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

Seventeenth meeting of the Conference of the Parties
Johannesburg (South Africa), 24 September -5 October 2016

Interpretation and implementation matters

Trade control and traceability

IDENTIFICATION OF ELEPHANT AND MAMMOTH IVORY IN TRADE

1. This document has been submitted by Israel.[1]

Background

2. The rise in trade in mammoth ivory poses an indirect threat to elephant populations in the wild by creating a simple way to enable trade in "laundered" elephant ivory. Greater control is needed in regard to trade in mammoth ivory in order to prevent it having negative impacts on elephant populations.

3. While trade in ivory from living elephant species is regulated by the provisions of the Convention, trade in ivory from extinct members of the order Proboscidea is not. This includes the woolly mammoth (*Mammuthus primigenius*), the range of which formerly included Siberia (Russia) and Alaska (U.S.A.). Although the possibility exists that extinct proboscidean species could be proposed for listing on the Appendices under the look-alike terms of Article II paragraph 2(b), no proposal to do so has been brought forward to date.

4. *M. primigenius* is the only extinct proboscidean that consistently provides high quality, carvable ivory. (Espinoza and Mann, 2010)[2]. Large quantities of mammoth ivory, mostly exported from Russia, have entered international trade in recent years, particularly for sale in China, including Hong Kong, where both prices and the amount available for retail sale have increased significantly[3]. Vietnamese businessmen began exporting mammoth ivory from Russia to Viet Nam in the late 1990s (Stiles, 2008)[4]. From 2007 to 2013, Hong Kong businesses imported 39,183 kg of mammoth ivory on average annually, 93.5% of it from Russia[5].

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

[2] *Espinoza, Ed and Mary-Jacque Mann, Identification Guide for Ivory and Ivory Substitutes (web version, 2010). U.S. Fish and Wildlife Service Forensics Lab and CITES Secretariat. https://www.fws.gov/lab/ivory.php.*

[3] *See, e.g., Martin, E. and D. Stiles (2008). Ivory Markets in the USA. Care for the Wild International and Save the Elephants; Esmond Martin and Lucy Vigne (2011), The Ivory Dynasty: A Report on the Soaring Demand for Elephant and Mammoth Ivory in Southern China; Vigne, L. and E. Martin (2014). China faces a conservation challenge: the expanding elephant and mammoth ivory trade in Beijing and Shanghai, Save the Elephants and The Aspinall Foundation.*

[4] *Stiles, D. (2008). An assessment of the illegal ivory trade in Viet Nam. Petaling Jaya, Selangor, Malaysia, TRAFFIC Southeast Asia.*

[5] *Vigne and Martin (2014); see n. 3*

5. A MIKE Report on elephant ivory trade was discussed by the CITES Standing Committee at its 65th meeting (Geneva, July 2014), (SC65 Doc. 42.1). That report provides a summary of the rise in mammoth ivory trade and compares it with the concomitant rise in elephant poaching over the past two decades.

   "The relationship between mammoth ivory import price and PIKE levels identified by the MIKE analysis is also noteworthy, as is the fact that the amount of mammoth ivory imported into China, including Hong Kong SAR, has been increasing in direct proportion to price, apparently violating the conventional law of supply and demand."

   "Overall, the total volume in [mammoth ivory] trade went from 17.3 tons in 1997 to 95 tons in 2012, a more than five-fold increase".

6. The MIKE report also states: *"It is important to note that no claim is being made that mammoth ivory imports cause elephant poaching. It is rather more plausible that high demand for ivory results in both high raw mammoth ivory prices and high levels of poaching in Africa."* However it is important to clarify that the MIKE report is based on a study only of legal mammoth ivory trade and it does not address at all the issue of elephant ivory traded illegally under the guise of mammoth ivory and the effect of this laundering on elephant poaching.

7. Although trade in mammoth ivory, if correctly labelled, should not present an enforcement problem for the Convention, the similarity between mammoth and elephant ivory is being used by unscrupulous traders to avoid CITES controls by labelling elephant ivory intended for export as mammoth specimens.

8. Stiles (2014) reported[6] finding probable mislabelling, noting that in "*New York and California, where in certain outlets elephant and mammoth ivory items of Chinese origin are typically mixed. They are probably imported this way*." Stiles concluded that "*This is a serious challenge that needs a policy response in China to prevent worked ivory smuggling*". A vendor at the Chatuchak Market, Thailand, told Stiles in 2007 or 2008 "*that he had recently exported a large Chinese-carved tusk to the USA. He fabricated a certificate that stated the piece was mammoth ivory to enable export and subsequent import to the USA. He said that he did this often and that it was easy to do*." Shopkeepers would "*commonly… mix elephant ivory with the non-ivory substitutes in displays, probably to make it difficult for wildlife enforcement officials to determine if illegal ivory was being sold*."[7]

9. False labelling of elephant ivory as mammoth has also been used to evade domestic legislation. Milliken et al. noted in 2009[8] that in China "*related industries, particularly those engaged in producing worked products from mammoth ivory, need close scrutiny to ensure that elephant ivory is not also being processed surreptitiously and marketed within the country*". Similarly, some mammoth ivory is smuggled across the Russo-Chinese border to avoid taxes[9], and one of 17 mammoth tusks seized by Russian authorities at the Chinese border in November 2015 had been stolen from a museum[10].

10. In 2014, CITES Secretary-General John Scanlon was quoted in a Chinese press interview, in reference to domestic limitations on ivory trade enacted by the government of China, that "*It is worth noting that the [domestic trade] ban does not appear to apply to mammoth ivory, which would have to be closely monitored to ensure no laundering of elephant ivory*."[11]

11. Vigne and Martin (2014) reported[12] that "*Although trade in mammoth ivory is legal, some traders are using it as a cover for selling elephant ivory in Beijing and Shanghai*". Their report cites numerous examples, including a photograph (p. 45) of an elephant ivory carving stained to look like mammoth ivory. These examples may include ivory intended for both domestic sale and export. In September 2014, Putian Forest Police (Fujian Province of China) arrested a trader based in Songxianqiao Antique Market,

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[6] *Stiles, D. (2014). "Review of Vigne and Martin (2014), "China faces a conservation challenge: the expanding elephant and mammoth ivory trade in Beijing and Shanghai"" Pachyderm **56**: 122-126.*

[7] *Stiles, D. (2009). The elephant and ivory trade in Thailand. Petaling Jaya, Selangor, Malaysia, TRAFFIC Southeast Asia.*

[8] *Milliken, T., et al. (2009). The elephant trade information system (ETIS) and the illicit trade in ivory. CoP15 Doc. 44.1 Annex.*

[9] *id. p. 23*

[10] *On the Trail, Information and analysis bulletin on animal poaching and smuggling n°11 / 1st October - 31th December 2015 (Robin des Bois), p. 87*

[11] *http://english.caixin.com/2016-03-25/100924834.html*

[12] *Op. cit. n. 3.*

Qingyang District, Chengdu, who, under the guise of selling mammoth ivory, was reportedly trading in elephant ivory, rhinoceros horn and "red ivory" from the Critically Endangered helmeted hornbill (*Rhinoplax vigil*)[13].

12. Vigne and Martin (2014, *op. cit.*) noted that "*There are no effective mammoth and elephant ivory associations [in China] that can oversee workable identification cards for both elephant and mammoth ivory items that cannot be re-used, and the present system is not sufficiently open and transparent to the public*."

13. Vigne and Martin (2015)[14] reported that "*Occasionally vendors dishonestly state to Western customers that their elephant ivory items were made of mammoth ivory which would cause them to travel home unknowingly with a prohibited ivory item*."

14. The problem of trade in falsely labelled ivory has been recognized for some time. Already in 1997, the High Court of India upheld legislation banning imports of all ivory, including mammoth, concluding that "*The legislation was intended to cover all descriptions of ivory imported into India, including mammoth ivory. This was to prevent Indian ivory from entering into the market under pretext of mammoth ivory or African ivory. Once the mammoth ivory is shaped into an article or curio, it looks exactly like an article made from elephant ivory..... When a buyer intends to buy a curio, he is not interested in knowing whether it was created from elephant ivory or mammoth ivory. An average buyer also does not have the expertise or knowledge to distinguish between articles made from mammoth ivory and Indian elephant ivory*."[15]

15. India apparently remains the only country to have banned the import of mammoth ivory (Vigne and Martin 2014, *op. cit*. p. 15).

16. Distinguishing mammoth ivory from elephant ivory presents special difficulties not present when distinguishing elephant ivory from other similar materials in trade, including walrus ivory, whale and hippopotamus teeth, tagua nut, and artificial ivory substitutes including extruded resins.[16]

17. Forensic techniques, including spectroscopic analysis[17], are available to assist enforcement officers in distinguishing mammoth ivory from elephant ivory. However, the use of these techniques requires skill and experience, and the natural variation among samples of ivory from both Indian and African elephant species can make it difficult, if not impossible, to determine the origin of every specimen under examination.

18. Espinoza and Mann (2010)[16], describe several features that can be used in some cases to assist in distinguishing mammoth ivory from elephant ivory. In polished cross-sections of elephant and mammoth tusks, Schreger lines can be seen within the outside layer of the tusk. A photocopy machine can be used to capture an image of these lines. Several measurements of the angle created by the intersection of these lines can be used to determine if the ivory is from mammoth (angle averages below 100 degrees) or from elephant (angle averages above 100 degrees). However, the authors note that both elephant and mammoth ivory may present angles between 90 and 115 degrees. Thus, this test alone is not always diagnostically definitive.

19. Two other features that may be used to distinguish mammoth from elephant ivory are mentioned by Espinoza and Mann (2010)[16]. Mammoth ivory may display brown or blue-green blemishes caused by an iron phosphate called vivianite. Vivianite is not visible to the naked eye, but can be detected by using an ultraviolet light source, under which the vivianite will appear as dramatic purple velvet. Finally, in cross-section, the outer layer of a mammoth tusk (the cementum) can be thicker and have a layered appearance, as compared to an elephant tusk. Nonetheless, Espinoza and Mann warn, "*while the methods described in this handbook are reliable for the purposes described (i.e. tentative visual*

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[13] http://www.morningpost.com.cn/2015/0106/207681_2.shtml *(text in Chinese)*

[14] *Martin E. , Vigne L. (2015): Hong Kong's ivory: more items for sale than in any other city in the world, Save the Elephants*

[15] *Anon. (2003). An Assessment of the Domestic Ivory Carving Industry and Trade Controls in India, TRAFFIC International.*

[16] *See Espinoza, Ed and Mary-Jacque Mann, Identification Guide for Ivory and Ivory Substitutes (web version, 2010). U.S. Fish and Wildlife Service Forensics Lab and CITES Secretariat.* https://www.fws.gov/lab/ivory.php .

[17] *Edwards, H. G. M., et al. (2006). "Evaluation of Raman spectroscopy and application of chemometric methods for the differentiation of contemporary ivory specimens I: elephant and mammalian species." Journal of Raman Spectroscopy 37(1-3): 353-360.*

identification, and "probable cause" to seize as evidence), an examination of the carved ivory object by a trained scientist is still necessary to obtain a positive identification of the species source."

20. Vigne and Martin (2015, op. cit.) note (page 52) that "*Until simple and effective techniques are discovered to distinguish mammoth from elephant ivory and to ascertain [if it] is legal, and until workable inspections can take place, the domestic ivory retail markets will continue to be a conduit for some illegal ivory*".

21. Vigne and Martin (2015, *op. cit*.) note that "*Only on larger unpainted mammoth ivory items can you clearly see in cross-section that mammoth cross-hatchings (Schreger lines) run through at a 90-degree angle rather than at a 115-degree angle as do those in elephant ivory*." … *"Presently, the only two effective testing methods are DNA analysis and radiocarbon dating. Each is done on 100 mg of powdered tusk. Commercial dating of small samples costs at least USD 400 per sample"*.

22. Vigne and Martin (2015, *op. cit*.) conclude that "*A foolproof, instant, inexpensive, testing system to tell the two ivories apart that will not damage the item has yet to be devised, and for small items it can be impossible to know which is which*".

Recommendation

23. Because of the look-alike attributes of mammoth ivory in comparison to elephant ivory, and because of the high risk that mammoth ivory trade negatively impacts populations of living elephants, we recommend that the Conference of the Parties adopt the proposed Resolution and Decisions contained in Annexes 1 and 2 to the present document.

COMMENTS FROM THE SECRETARIAT

A. On the principle of regulating trade in mammoth ivory, the Secretariat would like to make the following comments:

   a. The Secretariat recalls that the Convention strictly regulates trade in listed species that are threatened with extinction (Appendix I); may become threatened (Appendix II) in order not to endanger further their survival or to avoid utilization incompatible with their survival; and species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade (Appendix III).

   b. Under CITES, trade in extinct species is normally not regulated. For instance, Parties have recognized that fossilized species are not covered by the provisions of the Convention (see Resolution Conf. 11.10 (Rev. CoP15) on *Trade in stony corals*).

   c. In document CoP17 Doc. 85, the Standing Committee suggests to clarify the approach taken to extinct species in Resolution Conf. 9.24 (Rev. CoP16) on *Criteria for amendment of Appendices I and II.* The Standing Committee proposes to insert a new provision in the Annex 3 on Special Cases according to which: "*Extinct species should not normally be proposed for inclusion in the Appendices. Extinct species already included in the Appendices should be retained in the Appendices if they meet one of the precautionary criteria included in Annex 4.D.*"

B. The species *Mammuthus primigenius* is long extinct and hence is not covered by the scope and the provisions of the Convention. The document does not address the issue of the legal basis for adopting the resolution as proposed. On the basis of what has been submitted and the abovementioned considerations, the Secretariat is of the view that the Resolution as proposed appears to fall outside of the legal scope of the Convention.

C. With regard to the content of the proposed resolution, the Secretariat would like to make the following comments:

   a. The risk of misidentification concerns mainly carved items, and especially small painted ones. Larger pieces of raw ivory are relatively easy to identify with a bit of training and experience. The

Secretariat therefore considers that the provisions under URGES in the proposed resolution may not be proportionate with the scale of the risk posed.

b. The document provides some anecdotal evidence on the potential for misidentification but says little on the scale of the problem. The Secretariat notes that according to some commentators the proposed provision in paragraph f) could be counterproductive: there is some evidence that trade in mammoth ivory – and potentially other types of substitutes – can relieve the poaching pressure on elephants.[18]

c. The provisions directed to the Secretariat and the call to donors in the second part of the draft resolution may have some merit and could more appropriately be incorporated into Resolution Conf. 10.10 (Rev. CoP16) on *Trade in elephant specimens*.

D. On the basis of these considerations, the Secretariat cannot recommend that the Parties adopt the draft Resolution.

E. The Secretariat agrees that the identification of different types of ivory, and of objects and products made of materials that imitate or look similar to ivory, can pose difficulties for enforcement authorities. The Secretariat has made relevant guidance available on its website, and regularly provides capacity building training when appropriate. The following ivory identification tools exist on the CITES website:

a. "Identification guide for ivory and ivory substitutes" designed to offer wildlife law enforcement officers, scientists and managers a tentative visual means of distinguishing different types of ivory (elephant, walrus, whale, etc.) and of ivory substitutes (bone, shell, manufactured substitutes, etc.). The guide is available at https://cites.org/sites/default/files/eng/resources/pub/E-Ivory-guide.pdf

b. In the Green Customs Knowledge series, a presentation is available in the CITES Virtual College, providing a thorough explanation on the distinction of elephant and other types of ivory. See "Introduction to ivory identification" on https://cites.unia.es/mod/resource/view.php?id=58&lang=en

c. "Guidelines on methods and procedures for ivory sampling and laboratory analysis", aimed at first responders, investigators, law enforcement officials, forensic scientists, prosecutors and the judiciary to facilitate the use of forensic science. The Guidelines are available at https://www.unodc.org/documents/Wildlife/Guidelines_Ivory.pdf. A complementary training video on ivory sampling is also available: https://cites.org/eng/prog/iccwc.php/Tools

F. Subject to the availability of external funds, the Secretariat considers that there may be merit in the proposed decision to consider the revision and updating of the guidance material, in particular the "Identification Guide for Ivory and Ivory Substitutes". The Secretariat recommends that the scope of the activities be expanded to cover identification of all forms of ivory and ivory lookalike materials. The Secretariat is not convinced that an expert workshop is required for this purpose. In view of the Secretariat, it would be more important to ensure that the guidance material be widely understood, available in multiple languages, and be used as much as possible.

G. The Secretariat considers that the external funds required for the proposed activities would be in the range of USD 30.000-50,000 to convene the expert workshop and in the range of USD 20.000-50,000 to undertake the revision of the "Identification Guide for Ivory and Ivory Substitutes", depending on the number of languages it is translated into.

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[18] *Elephants and Mammoths: Can Ice Ivory Save Blood Ivory? By Naima Farah and John R. Boyce, University of Calgary, December 2015 available at: https://econ.ucalgary.ca/manageprofile//sites/econ.ucalgary.ca.manageprofile/files/unitis/publications/1--6786799/Elephants_and_Mammoths_December_3_2015.pdf*

DRAFT RESOLUTION OF THE CONFERENCE OF THE PARTIES

TRADE IN MAMMOTH IVORY AND THE IMPLEMENTATION OF CITES

NOTING that international and domestic trade in ivory from the extinct woolly mammoth (*Mammuthus primigenius*) has increased significantly in recent years;

AWARE that trade in mammoth ivory is not currently regulated by the Convention;

NOTING, HOWEVER, that mammoth and elephant ivories are difficult to distinguish, that differentiation can only be done by trained scientists, that no simple and inexpensive test exists that can clearly differentiate between them, and that distinguishing small specimens of the two is presently impossible;

CONCERNED that the similarity between mammoth and elephant ivories is being used to falsely identify specimens of elephant ivory as mammoth in order to avoid trade restrictions under both the Convention and domestic laws;

CONVINCED that proper scrutiny and regulation of international trade in and markets for both elephant and mammoth ivories are necessary to ensure that trade in elephant ivory is being properly regulated under both the Convention and domestic legislation;

CONVINCED, HOWEVER, that achieving appropriate levels of scrutiny over these markets will require cooperation among customs and regulatory authorities, sharing of forensic information, public education and awareness, and training of law enforcement officials;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

URGES all Parties to:

a) enact legislation to require Customs and, where relevant, other enforcement agencies to require evidence that specimens in trade labelled as mammoth ivory have been correctly identified;

b) enact legislation requiring the confiscation of alleged mammoth ivory specimens presented for import or export if they cannot be readily identified, and the submission of such samples to a proper wildlife forensic laboratory for testing;

c) where comparable penalties do not already exist, establish criminal penalties for falsely labelling elephant ivory as mammoth ivory for the purposes of avoiding the requirements of the Convention;

d) establish monitoring of sales of items labelled as mammoth ivory, using scientifically approved identification techniques, to ensure that such sales do not involve illegal elephant ivory;

e) conduct public education campaigns advising potential buyers about the use of falsely labelled mammoth ivory to facilitate illegal sale of, and trade in, elephant ivory, and warning merchants about the penalties for such use;

f) consider expanding domestic trade bans, where they exist, on elephant ivory in order to include mammoth ivory too, in order to prevent mislabelling and laundering;

DIRECTS the Secretariat, subject to the availability of funds, to:

a) include training on the identification of mammoth and elephant ivory in its regular enforcement training sessions;

CALLS UPON governments, donor and funding organizations, and relevant intergovernmental and non-governmental organizations, to:

a) provide funding and other support, including assistance with training, capacity building and education, to the CITES Secretariat for the purposes of implementing this Resolution;

b) exchange scientific, technical and legal information and expertise needed to minimize trade in elephant ivory fraudulently labelled as mammoth ivory in order to avoid the requirements of the Convention, other international agreements and/or domestic laws.

DRAFT DECISIONS OF THE CONFERENCE OF THE PARTIES

Directed to the Secretariat

17.XX The Secretariat shall, subject to the availability of external funds, convene an expert workshop to examine and develop revised and updated identification, training and forensic materials for the identification of mammoth and elephant ivories.

17.XX The Secretariat shall, subject to the availability of external funds, in cooperation with experts [such as the U.S. Fish and Wildlife Service Forensics Laboratory (Oregon, USA), the Wildlife DNA Laboratory,Hebrew University (Jerusalem, Israel) [19], and the Center for Conservation Biology, University of Washington (Seattle, USA)[20], and others], prepare a revised and updated version of the *Identification Guide for Ivory and Ivory Substitutes*, taking into account modern forensic methods such as DNA analysis, for circulation to the Parties.

Directed to the Parties and donors

17.XX Parties and donors are encouraged to provide funding to the Secretariat to finance the activities called for in Decisions 17.XX and 17.XX.

[19] *The Wildlife DNA Laboratory of Hebrew University Jerusalem, Israel is headed by Dr. Gila Kahila Bar-Gal, e-mail address: gila.kahila@mail.huji.ac.il*

[20] *The Center for Conservation Biology, University of Washington, Seattle is headed by Dr. Samuel Wasser, e-mail address: : wassers@uw.edu*

TENTATIVE BUDGET AND SOURCE OF FUNDING
FOR THE IMPLEMENTATION OF DRAFT RESOLUTIONS OR DECISIONS

According to Resolution Conf. 4.6 (Rev. CoP16) on *Submission of draft resolutions, draft decisions and other documents for meetings of the Conference of the Parties*, the Conference of the Parties decided that any draft resolutions or decisions submitted for consideration at a meeting of the Conference of the Parties that have budgetary and workload implications for the Secretariat or permanent committees must contain or be accompanied by a budget for the work involved and an indication of the source of funding. The authors of this document propose the following tentative budget and source of funding.

The authors of this document have not prepared a budget, but propose that any tasks to be carried out under the proposed draft resolution and decision by the Secretariat or permanent committees be subject to the availability of funding.