of sub-regional support staff for Africa expired and new implementation mechanisms are being explored and implemented.
- *TAG representatives for Asia:* Range States were requested to nominate experts to represent the respective sub-regions in Asia on the TAG. Nominations were received and range States were requested to indicate which nominee is supported. Based on the responses from the range States, Mr Ajay Desai's nomination was supported by the range States in South Asia and Mr Wei Ji's nomination was supported by the range States in South East Asia. The CITES Standing Committee must be informed about these proposed changes in sub-regional representatives at its next meeting.
- *Projects implemented by MIKE programme:*
  - MIKES+ in Africa: December 2019 - December 2024 (Funded by the European Union)
  - Cross-regional Wildlife Conservation Project in eastern and southern Africa: June 2018 – November 2023 (Funded by the European Union)
  - UNODC-CITES Asia Wildlife Law Enforcement and Demand Management Project: October 2016 – July 2020 (Funded by the European Union)
  - CITES MIKE South East Asia: May 2020 – May 2023 (Funded by USA INL)
  - Project in Lower Zambezi National Park: May 2020 – April 2021 (Funded by the Government of Japan)

### 2. Adoption of the agenda

The agenda was reviewed and adopted.

### 3. Approval of the minutes of the previous meeting

The minutes of the 15<sup>th</sup> TAG meeting (September 2019, Nairobi)(document TAG16 Doc. 2) were reviewed and approved. The minutes will be posted on the CITES website.

#### **4. Progress on action points (MIKE-ETIS TAG15)**

Thea Carroll provided an overview of the action items that emerged from the previous meeting (document TAG16 Doc. 3), and a summary of the progress made on each item.

Chris Thouless highlighted that the online database has shown that almost all sites in East Africa had problems with GPS locations, and presumably this would be the case for other sub-regions as well. Thea Carroll confirmed that this is the case, and that some effort has already been made to address this issue in southern Africa. Mrigesh Kshatriya explained that this had been done in Chobe National Park, but it is a time consuming and slow process, and that it is not always possible to verify records if the original data sheets cannot be found.

##### *TAG recommendations*

4.1 MIKE CCU will go through the database and compile a summary of data issues, especially location data and cause of death, and engage specific MIKE sites and range States on individual basis moving forwards. The summary of data issues will be shared with the Sub-regional representatives.

#### **5. MIKE analysis for Asia**

Mrigesh Kshatriya presented the draft MIKE report for Asia prepared for the 73<sup>rd</sup> meeting of the CITES Standing Committee (SC73) (document TAG16 Doc. 4\_6) and Carl Schwarz presented the summary report for Asia (document TAG 16 Doc. 4) that contains the details relating to the new model to be used for the PIKE analysis, i.e. moving from LSMeans to Generalized Linear Mixed Model; weighted by population estimate and unweighted (not weighted by population size, meaning each site carries equal weight irrespective of population size – refer to Summary report for Asia). With regards to the analysis that is weighted by population size he highlighted that the data for population estimates of Asian elephants in MIKE sites are very sparse with only one estimate per MIKE site and a third of the sites not having any estimate.

##### *Key issues discussed*

Sukumar Raman, congratulated the CITES MIKE programme as it is the first time he is seeing a comprehensive analysis of data from Asia. When comparing the two methods presented, he expressed support for the GLMM approach, which appears more holistic and comprehensive, and easier to add in additional interacting factors at a later date. He highlighted that further thought be given to weighting relative population abundance rather than actual population numbers, as this would probably be more appropriate due to huge variations in elephant populations between sites, and as most data has come from only few sites in southwestern India. He furthermore indicated that population estimates are done approximately every five years in India and therefore historical population data are available and that he can assist in compiling this information for India and where possible, other range States in South Asia. He also mentioned that the MIKE dung survey standards were used when the latest surveys were conducted in 2017. However, these require that about 90% of benchmark dung counts should have decayed. Even though the actual surveys took place 4-5 months after decay rate experiments were initiated it was not enough to allow for 90% decay and that maybe the dung decay rate estimation should be initiated 6 months prior to the survey taking place. Thea Carroll requested that the information relating to the proposed adjustments to the standards be shared with the MIKE CCU to feed into the process to review the dung survey standards.

Li (Aster) Zhang reflected on the fact that the Asian elephant populations in South East Asia are much smaller (especially the populations in some MIKE sites) than the populations in South Asia. The MIKE CCU could work with the Asian Elephant Specialist Group to source population information.

With regard the results presented, Sukumar Raman also highlighted that the low number of reported carcasses between 2004 and 2005 is probably due to difficulties in data collection, and that from 2006 to 2015 his team were involved in the collection and management of data, which was then taken up by IUCN.

This can account for the some of the increase in the number of carcass reported during those years. As such, data prior to 2006 from South Asia should not be considered too seriously.

Lastly, he highlighted that given the population abundance, there is clear under representation of data from South East Asia, which has around 30% of Asian elephant populations, but only 5% of records in the MIKE database. The carcasses detected in South East Asia are also most likely to be found on the fringes of the forests, where interaction with people are taking place. Sukumar Raman also pointed out that the dip in PIKE in 2012-13 was due to drought in southwest India leading to an increase in natural (or non-illegal killing) rather than any actual change in poaching pressure. He also raised concerns about the rate of reporting by Sri Lanka that has 10% of the Asian elephant population.

Holly Dublin raised a question whether the weighted or unweighted marginal means model should be used for reporting to CITES. Carl Schwarz responded and indicated that it depends on what PIKE as an index for poaching is used for. If it is used for biological considerations and getting a better understanding of what is happening at the site level, then weighing by population estimate is more relevant / appropriate (but this raises the question of whether the network is representative of elephant populations outside MIKE sites). If the PIKE index is only used to get an overall relative trend in poaching; then the unweighted analysis can be used which provides trends that are very similar to the LSMeans approach.

Narayan Ishwar, highlighted the need to share the analysis with range States to show the results of the analysis, and that the outstanding data from South Asia for 2018 and 2019 should be available in a couple of months. He also requested clarification as to whether there a difference between zero carcasses and no reporting. Carl Schwarz, responded, that these are treated the same in the GLMM, i.e high effort and zero carcasses is treated the same as zero patrols and zero carcasses. Weighting by population size would help with this, as well as information on patrol effort could improve the model, but then data on patrol effort is needed for all sites for all years.

Sharon Baruch-Mordo asked whether in addition to weighting by population estimate consideration was also given to the area that the MIKE site represent (density of elephants per MIKE site) and she suggested that this could possibly be further explored. She requested clarification whether the weighting by population size is done a part of the first step / initial part of the PIKE analysis (number of carcasses). Carl Schwarz explained that population size doesn't feature in the initial PIKE calculation at the site level as the number of carcass observed is only weakly related to the number of elephants at the site. As such, at site level this is not an issue. However, when aggregate to regional or continental level, then population weighting becomes important. GLMM can add in additional variables, such as effort, but relies on data that isn't available at the moment.

Carl Schwarz stated with the GLMM additional information, such as patrol effort data could be incorporated in the model, if it was available for each site and each year and it could furthermore address the uncertainty associated with the data.

The TAG then returned to the key question as to what methodological approach to use in the report to the SC. Carl Schwarz highlighted that although there is no huge difference in results shown between the LSMeans and GLMM approaches, the GLMM essentially extends the LSMeans model allowing for more flexibility in future. He also highlighted that the difference between approaches is larger in Africa.

Holly Dublin suggested that this issue be returned to once the results for Africa have been reviewed and highlighted that there is an imperative to share the results of the review process with Parties, and that the levels of resolution that have just been discussed should not be lost. It would need to be reported in a way that the Parties will understand.

#### *TAG recommendations*

- 5.1 Sukumar Raman to provide the MIKE CCU with population estimates for MIKE sites in South Asia (including estimates from surveys done between 2003 – 2019).
- 5.2 MIKE CCU to follow up with Sukumar regarding the revision of the MIKE dung survey standards and decay rates.

## 6. PIKE estimate with and without management related deaths

Mrigesh Kshatriya presented the document on PIKE estimates with and without management related deaths (document TAG16 Doc. 5) developed to address the recommendation made by the TAG at its 15<sup>th</sup> meeting (September 2019, Nairobi) that the management related deaths should be removed from the PIKE analysis.

### *Key issues discussed*

Chris Thouless indicated that the data probably correctly reflect the very few management related deaths in Central Africa and West Africa. He asked whether an analysis has been done to determine if there are carcasses reported as Unknown type of death, but with gunshot as cause of death. Mrigesh Kshatriya explained that this was examined when the data were moved from Excel to the database, and there were no cases found. He further clarified that this situation is now prevented due to constraints on data entry.

Holly Dublin questioned the higher PIKE scores when management deaths are included, and why this was stated so categorically, as only southern Africa appears higher. Mrigesh Kshatriya clarified that this is the case but is less in other sub-regions as there are fewer management related deaths in these sub-regions, hence the graphs are less clear. Holly Dublin suggested rewording the statement to clarify that the increase in PIKE is marginal.

Russell Taylor commented that MIKE site boundaries and buffer zones requires clarification and that in some sites there are high amounts of management related interventions in buffer zones (e.g. some sites in Zimbabwe). Therefore, Russell supported keeping current categories for data collection at the moment.

Thea Carroll reminded the meeting that the recommendation at the last meeting was to remove management related deaths. However, she proposed not to remove it at this stage and continue to engage range States and gather more information relating to reporting of management related deaths. This aspect could also become more important as HEC is likely to increase over the years ahead.

Russell Taylor also asked whether the unknown type of death category is linked to decay stage recorded, because it may be difficult to assign type of death when the carcasses are old. Mrigesh Kshatriya responded that this analysis has not been done but has been identified as a priority to better understand the data associated with “unknown” deaths reported. Thea Carroll highlighted that this issue came up at a recent meeting with KWS, and there are many cases where fresh carcasses were found, with tusks intact, but the cause of death is not clear. Chris Thouless suggested that some analysis of variables associated with the unknown category would be useful.

Ben Okita requested clarification relating to the removal of management related deaths and whether it will be done from a specific year. Thea Carroll clarified that if the decision is made to remove the management related deaths, all records will be removed for the analysis (from 2003 to date).

In conclusion, Chris Thouless stated that, although theoretically correct, at this stage there is no need to remove the management related deaths due to other factors, such as the desire to continue collecting the information. Russell Taylor also endorsed keeping status quo, and continuing to collect the information, despite rationale for dropping management related deaths in analysis. Holly Dublin also accepted leaving management deaths in the analysis for the moment but indicated that it could probably be removed from the PIKE analysis once further information to be collected by the MIKE CCU has been considered.

### *TAG recommendations*

- 6.1 MIKE CCU to do analysis on variables associated with the unknown type of death category.
- 6.2 MIKE CCU to retain the management related deaths in the PIKE analysis and implement recommendations in document TAG16 Doc. 5 – MIKE CCU to engage range States and address:
  - 6.2.1 Uncertainties and assumptions relating to the reporting on management related deaths.

- 6.2.2 Challenges experienced by MIKE sites to determine cause of death.
- 6.2.3 Lack of information relating to the type of death reported (“No information recorded”).
- 6.2.4 MIKE site boundaries and reporting of carcasses detected in buffer areas.

## **7. MIKE analysis for Africa**

Mrigesh Kshatriya presented the draft MIKE report for Africa prepared for the 73<sup>rd</sup> meeting of the CITES Standing Committee (SC73) (document TAG16 Doc. 4\_6) and Carl Schwarz presented the summary report for Africa (document TAG 16 Doc. 6) that contains the details relating to the new model to be used for the PIKE analysis. Carl Schwarz re-emphasized that the LSMeans approach used in the past is not necessarily wrong, but that more sophisticated models are now available as well as more data (>20 000 carcass records for Africa). The actual / specific PIKE value should not be the focus, but rather the trend.

### *Key issues discussed*

Chris Thouless noted that the interesting aspect of the analysis that includes weighting by population size (including those done by other authors) is that the supposed step change from 2007 – 2009 disappears.

Thea Carroll highlighted that the CITES Secretariat must put forward the new proposed analysis to the CITES Standing Committee, and asked whether this should be unweighted (MM.p.uw) or the weighted (MM.p.w) analysis. Carl Schwarz recommended that the report for this year should show all approaches, i.e. LSMeans and GLMM (both unweighted and weighted). In subsequent years only the GLMM should be used and it must be made clear that the weighted analysis will remain experimental in nature until the most appropriate means to integrate the population estimates have been determined.

MM.p.uw (unweighted marginal means) gives equal weight to all MIKE site (every site considered of equal importance in the analysis), while the MM.p.w (weighted marginal means) includes a weighting based on the population estimates at the MIKE sites (larger populations weigh more in the analysis). Weighted shows population as a whole, and changes in pressure in large populations are given more importance weight than smaller ones. This will show changes the overall status of regional elephant populations.

Ben Okita requested clarification relating to the definition for population used in the context of the analysis (continental population or populations at the MIKE sites). The population estimates for each MIKE Site used in the analysis were obtained from the African Elephant Status Report 2016 and estimates of populations were retained between surveys (no interpolation between surveys were done). Further consideration should be given to the estimates used and uncertainty in the survey data. If subregional trends and continental trends are considered it should be kept in mind that the weighting is done based on the populations at the MIKE sites; not the overall sub-regional population or total continental population. Concerns were raised about the representativeness of MIKE sites in terms of population size and number of carcasses, e.g. southern Africa is probably underrepresented. Chris Thouless highlighted that MIKE may be questioned on figures used for population size, and whether categories of population may be more appropriate than specific figures.

Carl Schwarz highlighted that categories of populations could easily be done, but consideration would need to be given to define the categories to use. Mrigesh Kshatriya commented that all the issues raised does highlight some concerns about the weighted PIKE analysis. Thea Carroll recommended that the following should be clarified in the report: The source of the population estimates used (AED); the fact that no interpolation was done because it has been done on an experimental basis; and that further work is required to determine the most appropriate weighting to be applied.

Thea Carroll raised concerns about reporting only the trends, since the Resolution also requires reporting on the levels of illegal killing. This could be an issue as it is a significant move away from past reports and will require clear explanations in the report. Carl Schwarz again highlighted that the conversion of the PIKE index to an absolute poaching rate or number of elephants illegally killed is very problematic and not advised.

Holly Dublin highlighted that there is a need to explain to Parties that the LSMeans method was appropriate at the time it was developed and document the on-going progress towards continual improvement of the analytical methods. This should also help to move Parties towards the idea that overall trends rather than actual figures matter most. Thea Carroll again highlighted that this may be an issue with the Parties, and that any change to the report format will be scrutinised; work will be needed to ensure this could proceed smoothly.

#### *TAG recommendations*

- 7.1 MIKE CCU to highlight in the report to SC73 that weighting by population is an experimental step; continue to use the AED population figures for the analysis to be submitted for consideration by the CITES Standing Committee.
- 7.2 MIKE CCU to highlight in the report to SC73 that the main result is the unweighted trend line at the moment, the other lines are currently included as a comparison to the LSMeans and to show the results of the experimental weighted by population estimate analysis.
- 7.3 Review process to be present to CITES Parties and changes explained, keeping in mind that further refinements will probably be required in future.
- 7.4 Consider removing site PIKE level reporting and focus on trends in the report to CITES Standing Committee.

## **8. Discussion documents**

### **8.1 Natural mortality**

Thea Carroll presented the draft document relating to natural mortalities (document TAG16 Doc.7) that provided the TAG with information relating to the use of the term 'natural mortality' in the MIKE context; natural mortality rates documented in literature; the use of natural mortality rates in determining "poaching rates"; and the impact of drought on PIKE estimates. The presentation also included a 'decision-tree' developed with the aim of clarifying how type of death could be determined.

#### *Key issues discussed*

Chris Thouless commented that the decision tree should be amended to address human-elephant conflict and the fact that it could be considered as illegal killing as well as legal / management related death. He also proposed that some modelling is needed to establish a range of likely value for elephant mortality rate rather than aiming for an absolute figure.

Russell Taylor agreed with distinction of illegal and legal HEC killings. He clarified that, in southern Africa, Problem Animal Control (PAC) is dealt with in a legal way. On natural mortality, he advised it will naturally vary, and will be necessary to accept a range of mortality rates, and that drought is actually a part of natural mortality even if at the extreme end of a spectrum.

Thea Carroll suggest that to address the questions relating to HEC that result in illegal killing of elephants; the MIKE CCU will assess whether any such records exists in the database. She proposed to prepare a draft 1-pager as per previous recommendations of the TAG and share that with the TAG for consideration and inputs in due course. It was noted that this is not as urgent as revising the documents for CITES SC meetings.

#### *TAG recommendations*

- 8.1.1 As per previous recommendations, prepare a 1-page summary of the natural mortality rates used, caution against the conversion of PIKE to poaching rate and the reasons why this is problematic; and explain the impact of drought (and associated increase in natural mortality) on PIKE.
- 8.1.2 MIKE CCU to analyse the MIKE data to ascertain how many illegal and legal elephant deaths are related to HEC.

## **8.2 Detection probability**

Thea Carroll presented a draft document relating to possible options to address differential detection probability (document TAG16 Doc. 8).

### *Key issues discussed*

Chris Thouless suggested looking at expected natural (non-illegal) mortality based on MIKE site population estimates, combined with number of carcasses detected. Comparing this to the number of carcasses reported should give an indication of patrol coverage and effectiveness in carcass detection. Mrigesh Kshatriya highlighted that reports to MIKE often cite ground patrol as the method the carcass was discovered, even though this may not actually be the case.

Russell Taylor highlighted that the group should not equate effort with detection, but rather aim to clarify if effort is consistent, and that Chris' suggestion may provide a good approach. Thea Carroll highlighted that effort data from sites can be obtained, which combined with decay stage of carcasses detected can give an indication of detection rates. Chris suggested focusing investigations at the site level, and identify how carcasses are actually discovered, i.e. understanding on a narrative rather than quantitative basis.

### *TAG recommendations*

8.2.1 MIKE CCU to carry out assessment of expected vs recorded carcass numbers.

8.2.2 MIKE CCU to follow up with Andy Royle and Carl Schwarz about possible modelling approached.

8.2.3 MIKE CCU to engage individual sites when site visits are done to get a better understanding of how carcasses are detected.

**2 July 2020 – SESSION: ETIS (16:00 – 18:00 EAT)**

## **9. ETIS Analysis**

Thomasina Oldfield opened the meeting with a few introductory remarks including an expression of sincere appreciation and acknowledgement of the work done by Tom Milliken and Fiona Underwood in terms of ETIS programme. She facilitated a round of introductions of the TAG members and other meeting participants and reflected on the changes made by TRAFFIC in terms of the management of the ETIS programme. She introduced the new Senior Analyst, Sharon Baruch-Mordo to the TAG. Sharon Baruch-Mordo introduced herself, reflecting on her experience and her expectations in terms of collaboration with the TAG members.

Thea Carroll provided an update on the ETIS review process. Clarifying that two consultants Mr Camillo Ponziani and Ms Daniela di Filippo have been appointed. An inception meeting took place on 26 June 2020, providing the consultants with background information and context to the review. The MESG will oversee the review, along with a member of the TAG. However, as yet, no TAG member has volunteered to take on this role. This may have been because the scope of the work and the time involved was unclear. Options will be provided to TAG in future to allow for their inputs into the review process. Thea also thanked China and Netherlands for making funds available for the review.

Sharon Barduch-Mordo presented the TAG with information relating to the development of the ETIS website, the ETIS analysis and a summary of the responses to the ETIS questionnaire. She also highlighted key issues that require inputs and advice from the TAG (Documents: TAG16 SC73 ETIS report\_draft report to TAG and TRAFFIC discussion items on SC report and ETIS analysis).

### *Key issues discussed*

Andy Royle asked why under reporting is a concern, because the model should account for this. Sharon Barduch-Mordo responded that this level of under reporting is unprecedented. In addition, there are a number of 'key Parties' that have not reported for either 2018 or 2019 but have reported significant seizures



in the past five years, creating large gaps in the data. Furthermore, if a Party fails to report it is considered to be zero in the model, as a result the bias parameters are not really having the expected effect. This is the case for all countries that do not report, and the impact is significant if zeros are allocated to Parties that previously reported medium to large numbers of seizure.

Andy followed up by requesting clarification as to why the current level of data submission should result in delaying the report. Sharon clarified that the risk is that the data could be mis-interpreted as a strong downward trend is shown, but without the data from key countries it is not certain whether this is a true decline or as a result of the lack of data. There are also some concerns that this could be due to fewer, but larger, seizures being made. The model is based on the frequency of seizures and not the weight of the seizures and this seems to be a deficiency in the model. The increase in total weight seized while the frequency in seizures decrease seems to present some challenges.

Both Mrigesh Kshatriya and Andy Royle commented that the manner in which the model treats zeros needs to be addressed. Andy also suggested that given the very large seizures it may be worth re-examining the weight classes to break things up a little more, but then re-considered and indicated that if the model is based on frequency of seizures this may not address the issue.

Russell Taylor indicated that it appears that both the Parties and ETIS need more time to both submit data and carry out improvements/adjustments to the analysis. Thomasina Oldfield clarified that this indeed the case and more time would be useful. The meeting briefly discussed the challenges associated with the delay in submission of seizure data, including the most effective means to follow-up with CITES Parties. A Notification is issued on an annual basis ([Notification No 2020/005](#) released on 14 January 2020) to remind Parties to submit seizure data. Despite using this official channel to communicate with CITES Parties, delays in the submission of seizure data are still experienced.

Thea Carroll highlighted that in previous years when the ETIS analysis was not ready, a summary of raw, aggregated data received were rather than an actual analysis. Thomasina responded that TRAFFIC is pushing towards an annual analysis as a method to help establish the 90-day submission deadline. Thomasina requested TAG members to assist by encouraging Parties to submit data.

Thea Carroll added that MIKE can also follow up with MIKE focal points regarding ETIS data, as required. But that the list of missing Parties should be updated to ensure follow up is done correctly. Chris Thouless clarified that he was appointed as the regional representative for MIKE, rather than ETIS, and that in some cases, it may not be appropriate for the MIKE representatives to follow up.

Carl Schwarz questioned whether actual trafficking patterns are changing, which could lead to fewer larger seizures being made rather than more smaller ones. This could be due to actual seizures being made closer to the consumer, or due to reporting artefacts such as avoiding paperwork involved in reporting a large number of seizures. Either of these effects could lead to the model struggling to adapt to this change. Carl proposed that a sensitivity analysis could be done by splitting the large seizures into two (increase the number of seizures) (the model may respond to the increase in number of seizures). Chris Thouless clarified that large seizures are most probably not an artefact, but due to consolidation and moving storage to closer to market (stockpiling in different locations – closer to or in consumer countries).

Thea Carroll suggests a two-scenario approach to recommendations, one scenario is if SC going ahead, and another if it is delayed. There was general consensus that if SC goes ahead then a simple summary of the data provided is the best approach. If SC is postponed then work can continue to get missing data, examine and refine the model and do a full analysis.

#### *TAG recommendations*

- 9.1 If the CITES SC continues as scheduled, then a summary of the data received could be submitted as the report to the SC; and Parties that have not submitted data will be engaged to submit data.
- 9.2 TRAFFIC to continue to follow up with countries regarding missing data. MIKE CCU and TAG members to assist as requested. ETIS will provide relevant lists of Parties and contacts to engage.

9.3 If the CITES SC is postponed, then the additional time can be used to engage countries to encourage them to submit data, carry out the analysis, including making adjustments, as needed to the model.

9.4 TRAFFIC to engage Carl Schwarz and Andy Royle on changes in data patterns over time and how this could potentially be addressed in the model.

## 10. **Any other business**

Thomasina Oldfield raised the issue of the use of forensics in the ETIS analysis. At the previous meeting, the TAG recommended that the results should not be used in the ETIS analysis until engagements have taken place with the organisations that undertake the forensic analysis and some clarification is obtained about the methods used.

### *Key issues discussed*

Chris Thouless highlighted that the issue was raised at a sub-regional meeting by a range State that expressed concerns that attribution could be made improperly and would like clarity on how often this may occur. It really is necessary to understand if countries will accept being implicated on a probabilistic basis.

In addition, there has been no independent review of the two methods being used in forensic analysis.

Thomasina Oldfield questioned whether TRAFFIC is well placed to bring together these two organisations / institutions as they currently work quite closely with one of the parties, and as such may be seen as compromised. Russel Taylor added that the issue of identifying the best science behind forensics needs resolving, and that this can then provide a basis for further engagement with Parties.

Thea Carroll suggested first investigating the magnitude of the issue rather than investigating methodologies. Once the magnitude of the issue is understood the value of engaging the two organisations / institutions can be considered. There was general agreement that Fiona Underwood's suggestions can be taken forward, and once the scale of the problem is clear a potential independent review could take place (pending the identification of a suitable body to lead the review).

### *TAG recommendations*

10.1 Implement actions proposed by Fiona Underwood to assess how much of a problem or not the use of forensics data is.

10.2 If the magnitude requires further action the possibility of a review of the forensics methods used should be considered.



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