

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - Singapore's Second Report

Introduction

1. On 19 January 2017, Singapore submitted a report (Appendix) in line with Step 1(b) of the Guidelines to the National Ivory Action Plan (NIAP) Process (Annex 3 to Resolution Conf. 10.10 (Rev. CoP17)). The report provided additional information about Singapore's approach and specific measures to comprehensively combat the illegal trade in ivory and other wildlife. This was information not taken into account in the Elephant Trade Information System (ETIS) Report (CoP 17 Doc 57.6 Rev I) that identified Singapore as a country of primary concern for the illegal ivory trade. The report was circulated by the CITES Secretariat to the CITES Standing Committee (SC).
2. The report highlighted Singapore's commitment to combating the illegal trade in ivory and wildlife and our determination not to be a conduit for such trade. To recap, Singapore adopts a comprehensive range of measures. We have a robust domestic framework that combines strong enforcement efforts, tough laws and heavy penalties. We adopt an action-oriented approach to intelligence reports and employ a comprehensive risk assessment framework to carry out strict inspections of travellers and cargo. We take pro-active steps to raise public awareness on this issue, and to continuously train and upskill our enforcement officers. We cooperate with international partners in sharing information, enforcement operations, and tracing poaching hotspots. The report also addressed methodological concerns with the ETIS Report and its conclusions.
3. For these reasons, Singapore disagreed with the conclusion in the ETIS Report that Singapore should be considered a country of primary concern. Furthermore, whether a country should participate in the NIAP process is not premised solely on the conclusions in the ETIS Report. Step 1(c) of the Guidelines states that the Secretariat, in formulating its recommendation on whether a country identified in the ETIS Report should participate in the NIAP process, should use relevant information and take into account the purpose and intended outcome of the NIAP process. The comprehensive and robust measures that Singapore has been taking, and is continually improving on, demonstrate a strong commitment to combat the illegal trade in wildlife, including ivory. Thus, Singapore's position remains that Singapore should not be included in the NIAP process.

4. To enable it to undertake a mission to Singapore and to further engage us, the Secretariat recommended that the decision on whether Singapore should participate in the NIAP process be deferred until the 69th meeting of the Standing Committee (SC69) from 27 November to 1 December 2017 in Geneva, Switzerland. In May 2017, the Secretariat informed Singapore that the SC had agreed to defer the decision on whether Singapore should be included in the NIAP process to its 69th meeting.

5. The Secretariat further suggested that Singapore could submit another report at SC69 with relevant information since our report submitted on 19 Jan 2017. It is in this context that we are submitting this report to update the SC on our regular activities to continually improve our capabilities. We hope that this will help the SC to better appreciate our view of why Singapore should not be included in the NIAP process.

Visits to Singapore

6. The Secretariat undertook its mission to Singapore from 28-29 April 2017. The Secretariat was able to observe first-hand Singapore's Whole-of-Government (WOG) approach and comprehensive measures to combat the illegal wildlife trade, including in ivory. The Secretariat was briefed on how the relevant agencies work together to combat the illegal trade in ivory and other wildlife. As Singapore's CITES Management Authority, the Agri-Food and Veterinary Authority (AVA) plays a lead role in the regulation of import, transhipment, and export of CITES specimens including enforcement against any illegal trade in wildlife, including ivory. AVA is supported in this work by Singapore Customs and the Immigration and Checkpoints Authority. These agencies coordinate with AVA in screening shipments and persons. If any illegal wildlife is detected, AVA will take over the case for further investigation.

7. The Secretariat visited Singapore's air, land, and sea checkpoints to see how our WOG approach is operationalised. First, we briefed the Secretariat on our robust and evolving risk assessment framework which allows us to target passengers and shipments from high-risk sources. We shared some of the confidential criteria used in our risk assessment frameworks. Shipments and passengers matching our risk profiles and risk indicators are flagged out for further checks. We continually improve these profiles and indicators by collecting intelligence from international partners, conducting data analysis, and reviewing trafficking trends. For

example, we worked with the Centre for Advanced Defense Studies¹ to analyse the ivory supply chain, and are currently working with INTERPOL on an analysis of our seizure database. This will ensure that our risk profiles and indicators remain current and effective. Importantly, all passengers and shipments (including transhipment cargo) are subject to risk assessment. Through a combination of intelligence and risk assessment/profiling, Singapore had six successful seizures from 2013 to 2015.

8. Second, Singapore demonstrated our system of screening and checks. Singapore has multiple layers of non-intrusive and intrusive screening and checks. These include behavioural analysis, non-intrusive scanning of cargo, and physical inspections. All enforcement officers receive training before being deployed at the checkpoints, and they are given more specialised training during the course of their careers.

9. Third, Singapore described our cooperation with international partners and our action-oriented enforcement responses. Singapore will act upon any credible and actionable intelligence reports or tip-offs from international partners or the public. We also work closely with other countries. For instance, we alert all countries involved whenever we receive credible intelligence. In addition, we participate in international forums and platforms like the ASEAN Senior Officials Meeting on Transnational Crime, the ASEAN Working Group on CITES and Wildlife Enforcement, the INTERPOL Wildlife Crime Working Group, INTERPOL Regional Investigative Support meetings, and Wildlife Inter-Regional Enforcement Group meetings organized by the United Nations Office on Drugs and Crime. Our risk profiles and risk indicators are, *inter alia*, enhanced with information gleaned from publications, reports, and experiences shared by other countries. We also briefed the Secretariat on our participation in multiple law enforcement operations to combat the illegal trade in wildlife, as well as on several examples of successful seizures, including one controlled delivery.

10. Fourth, during the visit to our port, the Secretariat asked if it was possible to route cargoes through specific ports. Singapore's Terminal Operator, PSA, explained that shipping routes and preferred ports for transhipment would be determined based on many factors such as cost-effectiveness, availability of on-carriers, stowage onboard the vessel, volume to be handled at each port, and the overall vessel's schedule. This

¹ The Washington DC based Centre for Advanced Defense Studies is a non-profit organisation dedicated to providing data-driven analysis and evidence-based reporting on global conflict and transnational security issues.

is done by a central planner at the carriers' headquarters. Neither the shipper nor consignee could choose or dictate the shipping route or specific ports. The Secretariat observed that illegal syndicates sometimes had the practice of storing containers with illegal goods at ports before having the containers shipped off when it suited them. PSA explained that our port was busy and had limited land area, which made storage cost for containers prohibitive. Also, as the dwell time is one key performance indicator, it would be conspicuous for any container to be staying unduly long at our port. The Secretariat's questions and our port operator's answers help to address a point in the Secretariat's communication with SC members in March 2017 about its consultations with the authors of the ETIS Report and information that it had received "which suggests that Singapore continues to be targeted by criminal groups as a transit country for illegal ivory shipments".

11. In addition, we invited all CITES SC members to visit Singapore to observe first-hand our approach and measures against the illegal trade in wildlife. Representatives of eight SC members visited from 6-7 September 2017. Their programme was similar to the Secretariat's visit with the addition of a visit to Changi Airport. The SC members had the opportunity to speak with the various agencies and operators and clarify questions they had regarding Singapore's measures.

12. We are grateful to the Secretariat and the SC members for visiting Singapore. We hope that these visits allowed the Secretariat and the SC members to get a better sense of the measures and systems that Singapore already has in place to combat the illegal trade in wildlife. Singapore is firmly against this illegal trade.

Updates on Our Regular Activities

Robust Domestic Framework

13. Singapore reiterates that our strong and effective enforcement efforts are underpinned by a solid legislative framework. As part of our ongoing approach to boost our capabilities, we **formed a Panel of Expert Advisers** in June 2017 to provide advice to AVA on policy directions for legislative reviews, environmental issues, conservation/biodiversity matters, and enforcement efforts towards combatting the illegal trade in wildlife. The Panel is made up of experts from the Asia-Pacific Centre of Environmental Law, the INTERPOL Environmental Crime Unit, the Lee

Kong Chian Natural History Museum, the National Parks Board, and Wildlife Reserves Singapore.

Strong and Effective Enforcement Efforts

Action-Oriented Approach to Intelligence Reports

14. Singapore continues to assess every intelligence report from our partners, and acts upon every credible and actionable piece of information. Since January 2017, we have received 7 credible and actionable intelligence reports relating to CITES wildlife. We acted on all of these, resulting in 3 seizures. Of the 4 reports that did not result in seizures, one was not timely so the information was passed on to the next port of call. Two others were investigated, involving the inspection of the containers. There was no wildlife found in both instances. The last one involved an alleged smuggler who did not enter Singapore. Hence, there was no seizure of wildlife. However, the alleged smuggler has since been put on a watch list by the Immigration and Checkpoints Authority for checks if he were to enter Singapore. Only one report was related to ivory and our actions led to the seizure of two illegal ivory bird cage accessories and four illegal ivory bracelets smuggled by a Vietnamese national travelling into Singapore. He was fined \$10,000 and the items were confiscated. The other two seizures involved (i) 75 pieces of hard corals and (ii) 8 pieces of cut rhino horns and 17.68g of rhino horn shavings. Both cases are pending prosecution.

Robust and Comprehensive Risk Assessment Framework

15. Singapore continues to enhance our risk assessment capabilities. Singapore provided our ivory seizure database to INTERPOL for their analysis. This is part of our continual efforts to refine our risk profiles and risk indicators. This also helps INTERPOL augment its global seizure information to obtain a clearer picture of the illegal trade in ivory. Following the July 2017 seizure of 7.2 tons of ivory tusks in Hong Kong, we asked Hong Kong Customs to share relevant information about the case to allow us to glean useful insights. This is another example of how we actively seek information from overseas counterparts to refine our risk profiles and risk indicators.

Strict Inspections of Travellers and Cargo

16. Singapore continues to leverage on technology to comprehensively screen and check travellers and goods at our

checkpoints. For example, we implemented a BioScreen system in April 2016 to capture fingerprints in real time for identity verification and screening. Singapore also deploys a variety of scanning technologies like radiographic scanning and hand-held screening devices. Any cargo with anomalies is diverted for further x-ray screening and physical inspection.

Upskilling of Enforcement Officers

17. As part of our efforts to continually **train our enforcement officers** to raise their skill levels, Singapore attended a training workshop in Namibia from 8-12 May 2017, which was hosted by the United States Embassy in Windhoek and the World Customs Organisation (WCO). The training was part of the WCO's Inama² Project. The workshop focussed on operational planning techniques to enable customs officers to disrupt the illegal trade in wildlife. It also provided a platform for mutual exchanges amongst different Customs organizations in Africa and Asia.

18. Singapore participated in the Transcontinental Controlled Delivery Workshop at the INTERPOL Global Complex for Innovation in Singapore from 5-7 June 2017. The workshop was organized as part of Project Wisdom and under the umbrella of the International Consortium for Combating Wildlife Crime. The aim was to train officers to conduct controlled delivery operations on a global basis, with specific emphasis on elephant ivory and rhino horns. The objective of the training was to enhance our capability in managing the last leg of any controlled delivery operation. Singapore also attended the second part of the training in Nairobi, Kenya from 5-7 September 2017. These sessions provided a platform to network with our African and ASEAN counterparts for better trans-regional collaboration in future operations.

19. Singapore attended the Cyber Wildlife Crime Investigations Training and Digital Forensics Awareness Training organised by INTERPOL from 5-9 June 2017 and 28-30 June 2017 respectively. This enhanced the skills of our enforcement officers in cyber investigations, including new approaches to trawl through social media and the dark web, as well as in gathering digital evidence.

20. Singapore and the United Nations Office on Drugs and Crime co-organised a four-day workshop from 25-28 July 2017 on controlled

² Inama means 'wild animals' in the Bemba language of Zambia. The project focusses on strengthening the enforcement capacity of targeted Customs administrations in sub-Saharan Africa, while focusing on the illegal trade in wildlife (fauna and flora) and in particular CITES-listed species.

delivery and surveillance techniques to investigate the wildlife trade. 16 Singapore enforcement officers from various agencies took part. Our officers were trained in new techniques and tactics to implement during future controlled delivery investigations.

Solid Legislative Framework with Heavy Penalties

21. The Singapore Government is looking into legislating a **domestic ban on the sale of ivory**. This is part of Singapore's broader commitment to tackle the illegal ivory trade and to support elephant conservation. The implementation details, including the engagement process with relevant stakeholders still in possession of pre-Convention ivory, are currently being worked out.

Reducing Demand for Ivory by Increasing Public Awareness

22. Singapore's first report outlined our publicity campaigns and our previous plans to provide training for freight forwarders and logistics companies to enable them **to play a more active role in combating the illegal wildlife trade**. Singapore completed these training sessions on 5 July 2017. The freight forwarders were instructed on CITES requirements, what a CITES permit should look like, and tell-tale signs of illegal consignments. We will be holding annual training sessions for local traders and freight forwarders. We will also be issuing annual circulars on how freight forwarders can play a part in combatting the illegal wildlife trade.

Strong International Cooperation

Regular Participation in International Forums and Law Enforcement Efforts

23. **Singapore continues to cooperate with our international partners against the illegal wildlife trade**. The CITES Secretariat convened the CITES Tortoises and Freshwater Turtles Task Force Meeting from 25-27 April 2017 in Singapore. This was co-hosted by AVA and Wildlife Reserves Singapore. Over 50 representatives from 15 countries across Africa, Asia, North America, and South America, as well as from international inter-governmental and non-governmental organisations, participated. The CITES Secretariat will submit a report on the outcomes to SC69. One recommendation was to develop an enforcement alert on tortoises and freshwater turtles, including information on species trafficked, *modus operandi*, trafficking routes,

concealment methods, and nationalities of offenders involved, to be updated on a rotational basis.

24. In March 2014, Singapore seized 1 ton of ivory arriving from Uganda enroute to Viet Nam. In June 2014, Singapore shared this information with the Lusaka Agreement Task Force (LATF). The information provided by Singapore contributed to the arrest in June 2017 of seven individuals in Kenya who were responsible for multiple ivory smuggling cases in Southeast Asia. Freeland, which assisted LATF, commended Singapore for actively sharing information during the joint investigation.

25. Singapore continues to support and participate in international enforcement efforts to combat the illegal wildlife trade. Singapore participated in Operation Savannah from 26 June to 20 August 2017, jointly proposed by Korea Customs Service and General Department of Viet Nam Customs and in collaboration with the WCO Regional Intelligence Liaison Office for the Asia Pacific (RILO AP). The Operation provided intelligence on smuggling via air couriers (passengers) and resulted in the seizure of eight cut pieces of rhinoceros horns at Singapore Changi Airport in September 2017. The case is pending court mention and the investigation findings will be shared with implicated countries through INTERPOL as well as other Customs/ CITES authorities involved in the Operation.

26. Over the next few months, Singapore will be attending the Wildlife Inter-Regional Enforcement Meeting for Customs Officers (WIRE-Customs) from 16-18 October 2017 in Hanoi, Viet Nam. This Meeting is co-organised by the International Consortium on Combating Wildlife Crime in partnership with the General Department of Viet Nam Customs. It will focus on the identification of CITES risk indicators to assist countries with detection of cargo and containers potentially carrying illegal wildlife products. Singapore will also be attending the 28th INTERPOL Wildlife Crime Working Group Meeting from 9-13 October 2017. The meeting will explore collaboration opportunities with the transport sector, as well as tools to combat the online wildlife trade. Singapore's participants will learn from case studies and the sharing of best practices.

Reporting

27. Singapore continues to report all ivory seizures through ETIS, INTERPOL Eco-messages, and the CITES Secretariat.

Cooperation to Help Trace Poaching and Illegal Trading Hotspots in Source Countries

28. Singapore previously highlighted that we worked with the University of Washington to trace the origins of illegal ivory using DNA analysis. We continue to cooperate with research institutes to identify hotspots where poaching and the illegal wildlife trade originate. For instance, Singapore is working with the Veterinary Genetics Laboratory of the University of Pretoria to trace the origins of illegal rhino horns and shavings using DNA analysis. Samples from the eight pieces of rhino horns and shavings seized in September 2017 during Operation Savannah will be sent to the University for their analysis.

Singapore's Concerns with the ETIS Report

29. Singapore has sought to engage TRAFFIC to better understand the methodology behind the ETIS analysis. At TRAFFIC's request (conveyed via the Secretariat), we shared the information in our first report with TRAFFIC on 10 July 2017. In return, we asked TRAFFIC to share the code/algorithm used in the ETIS analysis. We have yet to receive the information from TRAFFIC.

Regular Review of Measures

30. Singapore regularly reviews our measures and laws to ensure that they are current in addressing the illegal wildlife trade. In this context, our ongoing review of the Endangered Species (Import and Export) Act [Cap. 92A] to ensure that its sanctions remain effective in deterring criminals involved in the illegal trade in wildlife will be completed by 2019. Singapore will also continue to assess the effectiveness of using sniffer dogs to detect illegal wildlife smuggling at our air and land checkpoints. The efficacy of this method needs to be considered against our existing multi-layered detection approach which includes risk assessment and profiling, passive and active scanning via the use of high tech equipment, and manual checks by trained individuals.

Conclusion

31. Singapore remains firmly committed to combating the illegal trade in ivory and wildlife and is determined not to be a conduit for such illegal trade. Singapore has a robust legislative and enforcement

framework supported by committed officers, effective measures, and the use of high-tech equipment. We also adopt a Whole-of-Government approach to ensure the effective implementation of these measures.

32. Singapore's enforcement efforts go beyond interdicting shipments and seizing illegal wildlife. Singapore also prosecutes the perpetrators to send the message that those guilty of involvement in the illegal trade in ivory and other wildlife will be punished. In recognition of Singapore's effective enforcement efforts, we received a Certificate of Commendation on 22 July 2017 from CITES Secretary-General, Mr John E. Scanlon. The Commendation recognised the "exemplary work" and perseverance of Singapore's authorities in their efforts leading to the successful seizure of an illegal shipment of CITES-listed rosewood (*Dalbergia spp.*) in 2014, and the subsequent convictions of the importing parties. One of the accused was sentenced to three months' imprisonment and the maximum fine of \$500,000. The second accused, a corporation, was sentenced to the maximum fine of \$500,000. The rosewood was forfeited and the accused were ordered to bear all expenses arising out of the forfeiture, storage, transport etc, of the rosewood. These efforts were described as "testament to the outstanding work that is being done in Singapore to combat wildlife and forest crime".

33. Singapore has adopted a comprehensive and robust approach to combat the illegal trade in wildlife, including ivory. At the same time, we are continually reviewing our measures and laws to enhance the effectiveness of our overall regime. **We hope that additional information in this report will assist the Secretariat and Standing Committee members to better understand why Singapore should not be included in the NIAP process.**

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

TRADE IN ELEPHANT SPECIMENS

Whole-of-Government Approach to Combat Illegal Trade in Wildlife

1. **Singapore does not condone the illegal trade in wildlife and is determined not to be a conduit for such illegal trade.** Singapore is one of the busiest ports in the world in terms of shipping tonnage, with more than 130, 000 vessels calling on our port annually. In 2015, the Port of Singapore handled more than 30 million Twenty-Foot Equivalent units of cargo. **Singapore has put in place a whole-of-government approach to combat the illegal trade in ivory and other wildlife. Singapore's comprehensive measures, aimed at supply and demand reduction, are anchored by a robust domestic framework and strong international cooperation.**
2. Singapore's CITES Management Authority, the Agri-Food and Veterinary Authority (AVA), works closely with other domestic law enforcement agencies, our international partners, as well as with civil society and individuals, to combat the illegal trade in ivory and other wildlife in a comprehensive, cohesive, multi-pronged “network” approach.
3. As requested by the CITES Secretariat, this document provides additional information about Singapore's unique circumstances and our measures to tackle the illegal ivory trade that were not reflected in the Elephant Trade Information System (ETIS) Report (CoP 17 Doc 57.6 Rev I). This document also addresses methodological concerns with the ETIS Report and its conclusions.
4. Singapore hopes that this report will help the CITES Secretariat and CITES Standing Committee better appreciate our view of why Singapore should not be included in the National Ivory Action Plan (NIAP) process.

Robust Domestic Framework

5. Singapore undertakes **strong and effective enforcement efforts** which are accompanied by a solid legislative framework. **Singapore's domestic framework to tackle the illegal wildlife trade rests upon a solid legislative framework underpinned by strong rule of law** – Singapore was ranked 9th in the World Justice Project Rule of Law Index 2016 and 1st for the Regulatory Enforcement component¹. Despite our small domestic market in ivory, **the Government has also announced that Singapore is considering banning the trade in ivory within Singapore.**

Strong and effective enforcement efforts

Action-Oriented Approach to Intelligence Reports

6. **Singapore receives and shares intelligence with our network of partners.** This network includes foreign law enforcement authorities, other national CITES focal points, relevant international organisations such as INTERPOL and the World Customs Organisation, civil society members and individuals.

¹ The Regulatory Enforcement component measures the degree to which countries fairly and effectively implement and enforce their regulations.

7. Singapore seriously assesses every intelligence report or tip-off from our partners to determine if it is timely and sufficiently specific. Singapore acts upon every credible and actionable intelligence report or tip-off. This has resulted in several successful seizures (Annex A). However, where the intelligence or tip-off contains insufficient actionable information², we will actively engage the provider to determine if more information can be obtained in time for action to be taken.

8. But in some instances, despite utilising intelligence which Singapore had assessed to be credible, our enforcement actions did not lead to seizures or arrests. For example, in 2013, Singapore received intelligence concerning a suspected shipment of ivory from an African country being shipped through Singapore to an Asian destination. We detained the shipment and opened the containers. However, further investigation showed that the containers contained over 400 pieces of cow horns rather than ivory. Nonetheless, we continue to act upon actionable and credible intelligence and tip-offs to deter smugglers as some shipments could be used to test the robustness of our enforcement systems.

9. Singapore will continue to pass on intelligence to the next port of call if the intelligence received is credible and sufficiently specific to warrant action but the cargo is no longer at Singapore's ports. This is done both bilaterally, through the CITES management authority of the next port of call, as well as through international mechanisms such as the Regional Intelligence Liaison Office (RILO) of the World Customs Organisation, and INTERPOL.

Robust and Comprehensive Risk Assessment Framework

10. Singapore has a robust risk assessment framework to target illicit trade. Singapore's National Single Window receives and processes information declared by traders prior to the arrival or departure of the cargo. Using risk profiles and information such as item code, weight, value, next port of call, and the local declarant and consignor/consignee collected via the system, cargo is screened and identified for further inspection, including the verification of any accompanying documentation.

11. New risk profiles and risk indicators are developed and refined regularly based on seizure reports, intelligence reports, cooperation with international enforcement agencies and open source information. Our risk profiles contain a list of risk indicators which include: (i) high risk entities, such as companies, agents or persons flagged as having previously committed offences related to the illegal trade in ivory or other wildlife, (ii) carriers, (iii) countries of origin, (iv) countries of destination, (v) ports of loading, (vi) ports of discharge, and (vii) Harmonised System (HS) codes commonly used as covers for illegal shipments of wildlife. We recognise that seizure analysis is an important component of risk assessment, as it helps to identify the modus operandi of traffickers such as preferred shipping routes. Information on successful domestic and overseas seizures is synthesized to refine and enrich our risk profiles and targeting criteria. **Through a combination of intelligence and risk assessment/profiling efforts, Singapore had six successful seizures from 2013 to 2015** (Annex A).

12. Singapore continuously seeks to enhance our risk assessment capability. We have engaged C4ADS (Centre for Advanced Defense Studies) and INTERPOL to analyse the ivory supply

² Details such as the estimated date of arrival in Singapore or container number are usually crucial in identifying the suspected cargo.

chain to deepen our insights into high risk shipping companies and traffickers in the illicit global ivory trade.

Strict Inspections of Travellers and Cargo

13. **Singapore agencies conduct inspections on the millions of travellers who pass through our checkpoints each year³ ([Annex B](#)).** At all checkpoints, officers are trained to look out for travellers exhibiting suspicious behaviour. Such travellers are interviewed and detailed checks may be conducted on their personal effects. Such efforts resulted in the successful prosecution of two men from Viet Nam attempting to smuggle ivory via Singapore in 2014.

14. **Singapore also ensures that the import, transhipment and export of CITES specimens is strictly regulated.** For import of CITES species, a CITES export permit from the exporting country is required before the CITES import permit is issued. For export of CITES species, a CITES export permit from Singapore is required. All imports and exports of CITES species are subject to 100% inspections. For transhipment of CITES species, we will verify the authenticity of the CITES export permit with the exporting country before we proceed to issue a transhipment permit.

Continuous Upskilling of Enforcement Officers

15. **Singapore has a corps of well-trained enforcement officers focussed solely on the illegal wildlife trade.** We invest in the intensive training of these officers in matters such as the CITES provisions, legislative framework, identification of CITES species, and investigative methods to improve their ability to carry out their duties. Such training is conducted annually to ensure that their knowledge remains current. For 2017, we will work with the UN Office on Drugs and Crime to build the capacity of our officers in the use of controlled deliveries.

16. As part of these training efforts, our officers attend international conferences and workshops to keep up with developments in the field of law enforcement in the illegal wildlife trade, as well as to share best practices. We also study other jurisdictions' efforts in enforcing against the illegal wildlife trade. For example, we will visit Hong Kong's Agriculture, Fisheries and Conservation Department from 24-26 Jan 2017 to study their local domestic ivory ban and enforcement techniques, including the use of sniffer dogs.

Solid Legislative Framework with Heavy Penalties for Illegal Wildlife Trading

17. **Singapore's strong enforcement actions are made possible by a solid legislative framework.** The principal legislation in Singapore governing trade in wildlife is the Endangered Species (Import and Export) Act [Cap. 92A] ("the Act"). The penalties for offences under the Act, which include fines and/or imprisonment, were enhanced when the Act was overhauled in 2006. We regularly review the penalties to ensure that the sanctions remain effective in deterring criminals involved in the illegal trade in wildlife. **The Act is recognised by CITES to be a Category 1 legislation (CoP 17 Doc 22 Annex 3 Rev.1).** The offences under the Act are deemed to be "serious offences" under the Corruption, Drug Trafficking and other Serious Crimes (Confiscation of Benefits) Act [Cap. 65A] ("the CDSA"). Please refer to [Annex C](#) for details of Singapore's legislative framework governing trade in wildlife.

Reducing Demand for Ivory by Increasing Public Awareness

³ In 2015, approximately 197.5 million travellers passed through Singapore's checkpoints.

18. In recognition of the need to address the demand for ivory, **Singapore organises public awareness campaigns to encourage people not to buy ivory products.** On 13 June 2016, Singapore held an Ivory Crush Event during which we destroyed 7.9 tonnes of confiscated ivory. This event was widely publicised locally and internationally. This served to raise awareness of the dangers faced by elephant herds as a result of poaching and to educate consumers not to buy ivory products since the sources may be suspect. **Singapore also publicises all significant seizures and subsequent prosecutions via our mainstream media outlets and social media platforms.** This warns would-be criminals of the stiff penalties that await them if they are caught. **Singapore also has plans to provide training for the transport sector, such as freight forwarders and logistics companies,** to assist them in adopting measures to ensure that they are not involved or implicated in the illegal trade in ivory and other wildlife.

Strong International Cooperation

19. **Singapore recognises that the fight against the illegal trade in ivory and other wildlife requires strong co-operation at the bilateral, regional and international levels.** Besides intelligence sharing, we participate in international forums and law enforcement efforts.

Regular Participation in International Forums and Law Enforcement Efforts

20. **Singapore supports and participates in international forums and law enforcement efforts to combat the illegal trade in wildlife, including ivory (Annex D).** Singapore participated in international operations (Cobra 1, Cobra 2, Cobra 3 and PAWS II) which provided intelligence that resulted in three significant seizures of rhinoceros horns and elephant ivory (Annex A). Singapore will participate in the upcoming global operation - Operation Thunderbird organised by INTERPOL and Wildlife Crime Working Group (IWCWG) from 30 Jan to 19 Feb 2017.

Reporting

21. **Singapore utilises the various reporting mechanisms to report seizures of illegal ivory including through ETIS, INTERPOL Eco-messages and the CITES Secretariat⁴.**

Cooperation to Help Trace Poaching and Illegal Trading Hotspots in Source Countries

22. **Singapore worked with the University of Washington to trace the origins of illegal ivory using DNA analysis.** While Singapore is neither a source nor destination country for the illegal trade in ivory, we recognise the importance of identifying the hotspots where poaching and the illegal trade in ivory originate. Such analysis assists law enforcement agencies in source countries to focus their enforcement efforts. The provision of samples is also in line with the provisions of the CITES Resolution 10.10 rev COP17 on Trade in Elephant Specimens.

Singapore's Concerns with the ETIS Report

23. Singapore articulated why we did not agree with the methodology, findings and conclusions of the ETIS report at COP 17 (CoP 17 Com.II Rec.2 (Rev.2)). In particular, there was no consultation with us by the authors of the Report despite the fact that consultation was mandated by

⁴ There was one seizure we made in 2014 which was not reported to ETIS although we publicised the seizure in the media. We have taken steps to ensure that such an administrative lapse will be avoided in the future.

the CoP. There was a lack of clarity in the methodology. The data used in the analysis was not verified with us. The report also did not take into account the robust domestic framework within Singapore, including Singapore's strong and effective enforcement efforts.

24. To better understand how the ETIS analysis resulted in Singapore's identification as a country of primary concern, we engaged a statistician from the National University of Singapore and an economist from the Singapore Management University to undertake a preliminary analysis of the ETIS report's methodology ([Annex E](#)). Their analysis raised several questions about the methodology and conclusions of the ETIS report.

25. **First, the ETIS report's methodology is subjective and open to interpretation because assumptions are used to determine a projected rate of seizure and reporting, as opposed to what was factually observed.** Various proxy variables are used to determine the seizure and reporting rates of various countries assessed in the ETIS reports. The report's use of Deviance Information Criteria⁵ to select the proxy variables for the estimation of latent variables like seizure rates has been critiqued by several academics⁶. These proxy indicators included variables like Corruption Perceptions Index (CPI), control of corruption, government effectiveness, political stability, rule of law, regulatory quality, voice & accountability, Gini coefficient, GDP, Human Development Index (HDI), Legislation score, Data collection score, CITES reporting score, and a Law Enforcement (LE) ratio. But these proxies are unlikely to reflect the actual underlying seizure and reporting rates. Hence, these proxies may introduce errors in the analysis.

26. **Second, the methodology used also underestimates uncertainties in the seizure and reporting rates.** These uncertainties are also passed on to the smoothed⁷ expected transactions. The smoothing methodology may also introduce some new sources of bias due to the way irrelevant variations in proxy variables are propagated through into the seizure and reporting rates. It can be expected that different countries would have different relationships between proxies and the true underlying rates. In short, the modelling assumptions made are subjective, hard to justify, and raise doubts about the report's findings.

27. **Third, the use of the Law Enforcement Ratio (LE Ratio) as a proxy variable to determine seizure rates across countries is questionable.** The LE Ratio of a country is defined as the number of seizures made within a country divided by total number of seizures⁸ a country is involved in. It is more likely for a source country at the start of the trade chain to have a lower LE Ratio compared to a destination country at the end of the chain. This is because a source country has more opportunity to be implicated in other countries' seizures down the chain, thereby increasing its total number of seizures. In short, the LE Ratio is likely to be biased against countries at the start of the trade chain. This is a fundamental issue since the CoP 17 ETIS report relies only on the LE Ratio to approximate seizures.

28. **Fourth, the report does not adequately explain the inconsistency between the trends in illegal trade (expressed by relative number of estimated transactions) and the actual seizure data.** For example, although the relative number of transactions actually went up significantly in 2012 compared to 2011, there were fewer actual seizures in 2012 compared to 2011. This is counter-

⁵ Deviance Information Criteria (DIC) is implemented in OpenBUGS which is a software for the Bayesian analysis of complex statistical models.

⁶ Li et al (2015) and Chan and Grant (2016).

⁷ The use of an algorithm to remove noise from a dataset to allow important patterns to stand out.

⁸ Number of seizures made within plus number of seizures made by other countries that implicate the country.

intuitive. While it could be due to the application of different bias adjustments to the data over the years, the report does not even attempt to address the mismatch or explain the changes in bias adjustments.

29. **Fifth, there are issues with the clustering analysis.** Broadly speaking, it is not clear why clustering, which is a descriptive technique, is suitable for decision making or inference about individual countries in the way described in the ETIS reports. More specifically, the clustering seems to have been derived from the inputs which are computed based on the smoothed expected transaction numbers previously discussed. Although these are only estimates, they are assumed to be totally accurate. There does not seem to be any attempt to investigate the effects of uncertainty in the smoothing and transaction indices or on the stability of the clustering. This is likely to have serious implications on the results of the analysis, particularly if the uncertainties are correlated with each other. Furthermore, other choices made in the clustering algorithm, such as the distance and linkage criteria as well as the scaling of variables, would affect the stability of the clustering. However, these choices do not appear to have been investigated either.

30. **Moreover, it remains unclear how the clusters are formed.** It is not clear what the basis is for clustering countries into the 13 groups in 2016 ETIS report. There is no explanation as to whether the clustering is based on previous years' reports or particular statistical criterion. In addition, the dendrogram in the ETIS report which plots the clustering of the assessed countries lacks consistency. The cut-off point in the dendrogram⁹, which essentially determines the number of clusters, has changed from report to report. In 2009, the cut-off height was well under 5 on the y-axis. In 2013, it was above 5. In 2016, it was under 5.

31. **To better understand the findings of ETIS report, Singapore obtained the raw data used by TRAFFIC and attempted to verify this data.** While we managed to confirm some of the raw data, our checks on four seizures made by Australia which passed through Singapore revealed that one seizure was pre-Convention ivory while the other three cases were not investigated to confirm if the seizures were, in fact, of elephant ivory. The four Australian cases indicate that unverified data was used in the analysis by TRAFFIC. We are currently seeking information on the remaining unverified cases, but while contact has been made with the relevant authorities, responses have not been forthcoming.

32. **Overall, the ETIS analysis is opaque and makes several debatable and subjective claims.** For instance, the report insinuates that Singapore's law enforcement efforts have been ineffective, without providing any evidence to back up these claims. Singapore is a country governed by strong rule of law. As indicated above, we were ranked first globally in "Regulatory Enforcement" in the World Justice Project's 2016 Rule of Law Index, an indicator used in the World Bank Worldwide Governance Indicators. The report also refers to Singapore as a country that did not report on its ivory stockpile. But the Singapore government does not maintain any ivory stockpile to begin with. The ETIS analysis is intended to provide the basis for identifying parties for participation in the NIAP process. To be credible, there is a critical need for transparency, objectivity and clarity in the process and approach. Parties, particularly those which have been identified, need more understanding of the methodology that is employed, the data that is used, the relative weightage of the proxy indicators and the broad assumptions underpinning the analysis. Unfortunately, the current analysis does not hold up to such basic standards.

⁹ Refer to Figure 7 of 2016 ETIS report.

Conclusion

33. **Singapore remains firmly committed to combating the illegal trade in ivory and wildlife and is determined not to be a conduit for such illegal trade.** To this end, Singapore has adopted a comprehensive range of measures to combat the illegal trade. We have a robust domestic framework. We undertake strong and effective enforcement efforts. We have an action-oriented approach to intelligence reports. We employ a robust and comprehensive risk assessment framework. We carry out strict inspections of travellers and cargo. We ensure continuous upskilling of enforcement officers. We have a solid legislative framework with heavy penalties. We reduce demand for ivory by increasing public awareness. We cooperate internationally, including regular participation in international forums and law enforcement efforts. We also cooperate in attempts to trace poaching hotspots in source countries. In addition, we are reviewing our legislation and considering a domestic ban on ivory.

34. We hope this document has provided sufficient information to assist the Secretariat and the Standing Committee members to better understand Singapore's comprehensive approach to combat the illegal trade in ivory. Singapore had rejected the conclusion in the ETIS Report that it is a country of primary concern. While the Guidelines to the NIAP Process (Annex 3 of Doc. CoP17 Com. II 41) state that there is a presumption that Parties categorised as being of "primary concern" should be recommended for participation in the process, the presumption is not the sole determining criteria. Account should also be taken of the purpose and intended outcome of the NIAP Process. The comprehensive and robust measures that Singapore has been taking and continues to take, and improve on, demonstrate a strong commitment to combat the illegal trade in wildlife, including ivory. In this context, our view is that undertaking a NIAP is unlikely to result in significantly different outcomes for Singapore from what we have seen to date. **As such, we hope that the Secretariat and the Standing Committee members better understand why Singapore should not be included in the NIAP process.**

CONVENTION SUR LE COMMERCE INTERNATIONAL DES ESPÈCES DE FAUNE ET DE FLORE SAUVAGES MENACÉES D'EXTINCTION (CITES)

COMMERCE DES SPÉCIMENS D'ÉLÉPHANTS

Approche Pangouvernementale pour Lutter contre le Commerce Illégal d'Espèces Sauvages

1. Singapour n'approuve pas le commerce illégal d'espèces sauvages et est déterminé à ne pas être une voie de transit pour un tel commerce illégal.

Singapour est l'un des ports les plus actifs au monde en terme de tonnage de navires, avec plus de 130.000 navires faisant escale dans notre port chaque année. En 2015, le Port de Singapour a manutentionné plus de 30 millions d'Équivalents Vingt Pieds de fret. Singapour a mis en place une approche pangouvernementale pour lutter contre le commerce illégal d'ivoire et autres espèces sauvages. Les mesures exhaustives de Singapour, visant à réduire l'offre et de la demande, reposent sur un cadre national robuste et une coopération internationale étroite.

2. L'Autorité de Gestion de la CITES et l'Autorité Agroalimentaire et Vétérinaire (AVA) de Singapour travaillent en collaboration étroite avec d'autres organismes nationaux chargés de l'application de la loi, des partenaires internationaux, ainsi qu'avec la société civile et les particuliers, pour lutter contre le commerce illégal d'ivoire et autres espèces sauvages dans le cadre d'une approche exhaustive, cohérente et pluridimensionnelle par « réseau ».

3. Comme demandé par le Secrétariat de la CITES, ce document fournit des informations complémentaires sur la situation spécifique de Singapour et sur les mesures de lutte contre le commerce illégal d'ivoire qui n'ont pas été reflétées dans le Rapport du Système d'Information sur le Commerce de Produits d'Éléphants (*Elephant Trade Information System, ETIS*) (CoP 17 Doc 57.6 Rev. I). Ce document aborde également les préoccupations méthodologiques envers le Rapport d'ETIS et ses conclusions.

4. Singapour espère que ce rapport aidera le Secrétariat de la CITES et le Comité Permanent de la CITES à mieux comprendre les raisons pour lesquelles Singapour ne devrait pas être inclus dans le processus du Plan d'Action National pour l'Ivoire (PANI) (*National Ivory Action Plan, NIAP*).

Cadre National Robuste

5. Singapour met en œuvre des **efforts d'application de la loi fermes et efficaces** qui sont accompagnés d'un cadre législatif solide. Le cadre national de Singapour pour lutter contre le commerce illégal d'espèces sauvages repose sur un cadre législatif solide, étayé par un état de droit fort - Singapour s'est classé 9^{ème} à l'Indice de l'État de Droit 2016 du Projet de Justice Mondiale (*World Law Project World Justice Project's Rule of Law Index 2016*) et 1^{er} pour la composante Application de la Réglementation¹. En dépit de notre marché intérieur en ivoire limité, le Gouvernement a également annoncé que Singapour envisageait d'interdire le commerce de l'ivoire à Singapour.

Efforts d'application de la loi fermes et efficaces

Approche Pragmatique envers les Rappports de Renseignement

6. Singapour reçoit et partage des renseignements avec son réseau de partenaires. Ce réseau comprend des autorités étrangères chargées de l'application de la loi, d'autres correspondants nationaux de la CITES, des organisations internationales compétentes telles qu'INTERPOL et l'Organisation Mondiale des Douanes, les membres de la société civile et les particuliers.

¹ La composante Application de la Réglementation évalue dans quelle mesure les pays mettent en œuvre et font appliquer

7. Singapour évalue avec sérieux chaque rapport de renseignement ou indication confidentielle émis par ses partenaires afin de déterminer s'il est opportun et suffisamment précis. Singapour agit sur tous les rapports de renseignement ou indications confidentielles crédibles et exploitables. Ceci a conduit à plusieurs saisies réussies (Annexe A). Cependant, lorsque le renseignement ou l'indication confidentielle ne contiennent pas suffisamment d'informations exploitables², nous collaborons activement avec le fournisseur pour déterminer si davantage d'informations peuvent être obtenues à temps pour agir.

8. Dans certains cas, bien qu'ayant utilisé des renseignements jugés crédibles, les mesures d'application de la loi de Singapour n'ont cependant pas entraîné de saisies ou d'arrestations. Par exemple, en 2013, Singapour a reçu des renseignements concernant une cargaison présumée d'ivoire en provenance d'un pays africain, expédiée par Singapour vers une destination en Asie. La cargaison a été retenue et les conteneurs ont été ouverts. L'enquête plus poussée a cependant révélé que les conteneurs contenaient plus de 400 morceaux de cornes de vaches, et non pas de l'ivoire. Néanmoins, nous continuons d'agir sur les renseignements et indications confidentielles exploitables et crédibles afin de dissuader les contrebandiers, car certaines cargaisons pourraient être utilisées pour tester la robustesse de nos systèmes d'application de la loi.

9. Singapour continuera à transmettre des renseignements au prochain port d'escale si les renseignements reçus sont crédibles et suffisamment précis pour justifier une action mais que le fret a quitté les ports de Singapour. Cela se fait à la fois bilatéralement, par l'intermédiaire de l'autorité de gestion de la CITES du prochain port d'escale, ainsi que par l'intermédiaire de structures internationales tels que le Bureau Régional de Liaison et de Renseignement (BRLR) de l'Organisation Mondiale des Douanes, et INTERPOL.

Cadre d'Évaluation des Risques Robuste et Exhaustif

10. Singapour dispose d'un cadre d'évaluation des risques solide pour cibler le commerce illicite. Le Guichet Unique National de Singapour reçoit et traite les informations déclarées par les commerçants avant l'arrivée ou le départ du fret. En utilisant des profils de risque et des informations telles que le code d'article, le poids, la valeur, le prochain port d'escale, le déclarant et l'expéditeur/destinataire local collectés via le système, le fret est contrôlé et identifié pour une inspection plus poussée, y compris la vérification de tout document d'accompagnement.

11. De nouveaux profils de risque et indicateurs de risque sont élaborés et affinés régulièrement sur la base des rapports de saisie et de renseignement, de la coopération avec les organismes internationaux chargés de l'application et d'informations provenant de sources librement accessibles. Nos profils de risque contiennent une liste d'indicateurs de risque qui comprennent les : (i) entités à haut risque, telles que les sociétés, agents ou personnes signalées comme ayant déjà commis des infractions liées au commerce illégal d'ivoire ou autres espèces sauvages; (ii) transporteurs, (iii) pays d'origine, (iv) pays de destination, (v) ports de chargement, (vi) ports de décharge, et (vii) codes du Système Harmonisé (SH) couramment utilisés comme couvertures pour les cargaisons illégales d'espèces sauvages. Nous reconnaissions que l'analyse des saisies est une composante importante de l'évaluation des risques, car elle permet d'identifier le mode opératoire des trafiquants, tels que les itinéraires de navigation préférés. Les informations sur les saisies réussies sur le territoire et à l'étranger sont synthétisées pour affiner et enrichir nos profils de risque et nos critères de ciblage. **Grâce à une combinaison d'activités de renseignement et d'évaluation des risques/efforts de profilage, Singapour a effectué six saisies réussies entre 2013 et 2015** (Annexe A).

12. Singapour cherche continuellement à améliorer sa capacité d'évaluation des risques. Nous avons engagé le « C4ADS » (« Centre for Advanced Defense Studies ») et INTERPOL pour analyser la chaîne d'approvisionnement en ivoire afin d'approfondir nos connaissances sur les compagnies et trafiquants maritimes à haut risque dans le commerce mondial illicite d'ivoire.

² Des renseignements tels que la date estimée d'arrivée à Singapour ou le numéro de conteneur sont généralement cruciaux pour identifier le fret suspecté

Inspections Strictes des Voyageurs et du Fret

13. **Les agences de Singapour procèdent à des inspections sur les millions de voyageurs qui passent par nos points de contrôle chaque année³ (Annexe B).** À tous les points de contrôle, les agents sont formés pour repérer les voyageurs qui présentent des comportements suspects. Ces voyageurs sont interrogés et des contrôles approfondis peuvent être effectués sur leurs effets personnels. De tels efforts ont abouti à la poursuite réussie de deux hommes venant du Vietnam qui tentaient de passer en contrebande de l'ivoire via Singapour en 2014.

14. **Singapour veille également à ce que l'importation, le transbordement et l'exportation de spécimens CITES soient strictement réglementés.** Pour l'importation d'espèces CITES, un permis d'exportation CITES du pays exportateur est requis avant que le permis d'importation CITES ne soit délivré. Pour l'exportation d'espèces CITES, un permis d'exportation CITES de Singapour est requis. Toutes les importations et les exportations d'espèces CITES sont soumises à des inspections à 100%. Pour le transbordement d'espèces CITES, nous vérifions l'authenticité du permis d'exportation CITES avec le pays exportateur avant de délivrer un permis de transbordement.

Perfectionnement Continu des Agents Responsables de l'Application de la Loi

15. **Singapour dispose d'un corps d'agents responsables de l'application de la loi bien formés qui se concentrent uniquement sur le commerce illégal d'espèces sauvages.** Nous investissons dans la formation intensive de ces agents dans des domaines tels que les dispositions, le cadre législatif de la CITES, l'identification des espèces CITES et les méthodes d'enquête pour améliorer leur capacité à remplir leurs fonctions. Une telle formation est dispensée chaque année afin que leurs connaissances restent à jour. En 2017, nous travaillerons avec l'Office des Nations Unies contre la Drogue et le Crime pour former nos agents à l'utilisation de livraisons surveillées.

16. Dans le cadre de ces efforts de formation, nos agents participent à des conférences et à des ateliers internationaux afin de rester en phase avec l'évolution dans le domaine de l'application de la loi contre le commerce illégal d'espèces sauvages, ainsi que pour partager les meilleures pratiques. Nous étudions également les efforts déployés par d'autres administrations pour lutter contre le commerce illégal d'espèces sauvages. Par exemple, nous visiterons le Ministère de l'Agriculture, de la Pêche et de l'Environnement de Hong Kong du 24 au 26 janvier 2017 afin d'étudier l'interdiction de l'ivoire sur leur marché intérieur et les techniques locales d'application de la loi, y compris l'utilisation de chiens renifleurs.

Cadre Légal Solide avec de Lourdes Sanctions contre le Commerce Illégal d'Espèces Sauvages

17. **Les mesures d'application de la loi fermes de Singapour sont rendues possibles par un cadre législatif solide.** La principale législation de Singapour régissant le commerce des espèces sauvages est la Loi sur les Espèces en Voie de Disparition (Importation et Exportation) [Cap. 92A] (la « Loi »). Les sanctions prévues pour les infractions à la Loi, y compris les amendes et/ou l'emprisonnement, ont été renforcées lorsque la Loi a été révisée en 2006. Nous réexaminons régulièrement les sanctions afin de veiller à ce qu'elles continuent de dissuader les criminels impliqués dans le commerce illégal d'espèces sauvages. **La Loi est reconnue par la CITES comme une législation de Catégorie 1 (CoP 17 Doc 22 Annexe 3 Rev.1).** Les infractions à la Loi sont réputées être des « infractions graves » en vertu de la Loi sur la Corruption, le Trafic de Drogues et autres Infractions Graves (Confiscation des Profits) [Cap. 65A] (*Corruption, Drug Trafficking and other Serious Crimes (Confiscation of Benefits) Act, CDSA*). Veuillez vous référer à l'Annexe C pour plus de renseignements sur le cadre législatif de Singapour qui régit le commerce des espèces sauvages.

³ En 2015, approximativement 197.5 millions de voyageurs ont transité par les points de contrôle de Singapour.

Réduction de la Demande en Ivoire en Augmentant la Sensibilisation du Public

18. Conscient de la nécessité de traiter le problème de la demande en ivoire, **Singapour organise des campagnes de sensibilisation du public pour encourager les personnes à ne pas acheter de produits en ivoire.** Le 13 juin 2016, Singapour a organisé un Evènement de Broyage d'Ivoire au cours duquel 7,9 tonnes d'ivoire confisqué ont été détruites. Cet événement a été largement diffusé au niveau local et international. Cela a permis de mieux faire connaître les dangers auxquels sont confrontés les troupeaux d'éléphants en raison du braconnage et d'éduquer les consommateurs à ne pas acheter des produits en ivoire, car les sources peuvent être suspectes. **Singapour publie également toutes les saisies importantes et les poursuites qui s'ensuivent via nos médias principaux et plateformes de médias sociaux.** Cela avise les criminels potentiels des sanctions sévères qui les attendent s'ils sont pris. **Singapour a également l'intention de dispenser une formation au secteur des transports, comme par exemple aux transitaires et sociétés de logistique,** afin de les aider à adopter des mesures pour s'assurer qu'ils ne participent pas ou ne soient pas impliqués dans le commerce illégal d'ivoire et autres espèces sauvages.

Coopération Internationale Étroite

19. **Singapour reconnaît que la lutte contre le commerce illégal d'ivoire et autres espèces sauvages nécessite une coopération étroite aux niveaux bilatéral, régional et international.** Outre le partage de renseignements, nous participons aux forums internationaux et aux efforts d'application de la loi.

Participation Régulière aux Forums Internationaux et aux Efforts d'Application de la Loi

20. **Singapour soutient et participe aux forums internationaux et aux efforts d'application de la loi visant à lutter contre le commerce illégal d'espèces sauvages, y compris de l'ivoire (Annexe D).** Singapour a participé à des opérations internationales (Cobra 1, Cobra 2, Cobra 3 et PAWS II) qui ont fourni des renseignements ayant abouti à trois saisies importantes de cornes de rhinocéros et d'ivoire d'éléphant ([Annexe A](#)). Singapour participera à la prochaine opération mondiale - l'Opération Thunderbird organisée par INTERPOL et le Groupe de Travail sur le Crime contre les Espèces Sauvages (IWCWG) du 30 janvier au 19 février 2017.

Notification

21. **Singapour utilise les différents dispositifs de notification pour signaler les saisies d'ivoire illégal, notamment par l'intermédiaire d'ETIS, des Eco-messages d'INTERPOL et du Secrétariat de la CITES⁴.**

Coopération pour Aider à Localiser les Points Névralgiques du Braconnage et du Commerce Illégal dans les Pays Sources

22. **Singapour a travaillé avec l'Université de Washington pour localiser les origines de l'ivoire illégal en utilisant l'analyse ADN.** Si Singapour n'est ni une source ni un pays de destination pour le commerce illégal d'ivoire, nous reconnaissons l'importance d'identifier les points névralgiques d'où proviennent le braconnage et le commerce illégal d'ivoire. Une telle analyse aide les organismes d'application de la loi dans les pays d'origine à concentrer leurs efforts d'application de la loi. La fourniture d'échantillons est également conforme aux dispositions de la Résolution 10.10 rev COP17 de la CITES sur le Commerce des Spécimens d'Éléphants.

Préoccupations de Singapour concernant le Rapport d'ETIS

23. Singapour a expliqué pourquoi il n'était pas d'accord avec la méthodologie, les résultats et les conclusions du rapport d'ETIS à la COP 17 (CoP 17 Com.II Rec.2 (Rev.2)). En particulier, les

⁴ En 2014, une saisie n'a pas été signalée à ETIS, bien que nous l'ayons rendue publique dans les médias. Nous avons pris des mesures pour éviter qu'une telle anomalie administrative ne soit répétée dans l'avenir.

auteurs du Rapport ne nous ont pas consultés, bien que la consultation soit prescrite par la CoP. La méthodologie n'a pas été clairement exposée. Les données utilisées dans l'analyse n'ont pas été vérifiées avec nous. De plus, le rapport n'a pas tenu compte du cadre national robuste de Singapour, y compris ses efforts fermes et efficaces pour faire appliquer la loi.

24. Afin de mieux comprendre comment l'analyse d'ETIS a abouti à l'identification de Singapour comme un pays de préoccupation majeure, nous avons engagé un statisticien de l'Université Nationale de Singapour et un économiste de l'Université de Gestion de Singapour pour procéder à une analyse préliminaire de la méthodologie du Rapport d'ETIS (Annexe E). Leur analyse a soulevé plusieurs questions sur la méthodologie et les conclusions du rapport d'ETIS.

25. **Premièrement, la méthodologie du rapport d'ETIS est subjective et ouvre la porte à l'interprétation, car des hypothèses sont utilisées pour déterminer un taux projeté de saisie et de déclaration, et non pas ce qui a été effectivement observé.** Différentes variables de remplacement ont été utilisées pour déterminer les taux de saisie et de déclaration des divers pays évalués dans les rapports d'ETIS. L'utilisation du Critère d'Information de Déviance⁵ dans le rapport afin de sélectionner les variables de remplacement pour l'estimation de variables latentes comme les taux de saisie a été critiquée par plusieurs universitaires⁶. Ces indicateurs de remplacement ont inclus des variables telles que l'Indice de Perception de la Corruption (IPC), le contrôle de la corruption, l'efficacité du gouvernement, la stabilité politique, l'état de droit, la qualité de la réglementation, la participation citoyenne et responsabilité, le coefficient de Gini, le PIB, l'Indice de Développement Humain (IDH), le score de la Législation, le score de Collecte de Données, le score de rapport de la CITES, et un ratio d'Application de la Loi (AL). Toutefois, il est peu probable que ces valeurs de remplacement reflètent les taux de saisie et de déclaration réels sous-jacents. Par conséquent, ces valeurs de remplacement peuvent introduire des erreurs dans l'analyse.

26. **Deuxièmement, la méthodologie utilisée sous-estime également les incertitudes concernant les taux de saisie et de déclaration.** Ces incertitudes sont également répercutées sur les transactions prévues lissées⁷. La méthodologie de lissage peut également introduire de nouvelles sources de distorsion en raison de la façon dont des variations non pertinentes des variables de remplacement sont propagées dans les taux de saisie et de déclaration. On peut s'attendre à ce que différents pays aient des relations différentes entre les valeurs de remplacement et les taux réels sous-jacents. En bref, les hypothèses de modélisation qui on été faites sont subjectives, difficilement justifiables et mettent en doute les conclusions du rapport.

27. **Troisièmement, l'utilisation du Ratio d'Application de la Loi (Ratio AL) comme variable de remplacement pour déterminer les taux de saisie dans les pays est discutable.** Le Ratio AL d'un pays est défini comme le nombre de saisies effectuées dans un pays divisé par le nombre total de saisies⁸ dans lesquelles un pays est impliqué. Il est plus probable pour un pays source en début de chaîne commerciale d'avoir un Ratio AL inférieur par rapport à un pays destination en fin de chaîne. En effet, un pays source a plus de chance d'être impliqué dans les saisies d'autres pays de la chaîne, ce qui augmente son nombre total de saisies. En bref, le Ratio AL est susceptible d'être biaisé à l'encontre des pays en début de chaîne commerciale. C'est une question fondamentale puisque le rapport d'ETIS de la CoP 17 repose uniquement sur le Ratio AL pour estimer les saisies.

28. **Quatrièmement, le rapport n'explique pas suffisamment l'incohérence entre les tendances du commerce illégal (exprimées par le nombre relatif de transactions estimées) et les données de saisies réelles.** Par exemple, bien que le nombre relatif de transactions ait effectivement et significativement augmenté en 2012 par rapport à 2011, il y a eu moins de saisies

⁵ Critère d'Information de Déviance (CID) est mis en œuvre dans « OpenBUGS » qui est un logiciel pour l'analyse Bayésienne des modèles statistiques complexes.

⁶ Li *et al.* (2015) et Chan et Grant (2016).

⁷ L'utilisation d'un algorithme pour supprimer le bruit de fond d'un ensemble de données afin de faire ressortir les tendances importantes.

⁸ Nombre de saisies effectuées à l'intérieur plus nombre de saisies effectuées par d'autres pays qui impliquent le pays.

réelles en 2012 qu'en 2011. Ceci est contre-intuitif. Bien que cela puisse être dû au fait les données aient subies différents ajustements pour corriger les distorsions au cours des années, le rapport ne tente même pas de remédier à l'incompatibilité ou d'expliquer les changements dans les ajustements visant à corriger les distorsions.

29. **Cinquièmement, il y a des problèmes avec l'analyse par regroupement.** D'une manière générale, on ne comprend pas pourquoi le regroupement, qui est une technique descriptive, est appropriée pour la prise de décision ou l'inférence sur les pays individuels de la manière décrite dans les rapports d'ETIS. Plus précisément, le regroupement semble avoir émané de données qui sont calculées sur la base des nombres de transactions prévus lissés précédemment discutés. Bien qu'ils ne constituent que d'estimations, ils sont supposés être totalement exacts. Il ne semble pas y avoir de tentative pour étudier les effets de l'incertitude dans le lissage et les indices de transaction ou sur la stabilité du regroupement. Ceci a probablement de graves conséquences sur les résultats de l'analyse, en particulier si les incertitudes sont corrélées les unes avec les autres. En outre, d'autres choix effectués dans l'algorithme de regroupement, tels que les critères de distance et de liaison ainsi que la réduction des variables, ont pu affecter la stabilité du regroupement. Cependant, ces choix ne semblent pas avoir été étudiés non plus.

30. **En outre, la façon dont les grappes sont formées reste floue.** On ne sait pas sur quelle base les pays ont été regroupés en 13 groupes dans le rapport d'ETIS 2016. Aucune explication n'est avancée pour clarifier si le regroupement est fondé sur les rapports des années précédentes ou sur un critère statistique particulier. En outre, le dendrogramme du rapport d'ETIS qui trace le regroupement des pays manque de cohérence. Le point de coupure dans le dendrogramme⁹, qui essentiellement détermine le nombre de grappes, a changé de rapport en rapport. En 2009, la hauteur de coupure était bien inférieure à 5 sur l'axe Y. En 2013, elle était supérieure à 5. En 2016, elle était inférieure à 5.

31. **Pour mieux comprendre les conclusions du rapport d'ETIS, Singapour a obtenu les données brutes utilisées par TRAFFIC et a tenté de vérifier ces données.** Bien que nous ayons réussi à confirmer certaines des données brutes, nos contrôles sur quatre saisies effectuées par l'Australie qui sont passées par Singapour ont révélé qu'une saisie était de l'ivoire pré-Convention alors que les trois autres cas n'avaient pas été étudiées pour confirmer si les saisies étaient, en effet, de l'ivoire d'éléphant. Les quatre cas australiens indiquent que des données non vérifiées ont été utilisées dans l'analyse par TRAFFIC. Nous recherchons actuellement des informations sur les cas non vérifiés restants mais, bien que des contacts aient été pris avec les autorités compétentes, les réponses se font attendre.

32. **Dans l'ensemble, l'analyse d'ETIS est opaque et fait plusieurs allégations discutables et subjectives.** Par exemple, le rapport insinue que les efforts de Singapour pour faire appliquer la loi ont été inefficaces, sans fournir de preuve pour étayer ces allégations. Singapour est un pays régi par un état de droit fort. Comme indiqué ci-dessus, nous avons été classés au premier rang mondial dans le domaine de l'« Application de la Réglementation » selon l'Indice de l'État de Droit 2016 du Projet de Justice Mondiale, un indicateur utilisé dans les Indicateurs de Gouvernance Mondiaux de la Banque mondiale. Le rapport cite également Singapour comme un pays n'ayant pas rendu compte de son stock d'ivoire. Mais le gouvernement de Singapour ne conserve pas de stock d'ivoire pour commencer. L'analyse d'ETIS vise à fournir la base pour identifier les parties qui participeront au processus du PANI. Pour être crédible, il est essentiel de faire preuve de transparence, d'objectivité et de clarté dans le processus et l'approche. Les parties, en particulier celles qui ont été identifiées, ont besoin de mieux comprendre la méthodologie employée, les données utilisées, la pondération relative des indicateurs de remplacement et les hypothèses générales qui sous-tendent l'analyse. Malheureusement, l'analyse actuelle ne respecte pas ces normes de base.

⁹ Reportez-vous à la Figure 7 du rapport d'ETIS 2016.

Conclusion

33. **Singapour reste fermement résolu à lutter contre le commerce illégal d'ivoire et d'espèces sauvages et est déterminé à ne pas être une voie de transit pour un tel commerce illégal.** À cette fin, Singapour a adopté une gamme de mesures exhaustive pour lutter contre le commerce illégal. Nous avons un cadre national robuste. Nous menons des efforts d'application de la loi fermes et efficaces. Nous avons une approche pragmatique envers les rapports de renseignement. Nous utilisons un cadre d'évaluation des risques robuste et exhaustif. Nous effectuons des inspections strictes des voyageurs et du fret. Nous veillons à ce que les agents responsables de l'application de la loi se perfectionnent en continu. Nous possédons un cadre législatif solide avec de lourdes sanctions. Nous réduisons la demande en ivoire en sensibilisant le public. Nous coopérons à l'échelle internationale, y compris via la participation régulière aux forums internationaux et aux efforts d'application de la loi. Nous coopérons également avec les tentatives de localisation des points névralgiques de braconnage dans les pays d'origine. De plus, nous examinons notre législation et envisageons une interdiction nationale de l'ivoire.

34. Nous espérons que ce document a présenté suffisamment d'informations pour aider les membres du Secrétariat et du Comité Permanent à mieux comprendre l'approche exhaustive de Singapour pour lutter contre le commerce illégal d'ivoire. Singapour a rejeté la conclusion du Rapport d'ETIS selon laquelle il constitue un pays de préoccupation majeure. Bien que les Directives du processus du PANI (Annexe 3 du Doc. CoP17 Com. II 41) indiquent qu'il y a une présomption que les Parties classées comme étant de « préoccupation majeure » devraient être recommandées pour participer au processus, la présomption n'est pas le seul critère déterminant. Il faut également tenir compte du but et des résultats escomptés du Processus du PANI. Les mesures exhaustives et robustes que Singapour a prises, continue à prendre et à améliorer, démontrent un engagement fort pour lutter contre le commerce illégal d'espèces sauvages, y compris de l'ivoire. Dans ce contexte, notre point de vue est que la réalisation d'un PANI a peu de chance de produire des résultats significativement différents à Singapour par rapport à ceux que nous avons observés jusqu'à présent. **À ce titre, nous espérons que les membres du Secrétariat et du Comité Permanent comprendront mieux pourquoi Singapour ne devrait pas être inclus dans le processus du PANI.**

CONVENCIÓN SOBRE EL COMERCIO INTERNACIONAL DE ESPECIES AMENAZADAS DE FAUNA Y FLORA SILVESTRE (CITES por sus siglas en inglés)

COMERCIO DE ESPECÍMENES DE ELEFANTES

Enfoque de gobierno completo para combatir el comercio ilegal de vida silvestre

1. **Singapur no aprueba el comercio ilegal de vida silvestre y está decidido a no ser utilizado como puente para tal comercio ilegal.** Singapur es uno de los puertos con mayor actividad en el mundo en cuanto a tonelaje bruto, con más de 130.000 embarcaciones recalando ahí todos los años. En 2015, más de 30 millones de Contenedores Equivalentes a Veinte Pies de carga transitaron por el Puerto de Singapur. **Singapur ha implementado un enfoque de gobierno completo para combatir el comercio ilegal de marfil y otra vida silvestre. Las medidas integrales de Singapur para la reducción de la oferta y la demanda están basadas en un sólido marco normativo doméstico y fuerte cooperación internacional.**

2. La Autoridad Administrativa de la CITES de Singapur y el Departamento de Agricultura, Alimentación y Veterinaria (AVA por sus siglas en inglés), trabajan de cerca con otros organismos de seguridad domésticos y con nuestros socios internacionales, como también con la sociedad civil e individuos para combatir el comercio ilegal de marfil y otra vida silvestre utilizando un enfoque integral y cohesivo con una “red” múltiple.

3. Según lo solicitado por la Secretaría de la CITES, este documento proporciona información adicional relacionada con las circunstancias únicas de Singapur, y sus medidas para enfrentar el comercio ilegal de marfil, que no fueron reflejadas en el Informe (CoP 17 Doc 57.6 Rev I) del Sistema de información sobre el comercio de elefantes (ETIS por sus siglas en inglés). Este documento también se refiere a algunas inquietudes metodológicas del Informe ETIS y sus conclusiones.

4. Singapur desea que este informe ayude a la Secretaría de la CITES y el Comité Permanente de la CITES apreciar de mejor manera la opinión de que Singapur no debe ser incluido en el proceso del Plan de acción nacional sobre el marfil (NIAP por sus siglas en inglés).

Sólido marco normativo doméstico

5. Singapur realiza **esfuerzos de control fuertes y efectivos** junto a un sólido marco legislativo. El **marco normativo doméstico de Singapur para enfrentar el comercio ilegal de vida silvestre se basa en un sólido marco legislativo respaldado por un fuerte estado de derecho** – Singapur ocupó el noveno lugar del Índice de Estado de Derecho de 2016 del Proyecto Mundial de Justicia, y el primer lugar para el componente Cumplimiento Regulatorio¹. A pesar de nuestro pequeño mercado de marfil, **el Gobierno también ha anunciado que Singapur está considerando la prohibición del comercio de marfil dentro de la nación.**

Esfuerzos de control fuertes y efectivos

Enfoque orientado a la acción en cuanto a informes de inteligencia

6. **Singapur recibe y comparte inteligencia con su red de socios.** Esta red incluye autoridades de organismos de seguridad extranjeras, otros puntos focales nacionales de la CITES, organizaciones internacionales relevantes como INTERPOL y la Organización Mundial de Aduanas, miembros de la sociedad civil e individuos.

¹ El componente Cumplimiento Regulatorio mide el grado de implementación y control justo y efectivo de las regulaciones de cada país.

7. **Singapur evalúa cada informe de inteligencia o aviso de nuestros socios seriamente para determinar si son oportunos y lo suficientemente específicos. Singapur toma acciones sobre cada informe de inteligencia o aviso creíble y accionable. Esto ha resultado en varios decomisos exitosos** (Anexo A). Sin embargo, cuando la inteligencia o aviso no contiene suficiente información accionable², se tomarán todas las acciones posibles con el proveedor de dicha información para determinar si más información puede ser obtenida para poder tomar las medidas correspondientes a tiempo.

8. **Sin embargo, en algunos casos nuestras acciones de control no dieron como resultados decomisos ni arrestos a pesar de utilizar inteligencia que Singapur había evaluado como creíble.** Por ejemplo, en 2013 Singapur recibió inteligencia relacionada con un cargamento que se sospechaba contenía marfil proveniente de un país africano -dicho cargamento estaba siendo enviado a un destino asiático a través de Singapur- por lo que se procedió a detener el cargamento y abrir los contenedores. Sin embargo, la investigación demostró que los contenedores contenían más de 400 piezas de cuernos de vaca y no marfil. No obstante, considerando que algunos cargamentos podrían ser utilizados para probar la solidez de los sistemas de control, se continúan tomando acciones ante inteligencia o avisos accionables y creíbles para disuadir los traficantes.

9. **Singapur continuará compartiendo inteligencia recibida al próximo puerto de escala si dicha inteligencia es creíble y suficientemente específica como para ameritar acciones, aún cuando el cargamento ya no se encuentra en puertos de Singapur.** Esto se realiza bilateralmente a través de la autoridad administrativa de la CITES en el próximo puerto de escala, o a través de mecanismos internacionales tales como la Oficina Regional de Enlace en Inteligencia (RILO por sus siglas en inglés) de la Organización Mundial de Aduanas, e INTERPOL.

Sólido marco integral de evaluación de riesgos

10. **Singapur cuenta con un sólido marco de evaluación de riesgos para enfrentar el comercio ilícito.** La Ventanilla Nacional Única de Singapur recibe y procesa información declarada por comerciantes antes de la llegada o salida de cargamentos. Utilizando perfiles de riesgo e información como código, peso, valor y próximo puerto de escala del elemento, como también el declarante local y el remitente/destinatario recolectados vía el sistema, los cargamentos son evaluados e identificados para más inspecciones, incluyendo la verificación de cualquier documentación acompañante.

11. **Nuevos perfiles e indicadores de riesgo son desarrollados y refinados regularmente en base a informes de decomisos, informes de inteligencia con agencias internacionales de control e información de fuentes abiertas.** Nuestros perfiles de riesgo contienen una lista de indicadores de riesgo que incluyen; (i) entidades de alto riesgo tales como empresas, agentes o personas sindicadas de haber cometido ofensas relacionadas con el comercio ilegal de marfil u otra vida silvestre, (ii) transportistas, (iii) países de origen, (iv) países de destino, (v) puertos de embarque, (vi) puertos de desembarque, y (vii) códigos del Sistema Armonizado (HS por sus siglas en inglés) comúnmente utilizados para encubrir cargamentos ilegales de vida silvestre. Reconocemos que el análisis de decomisos es un componente importante de la evaluación de riesgos ya que ayuda a identificar los modus operandi de traficantes tales como sus rutas preferidas de envío. Información relacionada con decomisos domésticos y extranjeros exitosos es resumida para refinar y enriquecer nuestros perfiles de riesgo y criterios de focalización. **Singapur ha tenido seis decomisos exitosos entre 2013 y 2015 (Anexo A) gracias a una combinación de inteligencia y esfuerzos de evaluación/perfilamiento de riesgo.**

² Detalles como la fecha estimada de arribo a Singapur o el número de contenedor son normalmente esenciales para la identificación del cargamento sospechoso.

12. **Singapur busca mejorar sus capacidades de evaluación de riesgos continuamente.** El Centro de Estudios Avanzados de Defensa (C4ADS por sus siglas en inglés) e INTERPOL han sido contactados para analizar la cadena de abastecimiento del marfil para profundizar nuestros conocimientos sobre empresas transportistas de alto riesgo y traficantes en el comercio global e ilegal de marfil.

Inspecciones estrictas a viajeros y cargamentos

13. **Agencias de Singapur realizan inspecciones a los millones de viajeros que pasan a través de nuestros puntos de control todos los años³ ([Anexo B](#)).** Todos los puntos de control cuentan con oficiales entrenados para detectar viajeros con conductas sospechosas. Estos viajeros son entrevistados y revisiones detalladas pueden ser realizadas a sus efectos personales. Tales esfuerzos resultaron en el procesamiento de dos ciudadanos vietnamitas que intentaban transportar marfil ilegalmente a través de Singapur en 2014.

14. **Singapur también garantiza que la importación, el tránsito y la exportación de especímenes de la CITES está estrictamente regulada.** Para la importación de especies de la CITES se requiere de un permiso de exportación de la CITES del país exportador antes que se emita el permiso de importación de la CITES. Para la exportación de especies se requiere de un permiso de exportación de la CITES de Singapur. Todas las importaciones y exportaciones de todas las especies de la CITES están sujetas a inspecciones al 100%. Para el tránsito de especies de la CITES se verifica la autenticidad del permiso de exportación de la CITES con el país exportador antes de proceder a emitir un permiso de tránsito.

Continuo entrenamiento mejorado continuo de oficiales de seguridad

15. **Singapur cuenta con un cuerpo de oficiales de control bien entrenados y exclusivamente enfocados en el comercio ilegal de vida silvestre.** Invertimos en el entrenamiento intensivo de estos oficiales en temas tales como las provisiones de la CITES, el marco legislativo, la identificación de especies de la CITES, y métodos investigativos para mejorar sus capacidades para realizar sus funciones. Este entrenamiento es realizado todos los años para asegurar que sus conocimientos se mantengan actualizados. Para el 2017, se trabajará con la Oficina de las Naciones Unidas contra la Droga y el Delito para mejorar las capacidades en el uso de entregas controladas de nuestros oficiales.

16. Como parte de estos esfuerzos de entrenamiento, los oficiales atienden conferencias y talleres internacionales para estar al día con novedades en el campo del control del comercio ilegal de vida silvestre, como también para compartir mejores prácticas. Los esfuerzos relacionados con el control del comercio ilegal de vida silvestre de otras jurisdicciones también son estudiados. Por ejemplo, se realizará una visita al Departamento de Agricultura, Pesca y Conservación de Hong Kong entre el 26 y el 26 de enero de 2017 para estudiar su prohibición doméstica local de marfil y sus técnicas de control, incluyendo el uso de perros rastreadores.

Sólido marco legislativo con fuertes penas contra el comercio ilegal de vida silvestre

17. **Las fuertes acciones de control de Singapur son posibles gracias a un sólido marco legislativo.** La principal legislación relacionada con el comercio de vida silvestre en Singapur es la Ley sobre especies (importación y exportación) en peligro de extinción [Cap. 92A] (“la Ley”). Las penas para ofensas contra esta Ley, que incluyen multas y/o encarcelamiento, fueron aumentadas cuando fue actualizada el año 2006. Las penas son revisadas regularmente para asegurar que las sanciones se mantengan efectivas para la disuasión de criminales involucrados en el comercio ilegal de vida silvestre.

³ Aproximadamente 197,5 millones de viajeros pasaron por los puntos de control de Singapur en el año 2015.

La Ley es reconocida como una legislación de Categoría I (CoP 17 Doc 22 Anexo 3 Rev.1) por la CITES. Las ofensas contra esta Ley son consideradas “serias” según la Ley sobre la corrupción, el tráfico de drogas y otros delitos graves (confiscación de bienes) [Cap. 65A] (“la CDSA” por sus siglas en inglés). Por favor consulte el Anexo C para más detalles sobre el marco legislativo de Singapur relacionada con el comercio de vida silvestre.

Reducción de la Demanda de Marfil Aumentando la Conciencia Pública

18. En reconocimiento a la necesidad de enfrentar la demanda del marfil, **Singapur organiza campañas de concientización pública para promover la no adquisición de marfil.** El 13 de junio de 2016, Singapur fue la sede del evento Ivory Crush (Trituración de Marfil). Durante este evento se destruyeron 7,9 toneladas de marfil decomisado. Este evento fue ampliamente publicitado local e internacionalmente. Sirvió para aumentar la concientización sobre los peligros que enfrentan las manadas de elefantes como resultado de la caza ilegal, y para educar a los consumidores para que no compren productos de marfil ya que sus fuentes son muy sospechosas. **Singapur también ha publicitado todo decomiso significativo, como también los procesamientos correspondientes, a través de los medios de comunicación tradicionales y las plataformas de redes sociales.** Esto advierte a potenciales criminales sobre las serias penas consideradas al momento de su captura. **Singapur también cuenta con planes para proporcionar entrenamiento a la industria del transporte, como transportistas de carga y empresas de logística,** para ayudarlos a adoptar medidas para asegurar que no estén involucrados o implicados en el comercio ilegal de marfil u otra vida silvestre.

Fuerte cooperación internacional

19. **Singapur reconoce que el combate contra el comercio ilegal de marfil y otra vida silvestre requiere de fuerte cooperación a nivel bilateral, regional e internacional.** Además de la compartición de inteligencia, se considera la participación en foros y esfuerzos de control internacionales.

Participación regular en foros y esfuerzos de control internacionales

20. **Singapur apoya, y participa, en foros y esfuerzos de control internacionales para combatir el comercio ilegal de vida silvestre, incluyendo el marfil (Anexo D).** Singapur ha participado en operaciones internacionales (Cobra 1, Cobra 2, Cobra 3 y PAWS II), las cuales proporcionaron inteligencia que resultó en tres decomisos significativos de cuernos de rinoceronte y marfil de elefante (Anexo A). Singapur participará en la próxima operación global – Operación Thunderbird – organizada por INTERPOL y el Grupo de trabajo sobre los delitos relacionados con la flora y fauna silvestres (IWCWG por sus siglas en inglés), que se realizará entre el 30 de enero y el 19 de febrero de 2017.

Presentación de informes

21. **Singapur utiliza diferentes mecanismos para la presentación de informes para informar sobre decomisos de marfil ilegal, incluyendo a través de ETIS, INTERPOL Eco-mensajes y la Secretaría de la CITES⁴.**

Cooperación para ayudar a rastrear cazadores ilegales y puntos críticos de comercio ilegal en naciones fuente

⁴ En el año 2014 hubo un decomiso que no fue informado al ETIS; sin embargo, dicho decomiso fue publicitado a través de los medios de comunicación. Se han tomado medidas para asegurar que dicho lapsus administrativo no vuelva a ocurrir en el futuro.

22. Singapur trabajó con la Universidad de Washington para rastrear el origen de marfil ilegal utilizando el análisis del ADN. A pesar del hecho de que Singapur no es ni país fuente ni país destino para el comercio ilegal de marfil, reconocemos la importancia de identificar los puntos críticos donde la caza ilegal y el comercio ilegal de marfil originan. Tal análisis ayuda a las agencias de control en países fuente a enfocar sus esfuerzos de control. El suministro de muestras es, también, parte de lo indicado en la Resolución 10.10 rev COP17 de la CITES relacionada con el Comercio de especímenes de elefantes.

La inquietud de Singapur con el Informe ETIS

23. Singapur expresó las razones por las que no está de acuerdo con la metodología, resultados y conclusiones del informe ETIS en COP 17 (CoP 17 Com.II Rec.2 (Rev.2)). En particular, los autores del informe no realizaron ninguna consulta a Singapur a pesar de que dicha consulta se encuentra estipulada en la CoP. Hubo falta de claridad en la metodología. Los datos utilizados en el análisis no fueron verificados por la parte interesada. El informe tampoco consideró el sólido marco normativo doméstico existente en Singapur, incluyendo sus fuertes y efectivos esfuerzos de control.

24. Para entender de mejor manera cómo el análisis ETIS resultó con la identificación de Singapur como una nación de preocupación principal, se contrató a un estadístico de la Universidad Nacional de Singapur y a un economista de la Universidad de Administración de Singapur para realizar un análisis preliminar de la metodología del informe ETIS (Anexo E). Su análisis arrojó varias preguntas relacionadas con la metodología y las conclusiones del informe ETIS.

25. **Primero, la metodología del Informe ETIS es subjetiva y sujeta a interpretación ya que se utilizan suposiciones para determinar una tasa proyectada de decomisos y presentación de informes, en lugar de lo que realmente fue observado.** Diferentes variables indirectas son utilizadas para determinar las tasas de decomisos y presentación de informes de diferentes países en los informes ETIS. El uso de Criterios de desviación de información⁵ por el informe para seleccionar variables indirectas para la estimación de variables latentes, tales como tasas de decomisos, ha sido criticado por varios académicos⁶. Estos indicadores indirectos incluyen variables como el Índice de percepciones de corrupción (CPI por sus siglas en inglés), el control de la corrupción, la efectividad del gobierno, la estabilidad política, el estado de derecho, la calidad regulatoria, voz y responsabilidad, el coeficiente Gini, el PIB, el Índice de desarrollo humano (HDI por sus siglas en inglés), la puntuación legislativa, la puntuación de la recolección de Datos, la puntuación del informe de la CITES, y una relación del Orden público (LE por sus siglas en inglés). Sin embargo, es poco probable que estas variables indirectas reflejen las tasas de decomisos y presentación de informes subyacentes reales. Por lo tanto, estas variables indirectas pueden introducir errores en el análisis.

26. Segundo, la metodología utilizada subestima incertidumbres en las tasas de decomisos y presentación de informes. Estas incertidumbres también son traspasadas a las transacciones esperadas alisadas⁷. La metodología de alisado también puede introducir nuevas fuentes de sesgo debido a la manera que variaciones irrelevantes en variables indirectas son propagadas a través de las tasas de decomisos y presentación de informes. Es esperable que diferentes países tengan diferentes relaciones entre variables indirectas y la real tasa subyacente. En resumen, las suposiciones de modelado realizadas son subjetivas, difíciles de justificar y plantean dudas sobre los resultados del informe.

⁵ Criterios de desviación de información (DIC por sus siglas en inglés) son implementados en OpenBUGS, un software para el análisis Bayesiano de modelos estadísticos complejos.

⁶ Li et al (2015) y Chan y Grant (2016).

⁷ El uso de un algoritmo para eliminar ruido de un conjunto de datos para permitir que patrones importantes se destaquen.

27. **Tercero, el uso de la Relación de orden público (LE Ratio en inglés) como una variable indirecta para determinar tasas de decomisos en países es cuestionable.** La LE de un país es definida como el número de decomisos realizados dentro de ese país dividido por el número total de decomisos⁸ en los que ese país está involucrado. Es más probable que un país fuente al inicio de la cadena comercial tenga una LE más baja en comparación con un país destino al final de la cadena. Esto se debe al hecho de que un país tiene más oportunidades de ser implicado en los decomisos de otros países más abajo en la cadena, aumentando su número total de decomisos de esta manera. En resumen, la LE probablemente será sesgada en contra de países al inicio de la cadena comercial. Este es un tema fundamental ya que el informe ETIS CoP 17 depende solamente de la LE para aproximar decomisos.

28. **Cuarto, el informe no explica de manera adecuada la inconsistencia entre las tendencias en el comercio ilegal (expresado por el número relativo de transacciones estimadas), y los datos reales de decomisos.** Por ejemplo, a pesar de que el número relativo de transacciones aumentó significativamente en 2012 en comparación con el año 2011, hubo menos decomisos reales en 2012 en comparación con el año 2011, algo completamente contra intuitivo. Si bien esto se podría deber a la aplicación de diferentes ajustes de sesgo a los datos a través de los años, el informe ni siquiera intenta abordar el desajuste o explicar los cambios en los ajustes a sesgos.

29. **Quinto, existen problemas con el análisis de grupos.** A grandes rasgos, no está claro porque el agrupamiento, una técnica descriptiva, es adecuada para la toma de decisiones o suposiciones relacionadas con países individuales en la manera descrita en los informes ETIS. Más específicamente, el agrupamiento parece haber sido derivado desde las entradas calculadas en base a los números de transacción esperados alisados mencionados anteriormente. A pesar de que sólo son estimaciones, la suposición es que son completamente exactos. No parece haber ningún intento para investigar los efectos de incertidumbre en los índices de alisado y transacción, o en la estabilidad del agrupamiento. Esto probablemente tendrá serias implicancias en los resultados del análisis, especialmente si las incertidumbres son correlacionadas entre ellas. Asimismo, otras elecciones realizadas en el algoritmo de agrupamiento, tales como los criterios de distancia y vinculación como también el escalamiento de las variables, afectarían la estabilidad del agrupamiento. Sin embargo, estas elecciones tampoco parecen haber sido investigadas.

30. **Por otra parte, no está claro cómo se formaron los grupos.** No está claro en qué se basó el agrupamiento de los países en 13 grupos en el informe ETIS de 2016. No hay ninguna explicación sobre si el agrupamiento fue hecho en base a los informes de años anteriores o criterios estadísticos particulares. Además, el dendrograma en el informe ETIS que grafica el agrupamiento de los países evaluados es inconsistente. El punto límite en el dendrograma⁹, que esencialmente determina el número de grupos, ha cambiado en cada informe. La altura límite en el año 2009 se encontraba muy por debajo de 5 en el eje Y. En el año 2013 se encontraba por encima de 5. En el año 2016 se encontraba por debajo de 5.

31. **Para mejor entender los resultados del informe ETIS, Singapur obtuvo los datos no procesados utilizados por TRAFFIC e intentó verificarlos.** Si bien se pudo confirmar algunos de los datos no procesados, las revisiones a cuatro decomisos realizados por Australia, que pasaron por Singapur, revelaron que una incautación era de marfil pre-Convención mientras que los otros tres casos no fueron investigados para confirmar si los decomisos eran realmente de marfil de elefante. Los cuatro casos australianos indican que datos no verificados fueron utilizados por TRAFFIC en el análisis. En estos momentos se está buscando información sobre los casos no-verificados restantes. Sin embargo, a pesar de haber contactado las autoridades correspondientes, aún no se han recibido respuestas.

⁸ El número de decomisos realizados dentro más el número de decomisos realizados por otros países que involucran el país.

⁹ Ver la Figura 7 del informe ETIS de 2016.

32. **En general, el análisis ETIS es opaco, y plantea varias afirmaciones debatibles y subjetivas.** Por ejemplo, el informe insinúa que los esfuerzos de control de Singapur han sido inefectivos sin proporcionar ninguna evidencia para respaldar esta afirmación. Singapur es una nación gobernada por un fuerte estado de derecho. Según lo indicado anteriormente, ocupó el primer lugar global en “Cumplimiento Regulatorio” en el Índice de estado de derecho del 2016 del Proyecto mundial de justicia, un indicador utilizado por los Indicadores de gobernanza mundial del Banco Mundial. El informe también se refiere a Singapur como un país que no informa sobre sus reservas de marfil. Sin embargo, el gobierno de Singapur no mantiene reserva de marfil alguna. El propósito del análisis ETIS es proporcionar las bases para la identificación de partes para la participación en el proceso NIAP. Existe una necesidad crítica de transparencia, objetividad y claridad en el proceso y metodología para que éste sea creíble. Las partes, especialmente aquellas que han sido identificadas, necesitan comprender la metodología empleada aún más, al igual que los datos utilizados, el peso relativo de los indicadores indirectos y las amplias suposiciones que sostienen el análisis. Desafortunadamente, el actual análisis no cumple con estos estándares básicos.

Conclusión

33. **Singapur continúa comprometido firmemente con el combate contra el comercio ilegal de marfil y la vida silvestre, y está decidido en no ser un puente para tal comercio ilegal.** Con este fin, Singapur ha adoptado una variedad integral de medidas. Cuenta con un sólido marco regulatorio doméstico. Realiza esfuerzos de control efectivos y fuertes. Cuenta con un enfoque orientado a la acción en cuanto a informes de inteligencia. Utiliza un sólido marco integral de evaluación de riesgos. Realiza inspecciones estrictas a viajeros y cargamentos. Asegura el entrenamiento y mejora continua de sus oficiales de control. Cuenta con un sólido marco legislativo con duras penas. Reduce la demanda de marfil aumentando la concientización del público. Coopera internacionalmente, incluyendo su participación regular en foros y esfuerzos de control internacionales. También coopera en intentos para rastrear puntos críticos de la caza ilegal en países fuente. Además, está revisando su legislación y considerando una prohibición doméstica de marfil.

34. Esperamos que este documento haya proporcionado suficiente información para ayudar a los miembros de la Secretaría y el Comité Permanente entender de mejor manera el enfoque integral de Singapur en su combate contra el comercio ilegal de marfil. Singapur rechazó la conclusión del Informe ETIS que indica que es un país de preocupación principal. A pesar de que las directrices del proceso NIAP (Anexo 3 del Doc. CoP17 Com. II 41) indican que existe una presunción que las Partes clasificadas como de “preocupación principal” deben ser recomendadas para participar en el proceso, la presunción no es el único criterio determinante. También se debe considerar el propósito y resultado esperado del Proceso NIAP. Las medidas integrales y sólidas que Singapur ha tomado, y continúa tomando y mejorando, demuestran un fuerte compromiso con el combate contra el comercio ilegal de la vida silvestre, incluyendo el marfil. En este contexto, nuestra opinión es que iniciar un NIAP probablemente no dará resultados significativamente diferentes a los que Singapur ha realizado a la fecha. **Por lo tanto, esperamos que los miembros de la Secretaría y del Comité Permanente entiendan mejor por qué Singapur no debería ser incluido en el proceso NIAP.**

ANNEX A**LIST OF IVORY SEIZURES BY SINGAPORE**

Year	Description of ivory seizure
2013	Singapore acted on a tip-off and seized a container with 1099 pieces (1838.1kg) of raw elephant ivory, misdeclared in the shipping document as ‘waste paper’. The consignment came from Kenya and was destined for Vietnam via Singapore. Investigations revealed that there was no local consignee in Singapore who was responsible for the transhipment. Singapore served a warning letter to the shipping company for transporting the illegal ivory and subsequently listed the company as a high risk entity. The ivory shipment was eventually repatriated to Kenya with the cooperation of the Kenyan wildlife authorities and the Lusaka Agreement Task Force.
2013	Singapore participated in an international cooperation operation (Cobra 1) organised by ASEAN-WEN, China, Lusaka Agreement Task Force and the US Fish and Wildlife Service. Our participation in Cobra 1 provided intelligence that led to the seizure of 1.8 tonnes of cut ivory pieces.
2014	Singapore arrested 2 Vietnamese travellers who were found in possession of 13 ivory tusks, 16 ivory bangles and 109 ivory cubes. The travellers were in transit through Singapore from Angola to Laos via Dubai. The travellers were charged in Court and each sentenced to 16 months imprisonment.
2014	Singapore acted on specific intelligence regarding a shipment originating from Uganda. We successfully seized 106 raw ivory tusks. Both freight forwarders were warned and placed on a watchlist which serves to alert our authorities to check future suspicious shipments handled by them.
2015	Singapore successfully intercepted a shipment of 0.5 tonnes of raw ivory tusks and 0.3 tonnes of pangolin scales, which had been falsely declared to be wigs. Another four shipments comprising a total of 1.5 tonnes of ivory and 0.3 tonnes of pangolin scales which were handled by the same company were subsequently seized.
2015	Singapore participated in PAWS II and Cobra 3, organised by INTERPOL and partner enforcement organisations like ASEAN-WEN. Our participation in these two Operations led to the successful interception and seizure by Singapore of 4.6 tonnes of ivory, 4 rhinoceros horns and 22 big cat teeth from Kenya which was en route to Viet Nam.

INSPECTION

1. At our border checkpoints, all arriving land and sea travellers will be checked for illegal items, including illegal wildlife, using a combination of non-intrusive methods (i.e. x-ray screening) and physical inspections. Where necessary, specialised equipment will be utilised during secondary inspections. At the land checkpoints, all arriving cars and motorcycles are forward-checked before they are allowed to proceed for immigration clearance and subsequent assessment for entry into Singapore. At our airports, selective checks are also conducted on the baggage of arriving air travellers. At all checkpoints, officers are trained to look out for travellers exhibiting suspicious behaviour or tell-tale signs that demand greater scrutiny. Such travellers are sieved out for interviews and detailed checks may also be conducted on them and their personal effects. Such efforts had resulted in the successful prosecution of two men from Viet Nam attempting to smuggle ivory via Singapore in 2014.
2. At the air cargo and land checkpoints, all inbound cargo is scanned using drive-through vehicle-level radiographic scanners. The scanned images, together with the relevant cargo permits and supporting documentation, are analysed as part of the cargo clearance process. At the sea ports, selected import and export cargo will also be scanned using drive-through vehicle-level radiographic scanners. Should any anomalies be observed during the clearance process, the cargo will be diverted for detailed inspection, such as x-ray screening and physical checks on individual cargo consignments, or physical checks on the vehicle. At all checkpoints, cargo that is targeted by authorities during upstream risk assessment will also be sieved out during immigration clearance to undergo detailed inspection. If discrepancies are found during the detailed inspection, the cargo, subjects and vehicle involved will be referred to the relevant authorities without delay. All referrals will be properly investigated.
3. Enforcement agencies have permanent offices at the air and land checkpoints, and are responsible for conducting inspections of CITES consignments that pass through our borders. The officers also conduct inspections and checks at retail outlets and trade premises (e.g. pet/aquarium shops, farms, and traditional medicinal stores) for sale of illegal wildlife and wildlife parts/products. We also monitor the Internet wildlife trade and follow up on any suspected cases of wildlife trafficking. In addition to investigating alleged smuggling cases, we also investigate non-compliance with Singapore's legislation.

ANNEX C

LEGISLATION

1. The Singapore Parliament, cognisant of the need to take measures to stop the illegal trade in wildlife, including the illegal trade in ivory, approved the overhaul of the Endangered Species Act¹ in 2006. The overhaul was intended to realign the Act to the changes in CITES as well as put in place measures to prevent Singapore from being used as a conduit for the illegal trade in wildlife.

2. As a result of the overhaul, the following actions constitute offences under the Act:

- a. The import, export, re-export or introduction from the sea of CITES species without a permit;
- b. The possession, control, sale, offer, exposure, advertisement for sale, display to the public of CITES species imported or introduced from the sea without a permit; or
- c. Having CITES species in transit in Singapore without the relevant permits.

3. If found guilty of having committed any of these offences, the maximum penalties are:

- a. Fine of up to \$500,000; or
- b. Imprisonment of up to 2 years; or
- c. Both fine and imprisonment.

4. These penalties are the result of the overhaul of the Act. Fines were increased a hundredfold from \$5,000 to \$500,000, and the maximum imprisonment term was doubled from one year to two. Abetment of offences and attempted offences attract the same penalties as the actual commission of offences. In light of the potential financial value of illegally traded wildlife, it was necessary to provide for an effective financial deterrent. Such penalties were benchmarked against legislation in other jurisdictions, such as Hong Kong². We regularly review the penalties to ensure that the sanctions remain effective in deterring criminals involved in the illegal trade in wildlife. Over the years, these enhanced powers have enabled our authorities to confiscate shipments of illegal ivory and other wildlife in transit in Singapore. From 2014 to 2015, Singapore authorities confiscated and destroyed 7.9 tonnes of ivory in transit in Singapore. Under Singapore's legislative framework, confiscation and destruction of shipments of illegal ivory and other wildlife is not contingent upon prosecution and conviction. We recognise that prosecution of the perpetrators of such illegal shipments

¹ Endangered Species (Import and Export) Act [https://www.ava.gov.sg/docs/default-source/default-document-library/endangered-species-\(import-and-export\)-ac](https://www.ava.gov.sg/docs/default-source/default-document-library/endangered-species-(import-and-export)-ac)

² CITES does not stipulate the legislative framework for each CITES Parties. Parties may have different legal structures, national policies, culture, species in trade, or types of trade. For instance, in Hong Kong, the maximum penalty for illegal import, export or possession of a highly endangered species for commercial purpose is about S\$900,000 fine and 2 years' imprisonment. In New Zealand, the maximum penalty is about S\$100,000 fine, and/or 5 years' imprisonment for natural persons. In Canada, the maximum penalty is about S\$160,000 fine, and/or 5 years' imprisonment for natural persons.

may prove challenging due to the fact that these perpetrators are outside Singapore's jurisdiction. Hence, the powers under our laws allow Singapore to break the supply chain of illegally traded ivory and other wildlife and to deprive criminals of their profits.

5. The offences under the Act are deemed to be "serious offences" under the Corruption, Drug Trafficking and other Serious Crimes (Confiscation of Benefits) Act [Cap. 65A] ("the CDSA")³. The CDSA is intended to combat serious offences such as the illegal wildlife trade, including through the ability of the authorities to confiscate the benefits which are derived from the commission of such serious crimes. Where the value of the seized ivory exceeds \$30,000 (approximately 15 kg), there is a concurrent investigation into whether an offence of money laundering has also been committed. If so, the benefits of the crime may also be confiscated. This is another plank in Singapore's efforts to remove the financial incentive for engaging in the illegal trade in ivory.

³ Corruption, Drug Trafficking and Other Serious Crimes Act (Confiscation of Benefits) Act [Cap. 65A]
<http://statutes.agc.gov.sg/aol/search/display/view.w3p;page=0;query=DocId%3Afe3027c5-b366-400e-a6ca-13817cf77e55%20%20Status%3Ainforce%20Depth%3A0;rec=0>

INTERNATIONAL COOPERATION

1. At the regional level, Singapore is a member of the Association of South East Asian Nations (ASEAN) Wildlife Enforcement Network (ASEAN-WEN), which involves the wildlife law enforcement agencies of all ASEAN member states. ASEAN-WEN facilitates cross-border co-operation in combatting the illegal wildlife trade between ASEAN member states through the sharing of information and intelligence, as well as capacity-building efforts.
2. Singapore is also a member of the ASEAN Senior Officials Meeting on Transnational Crime (SOM-TC). Fully cognisant of the links between the illegal trade in wildlife and transnational crime, Singapore participated in the SOM-TC Technical Workshop on Environmental Crimes in May 2014 to discuss the inclusion of environmental crime as a new priority area of SOM-TC. Singapore also participated in the ASEAN Ministerial Meeting on Transnational Crime (AMMTC) in 2015, which resulted in the Kuala Lumpur Declaration in which the Ministers endorsed illicit trafficking of wildlife and timber as new areas of transnational crimes under the purview of the AMMTC. The Kuala Lumpur Declaration was followed by the adoption of the Joint Communiqué of the ASEAN Chiefs of Police (ASEANAPOL) in 2016, which resolved, among other things, to encourage greater action in combatting wildlife crime, including information sharing, participation in enforcement operations and increasing public awareness. ASEAN is also committed, in its Vision 2025, to enhance cooperation in addressing emerging transnational crimes, including illicit trafficking of wildlife and timber.
3. Singapore also undertakes cooperation at the international level. In 2016, we participated in the inaugural Wildlife Inter-Regional Enforcement Group Meeting organised by the UNODC in November 2016 and the INTERPOL Regional Investigative Support Meeting organised by INTERPOL. During the meetings, information and intelligence was shared amongst source, transit and destination countries of illegally traded wildlife species such as ivory, rhinoceros horn and pangolins, to enable the formulation of an intelligence network to map out possible links with criminal syndicates. The WIRE also prepared operational and intelligence needs for an upcoming INTERPOL-led Operation PAWS regional wildlife enforcement operations.
4. We recently participated in the Hanoi Conference on Illegal Wildlife Trade, which adopted the Hanoi Statement that recognises the need for comprehensive and collaborative implementation of actions to combat illegal wildlife trade.
5. In recent years, Singapore has participated in a number of international enforcement operations. We have also participated in various meetings conducted by INTERPOL in relation to pre-Operations preparations, and regional investigations targeting specific wildlife species (Please see Annex). to assess operational and intelligence needs for an upcoming INTERPOL-led Operation PAWS regional wildlife enforcement operations.

6. Singapore's involvement in such international enforcement operations has yielded success. As mentioned previously, we participated in Operation Cobra 1 (2013) and Operation Cobra 2 (2014) organised by ASEAN-WEN, China, Lusaka Agreement Task Force and the US Fish and Wildlife Service. These operations involved countries from Africa, Asia and North America exchanging real time intelligence as well as historical intelligence from database on poaching and trafficking syndicates. These exchanges enabled participating countries to refine risk profiles and step up screening, leading to several significant seizures of illegally traded wildlife.

7. Building on the successes of our previous participation in such enforcement operations, Singapore will be working with the INTERPOL teams, Project Predator and Project Wisdom, to enhance capability building and networks around the region in terms of information and intelligence sharing, including co-hosting workshops and meetings in relation to these Projects. Project Predator and Project Wisdom are intended to strengthen links and strategic coordination between Africa and Asia, in the areas related to the illegal trade in big cats, and elephant ivory/rhinoceros horns respectively. Apart from participation in these teams, Singapore intends to explore more ways in which we can undertake joint operations with INTERPOL as well as engage in capacity building.

8. International co-operation also involves Singapore's engagement with the CITES Secretariat. In November 2015, Singapore welcomed a mission from the Secretariat to meet and interview Singapore officials involved in large seizures of black pond turtles, and their associated investigations. Such information was included in the Secretariat's report of learning points (Assessment of the circumstances of significant seizures of CITES specimens CoP17 Doc.25 Annex 3) in the seizure and subsequent investigations and enforcement actions of illegally traded turtles. Singapore will explore further ways to co-operate with the Secretariat, which may include hosting a meeting of the CITES Tortoises and Freshwater Turtles Task Force in 2017.

Review on “Dissecting the Illegal Ivory Trade: An Analysis of Ivory Seizures Data” and “The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: A report to the 17th meeting of the Conference of the Parties to CITES”

1 Introduction

The two papers (namely, Underwood et al (2013) and Milliken et al (2016)) studied the trend of illegal ivory trade and formed clusters of countries based on illegal ivory trade. The main difficulty in this kind of studies lies in the latent feature in illegal ivory trade, that is, an illegal trade is recorded only after a seizure takes place and is reported. As a result, the seizure data under-estimate illegal ivory trade. To deal with this latent feature in data, Underwood et al (2013) proposed the following model.

Let y_{ikt} represent the number of reported seizures in country i , ivory class k , and year t , where $i = 1, \dots, 68(:=N)$, $k = 1, \dots, 6 (=K)$, $t = 1, \dots, 16 (=2011 - 1995 := T)$. Clearly, N is larger than T and both N and T are much larger than K . Let μ_{ikt} be the mean of y_{ikt} which is assumed to follow the negative binomial distribution (see page 10 in Underwood et al, 2013), ie,

$$y_{ikt} \sim NB(\mu_{ikt}). \quad (1.1)$$

The key assumption in the model was the factorization of the mean

$$\mu_{ikt} = \lambda_{ikt}\phi_{it}\theta_{it}, \quad (1.2)$$

where λ_{ikt} is a measure of the expected number of transactions, ϕ_{it} is the seizure rate and θ_{it} the reporting rate. The logit model is used for ϕ_{it} and θ_{it} , ie,

$$\log\left(\frac{\phi_{it}}{1 - \phi_{it}}\right) = \sum \beta_m x_{mit} \text{ and } \log\left(\frac{\theta_{it}}{1 - \theta_{it}}\right) = \sum \gamma_m z_{mit}. \quad (1.3)$$

The model specified in (1.1)-(1.3) is estimated by MCMC via OpenBUGS (although the priors are unknown). Although not explicitly spelled out, I guess the posterior mean of λ_{ikt} is obtained for all i, k, t . This is the bias-adjusted estimate of the number of illegal ivory transactions in country i , ivory class k , and year t . Its logarithm is used for fitting a polynomial function of year. The posterior mean of λ_{ikt} is the “smoothed” estimate of λ_{ikt} , as it is based on all time series data (including data after year t). As long as $\phi_{it} < 1$ or $\theta_{it} < 1$ or both, $\lambda_{ikt} > \mu_{ikt}$ and an upward adjustment is achieved.

In Underwood et al (2013), various variables are considered for possible covariates in Model (1.3), ie, x_{mit} and z_{mit} . These variables are specified in Table 1. Regarding the final choice of x_{mit} and z_{mit} in Model (1.3), a combination of DIC and inspection of credible intervals was used; although the detail was not explained in Underwood et al (2013). Also not explained is what one would do if there is a contradiction between DIC and credible intervals.

Milliken et al (2016) applied this Bayesian method to analyze data between 2007 and 2014. It was found that “the covariate that best describes variability in the seizure rate was the previous year’s law enforcement effort (LE) ratio”. LE is defined as the ratio of “number of Seizure In” and “number of Seizure In + number of Seizure Out”, where “Seizure In” means seizures are made by a country; “Seizure Out” means that ivory consignments leave, pass through, or arrive in a country without being detected and seized. It is important to point out, if a country of destination had no opportunity to make a seizure because the consignment was actually seized prior to reaching the reported destination, then that particular case is not factored as a ‘Seizure Out’ when calculating the LE Ratio for the destination country. Moreover, to describe variability in the report rate, a combination of the CITES Annual Reporting Score and the Data Collection Effort Score was used.

2 Comments

1. My first comment is on the use of the ratio of “number of Seizure In” and “number of Seizure In + number of Seizure Out” to measure the law enforcement effort. The same definition was applied to all countries in both papers. However, I do not know why all countries should use the same formula to measure the law enforcement effort. Imagine there are two countries. The first country is always an origin country of ivory trade (call it Country A). The second country is always a destination country of ivory trade (call it Country B). Assume the seizure rate is constant across all countries in a trading chain and the seizure is identical and independently distributed at all stages of trading. Then, these two countries would be very different. A key difference is that country A has a much higher chance of getting a large number of Seizure Out than country B whose number of Seizure Out is essentially zero. As a result, the LE ratio for country B is 1 (assuming the number of Seizure In for this country is not zero) which is always bigger than the LE ratio for country A, regardless of the actual law enforcement effort by the two countries. This hypothesis seems to be supported by data. For example, it seems that China tends to be a destination country and, according to Table 3 of Milliken et al (2016), its LE ratio is nearly 1. I guess one may argue that China has a high level of law enforcement effort even if its LE ratio is nearly one. Therefore, I think different treatments are needed for countries that are in different stages of the trading chain. For the same reason, if a country moves up in the chain of trade without changing its law enforcement effort from one year to the next year, its LE ratio would drop.
2. My second comment is on the effect of bias adjustment as reflected in Table 1 and Figure 4 of Milliken et al (2016). In Table 1, the number of ivory seizure cases is 1331 in 2010, 1875 in 2011, and 1350 in 2012. However, in Figure 4, the Transaction Index indicates that the relative number of transactions in 2012 is considerably larger than that in 2011. This observation simply implies that a much larger bias adjustment was applied to the data in 2012 than to the data in 2011. However, each year the adjustment is made based on the previous year’s total number of seizures (as well as the splits between Seizure In and Seizure Out across all countries). The larger the number of seizures, the smaller the adjustment, holding other things constant. Since the total number of seizures in 2011 is much larger than in 2010, my intuition is that a smaller adjustment

must have been applied to data in 2012 than that in 2011. Hence, I expect the relative number of transactions in 2012 should be even more smaller than that in 2011. Perhaps my assumption that the splits between Seizure In and Seizure Out across all countries stay constant is too strong. But some explanations for this counter-intuitive result implied by Table 1 and Figure 4 would be helpful.

3. Clearly the choice of the covariates in Model (1.3) is critically to bias adjustment. As acknowledged in both papers, the model used to carry out the bias adjustment involves latent variables. In particular, λ_{ikt} , ϕ_{it} , θ_{it} are all latent variables. Although DIC has emerged as a powerful model selection criterion in the Bayesian framework, when there are latent variables in a candidate model, DIC, as how it is currently implemented in OpenBUGS, is not theoretically justified. The reason is as follows. When there are latent variable, OpenBUGS uses the data augmentation technique to carry out the posterior analysis. That is, λ_{ikt} , ϕ_{it} , θ_{it} are treated as parameters when setting up the likelihood. However, data augmentation undermines the theoretical underpinnings of DIC, although it facilitates parameter estimation via MCMC simulation. Data augmentation invalidates the standard asymptotic arguments and conventional estimators of latent variables may be inconsistent and is not asymptotically normally distributed. However, the standard asymptotic arguments are needed to justify DIC. In the present context, given the constraints in ϕ_{it} and θ_{it} , it is impossible to expect that the estimators of ϕ_{it} and θ_{it} follow the normal distribution asymptotically. In fact, if $N, T \rightarrow \infty$ but K is a fixed constant, λ_{ikt} , ϕ_{it} , θ_{it} cannot even be consistently estimated. That is why DIC, as how it is currently implemented in OpenBUGS, cannot be used to select the covariates in Model (1.3). Li et al (2015) made this point very clearly. Li et al (2015) suggested an alternative way to do model comparison. Chan and Grant (2017) suggested a method to do model comparison based on the integrated likelihood.
4. In carrying out the cluster analysis, it seems that all four variables listed on Page 11-12 of Milliken et al (2016) are assumed to be observed without measurement error. This assumption seems to be too strong. What are the impacts on the cluster analysis if these variables are measured with errors which are positively correlated?
5. It is not clear to me why 13 clusters were chosen. Is this choice merely guided by

study, a decision will be made by any number of clusters used previously or by any statistical criterion such as the p -value? What would happen if the number of cluster is reduced?

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Comments on ETIS reports

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1 Non-technical summary

The purpose of these comments is to discuss the data analysis methods employed in the ETIS reports of 2009-2016 as summarized both in those reports and in the related publications of Underwood et al. (2013) and Burn and Underwood (2013). It is my belief that these methods are seriously flawed and do not provide a sound basis for decision making regarding the role of individual countries in the trading of illegal ivory. The analysis in the ETIS reports is based on using a certain Bayesian hierarchical model to produce smoothed and bias adjusted estimates of expected numbers of transactions of different ivory types in different countries and years. These bias adjusted estimates are used in the definition of various transaction indices which in turn are used as inputs to a cluster analysis.

Although further technical details of the problems in the analysis are described later, a non-technical summary of the most serious problems is given briefly here. The means of the raw data on transactions are modelled as a product of three terms. One of the terms is the smooth expectation of interest with the other two being reporting and seizure rates. All three terms vary by country and time, and the first term also varies according to ivory type. Because the terms in the model cannot be separately estimated (multiplying one term by a constant and dividing another term by the same constant leads to the same model for the data) some assumptions need to be made. The assumption used is that a linear combination of proxy variables determines the seizure and reporting rates. There is no allowance in the model for residual variation in the seizure and reporting rates that is unrelated to the proxy variables, such as a random effect in this component of the model. Since it is very likely that the given proxies are only weakly related to the underlying rates, and that much of the variability in the proxy variables also has nothing to do with the underlying rates, this is unacceptable. The assumptions made will result in overconfident inferences about country specific seizure and reporting rates, with consequent bias and underestimation of uncertainty in the expected

numbers of transactions, the key quantities used in calculating weight and transaction indices. Also problematic is the fact that seizure and reporting rates are modelled as scaled rates that are fixed to be one half for a hypothetical country where the proxy variables are all zero. Because it is scaled rates that are modelled, these scaled rates do not necessarily lie between zero and one, but the model used enforces the constraint that the scaled rates are between zero and one.

Regarding the cluster analysis, this is an exploratory technique useful for obtaining preliminary insights into multivariate data but is not a useful technique for inference or decision making. Although there are model based methods for clustering that can quantify uncertainty in clusterings, these are not used here and in any case such methods make strong assumptions about the distribution of data within each cluster. The authors use a hierarchical agglomerative clustering. This clustering technique requires the choice of a distance measure, a linkage criterion and a decision about how many clusters to choose. The choice of the number of clusters seems to be made inconsistently in different ETIS reports over the years, and the other choices involved and sensitivity to those choices are not explained or explored. Clustering is also sensitive in general to scalings of variables, and how that is done is not explained. Although the authors report uncertainty estimates for various transaction indices in the reports, sensitivity to the clustering to uncertainties in the transaction indices based on the smoothed expectations is not explored. As I have explained above, even if this were done the uncertainties involved are underestimated in the modelling stage.

2 Details of overdispersed regression model and flaws of the model

In describing the model and data we use below the notation given in Underwood et al. (2013). The data consist of counts y_{ikt} of reported seizures, where $i = 1, \dots, N$ indexes different countries, $k = 1, \dots, 6$ indexes different ivory classes and $t = 1, \dots, T$ indexes different years. The data are then modelled as negative binomial, $y_{ikt} \sim NB(p_{ikt}, r_k)$ where $p_{ikt} \in (0, 1)$ and $r_k > 0$ and $NB(p, r)$ denotes the negative binomial distribution with parameters p and r . In the parametrization used, if $Y \sim NB(p, r)$ then this means that

$$P(Y = y) = \binom{y + r - 1}{y} p^r (1 - p)^y, \quad y = 0, 1, \dots$$

The mean of y_{ikt} is, under this model, given by

$$\mu_{ikt} = \frac{r_k(1 - p_{ikt})}{p_{ikt}}.$$

The parameter r_k (which depends only on the ivory type) can be thought of as a variance parameter controlling how much more variable the responses are in the model compared to a standard Poisson regression model. The means μ_{ikt} are modelled further as $\mu_{ikt} = \lambda_{ikt}\theta_{it}\phi_{it}$, where λ_{ikt} are the smoothed and bias adjusted expectations for the number of transactions, θ_{it} is the reporting rate for country i and time t and ϕ_{it} is the seizure rate for country i and time t . It is the estimates of the λ_{ikt} parameters that is used in the definition of the various transaction and weight indices which are used to summarize trends in the data.

As pointed out in Underwood et al. (2013), this model is not identifiable without some further assumptions. The very strong assumption made here is that

$$\log \frac{\theta_{it}}{1 - \theta_{it}} = \sum_j \gamma_j z_{jxit}, \quad j = 1, \dots, P$$

$$\log \frac{\phi_{it}}{1 - \phi_{it}} = \sum_j \beta_j x_{jxit}, \quad j = 1, \dots, Q$$

where z_{jxit} is the value of a proxy variable z_j , $j = 1, \dots, P$ for country i at time t and x_{jxit} is the value of a proxy variable x_j , $j = 1, \dots, Q$ for country i at time t . An intercept term is not used in the models above, meaning that when all the proxy variables are zero the right hand side values are 0 in the equations above, which corresponds to reporting and seizure rates of 0.5. Since only relative values of λ_{ikt} values are used for summarizing trends it is fine to model rates only up to a multiplicative constant, but when θ_{it} and ϕ_{it} are now scaled rates they do not necessarily lie between zero and one, and the logit link function used in the model above inappropriately enforces this constraint. Also unrealistic in this method for identifying the three separate terms in μ_{ikt} is the fact that there is no residual component of variation in the seizure and reporting rates representing variation unexplained by the proxy variables. Since in reality the proxies are only weakly related to the seizure and reporting rates, and further since the proxies also contain a great deal of variability that is unrelated to the underlying rates, this is an unacceptably strong assumption. The form of the model will lead to overconfident inferences about the three terms in the model for μ_{ikt} , and in particular the crucial λ_{ikt} terms which are used in calculations of the transaction and weight indices.

Quantities based on the transaction and weight indices are used to summarize different countries in the cluster analysis. Although the authors make some effort to give uncertainty estimates of the various indices in the reports, these uncertainties are not propagated into the cluster analysis which seems strange since this is one of the most important parts of the analysis since it is where decisions are made. Although there is insufficient detail to reconstruct the analysis of the authors from the details given in the ETIS reports, it is reasonable to ask the following questions. Since hierarchical agglomerative clustering involves a choice of

distance and linkage criterion, how was this done and if other choices are made what change is seen. Also since clustering is sensitive to scaling of variables how was this done. How was the number of clusters determined? This is done in a different way in the three different reports that I have seen. If uncertainty about the smoothed expectations was propagated into the clustering (perhaps by considering different draws from the posterior rather than point summaries) how stable is the clustering? As mentioned in the non-technical summary, clustering is an exploratory technique and it is not clear why we should be making decisions based on such an analysis anyway.

I think the points that I have raised above bring into serious question the validity of the data analyses in the ETIS reports. There are other modelling choices made in the analysis that can be questioned, but are possibly justified depending on what efforts the authors have made to check the model assumptions empirically. For example, they model the λ_{ikt} parameters smoothly on the log scale using country specific linear trends but assume that any nonlinearity (captured by higher order orthogonal polynomial terms) is not country specific. In Underwood et al. (2013) it is stated that various posterior predictive checks have been performed but there is insufficient detail about the nature of these checks to tell whether they justify some of these additional questionable assumptions that I am concerned about. I hope the authors of these reports consider seriously the issues that I have raised and respond constructively with a better analysis.

References

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