



"Embracing Innovation to Conserve the World's Animal Kingdom."

**Committee Secretary
Parliamentary Joint Committee on Law Enforcement
PO Box 6100
Parliament House
Canberra ACT 2600**

20 May 2018

The Australian Elephant Ivory and Rhino Horn Consultation

1.0 Introduction

This submission has been prepared by International Wildlife Bond (IWB).

IWB is a United Kingdom based, registered (Charity Commission No. 1164833) organisation that seeks to ensure wildlife has a voice in the debate regarding human *"utilisation"* of wildlife as a resource/income stream, plus the many threats wildlife faces (such as habitat loss and climate change).

The contact details for IWB are given on the last page (Appendix 5) of this submission. Any of IWB's submission can be made public.

As I am sure you are aware, the United Kingdom (UK) Department for Environment Food and Rural Affairs (DEFRA) recently held an ivory consultation which has resulted in the welcomed response *"Banning UK sales of ivory - Summary of responses and government response^[1]"*, dated April 2018. With few exemptions, this ban now includes 'antique' (pre-1947) ivory.

This submission to the Australian Parliament will refer to:

- The general plight of elephants, the demand for ivory, Australia's auction houses, the conclusions that can be read-across from the UK's experience of ivory markets and international demands, both 'legal' and illicit.
- The rhino's plight is acute, with the species facing many man-made threats. This submission will refer to the general plight of the rhino, Australia's trading of 'antique' rhinoceros products, the demand for rhino horn and proposals for trading rhino horn.

The main conclusion is that any trade (be that high-end 'antiques' or otherwise), perpetuates the desire and increases demand for ivory and rhino horn products – pieces of so called 'legal' origin also risks raising demand for pieces of illicit origin (sourced from poached wildlife).



“Embracing Innovation to Conserve the World's Animal Kingdom.”

2.0 Australia's Role

In a 2016 report^[2], *“Under the hammer - Are Australian and New Zealand auction houses contributing to the illegal ivory and rhino trade?”* the International Fund for Animal Welfare (IFAW) concluded:

- *“Across a nine-month period, IFAW found 2,772 ivory items for sale at 175 auctions in 21 auction houses in Australia and New Zealand;*
- *Despite investigators finding that six of the 10 rhino lots had no information provided in the catalogue listing regarding age, origin or history or provenance, or simply described the lot as ‘old’, three of these lots were confirmed as sold;*
- *In only 8 percent of cases was documentation provided to confirm the legality of the items for sale. Despite the difficulty in distinguishing between legally sourced and illegally sourced ivory and rhino horn, and the existence of international and domestic laws, auction houses provided an astounding lack of information regarding the authenticity and legality of these items;*
- *Equally concerning were some of the statements from auction house staff, who did little to reassure us about the items for sale. And only 2 of the 21 auction houses investigated provided information on their websites about the sale of items from endangered species and the legal requirements for such items;*
- *We know Australia and New Zealand are still destinations and transit routes for illegal ivory, from border seizures and criminal cases;*
- *INTERPOL estimates that seizures represent likely only 10 percent of illegal products in trade. In cases where illegal products have managed to enter Australia and New Zealand, current laws and enforcement efforts do not do enough to prevent the domestic trade in these items. While this could be improved, reducing consumer demand for ivory and rhino products will ultimately be key.”*

2.1 Elephant Protection

“Australia has adopted a stronger position (known as a stricter domestic measure) than is required under the Convention for both species of elephant, treating them as if they are listed on [CITES] Appendix 1 and affording them the highest level of protection available. No elephant specimens may be imported for personal or commercial uses, except under a pre-Convention certificate which proves the specimen predates their 1975 listing on CITES, or for non-commercial purposes such as scientific research” – IFAW^[2]

Note: The Convention on International Trade in Endangered Species of Fauna and Flora (CITES) Appendix I Species that are threatened with extinction and which are affected by international trade are placed on Appendix I of the Convention, offering the highest level of protection. With a few exceptions, commercial international trade in these species is prohibited.



"Embracing Innovation to Conserve the World's Animal Kingdom."

However, it's not clear:

- How is the pre-1975 provenance of any ivory piece proved before it's allowed for importation into Australia – is radiocarbon dating mandatory?
- Are 'legal' elephant hunting trophies included, or exempted for import (the CITES Trade Database shows Australian imports of elephant hunting trophies up to 2015 – Reference Paragraph 3.0)?

2.2 Rhino Protection

Under Australian law, the import and export of rhino horns dated from 1950 is banned and, since July 2014, anyone wishing to export vintage rhino horns must conclusively prove its age through radiocarbon dating.

"Australia has also brought in measures further restricting trade in rhinoceros. These measures prevent imports of hunting trophies from Appendix II listed southern white rhino. Vintage rhino hunting trophies may no longer be imported as 'personal and household effects'. Radio carbon dating is also required to conclusively prove the age of vintage [pre-1950] rhino horn proposed for export. Australia does not recognise personal and household effects exemptions for Appendix I listed species" – IFAW^[2]

Note: CITES Appendix II Species that are not immediately threatened with extinction but may become so unless their trade is subject to strict regulation. Therefore, species listed on Appendix II of the Convention, means that export permits are required for international sales.

However, the opportunities for corruption/forgery do not make this 'certification' process a guarantee that any rhino horn object presented for sale is indeed of 'antique' (pre-1950) origin.

In recent years, Australia has emerged as a major conduit for 'antique' rhino horn carvings and 'antique' rhino horn (also see list at Appendix 2 below):

*"China has also emerged a significant destination for antique rhino horn carvings that have been auctioned in Europe, the United States and **Australia**" - "Tipping Point: Transnational organised crime and the 'war' on poaching^[3]," J. Rademeyer, The Global Initiative Against Transnational Organized Crime, Geneva, 2016*

European Union authorities, in a presentation to the international wildlife protection treaty in 2012^[4], highlighted the "road to Australia" as a key avenue for the rhino horn trade, with



“Embracing Innovation to Conserve the World's Animal Kingdom.”

figures showing a dramatic increase in re-export applications since 2008 to China, Hong Kong and Australia.

As recently at 2014^[5] the auction house Lawsons (Sydney) listed a pair of black rhinoceros horns (with provenance documentation, ‘proving’ the horns supposedly pre-dated 1950). But, these horns were subsequently withdrawn from sale, following public pressure.

So, Australia has tried to reform its policies to protect rhino. But why would Australia wish to continue to risk playing any part in potentially fuelling demand for rhino horn as an object of desire, status and wealth (thus perpetuating the rhino poaching crisis) by trading rhino horn of any vintage/age? How can any ‘pre-1950’ piece sold to avid Chinese buyers not be seen as perpetuating rhino horn objects as a desirable commodity and a status symbol? Where is the proof that buyers of supposedly ‘antique’ rhino horn pieces do not also desire pieces of more dubious origin (ie. horn from recently poached rhino), or inspire others to seek rhino horn of any age by whatever means?

By sending the message that rhino horn is a valued commodity and unwittingly allowing potentially illicit ‘antique’ rhino horn pieces to be traded, Australia continues to be potentially complicit in the on-going demise of wild rhinoceros.



“Embracing Innovation to Conserve the World's Animal Kingdom.”

3.0 Elephants

Today, the wild African elephant population is perhaps less than 400,000^[6] across the entire African continent. This population is insufficient to reproduce and sustain that population level^[6] whilst subject to the scourge of poaching for ivory (an estimated 20,000 - 30,000 elephants a year are slaughtered^[6]), human-wildlife conflict and trophy hunting attrition.

Asian elephants (population 44,281- 49,731^[7]) are also targeted and threatened by the risks of poaching, habitat loss and elephants taken into captivity to serve for human entertainment - elephant populations in Vietnam and elsewhere in the region are on the verge of extinction^[7].

Unless something changes, wild elephant populations will become extinct within a matter of decades.

With a 1989 global ban on the ivory trade initiated by The Convention on International Trade in Endangered Species of Fauna and Flora (CITES)^[8], how did elephant poaching become such a problem?

Arguably, CITES allowing ivory stockpiles to be released into the market post-ban is a widely accepted reason (among no-trade advocates) that elephant poaching still persists because demand was stimulated^[9] (reference Appendix 1).

So, despite the international ban on the commercial trade in ‘modern’ ivory, there is still the trade of ‘antique’ ivory and ivory sourced from the trophy hunting of elephants for example – Australia is part of this trade that arguably stimulates and perpetuates ivory demand/worship.

Perhaps the reported level of trade in ivory (with a seemingly dubious level of ‘personal possessions’ permit use) and tusks obtained via trophy hunting reflects a push to take advantage to trade (and stockpile) ivory before domestic ivory markets start to be shut down in accordance with CITES 2016 decision^[10]?

“RECOMMENDS that all Parties and non-Parties in whose jurisdiction there is a legal domestic market for ivory that is contributing to poaching or illegal trade, take all necessary legislative, regulatory and enforcement measures to close their domestic markets for commercial trade in raw and worked ivory as a matter of urgency” – CITES^[10]

Consulting CITES’ Trade Database, between 2000 and 2017, more than 6,000 items of African elephant (*Loxodonta africana*) parts (various ‘Terms’ utilised, some potentially used to mask the true intent) were exported to Australia as ‘Personal’ (‘Purpose’ ‘P’) items. The question is, were pieces (including ivory) tracked 100% and where are they now?:

- 16 ‘Bodies’ - which can include ivory
- 1 ‘Bone Carving’ - ‘Bone’ used to mask ivory
- 16 ‘Bone Pieces’ - ‘Bone’ used to mask ivory
- 2 ‘Bones’ - ‘Bone’ used to mask ivory



"Embracing Innovation to Conserve the World's Animal Kingdom."

- 1,142 'Carvings' - used to mask ivory
- 5 'Derivatives' – used to mask ivory
- 4 'Ears'
- 29 'Feet'
- 14 'Hair/Hair Products'
- Some 3,630 'Ivory Carvings/Ivory Carving Sets'
- Some 1,000 'Ivory Pieces'
- 6 'Jewellery – Ivory'
- 54 'Leather Products'
- 2 'Live' elephants
- 208 'Piano Keys'
- 8 'Skin Pieces'
- 5 'Tails'
- 5 'Teeth' – 'Teeth' used as a mask for ivory?
- 10 'Trophies' – including ivory?
- Some 220 'Tusks'

In addition, according to CITES' Trade Database, between 2000 – 2017 the following elephant ivory was imported into Australia supposedly under the following 'Purpose:'

- 5 'Tusks' and 55 'Ivory Carvings/Ivory Sets' as 'E' (Educational) 'Purpose' – really?
- 25 'Tusks', 2 'Trophies' and 8 'Ivory Pieces' as 'H' (Hunting Trophy)
- 71 'Carvings/Ivory Carvings,' 9 'Ivory Pieces' and 51 'Piano Keys' as 'Q' (Circus or travelling exhibition) – really?
- 2 'Ivory Carvings' as 'S' (Scientific) – really?
- 1,348 'Carvings,' some 1,770 'Ivory Carvings/Ivory Sets,' 33 'Ivory Pieces,' 52 'Piano Keys' and 6 'Tusks' as 'T' (Commercial)

Note 1 – Entries to CITES' trade database are always at least a year behind, so it is not yet possible to see any entries for 2017/18.

3.1 United Kingdom's Ivory Trade Experience

In October 2017, the privately funded initiative, Two Million Tusks (TMT) produced a comprehensive, covert study in association with the Environmental Investigation Agency (EIA), *"Ivory – The Grey Areas"*^[11]. This study provides an alarming insight into the United Kingdom's antique auction houses' lack of adherence to the United Kingdom laws (as announced by DEFRA^[12]) regarding *"Antique"* ivory trading:

- Pilot study - 26 auction house and 71 ivory lots investigated.
- Main study - 62 auction houses and 109 ivory lots investigated.



"Embracing Innovation to Conserve the World's Animal Kingdom."

- Combined - 75 auction houses and 180 ivory lots were investigated.

Over both studies, the TMT study^[11] concluded that 90% of the ivory lots investigated had no conclusive proof of the provenance of the ivory and therefore, no proof of compliance with the United Kingdom law on ivory trading as specified by DEFRA^[12]. As if that was not bad enough, when questioned about the age of the ivory lot being marketed:

- In 48% of ivory lots investigated, the auction house did not give any indication of the age of the ivory being sold in the descriptions provided (and therefore, its legal compliance as *"Antique"* or otherwise);
- Many auction houses (12% of cases) sought to place the burden of proof on the potential purchaser to deduce of their own accord regarding the 'legality' (or otherwise) for a given ivory lot marketed;
- In over 30% of cases, the auction house confessed it did not know the age of the ivory lot in question;
- In one instance, in the Main Study there was a raw tusk and an unworked tusk within the same sale – it should be clear to anyone operating legally within the antiques industry, both these items are illegal to sell in the United Kingdom.

It was also apparent^[11], that even when 'provenance' was claimed, the UK antique's industry was subject to reliance upon an expert appraiser's eye to determine an ivory piece's carving style, patina and hence its 'likely' (not categorically proven) compliance with the definition of *"Antique"* (pre-1947) ivory. Clearly more scientific methods of dating ivory are available than the *"expert appraiser's eye"* (sic), such as radiocarbon dating.

In conclusion, the TMT study^[11] paints a damning indictment on the onus of responsibility UK auction houses placed upon themselves to ensure the ivory pieces they openly marketed were legally compliant.

It is clear from IFAW's 2016 report^[2] (and investigation at Appendix 3) that Australia's auction houses and trade outlets do not exhibit a higher degree of motivation for self-regulation, with a clear lack of emphasis on provenance. Is Australia's industry/trade not actually fuelling the demand for ivory and thus, the poaching of elephants by those seeking to cash-in?



"Embracing Innovation to Conserve the World's Animal Kingdom."

4.0 The Rhino's Plight

The extent of the rhinoceros species' recent decline and the threats faced are given in detail at Appendix 2 for reference. Needless to say, without a positive step change, the outlook for the survival of wild rhinoceros is bleak – many are being poached in South Africa, Namibia and beyond to profit from the demand for rhino horn.

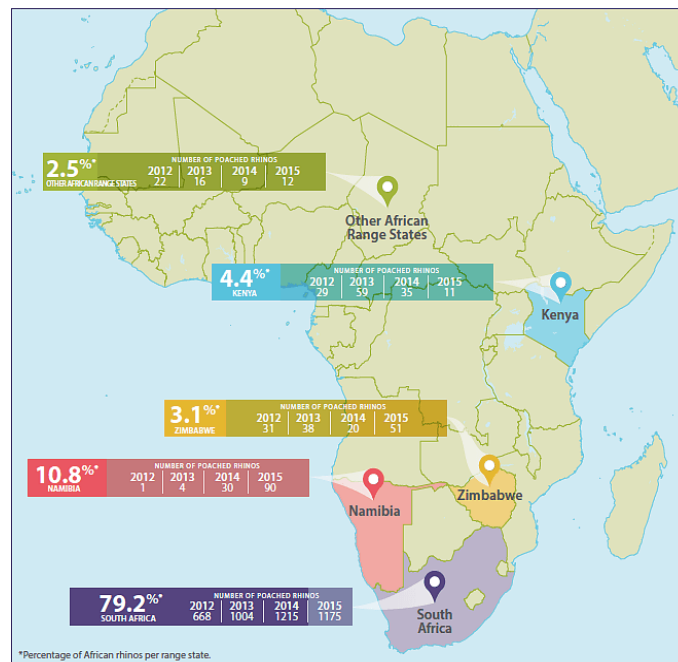


Figure 1 - Rhino population and poaching numbers, 2012 - 2015^[3]

Historically, rhino have been hunted and poached to near extinction in the early 1900's, with a recovery in numbers in the 1960s, but this recovery is now being decimated by the scourge of poaching and attrition.

CITES has banned the international trade in rhino horn since 1977. African rhino are listed under the highest protection level (CITES Appendix I):

"Appendix I includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances."

White rhino populations are all CITES Appendix I listed, except for populations of South Africa and Swaziland (listed as Appendix II to allow the export of live specimens and 'legal' hunting of White rhino for trophies – the hunting quotas for white rhino are unknown).



“Embracing Innovation to Conserve the World’s Animal Kingdom.”

Namibia (also with a rhino poaching problem^[13]) and South Africa were allowed a CITES hunting quota of 5 adult male Black rhino each in 2015/16 (see CITES Resolution Conf.13.5, Rev.CoP14) for hunting trophies of this species, despite this species being listed as *“Critically Endangered”* and under CITES Appendix I protection since 1977.

However, the demand for rhino horn as a status symbol in increasingly wealthy Asian cultures has led to a resurgence in demand for ‘antique’ rhino horn pieces, which in turn stimulates and encourages the demand for rhino horn sourced by illicit and ‘legal’ means by those seeking to profit from the demand.

In addition, the 2009 ‘upswing’ in rhinoceros poaching in South Africa could be attributed to an exponential rise in demand for rhino horn in a newly wealthy Asian middle class and the misguided ‘belief’ perpetuated around 2005/06 in Vietnam^[14] that rhino horn could be a *“cure for cancer.”* The poaching of rhino continues virtually unabated (reference Appendix 2).

4.1 The Current Picture

A TRAFFIC report released 18 September 2017^[15]:

“reveals disturbing new evidence that some criminal networks of Chinese origin operating in South Africa are now processing rhino horn locally into beads, bracelets, bangles and powder to evade detection and provide ready-made products to consumers in Asia, mainly in Viet Nam and China.”

Though Australia is not specifically mentioned in this report^[15], it highlights the adaptive nature of the criminal syndicates profiting from trafficking rhino horn (and other wildlife products). The need for vigilance is ever present as the organised criminals adapt and seek to exploit new ways and routes to profit from the illicit trade in rhino horn and/or fake products. It should be borne in mind, that the trafficking of wildlife products has been linked to the funding of terrorism, so there is more at stake than the appalling loss of wildlife^[16].

There may have been some ‘softening’ in the price being demanded for rhino horn, but this should not be mistaken for a downturn in demand – just more fake product being fed into the market perhaps (with the advent of bio-engineered product potentially entering the market too from companies such as Pembient^[17]):

“Dealers were, in 2017, largely quoting \$20,000-\$28,000 per kilo, compared with a price of \$60,000 per kilo some four years earlier^[18]”

Whilst ‘legal’ demand is given credence, illicit demand and faked rhino horn products are given the oxygen they need to also flourish and profit.



"Embracing Innovation to Conserve the World's Animal Kingdom."

There are also other, worrying trends that indicate demand for rhino horn is only going to rise whilst rhino horn's 'status' is given any veneer of credibility as a 'desirable and noble' substance:

"For us, the surprising trend is that horn is increasingly being used as a symbolic gesture to console terminally ill family members. The horns are intended to provide the ill with a final source of pleasure and to demonstrate that their families have done everything possible to help them^[19]"

"The study suggests that information about the decline of rhinoceros populations and awareness about hunting being controlled by organised crime does not affect consumer demand. Dealing with the problem requires other strategies^[19]"

– Associate Professor Martin R. Nielsen of the Department of Food and Resource Economics, University of Copenhagen, Daily Science, 14 May 2018^[19]

4.2 'Pseudo-Hunting' Rhino

When it comes to sourcing rhino horn for 'modern' (illicit) rhinoceros horn products, there is clearly a so-called 'legal' mechanism of trophy hunting that can be abused.

Australia brought in measures^[2] further restricting trade in rhinoceros:

- These measures prevent imports of hunting trophies from Appendix II listed southern white rhino.
- Vintage [pre-1975] rhino hunting trophies may no longer be imported as 'personal and household effects'.
- Radio carbon dating is also required to conclusively prove the age of vintage rhino horn proposed for export.
- Australia does not recognise personal and household effects exemptions for Appendix I listed species.

In the past, the 'pseudo-hunting' of rhino^{[3],[20],[21],[22]} has been used as a mask to 'legally' obtain rhino horn and transit the horn into Asia - then the trophy/rhino horn is absorbed without trace (due to the lack of law enforcement) into illicit supply routes. Australia has thus taken steps to try to prevent falling prey to such deceit by curtailing the opportunities for further rhino trophy hunting imports.



“Embracing Innovation to Conserve the World’s Animal Kingdom.”

4.3 International Trade in Rhino Horn

South Africa and Swaziland have made clear, that they support domestic markets for farmed rhino and harvested rhino horn, with a view to seeking CITES to lift the international ban on trading rhino horn. The ‘merits’ (or lack thereof) of this approach are considered in detail at Appendix 4.

However, academic studies surrounding the protection of wild rhino that have considered the question of whether legalising trade in farmed rhino horn will help to solve the poaching crisis, do not conclusively support the theory that such trade will only have positive outcomes. The most likely outcomes are overwhelmingly negative (apart from guaranteeing to generating income and wealth for those humans involved regardless of the consequences for wild rhino).

“The study^[19] also found that buyers are mainly interested in horn sourced from wild rhinos and willing to pay a premium for wild rather than farmed animal horn. Consequently, the researchers believe that a legal, controlled trade of farmed rhino would most likely not serve to reduce poaching.”



“Embracing Innovation to Conserve the World's Animal Kingdom.”

5.0 Conclusions

The conclusions that can be drawn and their relevance to submission Terms of Reference (ToR)^[23] are given below.

5.1 - ToR – para a. – Incidence of importation to, and exportation from, Australia of elephant ivory and rhinoceros products

There is clearly a significant quantity of ivory in the reported trade using CITES permits (reference Paragraph 3.0 - Elephants), including hunting trophies (ie. a potential source of ‘modern’ ivory):

25 ‘Tusks’, 2 ‘Trophies’ and 8 ‘Ivory Pieces’ as ‘H’ (Hunting Trophy) imported into Australia between 2000 – 2017.

But the reason (‘Purpose’) given for CITES certification is open to accusations of potential deceit/corruption, such as 71 ‘Carvings/Ivory Carvings,’ 9 ‘Ivory Pieces’ and 51 ‘Piano Keys’ as ‘Q’ (required for ‘Circus or Travelling Exhibition’) imported to Australia between 2000 – 2017 – is that credible?

In addition, once ivory is so imported, what follow-up resources and checks are there to ensure such ivory has not be illicitly trafficked on?

5.2 - ToR – para b. – Adequacy of arrangements and resources for screening of imports and exports of elephant ivory

If there is to be any ‘trade’ in ivory, why isn’t radiocarbon dating provenance mandatory for all pieces legally offered for sale (no matter the financial burden to gain such provenance)? - Reference Appendix 1, paragraph 4.0.

5.3 - ToR – para c. and j. - Importation and exportation of elephant ivory/rhinoceros horn products and organised crime

Organised criminal syndicates involved in wildlife trafficking are known to be linked to funding terrorism^[16], so eradicating poaching is not just about wildlife conservation and the natural environment, but must be viewed in a much wider global-security context.



"Embracing Innovation to Conserve the World's Animal Kingdom."

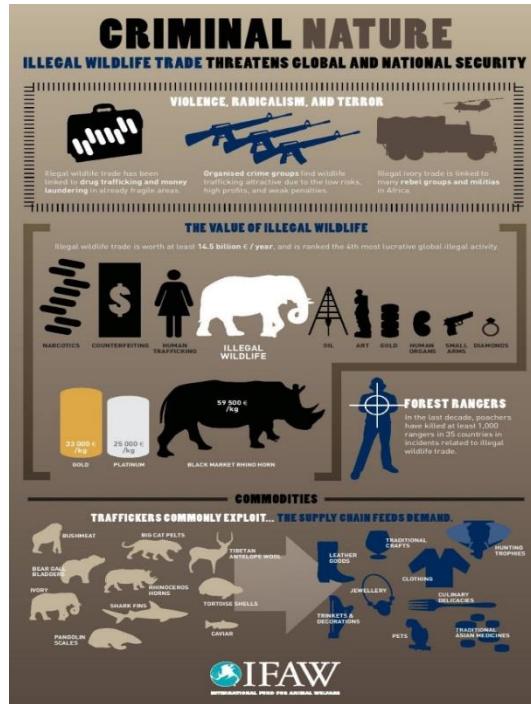


Figure 3 - "Criminal Nature" pictogram summary, IFAW^[16]

The European Union funded ENACT^[24] (Institute for Security Studies, Interpol, the Global Initiative Against Transnational Organised Crime) is a recent initiative at much wider, transnational co-ordination to tackle poaching, wildlife trafficking and its wider consequences. Is there an opportunity for Australia to co-ordinate efforts with ENACT?

Australia has been clearly identified^{[2],[3],[4]} as a route for rhino horn products, 'legally' traded under the guise of pre-1950 'antiques.' The provenance of some wildlife products offered for 'legally' sale is highly questionable^[2]. Therefore, it is likely that Australia is subject to dubious practices that generates trading profits, but to the detriment of wildlife as demand for wildlife commodities is stimulated.

5.4 - ToR – para k. – Effectiveness of measures in other jurisdictions – “pseudo-hunting”

The 'pseudo-hunting' of target species to obtain wildlife commodities via the 'legal' mask of trophy hunting in other jurisdictions should be countered by halting the importation of all/specific hunting trophies. At paragraph 4.2, the abuse of rhino hunts to obtain rhino horn has been a major issue in the past and is potentially on-going in South Africa, perpetuated by a lax attitude, corruption and complacency.



"Embracing Innovation to Conserve the World's Animal Kingdom."

Australia has sought to curtail this threat by taking measures to prevent imports of hunting trophies from Appendix II listed southern white rhino.

However, what makes anyone think elephants are not, or will not be 'legally' *"pseudo-hunted"* as per rhino, to obtain ivory via trophy hunting, especially when ivory stockpiles within known Asian trading centres begin to dwindle? Or, other species so targeted to obtain wildlife commodities?

The African Wildlife Foundation conducted an intensive analysis of the CITES trade database and reported^[25] in October 2017 that between 2001 and 2015, an estimated 81,572 African elephants were killed for hunting trophies (on average, that's around 5,800 elephants per year):

"According to CITES data, the African bush elephant accounted for roughly 4 in 5 animals whose parts were exported as trophies between 2001 and 2015" - African Wildlife Foundation^[25]

If ivory worship is to end, then all trade and the exploitation of elephants needs to end – every life is precious, no matter what dollars are paid to kill and import the resulting tusks/ivory. Trophy hunting advocates claim the income derived from 'well-regulated hunting' equates to a *'sacrifice of one, saves the many'* - but these claims lack scientific proof^{[26],[27],[28],[29],[30]}.

Australia should ban the import of elephant hunting trophies/ivory (including those under the guise of 'Personal' items) and consider a blanket ban on all hunting trophy imports.

5.5 – ToR – para d and f – What arrangements exist with auctions house, electronic market place and other brokers; including legally mandated provenance documentation attached to elephant ivory and rhinoceros horn.

Within 'professional' auction houses, a clear lack of motivation to prove provenance has been shown in the UK^[11] and Australia^[2] (reference paragraphs 2.0 and 3.1 above):

"In only 8 percent of cases was documentation provided to confirm the legality of the items for sale"^[2].

"...that 90% of the ivory lots investigated had no conclusive proof of the provenance of the ivory"^[11]

If these 'professional' trading outlets for ivory and rhino horn are unable (or unwilling) to offer unblemished credibility to the trade, then the bonanza of illicit trade in wildlife products that is happening on-line will potentially become even more erroneous and illicit. Whilst 'legal' markets are given a veil of legitimacy, then illicit activity will seek to flourish in the shadows. Shut down all trade, quash the demand and seek to stem the wildlife deaths that result from that demand.



“Embracing Innovation to Conserve the World's Animal Kingdom.”

5.6 – ToR – para i – Supporting efforts to close domestic markets for elephant ivory and rhinoceros horn.

CITES 2016 decision^[10] *“RECOMMENDS that all Parties and non-Parties in whose jurisdiction there is a legal domestic market for ivory that is contributing to poaching or illegal trade, take all necessary legislative, regulatory and enforcement measures to close their domestic markets for commercial trade in raw and worked ivory as a matter of urgency.”*

If “...only 8 percent of cases” in Australia^[2] can confirm the legality of the ivory (or rhino horn) being sold, then it cannot be said that continuing to perpetuate such trade via Australia is not contributing to poaching of target species.

The same can also be said for permitting hunting trophies (elephants for example) under the misguided delusion that this is not used as a potential mask for illicit behaviour (reference paragraph 4.2 and Conclusion 5.4 above).

5.7 – ToR – para k – The nature and effectiveness of measures, models and legislation adopted in other jurisdictions

The pseudo mask of trophy hunting imports/exports has been explored at 5.3 above. But the spectre of lifting international trade bans (both domestic and international) to permit farmed rhino horn is a risky gamble that claims to have the objective to reduce rhino poaching (but will result in profit taking regardless). Such proposals must be scrutinised at the international level; the probable risk is, that such trade will make a bad situation far worse, by potentially stimulating demand beyond any feasible means of ‘legal’ supply and control, accelerating the demise of wild rhino – reference paragraph 4.3 and Appendix 4.

Stephen Alan Wiggins
Founder of International Wildlife Bond (IWB)



"Embracing Innovation to Conserve the World's Animal Kingdom."

References

1. *"Banning UK sales of ivory - Summary of responses and government response,"* DEFRA, dated April 2018 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/696474/banning-ivory-consult-sum-resp.pdf
2. *"Under the hammer - Are Australian and New Zealand auction houses contributing to the illegal ivory and rhino trade?"* the International Fund for Animal Welfare (IFAW), 2016 - <https://www.ifaw.org/australia/resource-centre/under-the-hammer>
3. *"Tipping Point: Transnational organised crime and the 'war' on poaching,"* J. Rademeyer, The Global Initiative Against Transnational Organized Crime, Geneva, 2016 - <http://globalinitiative.net/wp-content/uploads/2016/07/Global-Initiative-Tipping-Point-Part1-July-2016.pdf>
4. *"Australia on rhino horn sales route,"* The Sydney Morning Herald, 3 March 2013 – <https://www.smh.com.au/national/australia-on-rhino-horn-sales-route-20130302-2fd72.html>
5. *"Rhino horns withdrawn from sale at auction house,"* The Sydney Morning Herald, 11 November 2014 - <https://www.smh.com.au/national/nsw/rhino-horns-withdrawn-from-sale-at-auction-house-20141111-11kbm6.html>
6. *"The Great Elephant Census - Continent-wide survey reveals massive decline in African savannah elephants,"* Chase et al., PeerJ, June 2016, ref: DOI 10.7717/peerj.2354 - <https://peerj.com/articles/2354/>
7. *"STATUS OF ELEPHANT POPULATIONS, LEVELS OF ILLEGAL KILLING AND THE TRADE IN IVORY: A REPORT TO THE CITES STANDING COMMITTEE - SC69 Doc. 51.1 Annex,"* CITES <https://cites.org/sites/default/files/eng/com/sc/69/E-SC69-51-01-A.pdf>
8. *"African elephant poaching down, ivory seizures up and hit record high,"* CITES, 24 October 2017 - https://www.cites.org/eng/news/pr/African_elephant_poaching_down_ivory_seizures_up_and_hit_record_high_24102017;
9. *"The 'Theatre' of Wildlife Decimation,"* IWB, 7 March 2016 - <https://iwbond.org/2016/03/07/the-theatre-of-wildlife-decimation/>
10. *"Draft Decision and Amendments to Resolution Conf. 10.10 (Rev. CoP16) on Trade in Elephant Specimens,"* Convention on International Trade in Endangered Species of Fauna and Flora (CITES), CoP17 Com. II. 6, 5 October 2016 - https://cites.org/sites/default/files/eng/cop/17/Com_II/E-CoP17-Com-II-06.pdf
11. *"Ivory – The Grey Area,"* Two Million Tusks, October 2017 - <https://iwbond.org/2017/10/20/uk-auction-houses-ignoring-legal-ivory-trading-requirements/>
12. *"Plans announced to help bring an end to illegal elephant poaching and ivory trafficking,"* DEFRA announcement, 21 September 2016



"Embracing Innovation to Conserve the World's Animal Kingdom."

13. *"The epicentre of Namibia's rhino poaching,"* OXPECKER'S, 11 July 2016 - <https://oxpeckers.org/2016/07/the-epicentre-of-namibias-rhino-poaching/>
14. *"'Cure for cancer' rumour killed off Vietnam's rhinos,"* J. Watts, The Guardian, 25 November 2001 - <https://www.theguardian.com/environment/2011/nov/25/cure-cancer-rhino-horn-vietnam>
15. *"Pendants, Powder and Pathways: a rapid assessment of smuggling routes and techniques used in the illicit trade in African rhino horn,"* TRAFFIC, 18 September 2017 - <http://www.traffic.org/publications/pendants-powder-and-pathways-a-rapid-assessment-of-smuggling.html>
16. *"Criminal Nature: The Global Security Implications of Illegal Wildlife Trade,"* IFAW, 2013 - <http://www.ifaw.org/sites/default/files/ifaw-criminal-nature-UK.pdf>
17. *"Synthetic rhinoceros horn could help save real rhino,"* New Atlas, 9 July 2015 - <http://newatlas.com/synthetic-rhinoceros-horn/38386/>
18. *"On the trail of Asia's shifting rhino-horn market,"* Karl Ammann, Daily Maverick, 11 May 2018 <https://www.dailymaverick.co.za/article/2018-05-11-on-the-trail-of-asias-shifting-rhino-horn-market/#.WvYlr0xFzcs>
19. *"Rhino horn used to comfort the terminally ill in Vietnam,"* Faculty of Science, University of Copenhagen, Daily Science, 14 May 2018 - https://www.sciencedaily.com/releases/2018/05/180514095509.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+sciencedaily%2Fplants_animals%2Fendangered_animals+%28Endangered+Animals+News+---+ScienceDaily%29
20. *"World Wildlife Crime Report - Trafficking in protected species,"* United Nations Office on Drugs and Crime, United Nations, New York, 2016, ISBN: 978-92-1-148288-1 - http://www.unodc.org/documents/data-and-analysis/wildlife/World_Wildlife_Crime_Report_2016_final.pdf
21. *"South Africa's trophy hunt industry linked to rhino horn trafficking ... AGAIN,"* Africa Geographic, 7 August 2013 - <http://africageographic.com/blog/south-africas-trophy-hunt-industry-linked-to-rhino-horn-trafficking-again/>
22. *"South Africa's Game Industry Insiders Continue to Evade Punishment for Rhino Crimes,"* Cota-Larson and Rhishja, Annamiticus, 25 July 2014 - <http://annamiticus.com/2014/07/25/s-africas-game-industry-insiders-continue-evade-punishment-rhino-crimes/>
23. *"Elephant Ivory; Rhino Horn – Terms of Reference,"* Parliament of Australia, 2018 - https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Law_Enforcement/ElephantIvoryRhinoHorn/Terms_of_Reference
24. *"Spotlight: mitigating the impact of transnational organised crime in Africa,"* The Global Initiative against Transnational Organised Crime, 27 July 2017- <http://globalinitiative.net/spotlight-mitigating-the-impact-of-transnational-organised-crime-in-africa/>



"Embracing Innovation to Conserve the World's Animal Kingdom."

25. *"African Mammal Trade – A Look at the African Animal and Animal Product Trade,"* African Wildlife Foundation, October 2017 - <http://www.awf.org/campaigns/wildlife-trade-and-seizure-maps/>
26. *"The Economics of Poaching, Trophy and Canned Hunting,"* IWB, 2 September 2015 - <https://iwbond.org/2015/09/02/the-economics-of-poaching-trophy-and-canned-hunting/>
27. *"The \$200 million question: How much does trophy hunting really contribute to African communities?,"* a report for the African Lion Coalition, prepared by Economists at Large, Melbourne, Australia, February 2013 - <https://iwbond.org/2015/09/03/the-200-million-question/>
28. *"The 'Theatre' of Wildlife Decimation,"* IWB, 7 March 2016 - <https://iwbond.org/2016/03/07/the-theatre-of-wildlife-decimation/>
29. *"Is Trophy Hunting Helping Save African Elephants?"* Adam Cruise, National Geographic, 17 November 2015 - <https://news.nationalgeographic.com/2015/11/151715-conservation-trophy-hunting-elephants-tusks-poaching-zimbabwe-namibia/>
30. *"Like the fossil fuel industry, trophy hunting is unsustainable,"* Ian Michler, Daily Maverick, 10 May 18 - <https://www.dailymaverick.co.za/opinionista/2018-05-10-like-the-fossil-fuel-industry-trophy-hunting-is-unsustainable/#.WvsljExFzcu>



"Embracing Innovation to Conserve the World's Animal Kingdom."

Appendix 1 – Elephants

1.0 The Elephant's Plight

Back in the early part of the 20th century, there may have been as many as 3 - 5 million elephants.

Today, the wild African elephant population is perhaps less than 400,000^[1] across the entire African continent. This population is insufficient to reproduce and sustain that population level^[1] whilst subject to the scourge of poaching for ivory (an estimated 20,000 - 30,000 elephants a year are slaughtered^[*]), human-wildlife conflict and trophy hunting attrition. Therefore, without intervention, the African elephant population is doomed to carry on declining towards extinction in the wild.

The Convention on International Trade in Endangered Species of Fauna and Flora (CITES) released a media statement 24 October 2017^[2] stating that *"African elephant poaching down, ivory seizures up and hit record high."* But this 'relief' is not universal and is not the light at the end of the tunnel:

"The overall trends in the poaching of African elephants show that the sharp increase in the levels of illegal killing of elephants witnessed since 2006, and peaking in 2011, was first halted, then stabilized, and is now in decline, but at levels that remain too high when viewed continent-wide, with overall elephant population likely to have declined in 2016" – CITES^[2]

"The ETIS [Elephant Trade Information System] analysis indicates that levels of illegal ivory transactions remained as high as in the previous six years, but also estimates that a record quantity of ivory may have been in illegal trade in 2016. This means that, even taking into account the impact of increased enforcement action, the overall quantity of ivory in illegal trade is likely now nearly three times greater than what was observed in 2007" – TRAFFIC^[3]

Asian elephants (population 44,281- 49,731^[4]) are also targeted and threatened by the risks of poaching, habitat loss and elephants taken into captivity to serve for human entertainment - elephant populations in Vietnam and elsewhere in the region are on the verge of extinction^[4].

This CITES report^{[2],[4]} also highlights the mixed messages CITES sends, condoning illicit poaching (with the reported seizure of over 40 tonnes of illicit ivory), but at the same time giving cover to the paid for, 'legal' trade/exploitation of elephants as hunting trophies (including tusks):

"...trade in Loxodonta africana [African elephant] directly from African range states over the period 2014-2015 principally comprised wild-sourced hunting trophies (including tusks). Notable levels of direct trade in wildsourced ivory carvings (7,889 kg of ivory carvings) were also recorded by countries of export, primarily as personal possessions (purpose code 'P'). In total, for 2014 and 2015, African range states reported the direct export of 525 tusks (weight not reported) as well as 15,805 kg (tusk number not reported [mainly exported from Zimbabwe]) of wild-sourced tusks" – CITES^[4]



"Embracing Innovation to Conserve the World's Animal Kingdom."

CITES' recent news release^[2] has also highlighted the adaptive nature of the criminal networks involved specifically with regard to ivory:

".....there is a growing concern and increasing evidence of ivory processing in Africa by Asian nationals for export to Asia. This involves smaller volumes of worked ivory carried through air check-in and carry-on luggage or couriers. It could potentially pose a serious threat, and adequate enforcement efforts to stem this illegal flow are to be deployed."

It should never be underestimated how adaptive and resourceful the criminal networks are when it comes to perpetuating their illicit trade in wildlife parts, be that ivory, rhino horn, tiger bones etc.

2.0 Why Hasn't the International Ban (1989) on Ivory Trading Worked?

With a 1989 global ban on the ivory trade initiated by CITES^[2], how did elephant poaching become such a problem?

Arguably, CITES allowing ivory stockpiles to be released into the market post-ban is a widely accepted reason (among no-trade advocates) that elephant poaching still persists because demand was stimulated^[5].

In 1989/1990 CITES introduced a ban on all ivory trade and 'uplisted' the elephant to CITES Appendix I. The ban worked initially to reduce poaching/demand, up to 1997.

However, by 1997 CITES sought to 'find ways' (delisting relevant elephant populations by country to CITES Appendix II, where only an export license is required) to meet 'demand' for (and allow some to profit from) ivory from stockpiles. CITES permitted the export of 47 tonnes of 'stockpiled' ivory to Japan from Botswana, Namibia and Zimbabwe. It would appear that from this ill-judged CITES decision in 1997, "*Pandora's box*" was re-opened, with the tacit message to previous ivory trading and poaching syndicates that 'the game was back on.' Legal trade systems and poorly audited 'stockpiles' always allow illicit infiltration to launder poached ivory.

The initial 1997 CITES ill-judged thinking was further compounded in 2000, when South Africa's elephants were delisted to CITES Appendix II with CITES' blessing, with 6 tonnes of 'stockpiled' ivory permitted for export to Singapore in 2002. In addition, in 2002 some 60 tonnes of ivory from South Africa, Botswana and Namibia was 'released' with CITES' blessing to Japan.

In 2008, again to "*quell*" demand and "*reduce prices*," CITES once more (naively in retrospect) blessed 'stockpiles' of ivory to be exported. Since 2008, ivory demand and prices paid have risen exponentially (the price of ivory has skyrocketed from USD \$5/kg in 1989 to a wholesale price of USD \$2,100/kg in China in 2014^[5]), contrary to CITES' misguided belief that the opposite would be true.



"Embracing Innovation to Conserve the World's Animal Kingdom."

3.0 The Global Ivory Trade and Shifting Trading Centres

At the 17th CITES Conference of the Parties (CoP17), 5 October 2016, the Parties failed to return all African elephant populations to the protection of Appendix 1 of the Convention. Botswana was the only country that unilaterally declared that it would protect its elephant population (approximately 33% Africa's elephants) regardless, by ensuring no trade as if their elephants were on CITES Appendix 1.

However, at CoP17 CITES issued a draft decision^[6] for all 183 Parties to the Convention (including the United Kingdom) which:

"RECOMMENDS that all Parties and non-Parties in whose jurisdiction there is a legal domestic market for ivory that is contributing to poaching or illegal trade, take all necessary legislative, regulatory and enforcement measures to close their domestic markets for commercial trade in raw and worked ivory as a matter of urgency."

On 11 September 2016, the International Union for Conservation of Nature (IUCN), Motion 007^[7] called for the "Closure of domestic markets for elephant ivory:"

The IUCN *"URGES the governments of countries in which there is a legal domestic market for elephant ivory, or any domestic commerce in elephant ivory, to make all necessary legislative and regulatory efforts to close their domestic markets for commercial trade in raw or worked elephant ivory."*

Note: The IUCN Red List of Threatened Species lists the *Loxodonta Africana* (African Elephant) as "Vulnerable" and the *Elephas maximus* (Asian Elephant) as "Endangered."

China has sought to curb ivory working/trading within China itself (including Hong Kong SAR). But mainland Chinese openly buy post-1990 (ie. poached) ivory in Laos (Lao People's Democratic Republic) from predominantly Chinese owned establishments – these are the conclusions of a recent report^[8] prepared by Save the Elephants:

"Mainland Chinese buy over 80% of the ivory items in Laos today.....Nearly all the items seen for sale today originate from illegally imported (post-1990) ivory. There is virtually no law enforcement so shops are able to display these items openly"- Save the Elephants^[8]

If elephant poaching is to decline and give wild elephant populations the chance to stabilise/survive, then enforcement and demand reduction in every jurisdiction are fundamental. Off-shoring Chinese demand for ivory to Laos is not acceptable.

Laos is a signatory to CITES which means ivory trafficking is a crime, but the report^[8] says Laotian authorities barely enforce anti-ivory laws and only one seizure has been made in the country since it joined the convention in 2004:



"Embracing Innovation to Conserve the World's Animal Kingdom."

"In recent years, the ivory trade in Laos has expanded more rapidly than in any other country surveyed, for one major reason: effective law enforcement and control of the illegal international ivory trade are practically non-existent in Laos" – Save the Elephants^[8]

After the 2016 CITES draft decision^[6] Japan's representatives sought to exempt Japan by suggesting its domestic ivory trading industry was *"rigorously controlled"*^[9].

However, Japan's on-going ivory trading gives cause for concern and is anything but *"rigorously controlled:"*

"Given CITES Parties last year recommended the closure of domestic ivory markets that contribute to poaching and/or illegal trade, an overhaul of Japan's market oversight and regulation is urgently needed to ensure it does not undermine the global fight against illegal ivory trade"- Dr Yannick Kuehl, Regional Director for TRAFFIC in East Asia^[10]

"TRAFFIC surveys of Japan's online domestic ivory markets in 2017 have found high volumes of sales across online shopping malls, auction sites and emerging CtoC (Customer to Customer) websites, with thousands of advertisements posted every week. The significant number of ivory products being offered and traded online in Japan is of concern" – "TRAFFIC surveys find thousands of ivory items sold weekly online in Japan," TRAFFIC, August 2017^[11]

Japan requires international scrutiny and pressure to encourage Japan's full compliance with CITES decision^[6].

4.0 Radiocarbon Dating

Radiocarbon dating of once living organisms can provide a reliable prediction of when such an organism (such as an elephant's ivory) actually ceased to be connected to a living organism and the radiocarbon contained started to decline according to the known exponential decay law.

Carbon dating cannot determine when any ivory piece was 'worked,' but can reliably indicate when the given ivory ceased to be connected to an elephant's tusk, the 'donor' elephant either losing part of a tusk, or all of a tusk – it should be noted, that a tusk is an elephant's tooth and any partial removal of a tusk (ie. the tip portion) is likely to lead to infection and the 'donor' elephant's death. Of course, an elephant's tusk connects into its skull, so any ivory from a full tusk undoubtedly resulted from an elephant's natural, but most likely unnatural death.

Radiocarbon dating costs approximately £400 per item^[12], but 91% of the ivory lots TMT^[12] investigated were being marketed below £400 in value. However, why shouldn't radiocarbon dating be compulsory for all ivory items and the cost passed-on and/or absorbed by those that wish to perpetuate the worship of ivory and its sale? Even if the ivory piece is a 'precious museum' grade item of 'significant historical and artistic importance' then a sample for conclusive radiocarbon dating is not



"Embracing Innovation to Conserve the World's Animal Kingdom."

beyond the remit when faced with the antique industry's otherwise seemingly blatant disregard for conclusive provenance.

If proof of the value of radiocarbon dating in this application is needed, it proved a conclusive indicator of the lack of accuracy and ongoing misrepresentation of ivory lots for sale when the BBC investigative reporter, Hugh Fearnley-Whittingstall ("*Africa's Elephants: Hugh and the Ivory War*" first aired in October 2016^[13]) examined nine ivory pieces purchased on-line in the United Kingdom.

After employing scientific carbon-dating methods, four out of nine pieces were found not to pre-date 1947, with one ivory item dated as taken from an elephant that was growing its tusk in the 1980s. Two other pieces had been re-worked into 'new' pieces, so were also technically 'illegal' as the overall piece could not be considered as a 'worked' item pre-dating 1947. So overall, two-thirds (66.67%) of the ivory items studied by Hugh Fearnley-Whittingstall^[13] were not 'legal' "*Antique*" ivory that could be sold in the United Kingdom.

References – Appendix 1

1. "*The Great Elephant Census - Continent-wide survey reveals massive decline in African savannah elephants*," Chase et al., PeerJ, June 2016, ref: DOI 10.7717/peerj.2354 - <https://peerj.com/articles/2354/>
2. "*African elephant poaching down, ivory seizures up and hit record high*," CITES, 24 October 2017 - https://www.cites.org/eng/news/pr/African_elephant_poaching_down_ivory_seizures_up_and_hit_record_high_24102017
3. "*New analyses reveal elephant poaching and global ivory trafficking continue at high unsustainable levels in 2016*," TRAFFIC, 27 October 2017- <http://www.traffic.org/home/2017/10/25/new-analyses-reveal-elephant-poaching-and-global-ivory-traff.html>
4. "*STATUS OF ELEPHANT POPULATIONS, LEVELS OF ILLEGAL KILLING AND THE TRADE IN IVORY: A REPORT TO THE CITES STANDING COMMITTEE - SC69 Doc. 51.1 Annex*," CITES <https://cites.org/sites/default/files/eng/com/sc/69/E-SC69-51-01-A.pdf>
5. "*The 'Theatre' of Wildlife Decimation*," IWB, 7 March 2016 - <https://iwbond.org/2016/03/07/the-theatre-of-wildlife-decimation/>
6. "*Draft Decision and Amendments to Resolution Conf. 10.10 (Rev. CoP16) on Trade in Elephant Specimens*," Convention on International Trade in Endangered Species of Fauna and Flora (CITES), CoP17 Com. II. 6, 5 October 2016 - https://cites.org/sites/default/files/eng/cop/17/Com_II/E-CoP17-Com-II-06.pdf
7. "*Closure of domestic markets for elephant ivory*," The International Union for Conservation of Nature (IUCN), Motion 007, Final version published 7 November 2016 - <https://portals.iucn.org/congress/motion/007>



"Embracing Innovation to Conserve the World's Animal Kingdom."

8. *"The Ivory Trade of Laos: Now the fastest growing in the World,"* Lucy Vigne and Esmond Martin, Save the Elephants, September 2017, ISBN 978-9966-107-83-1
<http://www.savetheelephants.org/wp-content/uploads/2017/09/2017-Vigne-Lao-Ivory-Report-web.pdf>
9. *"Japan gets reprieve in international effort to clamp down on ivory trade,"* Japan Times, October 2016 - <https://www.japantimes.co.jp/news/2016/10/03/national/cites-calls-nations-end-legal-ivory-trade-bid-end-poaching/#.We8GwbpFzcs>
10. *"Ivory seizure exposes Japan's lax domestic ivory trade controls,"* TRAFFIC, 23 June 2017-
<http://www.traffic.org/home/2017/6/23/ivory-seizure-exposes-japans-lax-domestic-ivory-trade-contro.html>
11. *"TRAFFIC surveys find thousands of ivory items sold weekly online in Japan,"* TRAFFIC, August 2017 - <http://www.traffic.org/home/2017/8/8/traffic-surveys-find-thousands-of-ivory-items-sold-weekly-on.html>
12. *"Ivory – The Grey Area,"* Two Million Tusks, October 2017 - <https://iwbond.org/2017/10/20/uk-auction-houses-ignoring-legal-ivory-trading-requirements/>
13. *"Africa's Elephants: Hugh and the Ivory War,"* Hugh Fearnley-Whittingstall, BBC, October 2016 - <http://www.bbc.co.uk/programmes/b0813xr2>



"Embracing Innovation to Conserve the World's Animal Kingdom."

Appendix 2 – Rhinoceros

1.0 The Rhino's Plight

The wild African rhino (White and Black rhinoceros) species suffered near collapse in population at the approach of the 1900s – due to over-hunting and poaching, with as few as 50 wild White rhino at the turn of the century. Project 'Operation Rhino' was launched in the 1960s, aimed at increasing rhino populations by moving some of the last remaining rhinos to game reserves across South Africa and the African continent.

The Southern white rhino (*Ceratotherium simum*) is classed as *"Near Vulnerable"* by the International Union for the Conservation of Nature (IUCN)^[1] with the White rhino species numbers estimated at just 20,409. The Black rhino (*Diceros bicornis*) is classed as *"Critically Endangered"* by the IUCN^[1] with the Black rhino species numbers estimated at just 5,055.

There are of course species in Asia, such as the *"Critically Endangered"*^[1] Sumatran rhinoceros (*Dicerorhinus sumatrensis*), estimated at fewer than 275 individuals – *"Over-hunting for its horn and other medicinal products has driven this formerly widespread species to the brink of extinction"* - ICUN

The market is becoming more saturated at the lower end with fake, illicit and potentially illicitly Chinese stockpiled rhino horn products, hence:

"Dealers were, in 2017, largely quoting \$20,000-\$28,000 per kilo, compared with a price of \$60,000 per kilo some four years earlier"^[2]

"South Africa has a control system that registers all live rhino in private hands and potentially highlights any missing individuals. Indications are that this system is far from watertight and unscrupulous owners can find ways of selling horn "out the back door", without fear of repercussions. Local private rhino owners told us that they regularly received calls from potential customers asking to buy horn. There have been no cases of private rhino owners prosecuted for "missing" rhinos, or horns "missing" from rhinos living on their properties"^[2].

The Convention on International Trade in Endangered Species of Fauna and Flora (CITES) has banned the international trade in rhino horn since 1977.

White rhino populations are all CITES Appendix I listed, except for populations of South Africa and Swaziland (listed as Appendix II to allow the export of live specimens and 'legal' hunting of White rhino for trophies – the hunting quotas for white rhino are unknown - South Africa is home to 79% of the wild African rhino population, with some 18,413 White rhino and 1,893 Black rhino^[3]).

Prior to 2007, rhino poaching figures in South Africa were in single figures, or zero. But in 2009 there was a notable 'upswing' in the level of poaching observed in South Africa which rose to a peak in 2014 at 1,215 rhino, but with a slight decline to 1,175 rhino recorded as poached in 2015^[4] – totalling 5,309



"Embracing Innovation to Conserve the World's Animal Kingdom."

rhino lost to poaching between 1980 and 2015. The 2016 poaching figures released by the Republic of South Africa, Department: Environmental Affairs (DEA) (February 2017), suggests 121 less rhino were lost to poaching in 2016 (compared to 2015), but still a horrific 1,054 were lost.

The 2009 'upswing' in rhinoceros poaching in South Africa could be attributed to an exponential rise in demand for rhino horn in a newly wealthy Asian middle class and the misguided 'belief' perpetuated around 2005/06 in Vietnam^[5] that rhino horn could be a "cure for cancer." Regardless of the origin, or reason, the 'upswing' in demand (poaching of rhino) has been sharp and sustained. The 'medical' application of rhino horn has been known to lack any scientific proof since the early 1980s (Larson 2010, Hoffman-LaRoch, 1983^{[6],[7]})

The use of rhino horn as a symbol of status among Vietnam's burgeoning, wealthy middle-class has been identified as a major driver of the current rhino poaching crisis^[8].

Rhino horn demand has been driven by 98% for 'ornamental' / 'status' use in Asia, including traditional 'Jambiya' (dagger) handles in the Yemen^[9]:

"the [rhino horn] shavings and powder have become mere byproducts, leading us to the conclusion that the demand for rhino horn has moved from "health" to flaunting wealth^[2]"

But recent trends indicate that demand for rhino horn is only going to rise whilst rhino horn's 'status' is given any veneer of credibility as a 'desirable and noble' substance:

"For us, the surprising trend is that horn is increasingly being used as a symbolic gesture to console terminally ill family members. The horns are intended to provide the ill with a final source of pleasure and to demonstrate that their families have done everything possible to help them^[10]"

"The study suggests that information about the decline of rhinoceros populations and awareness about hunting being controlled by organised crime does not affect consumer demand. Dealing with the problem requires other strategies^[10]"

– Associate Professor Martin R. Nielsen of the Department of Food and Resource Economics, University of Copenhagen, Daily Science, 14 May 2018^[10]

2.0 Pseudo-Hunting

In a May 2016, United Nations Office on Drugs and Crime (UNODC), "World Wildlife Crime Report – Trafficking in protected species^[11]" ("Case Study: Rhino Horn" page 70 – 71), identified that the CITES exceptions made for the live transport of rhino and trophy hunting from South Africa, has given rise to Vietnamese "pseudo-hunting" (at around 50% of the trophy hunting market) as a 'legal' means of 'wildlife utilisation' to meet illicit demand for rhino horn. Even with a South African government ban of hunting permits being issued to Vietnamese nationals in 2012, the practice continued via proxy^{[11],[12],[13],[14]}, with Vietnamese 'employing' Czech and Thai nationals as "pseudo-hunters" to kill



"Embracing Innovation to Conserve the World's Animal Kingdom."

in the name of 'wildlife utilisation' on the Vietnamese traders' behalf. There have also been 'illegal' rhino hunts orchestrated in South Africa directly from the United States^{[8],[12]}.

Even today, no one can say if any given rhino trophy hunt (and the long-term 'utilisation' of the rhino horn so obtained) is a pseudo mask, or not.

References – Appendix 2

1. International Union for Conservation of Nature (IUCN) Red List of Threatened Species - <http://www.iucnredlist.org/>
2. "On the trail of Asia's shifting rhino-horn market," Karl Ammann, Daily Maverick, 11 May 2018 <https://www.dailymaverick.co.za/article/2018-05-11-on-the-trail-of-asias-shifting-rhino-horn-market/#.WvYlr0xFzcs>
3. "IUCN Species Survival Commission's African Rhino Specialist Group (AfRSG)," International Rhino Foundation - <http://rhinos.org/>
4. "South Africa reports small decrease in rhino poaching, but Africa-wide 2015 the worst on record," TRAFFIC, 2016.- <http://www.traffic.org/home/2016/1/21/south-africa-reports-small-decrease-in-rhino-poaching-but-af.html>
5. "'Cure for cancer' rumour killed off Vietnam's rhinos," J. Watts, The Guardian, 25 November 2001 - <https://www.theguardian.com/environment/2011/nov/25/cure-cancer-rhino-horn-vietnam>
6. "Rhino horn: All myth, no medicine," R. Larson, National Geographic, 7 July 2010 - http://voices.nationalgeographic.com/2010/07/07/rhino_horn_and_traditional_chinese_medicine_facts/
7. "Yemen acts to halt rhino horn daggers; scientific tests fail to show rhino horn effective as medicine," Hoffmann-LaRoche, Environmentalist, Volume 3, p. 153, June 1983 - <http://link.springer.com/article/10.1007%2FBF02240165>
8. "Pioneering research reveals new insights into the consumers" TRAFFIC - <http://www.traffic.org/home/2013/9/17/pioneering-research-reveals-new-insights-into-the-consumers.html>
9. "Poaching for Jambya Handles," Save the Rhino. - https://www.savetherhino.org/rhino_info/threats_to_rhino/poaching_for_jambya_handles
10. "Rhino horn used to comfort the terminally ill in Vietnam," Faculty of Science, University of Copenhagen, Daily Science, 14 May 2018 - https://www.sciencedaily.com/releases/2018/05/180514095509.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+sciencedaily%2Fplants_animals%2Fendangered_animals+%28Endangered+Animals+News+---+ScienceDaily%29
11. "World Wildlife Crime Report - Trafficking in protected species," United Nations Office on Drugs and Crime, United Nations, New York, 2016, ISBN: 978-92-1-148288-1 - http://www.unodc.org/documents/data-and-analysis/wildlife/World_Wildlife_Crime_Report_2016_final.pdf



"Embracing Innovation to Conserve the World's Animal Kingdom."

12. *"Tipping Point: Transnational organised crime and the 'war' on poaching,"* J. Rademeyer, The Global Initiative Against Transnational Organized Crime, Geneva, 2016 - <http://globalinitiative.net/wp-content/uploads/2016/07/Global-Initiative-Tipping-Point-Part1-July-2016.pdf>
13. *"South Africa's trophy hunt industry linked to rhino horn trafficking ... AGAIN,"* Africa Geographic, 7 August 2013 - <http://africageographic.com/blog/south-africas-trophy-hunt-industry-linked-to-rhino-horn-trafficking-again/>
14. *"South Africa's Game Industry Insiders Continue to Evade Punishment for Rhino Crimes,"* Cota-Larson and Rhishja, Annamiticus, 25 July 2014 - <http://annamiticus.com/2014/07/25/s-africas-game-industry-insiders-continue-evade-punishment-rhino-crimes/>



“Embracing Innovation to Conserve the World's Animal Kingdom.”

Appendix 3 – A Sample of Australia’s Rhino Horn Carving Trade

There are numerous ‘reputable’ auction houses in Australia that have traded ‘antique’ rhino horn products.

Just looking at Sotheby’s web-site^[1], the auctioning of rhinoceros pieces is shown, with prices paid (including the Buyer’s Premium) well above estimated values (which would indicate a buoyant and stimulated market). Some have the promise of Provenance (the piece being auctioned previously, or from a known collection apparently), some do not:

Lot 58, 21 June 2017 – *“A rhinoceros horn 'lotus' libation cup Qing dynasty, 19th century”* – Estimate \$5,000 – 7,000, Sold \$9,760

Lot 57, 21 June 2017 - *“A rhinoceros horn 'lotus' libation cup Qing dynasty, 19th century”* – Estimate \$12,000 - 18,000, Sold \$23,180

Lot 56, 21 June 2017 - *“A rhinoceros horn 'monkey and deer' libation cup Qing dynasty, 17th/18th century”* – Estimate \$20,000 – 30,000, Sold \$46,360

Lot 59, 6 Apr 2016 - *“A carved full-tip rhinoceros horn libation cup 19th century”* – Estimate \$6,000 – 8,000, Sold \$21,960

Lot 41, 6 Apr 2016 - *“An archaistic rhinoceros horn pouring vessel, Gong Qing dynasty, 18th century”* – Estimate \$40,000 – 60,000, Sold \$122,000 – Provenance, previously sold in London apparently, 1966

Lot 40, 6 April 2016 – *“A carved rhinoceros horn 'prunus' libation cup Qing dynasty, 17th/18th century”* – Estimate \$40,000 – 60,000, Sold \$91,500 – Provenance, previously sold in London apparently, 1976

Lot 39, 6 April 2016 – *“A rhinoceros horn 'grapevine' libation cup Qing dynasty, 18th century”* – Estimate \$50,000 – 70,000, Sold \$134,200 – Provenance, *“The Zorich Collection, Adelaide”*

Lot 38, 6 April 2016 – *“A rhinoceros horn 'lotus leaf' libation cup Qing dynasty, 17th/18th century”* – Estimate \$50,000 – 70,000, Sold \$183,000 - Provenance, *“The Zorich Collection, Adelaide”*

Lot 37, 6 April 2016 – *“A carved rhinoceros horn archaistic 'six chilong' libation cup Qing dynasty, 17th/18th century”* – Estimate \$50,000 – 70,000, Sold \$97,600 - Provenance, *“The Zorich Collection, Adelaide”*



“Embracing Innovation to Conserve the World's Animal Kingdom.”

Lot 110, 27 October 2015 – *“A rare rhinoceros horn chalice, late 19th century”* – Estimate \$50,000 – 70,000, Sold \$85,400 - Provenance, previously sold in London apparently, 1977 to the *“Zorich Collection, Adelaide”*

Lot 109, 27 October 2015 - *“A large carved full-tip rhinoceros horn libation cup, 19th century”* – Estimate \$60,000 – 80,000, Sold \$146,400 - Provenance, previously sold in London apparently, 1977 to the *“Zorich Collection, Adelaide”*

Lot 61, 18 June 2013 – *“A ‘Magnolia and Prunus’ rhinoceros horn libation cup 17th/18th century”* – Estimate \$20,000 – 30,000, Sold \$75,460

Sydney auction house Theodore Bruce sold seven rhino horns^[2], all labelled antique, for a total of more than \$620,000 in 2011 - more than double their estimated value.

Leonard Joel*, Mossgreen and Sotheby's auction houses in Melbourne have advertised numerous rhinoceros horns and Chinese ceremonial cups carved from the horn^{[2],[3]}.

Mossgreen sold^[2] an *“extraordinary large and rare”* white rhino horn in June 2011 for \$207,400. It also has sold at least four carved rhino horn cups since the beginning of 2011.

*Leonard Joel *“made the decision to cease trading rhinoceros horn and ivory”* after reading IFAW’s 2016 report^[4].

References – Appendix 3

1. Sotheby’s, Australia - <https://www.sothebysaustralia.com.au/searchlot?q=rhinoceros>
2. *“Australia on rhino horn sales route,”* The Sydney Morning Herald, 3 March 2013 – <https://www.smh.com.au/national/australia-on-rhino-horn-sales-route-20130302-2fd72.html>
3. *“Should rhino horn be auctioned in Australia?”* The Travelling Cheetah, 2 November 2015 - <https://thetravellingcheetah.com/2015/11/02/should-rhino-horn-be-auctioned-in-australia/>
4. *“Under the hammer - Are Australian and New Zealand auction houses contributing to the illegal ivory and rhino trade?”* 2016, International Fund for Animal Welfare (IFAW) - <https://www.ifaw.org/australia/news/are-australian-and-new-zealand-auction-houses-contributing-illegal-ivory-and-rhino-trade>



"Embracing Innovation to Conserve the World's Animal Kingdom."

Appendix 4 – Rhino Horn Trade

"Governments, economists and conservationists who think they can curb poaching by selling rhino horn and ivory legally have little understanding of macroeconomics or the sophistication of international crime syndicates"^[1]

A 2012 report by TRAFFIC^{[2],[3]} on the global rhino trade found that when South Africa did allow domestic horn trade, before a 2009 moratorium, much of the privately owned horn went unaccounted for and may have ended up in illegal hands, trafficked outside the country.

"It found that abuses and poor compliance in managing horn stockpiles in government and private hands had helped create a "perfect storm," attracting criminal networks into lucrative rhino poaching"" – "Debate over rhino horn trade ramps up as South Africa ban is lifted," Los Angeles Times, 26 November 2015^[4]

"Some hunters have been abusing permits to shoot rhinos and export illegally obtained rhino horns – probably poached and directly linked to organised crime – as "hunting trophies"" – "South Africa freezes rhino horn trade," TRAFFIC, 9 June 2008^[5]

This 'domestic' moratorium has since been successfully over-turned and since 2017 there has been a 'domestic' trade in rhino horn permissible again within South Africa. The demand within South Africa remains muted, but of course the international demand to traffick rhino horn in defiance of CITES international ban remains high.

South Africa seeks to officially over-turn CITES international ban on rhino horn trading, but the risks multi-faceted and the prudence of such trade appears to be driven by those that stand to profit rather than by any deeper likelihood of wild rhino species conservation.

The objective of Alejandro Nadal's and Francisco Aguayo's 2014 paper ("*Leonardo's Sailors: A Review of the Economic Analysis of Wildlife Trade*"^[6]) was to "...evaluate the scope and limitations of the economic analysis of wildlife trade that has been carried out in the past three decades." A few extracts sum up this paper's hard-hitting assessment of the use of 'misguided' economic theory when applied to the wildlife trade:

"The pro-market argument starts from the premise that poaching and illegal trade are a consequence of trade bans imposed by bodies like CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)."

"One of the most striking features in the economic analysis of wildlife trade is the level of misinformation concerning the evolution of market theory over the last six decades. To anyone who comes in contact with the corpus of literature on wildlife trade, and in particular the literature recommending the use of market-based policies, the uncritical use of theoretically discredited analytical instruments is a striking revelation. Perhaps the most important issue



"Embracing Innovation to Conserve the World's Animal Kingdom."

here is the conviction that markets behave as self-regulating mechanisms that smoothly lead to equilibrium allocations and therefore to economic efficiency. This belief is not sustained by any theoretical result, a fact that is well known in the discipline since at least the early seventies."

In a July 2016 study ("A quantitative assessment of supply and demand in rhino horn and a case against trade^[7]"), Dr Barbara Maas of NABU International concludes that opening up 'legal' trade has major potential downside risk:

"Pro-trade proponents have suggested that if things go wrong and poaching escalates further as a result of lifting the ban, rhino horn trade could either be "closed down or restructured" after three or four years. Such plans are both unhelpful and impractical, firstly because it risks setting off an illegal buying and poaching rush to exploit a potentially limited window of opportunity as soon as trade is permitted. Secondly, experience from rising exports of rhino horn as hunting trophies from so called "pseudo hunts"^{[8],[9]} in South Africa has shown that it can take seven years (2003-2009) to recognise and address such problems."

Enrico Di Minin, an economist at the University of Helsinki, stated in a 2014 study^[10] that the trade in rhino horn could bring "\$717m USD per annum" to South Africa's economy and help protect its rhino populations. However, the study failed to consider that there could be any link between encouraging a 'legal' trade whilst simultaneously stimulating the negative impact of illicit trade to also profit from infiltrating the 'legal' market demand rise/profitting envisaged.

Douglas J. Crooks, James N. Blignaut (Department of Economics, University of Pretoria) in their 2015 paper, "Debunking the myth that a legal trade will solve the rhino horn crisis: A system dynamics model for market demand^[11]" concluded:

"we find that a legal trade [in rhino horn] will increase profitability, but not the conservation of rhino populations."

The Economists at Large/International Fund Animal Welfare (IFAW)^[12] 2013 report, the "Horn of Contention" concluded:

"The formal studies suggest that predicting the outcome of liberalising trade is complex and difficult to determine. Although it may decrease pressure on poaching, as rhino horn becomes increasingly supplied through the non-lethal legal trade, there is also a real risk that trade could drive an increase in poaching through any combination of five mechanisms:

- *Through legal and illegal markets coexisting and interacting in complex ways.*
- *Through reducing the stigma attached to consumption of the product.*
- *By potentially reducing the supply costs of illegal supply.*
- *By potentially facilitating the laundering of illegal supply in with legal supply.*



“Embracing Innovation to Conserve the World's Animal Kingdom.”

- *As a result of uncertainty around the response of illegal suppliers to competition from a legal market.*

The articles from the grey literature are all overtly pro-trade, generally assuming that:

- *Legal markets will “hijack” consumers from illegal markets and that legal and illegal horn would be perfectly substitutable.*
- *Stigma effects are small and that efforts to reduce demand through education and information would be ineffective.*
- *Increased surveillance funded by rhino horn sales would increase poaching costs.*
- *Technical advances such as DNA technology would minimise laundering.*
- *Smugglers with market power would respond to the introduction of a legal trade passively, accepting reduced sales, rather than competing to retain market share.*

Little empirical evidence is offered to support these views. Under certain conditions these assumptions may hold, but it is unclear if these conditions are in place in either supplying or consuming countries. We suggest further research should be undertaken before any formal steps are taken towards legalising trade in rhino horn.”

Therefore, the weight of academics^{[6],[7],[11]}, key conservationist's^[13] and ecologist's^[14] thinking concludes that attempting to influence wildlife trade is often based upon biased priorities (not conservation per se) and a simplistic appreciation of the potential market dynamics and likelihood of negative effects.

However, South Africa's DEA's rhino conservation approach remains very much pro-trade based, as evidenced within a *“National Strategy for the Safety and Security of Rhinoceros Populations in South Africa^[15].”*

The South African's constitutional rights on the issue of ‘sustainable’ wildlife utilisation are mainly enshrined with The Republic of South Africa, The Constitution (1996)^[16], Section 24, *“Chapter 2, Bill of Rights, Environment:”*

“Everyone has the right:

(a) to an environment that is not harmful to their health or wellbeing;

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”



“Embracing Innovation to Conserve the World's Animal Kingdom.”

“The Constitution” is also embodied within the National Environmental Management: Biodiversity Act (NEMA) [32], specifically Chapter 4 (*“THREATENED OR PROTECTED ECOSYSTEMS AND SPECIES”*), Part 2 (*“Protection of threatened or protected species”*) and Part 3 (*“Trade in listed threatened or protected species”*).

The question is, which South African wildlife utilisation policies can be widely viewed as *“reasonable legislative and other measures”* promoting conservation, and which cannot?

The DEA has stated a firm belief in *“utilisation”* of rhino horn^{[15],[18],[19],[20]}, but this *“utilisation”* extends beyond its own borders, with the export (as CITES *“specimens”*) between 2000 and 2015 from South Africa (based upon CITES Trade Database Interrogation^[21]) of some 1,015 live White rhino to various locations (for zoos etc.), including 123 rhino to China and some 88 rhino to Namibia.

Hunting quotas set for White rhino are unknown, but between 2000 and 2015 (CITES Trade Database Interrogation^[21]), South Africa exported 1,878 White rhino hunting trophies (which equates to a minimum estimated income of some \$25,000/rhino x 1,878 = \$46.95m). Since 1980, South Africa has exported some 9,400 White rhino, 5,088 for hunting trophies^[21].

The March 2017 *“Long-term Sustainability Interventions”* proposed by the DEA^{[22],[23],[24]}, regarding reopening *“domestic rhino horn trade,”* includes loop-holes for international export of rhino horn *“specimens”* (and the risk of onward, international ‘trade’).

According to the DEA *“This set of proposed regulations will ensure that there is no gap in regulatory provisions, thus ensuring the strict regulation of a prospective domestic trade in rhino horn. The commercial international trade in rhino horn is prohibited in terms of the CITES.”* The draft Regulations^[23] have been widely criticized^[25] as being full of regulatory gaps (encouraging the foreign nationals’, pseudo-rhino ownership for example) and loop-holes that will no doubt promote international trade in rhino horn:

In the absence of CITES Parties' approval (at CoP17 or before) for any international trade in rhinoceros horn, the draft Regulations appear to seek to circumvent any such formal CITES Parties' approval.

The draft Regulations seek to place full onus for responsibility and policing of the draft Regulation's international (export) trade on CITES *“Management Authority”* in a given potential recipient's country – for example, there has certainly be no follow up on the use, or whereabouts of rhino horn imported as a result of a rhino hunting trophy, so why would the import of rhino horn for *“personal purposes”* be excepted as likely to be subject to any closer scrutiny?

CITES itself is not resourced and prepared, as there is no formal CITES Party approval to cope, manage and facilitate any *“import permit issued by the Management Authority”* and/or



"Embracing Innovation to Conserve the World's Animal Kingdom."

"written confirmation from the Management Authority" expected by the DEA to ensure onward rhino horn trading does not ensue from importation for "personal purposes."

Furthermore, the DEA failed to provide independent, verifiable science that the proposed 'trade' will *"not be detrimental to the survival of the species"* as required by CITES and the South African's own stated aims to conserve indigenous wild species:

Critically endangered, endangered, vulnerable, or protected *"species, being any indigenous species facing a high risk of extinction in the wild....."* and hence are prime candidates for *"national protection"* – NEMA^[17], Chapter 4, part 2, *"Listing of species that are threatened or in need of national protection,"* section 56.(1).

South Africa's Black rhino (*"Endangered"*^[26]) and White rhino (*"Protected"*^[26]) are encompassed under the listing of species in need of *"national protection"* if this provision is fully applied. So no wildlife utilisation policy for rhino should (in theory) be *"reasonable"* if the weight of evidence suggest it will negatively impact the *"national protection"* of South Africa's wild rhino.

There is also concern, that the demand side is for 'potent' wild rhino sourced horn (and it's perceived, 'mystical' but unproven powers), which will not be quelled by perceived 'inferior' farmed rhino product:

"Research that says the 'top tier buyers' of rhino horn, those who pay the highest premiums, are demanding that the horn be hacked out of the face beneath the base of the horn and must be accompanied by the ears, the tail and more recently the feet, as proof of 'wildness' and 'potency'"^[27]

"The study"^[28] also found that buyers are mainly interested in horn sourced from wild rhinos and willing to pay a premium for wild rather than farmed animal horn. Consequently, the researchers believe that a legal, controlled trade of farmed rhino would most likely not serve to reduce poaching."

References – Appendix 4

1. *"High level report calls SA wildlife trade policy reckless,"* Business Day Live, 13 June 2014 - <http://www.bdlive.co.za/national/science/2014/06/13/high-level-report-calls-sa-wildlife-trade-policy-reckless>
2. *"Loose horns", surging demand and easy money create "perfect storm" for rhino poaching,"* TRAFFIC, 2012 - <http://www.traffic.org/home/2012/8/21/loose-horns-surging-demand-and-easy-money-create-perfect-storm.html>
3. *"The South Africa - Viet Nam Rhino Horn Trade Nexus,"* TRAFFIC, 2012 - http://www.traffic.org/species-reports/traffic_species_mammals66.pdf



"Embracing Innovation to Conserve the World's Animal Kingdom."

4. *"Debate over rhino horn trade ramps up as South Africa ban is lifted,"* Los Angeles Times, 26 November 2015 - <http://www.latimes.com/world/africa/la-fg-south-africa-rhino-20151127-story.html>
5. *"South Africa freezes rhino horn trade,"* TRAFFIC, 2008 - <http://www.traffic.org/seizures-journal-legacy/2008/6/9/south-africa-freezes-rhino-horn-trade.html>
6. *"Leonardo's Sailors: A Review of the Economic Analysis of Wildlife Trade,"* Alejandro Nadal and Francisco Aguayo, 2014 - <http://thestudyofvalue.org/wp-content/uploads/2014/06/WP5-Nadal-and-Aguayo-Leonardos-Sailors-2014.pdf>
7. *"A quantitative assessment of supply and demand in rhino horn and a case against trade,"* Barbara Maas, NABU International, 2016 - <https://www.nabu.de/imperia/md/content/nabude/internationalerartenschutz/160922-nabu-nashornstudie.pdf>
8. *"World Wildlife Crime Report - Trafficking in protected species,"* United Nations Office on Drugs and Crime, United Nations, New York, 2016, ISBN: 978-92-1-148288-1 - http://www.unodc.org/documents/data-and-analysis/wildlife/World_Wildlife_Crime_Report_2016_final.pdf
9. *"South Africa's trophy hunt industry linked to rhino horn trafficking ... AGAIN,"* Africa Geographic, 7 August 2013 - <http://africageographic.com/blog/south-africas-trophy-hunt-industry-linked-to-rhino-horn-trafficking-again/>
10. *"Identification of policies for a sustainable legal trade in rhinoceros horn based on population projection and socioeconomic models,"* Di Minin, E.; Laitila, J.; Montesino-Pouzols, F.; Leader-Williams, N.; Slotow, R.; Goodman, P. S.; Conway, A. J.; Moilanen, A., University of Helsinki, 2014 - <http://onlinelibrary.wiley.com/doi/10.1111/cobi.12412/full>
11. *"Debunking the myth that a legal trade will solve the rhino horn crisis: A system dynamics model for market demand,"* Douglas J. Crooks, James N. Blyth, University of Pretoria, 2015 - https://iwbond.org/wp-content/uploads/2015/11/Rhino-Horn-Harvesting-Economics_Oct-2015.pdf
12. *"Horn of Contention,"* The Economists at Large/International Fund Animal Welfare, 2013 - <http://www.ecolarge.com/wp-content/uploads/2014/02/Ecolarge-2013-Horn-of-Contention-IFAW.pdf>
13. *"Why the rhino horn trade ban needs to stay,"* Born Free Foundation, 2016 - <http://www.bornfree.org.uk/get-involved/past-events/why-the-rhino-horn-trade-ban-needs-to-stay/>
14. *"Legalizing Rhino Horn Trade Won't Save Species, Ecologist Argues,"* National Geographic, 2015 - <http://news.nationalgeographic.com/news/2015/01/150106-rhino-poaching-south-africa-animals-conservation/?now=2015-01-06-00:01>
15. *"National Strategy for the Safety and Security of Rhinoceros Populations in South Africa,"* Department: Environmental Affairs, Republic of South Africa, created 2010 (modified 2014)
16. *"The Constitution of the Republic of South Africa, 1996 (As adopted on 8 May 1996 and amended on 11 October 1996 by the Constitutional Assembly),"* The Republic of South Africa



"Embracing Innovation to Conserve the World's Animal Kingdom."

17. National Environmental Management: Biodiversity Act (NEMA), Government Gazette, Vol. 464, Issue No. 26436, 2004
18. *"The viability of legalising trade in rhino horn in South Africa,"* Taylor, Andrew; Brebner, Kirsty; Coetzee, Rynette; Davies-Mostert, Harriet; Lindsey, Peter; Shaw, Jo; 't Sas-Rolfes, Michael, Department: Environmental Affairs, 2014
19. *"Rhino Issue Management Report,"* Department: Environmental Affairs, 2013
20. *"A study of dehorning of African rhinoceroses as a tool to reduce risk of poaching,"* Lindsey, Peter; Taylor, Andrew, Department: Environmental Affairs, 2011
21. CITES Trade Database - <http://trade.cites.org/#>
22. *"Minister Molewa highlights progress on Integrated Strategic Management of Rhinoceros,"* Department: Environmental Affairs, February 2017 -
https://www.environment.gov.za/mediarelease/molewa_progressonintegrated_strategicmanagement_ofrhinoceros
23. *"Notice 74 - Domestic Trade in Rhinoceros Horn, or Part, Product or Derivative of Rhinoceros Horn,"* Government Gazette, Vol. 460, Issue No. 40601, 2017 -
https://www.environment.gov.za/sites/default/files/gazetted_notices/nemba10of2004_draftregulationsforthedomestictradeinrhinoceroshorn.pdf
24. *"We can sell rhino horn, says Minister Molewa,"* Conservation Action Trust, February 2017 -
<http://linkis.com/co.za/cwSVt>
25. *"Proposed trade in rhinoceros horn – South Africa,"* IWB, 11 February 2017 -
<https://iwbond.org/2017/02/11/proposed-trade-in-rhinoceros-horn-south-africa/>
26. *"National Environmental Management: Biodiversity Act; Amendment of Critically endangered, endangered, vulnerable, or protected species list,"* Government Notice 30568, Department: Environmental Affairs, 2007 -
https://www.environment.gov.za/sites/default/files/gazetted_notices/nemba_criticallyendangered_specieslist_g30568rg8801gon1187.pdf
27. *"'Molewa's Rhino Apocalypse',"* Nick Lynch, 24 February 2017 -
<https://www.facebook.com/notes/nick-p-lynch/molewas-rhino-apocalypse/10154973672944882>
28. *"Rhino horn used to comfort the terminally ill in Vietnam,"* Faculty of Science, University of Copenhagen, Daily Science, 14 May 2018 -
https://www.sciencedaily.com/releases/2018/05/180514095509.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+sciencedaily%2Fplants_animals%2Fendangered_animals+%28Endangered+Animals+News+---+ScienceDaily%29



“Embracing Innovation to Conserve the World's Animal Kingdom.”

Appendix 5 – Contact Details

Stephen Alan Wiggins
International Wildlife Bond (IWB)
Registered Charity No. 1164833