NOVEMBER

2023

ONLINE ILLEGAL WILDLIFE TRADE

on Telegram in Singapore

Includes recommendations

(65) 6892 9821 acres.org.sg eyesofacres ACRESAsia

TABLE OF CONTENTS

01 **About Us**

A brief introduction to the work ACRES does in Singapore.

03 **Terms of Reference**

Terminologies and acronyms used in this report.

04 **Executive Summary**

For those who feel it's TLDR.

06 **Introduction**

Legal & Illegal Wildlife Trade in Singapore, giving you the context.

12 **Online wildlife trade in Singapore**

Trends sharing the need for this study.

14 **Investigation methodology**

How we did what we did, and why we didn't do what we didn't do.

16 **Findings**

Graphs, numbers and analyses to show the rampant increasing trends.

22 **Gaps & Recommendations**

Exactly what it says, and the most important part of this report.

34 **Appendix A**

List of reptile species ACRES cares for, from the illegal wildlife trade

36 **Appendix B**

ACRES's repatriations

38 **Appendix C**

Seizures by enforcement agencies, that are publicly reported

41 **Appendix D**

Global legislative reforms, related to the online crimes

About ACRES

ACRES is a pioneering Singapore-based charity and Institution of Public Character, founded by Singaporeans in 2001 with the aim of advocating an end to animal cruelty.

We have six focus areas: Tackling Wildlife Crime, Wildlife Rescue and Rehabilitation, Humane Education, Promoting native wildlife coexistence in Singapore, Community Outreach and Promoting Cruelty-Free Living.

Tackling Wildlife Crime

The illegal wildlife trade subjects billions of animals to pain and suffering, and threatens to wipe out countless species. At ACRES, we combat this wildlife trade through our 24-hour Wildlife Crime Hotline, undercover investigations, public awareness campaigns and collaborations with other NGOs and the government. Our investigations have led to the capture of many wildlife criminals. Our campaigns and engagements with the government have led to vast improvements to national wildlife protection laws.

Wildlife Rescue, Rehabilitation, Release & Repatriation

In 2009, we established Singapore's first dedicated facility to house rescued and trafficked wildlife. The ACRES Wildlife Rescue Centre (AWRC) educates the public, rescues, treats and rehabilitates hundreds of wild animals every year, some from the illegal exotic pet trade and others native to the forests in Singapore that are found injured, lost or disorientated. We run our wildlife rescue services 24 hours a day, 365 days a year. The facility operates on a ‘no kill’ policy.

Promoting Coexistence With Singapore’s Wildlife

Through a wildlife management team that conducts site visits and advises members of the public on coexistence measures, ACRES supports Singapore’s vision of City in Nature promoting coexistence. ACRES also manages the nationwide campaign “Our Wild Neighbours” supported by Mandai Nature.

Humane Education

We never forget that the key to ending animal abuse is education. Our talks, roadshows and Humane Education programmes touch a wide cross section of society, from children in kindergarten to the elderly in the heartland, reaching over 100,000 individuals each year. We travel to schools as well as malls, both downtown and in the heartland. Our aim is to encourage sympathy, compassion and respect for animals as well as other human beings, and to inspire and empower children to change their world for the better.

Community Outreach

We currently have over 20,000 volunteers and supporters in our database. Our volunteer opportunities promote volunteerism in Singapore and create a more caring and compassionate society. We also distribute grants for local animal protection projects, organise conferences and forums and encourage people to become involved in global animal protection campaigns.

Promoting Cruelty-Free Living

Through our Cruelty-Free Living educational materials, we raise awareness about a wide range of household products, food items and fashion accessories that are either tested on animals or cause needless suffering and death in animal labs and factory farms. Our aim is to get consumers to make more humane, considerate and compassionate choices in their daily life.

Terms of Reference

CITES	the Convention on International Trade in Endangered Species of Wild Fauna and Flora. It is an international agreement to ensure that trade ceases to threaten wildlife with extinction. Singapore became a signatory to CITES in 1986 and regulates trade in endangered species through a system of permits.
ESA	an act (Endangered Species (Import & Export) Act) to give effect to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (in Singapore) by controlling the import, export, re-export and introduction from the sea of certain animals and plants, and parts and derivatives of such animals and plants, and for matters connected therewith.
IUCN	International Union for Conservation of Nature Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of biological species. It uses a set of precise criteria to evaluate the extinction risk of thousands of species and subspecies.
Illegal wildlife advertisements	advertisements relating to live animals that are prohibited to be taken, kept, imported, sold, and/or advertised without permits under the Wildlife Act and ESA.
AVS	Animal Veterinary Service, a cluster within the National Parks Board
NParks	National Parks Board, a governmental agency in Singapore that deals with biodiversity, conservation and wildlife matters
Animal	any mammal, bird, reptile, amphibian, fish or invertebrate, whether of a wild nature or otherwise.
AVA	Agri-food and Veterinary Authority of Singapore, which was dissolved in 2019 and merged with NParks to take over all animal-related matters
ICA	Immigration & Checkpoint Authority of Singapore.
ACIU	ACRES's Animal Crime Investigation Unit

Executive Summary

- The rapid surge in the online trade of illegal wildlife and its products is globally recognised in recent years. The pandemic-induced lockdowns, border closures, and travel and trade restrictions have further driven an increase in online trading, where a substantial portion of sales remain unnoticed and difficult to trace due to limited available information. The internet has become a convenient platform for sellers to market their products and effortlessly conduct transactions.

- Lack of legislative instruments that regulate the sale of live animals online is a growing problem faced by enforcement agencies and animal welfare organisations globally. It appears that e-commerce platforms often are not up-to-date in differentiating legal from illegal, and most often before the prohibited advertisement comes to light, the transaction gets completed or deleted by the user.

- To weigh the existing supply and demand of the online wildlife trade in Singapore, we monitored six groups on Telegram where members of the group buy and sell prohibited live animals. The survey period was from 01 November 2021 to 31 December 2021 (61 days), and 01 April 2023 to 31 May 2023 (61 days). All six groups were created (by their group admins) for the sole purpose of selling and buying prohibited wild animals. A total of 1,751 prohibited wild animals were either listed for sale or expressed as interest to purchase (Figure 1). Despite heightened enforcement efforts by the NParks and vigilance by the ICA, the increasing trends indicate that additional measures are needed, and highlights the need for regulatory controls on online platforms.

The rise in the number of individual sellers (586%) and number of CITES-listed animals offered for sale (by 196%) in just 2 years, highlights serious concerns on the effectiveness of current measures.

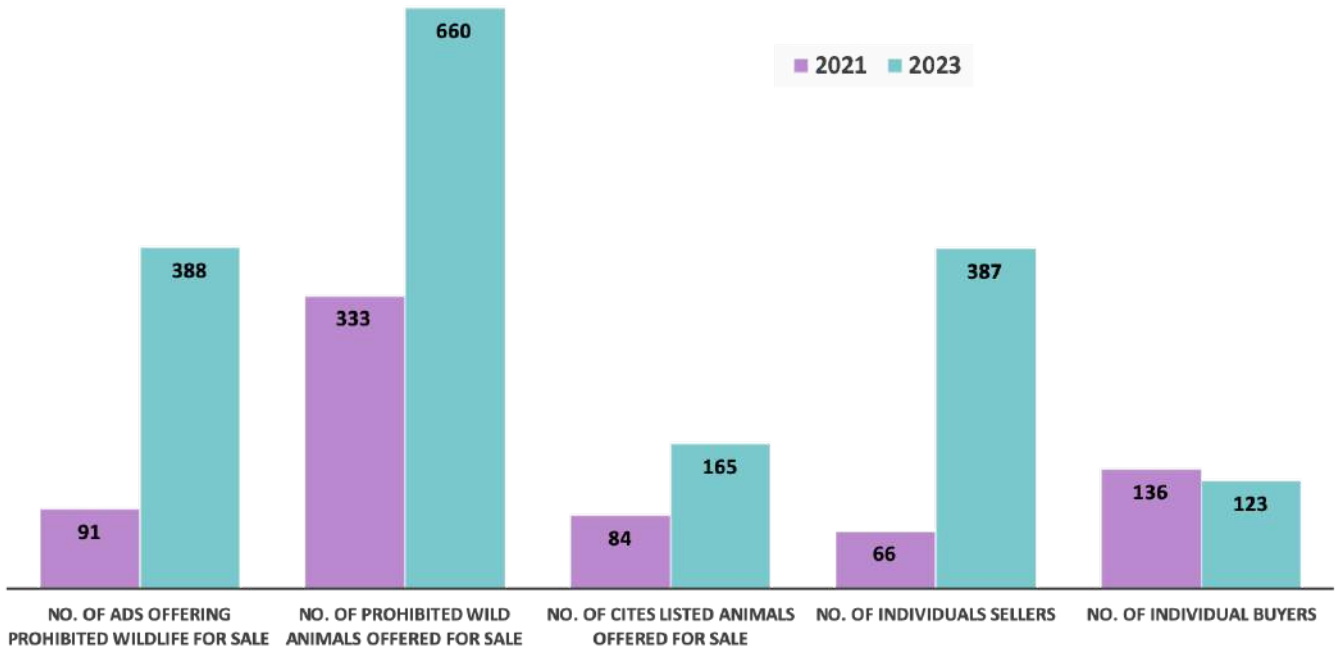


Figure 1. Illegal wildlife trade activity in six chat groups on Telegram which were surveyed in 2021 (for 61 days) and 2023 (for 61 days)

- In the context of rising trends and challenges in enforcement, ACRES strongly advocates for the inclusion of content associated with illegal trade in endangered fauna and flora in the list of harmful (and prohibited) online content. Furthermore, it is recommended that offences related to the Wildlife Act and the Endangered Species (Import & Export) Act be incorporated into the First Schedule of the Online Criminal Harms (OCHA) Act or integrated into the Code of Practice for Online Safety in Singapore.

- The findings and initial recommendations outlined in this report were shared with NParks in early August 2023. In 2024, ACRES wishes to engage with the relevant authorities and organisations/individuals working in Singapore to tackle the illegal wildlife trade and sale of live animals online, to further discuss and implement the aforementioned recommendations, sincerely hoping for these measures to address the pressing global issue of illegal wildlife trade.

Introduction

Illegal Wildlife Trade in Singapore

- With competent ports and strong trade links, Singapore is recognised as one of the major hubs for illegal wildlife trade activities[1]. A report published in 2020 by TRAFFIC which monitored the trade within Southeast Asia confirmed that Singapore functions as one of the key transit hubs[2] for legal commodities such as birds and reptiles.
- The illegal wildlife trade encompasses a wide range of issues such as, but not limited to; leading species to extinction that may already have been recognised as endangered under the International Union for Conservation of Nature[3] (IUCN) Red List of Threatened Species, spread of zoonotic diseases such as rabies and salmonellosis, high volumes of animals dying from the smuggling process, abandonment and improper care when housed in captivity[4].
- Since 2010, ACRES has conducted many joint operations together with the enforcement agencies to tackle the online trade issue, resulting in confiscation of parts from tiger[5], sugar gliders, Asian leopard cat[6], false gharial[7] and more.
- Many investigations and collaborative efforts have put a huge dent in the physical sale of prohibited wildlife and their parts in physical shops. However, the online trade has become a global issue that needs addressing.

A young green iguana, rescued after being abandoned behind a veterinary clinic, rests at the ACRES Quarantine section of the wildlife rescue centre.

1. At the Heart of Wildlife Trade, A report by TRAFFIC Southeast Asia, 2020
2. At the Heart of Wildlife Trade, A report by TRAFFIC Southeast Asia, 2020
3. IUCN website https://www.iucnredlist.org/
4. CDC Diseases That Can Spread Between Animals and People, *CDC Website, accessed June 2023.*
5. ACRES sting operations: Seizure of alleged tiger skins, *Wild Singapore news, 30 Sep 2010.*
6. Acres finds 156 online advertisements touting illegal pets, *The Straits Times, 2015*
7. Man, 23, fined S$9.6k for trying to sell crocodilian at Jurong West & keeping 3 pet hedgehogs, *Mothership, 2020*

ACRES has rescued over 400 victims of the illegal wildlife trade till date and the ACRES Animal Crime Investigation Unit (ACIU) has handled 345 cases[8] related to possession and abandonment from the year 2014 to 2021. We also received 290 reports involving the sale of prohibited live animals and 1,430 reports related to the sale of prohibited wildlife parts from the year 2015 to 2021. At any given time, ACRES wildlife Rescue Centre provides a home to over 130 victims of various species ***(Appendix A)*** from the illegal pet trade in Singapore.

Aside from the resources spent on providing optimal care and veterinary treatment, a lot of resources are also spent in organising and coordinating repatriation projects to ensure that a second chance is provided for these animals. ACRES has successfully repatriated a total of 68 animals till date to their countries[9] of origin ***(Appendix B)***.

Deformities, tumours, organ failures and morphs (from selective breeding) are some of the challenges that trafficked wildlife present. Such animals require life-long care, with no hopes of repatriation or a second chance in the wild.

However in recent years, the trade has shifted digitally making it more challenging to tackle the trade. With the recent pandemic, an increase in the online trade has been observed and organisations worldwide are voicing their concerns and making great initiatives in an attempt to tackle the issue[10].

In 2015, to tackle the illegal wildlife trade and to investigate animal cruelty cases in Singapore, ACRES launched[11] the **Animal Crime Investigation Unit (ACIU)**. The team has since handled 340 cases related to the possession and sightings of prohibited wildlife.

8. Empowering others to tackle the wildlife trade, Anbarasi Boopal, *Bank Of Singapore, 2020*
9. ACRES website: https://acres.org.sg/wildlife-rescue/wildlife-repatriation/
10. Wildlife trafficking, like everything else, has gone online during COVID-19, *Mongabay*, 2021
11. Acres launches dedicated unit to investigate crimes against animals, *The Straits Times*, 2015.

Legal wildlife trade in Singapore

Under the Wildlife Act[12], the following wildlife species are allowed to be kept as pets in Singapore:

Table 1. NParks list of wildlife species allowed to be sold at pet shops in Singapore

Red-eared sliders (*Trachemys scripta elegans*)	All birds except house crow (*Corvus splendens*), white-vented or Javan myna (*Acridotheres javanicus*), common myna (*Acridotheres tristis*), feral pigeon (*Columba livia*), and birds which are prescribed as protected wildlife species	All fish except piranhas and fish which are prescribed as protected wildlife species
Land hermit crabs (*Coenobita rugosus*)	Moon jellyfish (*Aurelia aurita*)	Green tree frogs (*Litoria caerulea*)
American bullfrogs (*Lithobates catesbeianus*)	Crab-eating frogs (*Fejervarya cancrivora*)	Malayan box turtles (*Cuora amboinensis*)
Tubifex worms (*Tubifex tubifex*)	Blood worms (Chironomidae and *Glycera* spp.)	Daphnia (*Daphnia* spp. and *Monia* spp.)
Sea monkeys (Artermia spp.)	House crickets (*Acheta domesticus*)	Mediterranean two-spot crickets (*Gryllus bimaculatus*)
Mealworms and superworms (*Tenebrio molitor* and *Zohobas moria*)	Black soldier flies (*Hermetia illucens*)	Earthworms
Sarong worms (*Diopatra neapolitana*)	Microworms (*Panagrellus* spp.)	*Camponotus irritans*
Meranoplus bicolor, Odontoponera denticulata, Odontomachus simillimus, Tetraponera rufonigra		

12. Animals Allowed For Sale, NParks website accessed June 2023.

Tackling the illegal wildlife trade in Singapore

Singapore has been a party to CITES since 1986. CITES is an international agreement that ensures the regulation in trading live animals and plants and ensures that no species becomes extinct[13]. To import, keep, or trade, wildlife that are not listed as 'legally allowed pets' in Singapore, a valid CITES permit has to be issued by NParks in Singapore[14]. This applies for the purposes of research, commercial or zoological. For personal possession, import permits may be issued for CITES-listed species that fall under the list of pets that are allowed to be kept as pets in Singapore or for importation of animal parts and derivatives.

Aside from the wildlife species that are allowed to be sold in Singapore (listed in the table above), Singapore does not allow the keeping of wild animals for the following reasons[15]:

Table 2. Reasons that Singapore does not allow the keeping of prohibited wild animals

Disease spread	Concern over introduction and spread of diseases to humans and domestic animals from keeping exotics.
Ecosystem imbalance	Collection of wild animals for trade will lead to ecosystem imbalance and threaten the survival of endangered species.
Welfare of animal compromised	Unsuitable living conditions, poor diet and pet owner's lack of knowledge of the proper care for the animal may affect animal's welfare.
Singapore's biodiversity affected	If exotic pets, which are non-native were released in the wild, it may affect Singapore's biodiversity.
Public safety	Animals may escape causing nuisance, fear and trauma to the general public.

13. CITES, NParks website, *accessed June 2023.*
14. Wildlife & Endangered Species, NParks website. *accessed June 2023.*
15. Keeping of Wildlife as Pets, NParks website, *accessed June 2023.*

To add on, the illegal wildlife trade also contributes to pushing animals to near extinction[16], as most animals sold for the trade are captured as young from the wild[17]. The trade's clandestine nature amplifies mortality and disease risks, with inadequate conditions during capture, transport, and trade causing significant harm. The mortality rates can range anywhere from 30-90%[18].

Animals are smuggled in luggage, PVC pipes, car boots, cargo ships and even small plastic food containers where there is no room for ventilation or movement. The animals are often deprived of food and water for days during the smuggling process[19]. Singapore's Immigration and Checkpoint Authority (ICA) has successfully detected many live animals smuggled into Singapore. See ***Appendix C*** for the list of publicly available information on confiscations and seizures by the enforcement agencies.

Deserving special mention in efforts to tackle this issue is the NParks K9 unit launched in 2021[20], with sniffer dogs specially trained to detect commonly trafficked wildlife and wildlife products, such as elephant ivory and pangolin scales.

Currently, Singapore has the Wildlife Act and the Endangered Species (Import and Export) Act (ESA)[21],[22] as enforcement tools against individuals involved in the illegal wildlife trade in Singapore[23],[24]. In 2020, the Wild Animals and Bird Act (WABA) was amended and renamed as the Wildlife Act (WA). Key amendments related to wildlife trade issues include:

Table 3. Penalties under Singapore's Wild Animals and Bird Act (WABA) and Wildlife Act (WA)

Offense	Penalty under WABA	Revised penalty under WA (non-protected species)	Revised penalty under WA (protected species)
Offering for sale, sale or export of wildlife without approval	SGD1,000	SGD10,000 fine and/or 12 months' jail	SGD50,000 fine and/or 2 years' jail
Import of wildlife without approval	SGD1,000	SGD10,000 fine and/or 12 months' jail	SGD50,000 fine and/or 2 years' jail

16. Wildlife Trade 101, Chia Yi Hou, *Natural Resources Defense Council, NDRC, 2019*
17. Illegal wildlife trade in Asia decimating species, warn scientists, *Mongabay, 2016*
18. Wyatt, T., Maher, J., Allen, D. et al. The welfare of wildlife: an interdisciplinary analysis of harm in the legal and illegal wildlife trades and possible ways forward. *Crime Law Soc Change* 77, 69–89 (2022).
19. Rosen, G.E., Smith, K.F. Summarizing the Evidence on the International Trade in Illegal Wildlife. *EcoHealth* 7, 24–32 (2010).
20. NParks opens forensics centre, launches dog unit to bolster Singapore's fight against illegal wildlife trade, *Today Online,* Aug 2021.
21. Endangered Species Import & Export Act, *Singapore Statutes Online, Accessed June 2023.*
22. Wildlife Act, *Singapore Statutes Online, Accessed June 2023.*
23. Proposed changes to endangered species law include stiffer penalties for offenders, *The Straits Times, 2021.*
24. The Wild Animals and Birds (Amendment) Act (Act No 16 of 2020), Joseph Chun, *NUS Asia-Pacific Centre for Environment Law Working Paper 20/05 NUS Law Working Paper 2020/019*

The bill to amend the Endangered Species (Import and Export) Act was passed in July 2022. It is commendable that extensive consultations with the public, industry stakeholders, academic experts and NGO were carried out by the NParks. Many of the proposed amendments received strong support, and many recommendations and suggestions were given by the consulted stakeholders to this process. Key amendments to the ESA, related to the illegal wildlife trade include[25]:

Table 4. Amendments to the Endangered Species (Import and Export) Act of Singapore pertaining to illegal wildlife trade in 2022

Offense	Previous regulations (before July 2022)	Revised regulations (July 2022 onward)
Penalties for illegal trade in species protected under CITES (for individuals)	Maximum fine for illegal trade in Appendix I, II and III species - SGD50,000 per species and/or 2 years' jail	Maximum fine for Appendix I species - SGD100,000 per specimen (not exceeding aggregate of SGD500,000 or the market value of all specimens at the material time, whichever is higher) and/or 6 years' jail. Appendix II and III species - SGD50,000 and/or 4 years' jail.
Penalties for illegal trade in species protected under CITES (for corporate offenders)	N/A	Maximum fine for Appendix I species - SGD200,000 per specimen (not exceeding aggregate of $1 mil or the market value of all specimens at the material time, whichever is higher) and/or 8 years' jail. Appendix II and III species - SGD100,000 and/or 6 years' jail.
Greater clarity for stakeholder on scope of Singapore's wildlife trade regulations	N/A	• That animal hybrids of CITES Appendix I and II species are considered as full species.That naturally excreted animal by-products such as faeces and urine and excluded from the Act.The documents that are needed for CITES species in transit or transshipment through Singapore. • That retrospective permits and altered permits are not accepted for the trade of CITES species in Singapore, except under certain conditions.

25. Amendments to the Endangered Species (Import and Export) Act, *NParks Website accessed July 2023.*

The issue of online illegal wildlife trade

Notwithstanding the rigorous regulations established, a clear void exists in addressing the illicit online wildlife trade. Even though the ESA prohibits advertising of listed wildlife in any form, including online advertisements, online sales of prohibited wildlife and other live animals remain openly rampant in Singapore. Online wildlife trade is recognised as a pressing issue worldwide by many organisations tackling the illegal wildlife trade[26]. A recent news article published in August 2023 in Singapore[27], highlighted the increasing trend and sale of wildlife parts on online platforms such as Telegram and Whatsapp. The article had screenshots of text messages advertising for sale tiger teeth, tiger claws, bear teeth and rhino horns.

CITES has also recognised the online wildlife trade as "***having a devastating effect on animals, ecosystems, and the communities that rely on them worldwide, making it one of the major wildlife conservation challenges of our generation***"[28]. The largest investigation done on the online wildlife trade in 2008 by the International Fund for Animal Welfare (IFAW) was highlighted which called for Parties and web-based marketplaces to work together to tackle the online sale of illegal wildlife[29].

In 2018, World Wide Fund for Nature (WWF), TRAFFIC and International Fund for Animal Welfare (IFAW) launched the Coalition to End Wildlife Trafficking Online with 21 tech companies[30]. The coalition aims to educate, create awareness and share best practices with tech companies on the online illegal wildlife trade. As of 2021, the coalition has blocked or removed a total of 11,631,819 posts on illegal wildlife[31].

26. Coalition against online wildlife trafficking shares little evidence of success (analysis) *Mongabay, Analysis by Toby McIntosh on 25 March 2022*
27. Illegal wildlife trade 'thriving' in virtual world; NParks monitoring marketplaces , *The Straits Times, Aug 2023*
28. Investigating the Internet Wildlife Trade, World Official Newsletter for the Parties *Issue 19.*
29. Killing With Keystrokes: An Investigation of the Illegal Wildlife Trade on the World Wide Web *IFAW report, 2008*
30. COALITION TO END WILDLIFE TRAFFICKING ONLINE *Accessed June 2023*
31. COALITION TO END WILDLIFE TRAFFICKING ONLINE *2021 Progress Update*

ACRES's monitoring data of local e-commerce platforms showed an increase in the number of listings for prohibited wildlife and their parts in Singapore: from 372 in 2016, to 594 in 2017. These local e-commerce platforms include Carousell, Chutku.sg, Gumtree, Facebook and more.

From 2015 to 2022, ACRES received a total of 169 individual reports related to the online sale of prohibited animals and 73 individual reports related to the online sale of prohibited animal parts. The breakdown of feedback received (from members of public) on online trade, over the period of 7 years:

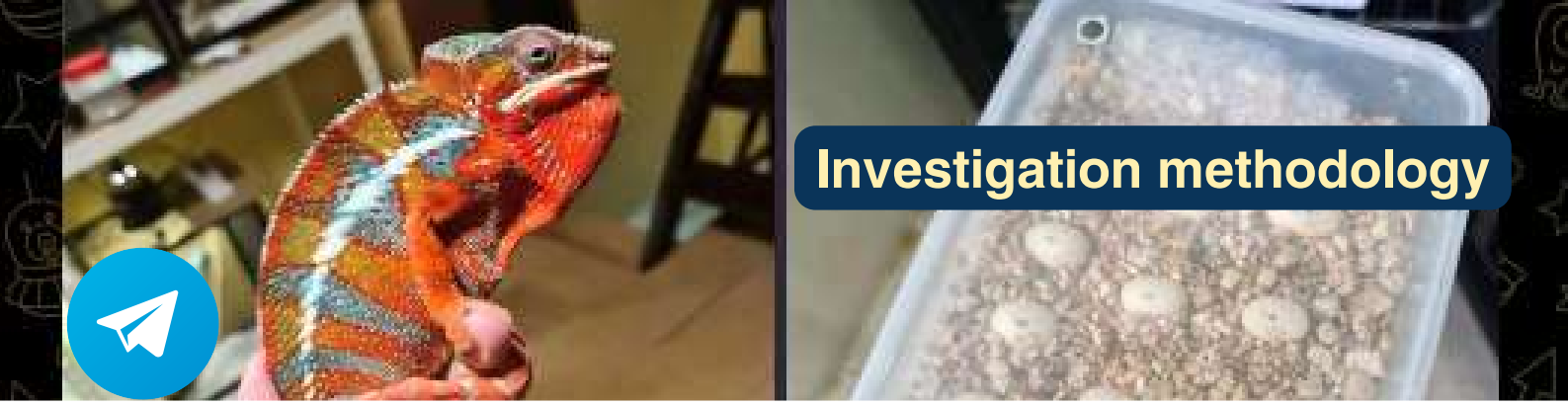
Table 5: Number of reports that ACRES received from members of public regarding the online sale of prohibited animals & their parts

Category/Yr	2015	2016	2017	2018	2019	2020	2021	2022
Live animals	**29**	**26**	**45**	**31**	**7**	**17**	**14**	**9**
Animal parts	**6**	**21**	**7**	**22**	**5**	**9**	**3**	**4**

Although the figures suggest that there has been a drop in the recent years, these are the potential reasons:

- Often, members of public may lose interest in reporting because the listing takes a long time to be removed even after being reported, or from the response given by groups/agencies that more information is required on who is the user (selling or in posession of a prohibited animal/product). Many feedback providers have expressed their displeasure on inaction due to insufficient information.
- Users may choose to flag/report ad on the platform, instead of reporting to ACRES or an NGO, who does not have any enforcement powers.
- The online trade moving from open advertisements on e-commerce platforms to closed and secret groups on messaging applications and market places, that require invite links or mutual contacts to have members added to the groups.

Hence most often, such groups go undetected unless the group gets reported to authorities or animal welfare groups by members of the public. Despite being on track with search terms related to the online wildlife trade and putting them to use during online surveillance, such groups may not surface due to the privacy feature and encryption that the platform offers.



Investigation methodology

ACRES's ACIU monitored six groups (at the time of investigation) on Telegram where members of the group actively buy and sell prohibited live animals, in violation of the Wildlife Act and Endangered Species (Import and Export) Act. For the purpose of this investigation, transactions related to the sale and buying of legally approved wildlife and non-wildlife that are allowed to be kept as pets in Singapore were omitted. Telegram[32], a messaging service, was chosen based on the number of reports from members of the public, which ACRES has received over the years, as well as our own surveillance within these groups which show there is illicit activity occuring.

- The survey period was from 01 November 2021 to 31 December 2021 (61 days), and 01 April 2023 to 31 May 2023 (61 days).
- Surveys were conducted daily to review every single message during the above-mentioned timeframe to collect data.
- In 2021, the surveys focussed on 3 chat groups that were identified to be hosting illicit activity related to wildlife trade. In 2023, the surveys focused on 3 chat groups that were identified to be hosting illicit activity related to wildlife trade. The chat groups' names and membership were considerably different in 2021 and 2023, and ACRES was unable to confirm if they were different groups or the same groups (with different names). For this reason, the groups are considered different and numbered as 1 to 3 for the 2021 survey period and 4 to 6 for 2023 survey period.
- No conversations were initiated by the investigator to find out more information. All information in the findings section was recorded as presented in the chats.
- Trends in the number of members were also recorded during the survey period.
- Repeated requests by the same interested buyer for the same animal/s were omitted, to prevent duplication of data.
- Repeated offers by the same seller for the same animal/s were omitted, to prevent duplication of data.
- Screenshots were documented for intel collection purposes.
- Report findings were shared with NParks in August 2023 and individual reports were not filed, as NParks had already notified ACRES that they are aware of these groups since 2021.
- For ethical reasons, not to drive the demand further, ACRES will not publish the names of the Telegram groups in this report or media releases.

32. https://telegram.org/

Findings

1 AVERAGE OF 8 PROHIBITED WILD ANIMALS OFFERED FOR SALE IN A DAY

During the investigation periods in 2021 and 2023, which collectively spanned 122 days, a total of 1,751 animals of prohibited species were either listed for sale or were expressed as an interest to purchase.

In these 122 days, 993 prohibited wild animals were advertised for sale, which averages to 8 prohibited wild animals advertised by sellers per day.

Table 6: Number of adverts to buy and sell prohibited wildlife in six Telegram chat groups surveyed in 2021 and 2023

Telegram Group	No. of ads offering prohibited wild animals for sale	No. of prohibited wild animals listed for sale	No. of ads seeking to buy prohibited wild animals	No. of prohibited wild animals sought
Group 1 (2021)	91	329	146	363
Group 2 (2021)	0	0	5	5
Group 3 (2021)	4	4	5	6
Group 4 (2023)	222	346	86	92
Group 5 (2023)	104	234	36	38
Group 6 (2023)	62	80	1	2

2 ONE IN FOUR PROHIBITED WILDLIFE ON SALE CITES-LISTED

Out of the total number of prohibited wild animals listed for sale, 249 (25%) of the animals were CITES-listed. A table of CITES-listed species advertised for sale or requested for purchase is shown in ***Table 3*** on the next page.

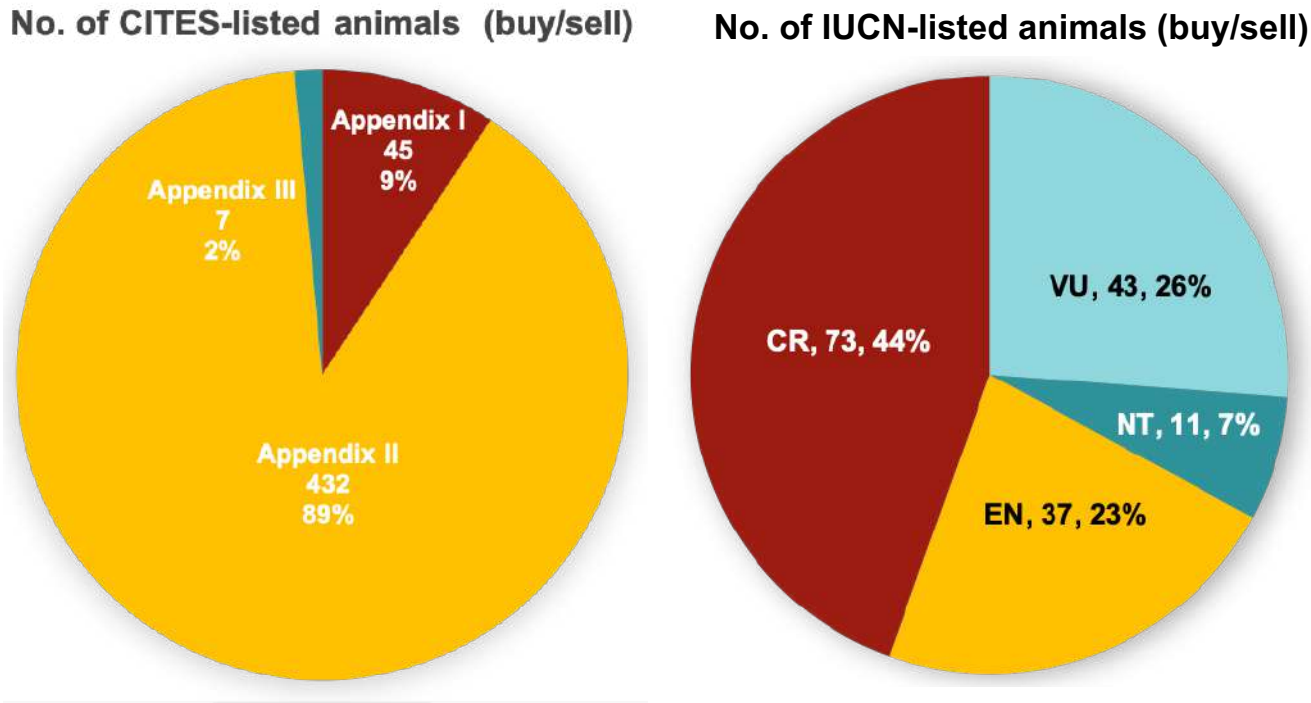


Figure 2. The proportion of CITES-listed and IUCN-listed wildlife traded on Telegram during surveys of six chat groups in 2021 and 2023

3 ONE IN TEN PROHIBITED WILDLIFE ON SALE IUCN-LISTED

Out of the 1,751 prohibited wild animals listed to buy and sell, 164 animals were IUCN-listed. The breakdown of their threatened statuses can be found in the figure above.

Table 7: Breakdown of the 249 CITES-listed wildlife traded (buy/sell) in six Telegram chat groups surveyed in 2021 and 2023

No	Species	CITES Listing	2021	2023
1	Aldabra tortoise (*Aldabrachelys gigantea*)	II	3	3
2	Axolotl (*Ambystoma mexicanum*)	II	26	25
3	Ball python (*Python regius*)	II	7	3
4	Tarantula (*Theraphosidae family, multiple species*)	II	40	46
5	Indian star tortoise (*Geochelone elegans*)	I	4	21
6	Common snapping turtle (*Chelydra serpentina*)	III	3	1
7	Alligator snapping turtle (*Macrochelys temminckii*)	III	3	0
8	Leopard tortoise (*Stigmochelys pardalis*)	II	7	19
9	Corn snake (*Pantherophis guttatus*)	II	9	6
10	Pig-nosed turtle (*Carettochelys insculpta*)	II	1	4
11	Marmoset monkey (*Callithrix jacchus*)	II	2	4
12	Scorpion (*Scorpiones*)	II	6	26
13	Sulcata tortoise (*Geochelone sulcata*)	II	4	7
14	Red-footed tortoise (*Chelonoidis carbonaria*)	II	1	0
15	Red- eyed tree frog (*Agalychnis callidryas*)	II	1	0
16	Chameleon (*Chamaeleonidae*)	II	6	17
17	Soft shell turtle (*Amyda cartilaginea*)	II	2	4
18	Reeves turtle (*Mauremys reevesii*)	III	12	0
19	Common palm civet (*Paradoxurus hermaphroditus*)	III	1	0
20	Razor-backed musk turtle (*Sternotherus carinatus*)	II	1	1
21	Elongated tortoise (*Indotestudo elongata*)	II	2	0
22	Cherry head tortoise (*Geochelone carbonaria*)	II	1	0
23	Common musk turtle (*Sternotherus odoratus*)	II	3	0
24	Pink bellied side neck turtle (*Emydura subglobosa*)	II	1	4
25	Golden thread turtle (*Ocadia sinensis*)	II	1	0
26	Honey blue-eyed tree frog (*Litoria caerulea*)	II	1	0
27	Owl (*Strigiformes*)	II	2	0
28	Tegu (*Salvator merianae*)	II	3	0
29	Budgetts frog (*Lepidobatrachus laevis*)	II	2	0
30	Green iguana (*Iguana iguana*)	II	2	9
31	Asian leaf turtle (*Cyclemys dentata*)	II	1	0
32	Mississippi map turtle (*Graptemys pseudogeographica kohn*)	III	2	0
33	Diamond-backed turtle (*Malaclemys terrapin*)	II	1	0
34	Dart frog (*Dendrobatidae*)	II	1	0

4 INCREASE IN MEMBERSHIP WITHIN 61 DAYS

In our study, we observed changes in group membership between the survey commencement to its conclusion. Notably, a rise in membership was observed, suggesting a heightened interest in the illegal wildlife trade and improved awareness of sources for acquiring or selling prohibited animals. Specifically, three groups experienced a membership surge of at least 50%, as depicted in the figure below showcasing the membership growth.

Figure 3. Membership in the six Telegram chat groups surveyed in 2021 and 2023, showing increased membership within 61 days of survey.

The number of individual buyers and sellers for each group was analysed and the data revealed that all chat groups had an average of 50% more interested buyers as compared to sellers which indicates the increase in demand to purchase exotic animals.

5 RISING TRENDS FROM 2021 to 2023

Despite many enforcement actions taken against individuals offering prohibited wildlife for sale on Telegram since 2021, the data still shows increasing sales on the platform. Even though there was a slight drop of 10% in the number of individual buyers in the Telegram group chats between 2021 and 2023, this is not necessarily reflective of a drop in activity, as most buyers would message sellers directly and will not be actively and openly asking for prohibited animals in a group chat.

The number of individual sellers offering prohibited wildlife on Telegram rose from 66 individuals in 2021 to 387 individuals in 2023, indicating an increase of over 580%.

The number of advertisements offering prohibited wildlife for sale on Telegram rose from 91 in 2021 to 388 in 2023, indicating an increase of over 400%.

The number of prohibited wild animals (individuals) listed for sale on Telegram rose from 333 in 2021 to 660 in 2023, indicating an increase of almost 200%.

The number of CITES-listed wild animals (individuals) listed for sale in these Telegram groups rose from 84 in 2021 to 165 in 2023, indicating an increase of 100%.

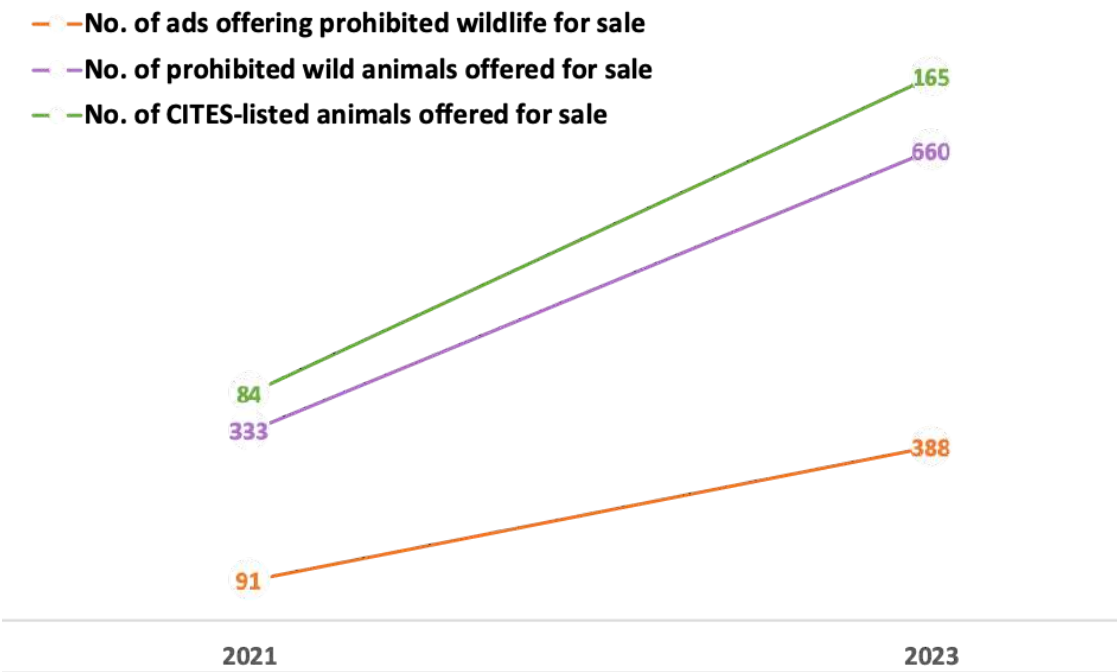


Figure 4. Trends in prohibited wildlife trade in six Telegram chat groups surveyed in 2021 and 2023, showing increased numbers in 2023

6 SPECIES ON DEMAND/ON SALE WITH INCREASING TRENDS

The top 10 animal species, where there was an increase in adverts between 2021 and 2023, were the Indian star tortoise (CITES-Appendix I) 500% increase, Leopard tortoise (CITES-Appendix II) 271% increase, scorpions 400% increase, pink-bellied side necked turtle (CITES-Appendix II) 400% increase, green iguana (CITES-Appendix II) 450% increase, chameleons 280% increase, sulcata tortoise (CITES-Appendix II) 175% increase, alongside other species such as pig-nosed turtles, marmoset monkeys, soft-shelled turtles and tarantulas. Figure 5 shows the exact number of animals being traded (buy/sell).

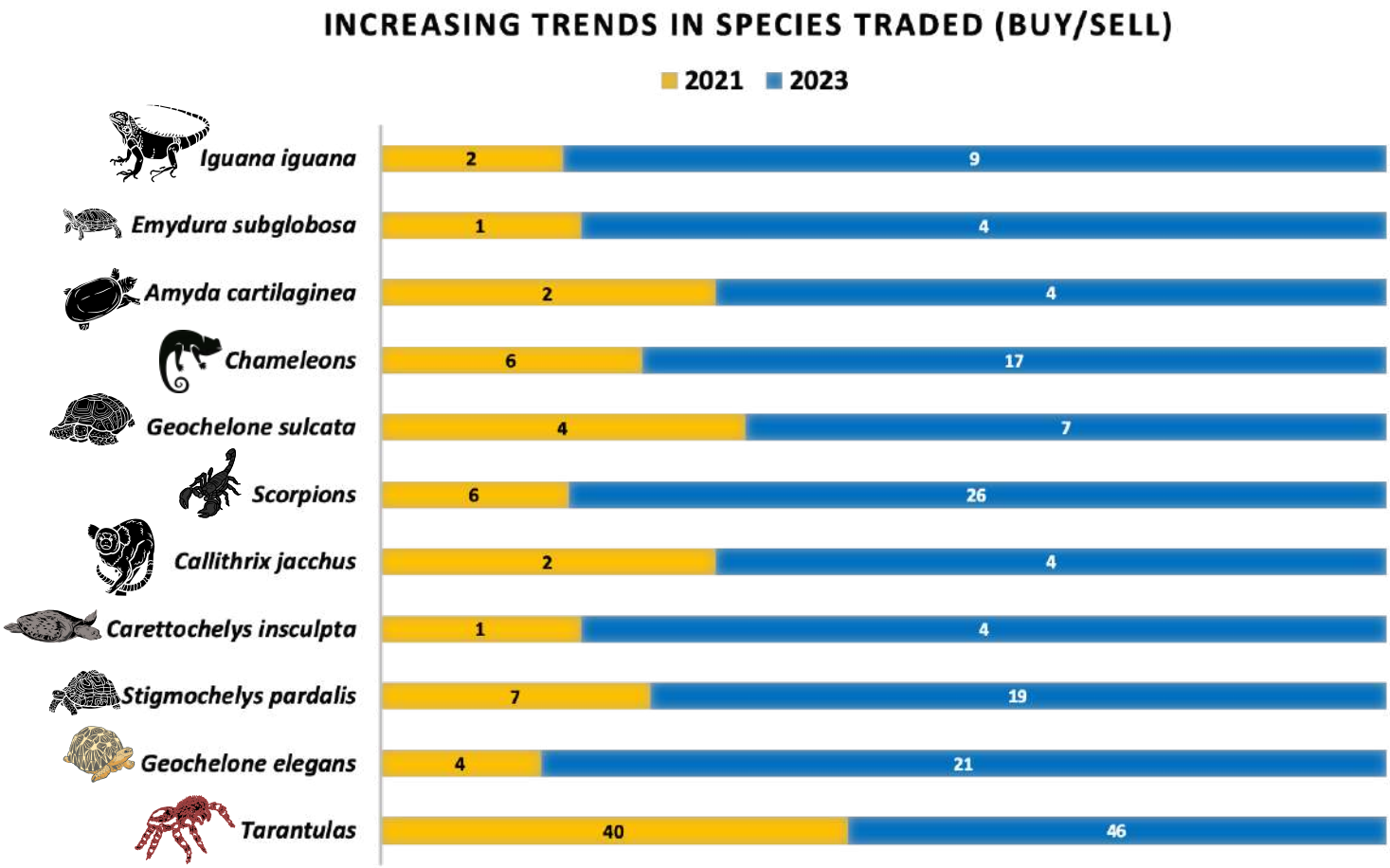
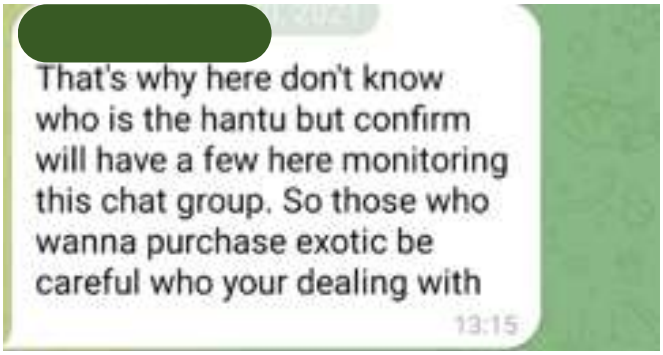
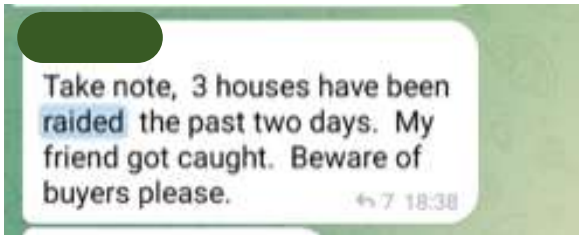


Figure 5. Number of individual animals advertised (buy/sell) in six Telegram chat groups surveyed in 2021 and 2023, showing increased numbers in 2023

7 GROUP MEMBERS AWARE OF MONITORING AND CONFISCATIONS

We also noted that users were aware that authorities were part of the closed groups, monitoring their activities. Some users openly shared that their houses have been raided before, alerting the others to stay alert for a few days. Second time offenders were still part of the group actively sharing knowledge and content about the trade and animals. There were even requests asking for a human runner to assist with bringing in animals, from Malaysia to Singapore.

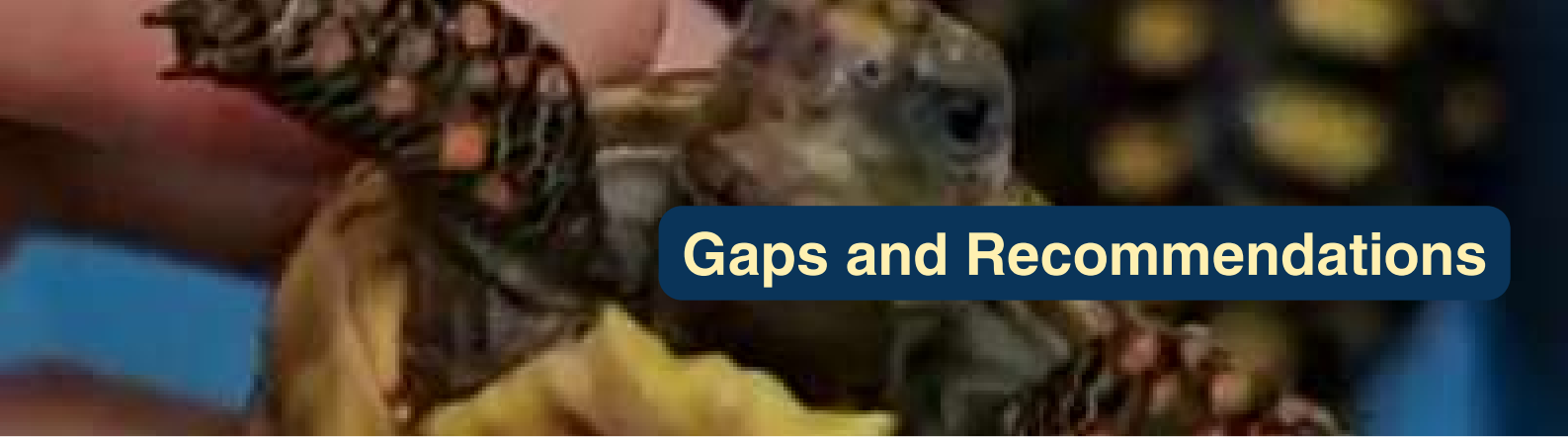




8 PRICE RANGES FOR THE PROHIBITED WILDLIFE OFFERED

Panther chameleon being sold for $1,350 per animal, and $2,200 per pair.

Due to buyer/seller preferences to carry out price negotiations on direct messaging, 50-75% of the data from chat groups did not have a price mentioned. Hence, the price range extracted from the groups are not believed representative of the actual market rates these trafficked animals are sold or bought at. From what was gathered, there was a price range of SGD$10 to $750 for smaller animals, from geckos, to frogs and smaller turtles. However, some tortoises such as radiated tortoises (*Astrochelys radiata*), which are a critically endangered species native to Madagascar, and listed on CITES Appendix I, were sold at $3,000 and possibly more, as it was written in the group chat as $3XXX. Certain other animals such as Panther chameleons (CITES Appendix II, and native to Madagascar) were sold in the range of $2,000 to $2,200 per pair.



Gaps and Recommendations

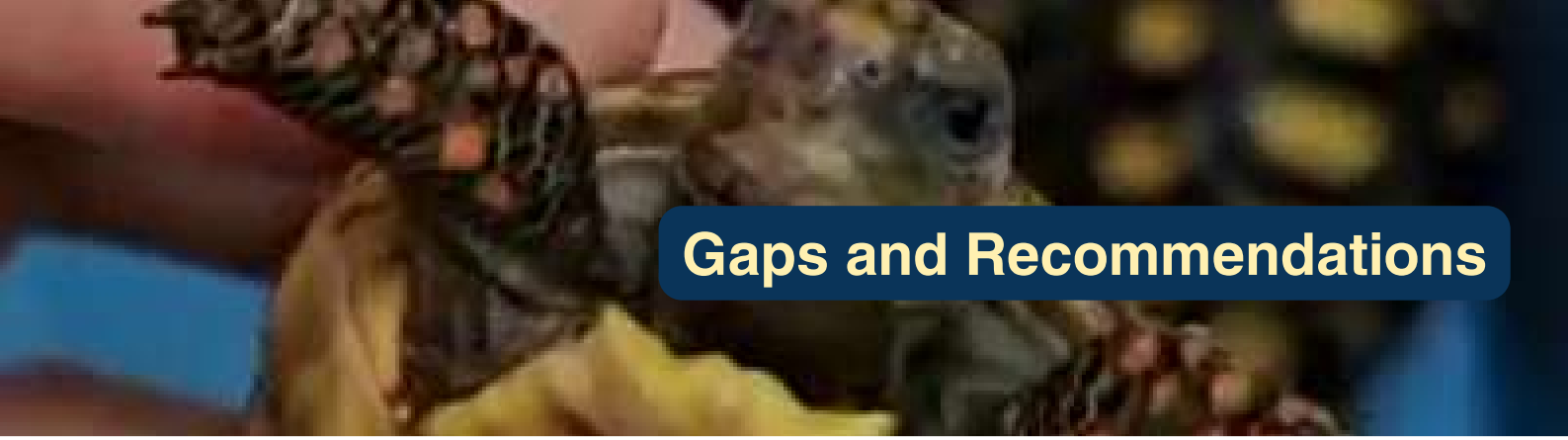
1 SELF-REGULATION IS INADEQUATE

Collaborative initiatives, such as the End Wildlife Trafficking Online Coalition, have played a pivotal role in encouraging platforms to proactively remove listings advertising prohibited wildlife and their parts for sale. The Prohibited Wildlife Policy Framework[33], formulated by experts from WWF, TRAFFIC, and IFAW, provides a concise list of endangered species for companies to ban on their platforms. This framework facilitates unity within the tech industry against online wildlife trafficking by offering clear guidance that aligns with existing company policies. It equips companies with the means to combat illegal wildlife trade, educate users, and demonstrate their commitment to this cause. Its ultimate objective is to dissuade wildlife criminals from peddling illegal products online and circumventing detection by frequently changing platforms.

As of September 2021, the Coalition to End Wildlife Trafficking Online has seen a doubling of participating tech companies, now totaling 47, including TikTok. Over 11 million listings related to illegal wildlife were either blocked or removed[34]. **However, it's worth mentioning that Telegram is not currently aligned with this coalition.**

Despite numerous platforms offering established guidelines and policies that encompass local regulations, effectively addressing illicit online trade proves to be a persistent challenge due to its reactionary nature[35]. Given the rapid nature of transactions, where animals or products are often sold within hours, listings may remain online, potentially with more stock available for sale. While the removal of listings is undoubtedly beneficial in curbing the trade, it does not completely eradicate it. Studies[36] have called for strategic proactive plan to combat this issue with policies, rather than reactive measures. Below, we outline several existing policies and guidelines adopted by platforms in response to these growing concerns.

33. Coalition Prohibited Wildlife Policy Framework, *Coalition to End Wildlife Trafficking Online Website, Accessed July 2023.*
34. Coalition to End Wildlife Trafficking Online, 2021 Progress Update
35. Fukushima, C.S., Tricorache, P., Toomes, A. et al. (18 more authors) (2021) Challenges and perspectives on tackling illegal or unsustainable wildlife trade. *Biological Conservation, 263*. 109342. ISSN 0006-3207
36. Brett R. Scheffers et al. Global wildlife trade across the tree of life. *Science* 366,71-76 (2019)



Gaps and Recommendations

Below, we outline several existing policies and guidelines adopted by platforms in response to these growing concerns.

Shopee

Shopee's Prohibited and Restricted Items Policy states[37]:
(i) Animal & animals related products including, without limitation, live animals, wildlife animals, mounted specimen, elephant ivory, tiger tooth amulet or any parts of animals illegal to sell and/or all endangered species provided under the law;

Mention of CITES ✓ **Policy against sale of all live animals** ✓

Whatsapp

Whatsapp Commerce Policy prohibits sale of[38]:

- Live animals
- Livestock
- Prohibited animal parts, including but not limited to bone, teeth, horn, ivory, taxidermy, organs, external limbs, secretions, or carcasses
- Any product or part, including but not limited to leather, skin, hide, fur, wool, or hair from any dogs, cats, and endangered or threatened animals

Mention of CITES ✗ **Policy against sale of all live animals** ✓

Telegram

Telegram states under their FAQs[39] in response to "There's illegal content on Telegram, how do I take it down?" that "All Telegram chats and group chats are private amongst their participants. We do not process any requests related to them."

However, it provides: Whenever we receive a complaint at abuse@telegram.org or dmca@telegram.org regarding the legality of public content, we perform the necessary legal checks and take it down when deemed appropriate.

Mention of CITES ✗ **Policy against sale of all live animals** ✗

37. Prohibited and Restricted Items Policy, Shopee website , Accessed July 2023.
38. WhatsApp Commerce Policy, WhatsApp website, Accessed July 2023.
39. Telegram FAQ, Telegram website, accessed July 2023.

Meta

Facebook, Instagram

Commerce policy - prohibited content[40]:
Listings may not promote the buying or selling of animals or animal products, or land in ecological conservation areas.

Despite the tech giant's commitment to combating the illicit trade, a recent investigation reveals that META continues to serve as a flourishing hub for online wildlife trafficking.

Mention of CITES ✗ **Policy against sale of all live animals** ✓

TikTok

Tiktok's guidelines state that *"We do not allow facilitating the trade of* [41]

- regulated, prohibited, or high-risk goods and services, such as alcohol, tobacco products, regulated substances, firearms and other dangerous weapons, sexual services, **animals**, or counterfeit goods.
- Live animals, and any part of an endangered animal, such as products and medicine made from elephant ivory, tiger bones, rhino horns, and sea turtle shells".

Mention of CITES ✗ **Policy against sale of all live animals** ✓

Carousell

Animals & Animal Products - Live animals and insects [42]
Any items that are or are made from or include any part of an animal that is subject to regulations or laws for the protection of live animals, including endangered/exotic species and domesticated animals, including but not limited to, pangolin scales, ivory, rhinoceros horn, tiger bone, bear bile, bear paw.

Mention of CITES ✗ **Policy against sale of all live animals** ✓

Lazada

Lazada has links and guidelines[43] taken from NParks' website highlighting the local laws on sale of live animals, and has an additional level of verification for live animal sale.

Mention of CITES ✓ **Policy against sale of all live animals** ✓

40. PROHIBITED CONTENT Land, Animals, and Animal Products, META website, accessed July 2023.
41. Regulated Goods and Commercial Activities, Tiktok website accessed July 2023.
42. List of Prohibited Content (Singapore), Carousell website accessed July 2023.
43. Guidelines for live animals for Lazada Marketplace seller, Lazada website accessed July 2023.

amazon.com Their policy mentions [44]:

- Animals that are prohibited under the Endangered Species Act, animals that are injurious species under the Lacey Act, endangered animals and plants protected under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), or products that contain or are infested with the foregoing animals or their parts, eggs, or offspring
- Parts or products, including fur and feathers, from federally endangered or threatened species.

Mention of CITES ✓ **Policy against sale of all live animals** ✓

AliExpress Their policy[45] on HUMAN PARTS, HUMAN REMAINS AND PROTECTED FLORA AND FAUNA mentions:

- The making available or sale of any kind (including any animal parts such as hides, pelts, internal organs, teeth, claws, shells, bones, tusks, ivory, logs, roots and other parts) protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or any other local law or regulation is strictly prohibited on the Alibaba.com Website and AliExpress Website.

- The listing or sale of poultry, livestock and pets for commercial purposes is permitted on the Alibaba.com Website. For the avoidance of doubt, live animals are prohibited from being listed on the Wholesale Marketplace and AliExpress Website platforms.

Mention of CITES ✓ **Policy against sale of all live animals** ✓

TaoBao.com

- Taobao does not allow the posting and sale of live animals, organs, any body parts, fur, specimens, or other products of nationally protected key animals or endangered animals, as well as fossils of extinct animals and fossils of nationally protected level two or higher animals.
- Certification and licensing requirements are listed[46], for advertisements offering livestock for sale.

Mention of CITES ✗ **Policy against sale of all live animals** ✓

Qoo10 Prohibited and restricted items [47] Animals and wildlife products – examples include live animals, mounted specimens, and ivory: We generally do not encourage the listing of live animals or pets on our Website, but in the listing of live animals or pets and/or animals or pets supplies, sellers shall ensure that such listings comply with all governmental laws and regulations. In restricted cases, some stuffed birds and the pelts and skins of some animals are permitted.

Mention of CITES ✗ **Policy against sale of all live animals** ✓

44. Animals & Animal-Related Products, Amazon SellerCentral accessed in Aug 2023
45. Product Listing Policy, Ali express website accessed July 2023
46. Are protected animals allowed to be registered for sale? Taobao website, accessed July 2023.
47. Prohibited and Restricted Items, Qoo10 website, accessed July 2023.

A UNODC report in 2020[48] identifies the need for flexibility for enforcement agencies to tackle the online trade, not only by investigating and monitoring the trade, but for the platforms to work closely with the agencies. The report also acknowledges that the traders often switch platforms when one platform puts in measures.

Numerous conservation organizations and enforcement agencies would concur that despite their resource-intensive nature, monitoring and investigative measures are crucial for addressing this issue. Even the pandemic did not bring about any evident change or drop in online trade in wildlife and their parts[49].

In this context, the fundamental solution lies not only in attributing responsibility to both buyers and sellers but also in holding the platforms facilitating these transactions accountable.

Globally, efforts have been taken to address the gap: **immunity for platforms against user-generated content.** Even though the focus was on other illicit and harmful content related to humans and children, the most recent Online Safety Bill in the UK addresses animal abuse content as well. These examples are elaborated further in Appendix D.

2 REACTIVE REMOVAL ALLOWS TRANSACTIONS TO ALREADY HAPPEN

Enforcing the guidelines presents a formidable challenge given the sheer volume of advertisements and user-generated posts produced daily. Current measures are primarily reactive, relying on users to report or flag non-compliant content, necessitating time-consuming and exhaustive review processes by the platform's team for removal. Unfortunately, this approach often lags behind, allowing transactions related to wildlife trade to occur before adequate intervention.

Unfortunately, reactive removal of listings through reporting/flagging ads often lags behind, allowing transactions related to illegal wildlife trade to occur before intervention.

48. 2020, World Wildlife Crime Report, Trafficking in Protected Species, UNODC
49. Thais Q. Morcatty, Kim Feddema, K.A.I. Nekaris, Vincent Nijman, Online trade in wildlife and the lack of response to COVID-19, *Environmental Research*, Volume 193, 2021, 110439, ISSN 0013-9351.

3 ENCRYPTION AND ANONYMITY IMPEDES INTEL COLLECTION

A significant hurdle in combating online trade is the difficulty in identifying or obtaining user details. Many users register with fake email IDs, and platforms often lack identity verification requirements. Furthermore, users frequently operate within closed or secret groups, impeding enforcement agency access. Telegram, for instance, offers secret chats with end-to-end encryption[50], hindering information gathering for investigative purposes. Additional features like "self-destructing messages" further complicate efforts, enabling undetectable transactions and impeding authorities from obtaining evidence, even during mobile phone seizures.

Another challenge faced by organisations and government agencies is getting in touch with the platforms. As most e-commerce platforms operate remotely from the country founded, most often, attempts to reach out to them via emails or via their portal fails. Hence in these instances, the initiatives planned by organisations or government agencies to work together with platforms to eradicate the trade via educational materials and awareness raising unfortunately does not get executed. ACRES tried to reach out to Telegram requesting for a meeting to share our findings highlighted in this report and to work together with them to tackle the issue. Unfortunately, we have not heard from them despite our efforts.

4 HOLDING PLATFORMS RESPONSIBLE: LEGISLATIVE REFORMS

Legislation related to illegal wildlife trade always holds only the seller/buyer responsible, but never the platform that is hosting such illegal content. To address the gaps with self-regulation and time-sensitive action that is required to tackle this issue, ACRES looked into the reforms all over the world that is evolving towards holding digital service providers and online platforms responsible for the content restriction related to crimes, including animal abuse. In addition to the ongoing efforts of enforcement, education and engagement, ACRES strongly believes that regulatory requirements for online platforms is needed to curb the rampant online illegal wildlife trade. The significant points to note from other countries are elaborated in **Appendix D** and the following discussions will be kept to legislative reforms that are currently ongoing in Singapore (at the time of writing this report), related to online criminal harms.

50. Telegram Privacy Policy , Telegram website, accessed July 2023.

SINGAPORE: THE ONLINE CRIMINAL HARMS ACT (OCHA)

- In May 2023, this bill was introduced in the Parliament[51]. It aims to provide the authorities with more effective tools to address criminal online activities. It complements our existing laws, such as the Protection from Online Falsehoods and Manipulation Act, the Foreign Interference (Countermeasures) Act, and the recently updated Broadcasting Act, all aimed at enhancing the protection of the public in Singapore from a range of online-related harms.
- The issue of online scams and phishing efforts have been widely acknowledged in Singapore, and the bill introduction states that just in 2022[52], 32 drug offenders were arrested in an operation against drug transactions conducted through chat apps.
- The OCHA empowers the government to issue Directions to online services when there is reasonable suspicion of criminal activities[53]. The Bill has listed specific criminal offences (in it's First Schedule[54]), related to national security, harmony and individual safety.
- The types of Directions[55] that can be issued include disabling communications, restriction of accounts, blocking access or removal of app. Non-compliance to such orders by the service provider/s could meet with prosecution, even with those operating overseas.
- The current list of specific criminal offences **does not include offences related to biodiversity or animal welfare**. Mr Louis Ng (MP for Nee Soon East GRC) raised a parliamentary question about the inclusion of offences relating to the sale of animals, birds and wildlife[56], to the First Schedule. In response, it was stated that for now, the Bill focuses on criminal offences that pertain to national security, national harmony and individual safety. It was **positive to hear that the ministry will consider Mr Ng's suggestion in future reviews.**

In response to Mr Ng's parliamentary question on inclusion of offenses related to sale of wildlife:

For now, the Bill focuses on criminal offences that pertain to national security, national harmony and individual safety. We will consider Mr Ng's suggestion in future reviews.

51. Introduction to the Online Criminal Harms Bill, May 2023 Press Release, Ministry of Home Affairs (Singapore).
52. 32 Suspected Drug Offenders Arrested for Drug Transactions Conducted on Chat Applications, News release, Central Narcotics Bureau Singapore
53. New law passed to remove online content that is criminal or harmful, *Straits Times*, 06 July 2023.
54. Online Criminal Harms Bill, First Schedule: Specified Offences And Scam Or Malicious Cyber Activity Offences, *Singapore Statutes Online.*
55. Illustration of how Directions work, from Ministry of Home Affairs webpage on OCHA
56. Louis Ng on Online Criminal Harms Bill, *Channel News Asia,* 05 Jul 2023

SINGAPORE: ONLINE SAFETY ACT (MISCELLANEOUS AMENDMENTS)

- In early 2022, the Content Code for Social Media Services were mentioned during discussions on the above amendments[57]. In October 2022, the Ministry of Communications and Information introduced the Online Safety (Miscellaneous Amendments) Bill[58] in Parliament, to regulate online communication services (OCS) with significant reach and prevent access to harmful content. The primary goal of this legislation is to improve online user safety, especially for children, and mitigate the dissemination of harmful content on these services. Designated OCS providers must adhere to Codes of Practice issued by the Info-communications Media Development Authority (IMDA) to enhance online safety for Singapore users and combat the spread of harmful content, which includes sexual, violent, self-harm, cyberbullying, public health-endangering, and vice-related content.
- Assented in November 2022, and commenced from 01 February 2023, this act adds social media services in the Fourth Schedule as one of the online communication services, regulated by the Broadcasting Act.

CODE OF PRACTICE FOR ONLINE SAFETY

- In Jul 2023, the Code of Practice for Online Safety[59] came into force. This code requires[60] the social media service/online communication service providers to report on:
  - Measures taken to safeguard end users from the harmful content through content moderation, access restriction tools and community guidelines
  - Measures to proactively detect and swiftly remove child sexual exploitation and abuse material and terrorism content as technically feasible, such that the extent and length of time to which such content is available on the Service is minimised.
  - Specific measures/tools to protect children from harmful content
  - Metrics on types of end-user flags/reports received for such content, response given, action taken and the timeline for the above.
  - Metrics on number and types of harmful content originating from and outside Singapore.
  - Metrics on number of accounts banned and reasons, in Singapore.

57. Singapore: Government proposes Codes of Practice to regulate harmful online content on social media, *Baker Mackenzie Insight Plus,* June 2022
58. ONLINE SAFETY (MISCELLANEOUS AMENDMENTS) ACT 2022**,** *Singapore Statutes Online* BROADCASTING ACT, *Singapore Statutes Online.*
59. Codes of Practice (Media) refer to section 15 (Internet) and 16A (Social Media Services). IMDA (Info communications Media Development Authority), Singapore website.
60. Code of Practice for Online Safety, Broadcasting Act 1994. IMDA website.

- Under this code's guidelines on categories of harmful content[61], the following themes are listed:
  - Sexual content
  - Violent content
  - Suicide and self-harm content
  - Cyberbullying content
  - Content endangering public health
  - Content facilitating vice and organised crime
- The platforms currently regulated under this Code[62] are Facebook, Hardware Zone, Instagram, TikTok, X and YouTube.
- Currently, the category violent content includes
  - Adults: content that depicts abuse or torture on persons or **animals**, such as footage of infliction of grievous injury and pain with close-up details.
  - Children: Content with implied/ obscured depiction of abuse or torture on persons or **animals** such as content showing infliction of abuse that is partially obscured.
- While it is commendable to observe the inclusion of certain forms of animal abuse within the violent content category, it is important to acknowledge that crimes against society should include illegal wildlife trade as well. Loss of biodiversity due to unsustainable and illegal wildlife trade has posed a substantial threat to global biodiversity, survival and the planet over an extended period.
- Efforts dependent on self-regulation have proven to be inadequate in mitigating the ongoing loss of biodiversity and the proliferation of illegal wildlife trade activities on online platforms.

Efforts dependent on self-regulation (by platforms) have proven to be inadequate in mitigating the ongoing loss of biodiversity and the proliferation of illegal wildlife trade activities on online platforms.

61. Guidelines on categories of harmful content, IMDA website.
62. Designated Social Media Services List, IMDA website (18 Jul 2023).

CITES RESOLUTIONS ON ONLINE WILDLIFE TRADE

- CITES Conf. 11.3 on compliance and enforcement, regarding the wildlife crime on the internet (VII, 16) recommends the parties to the CITES, to engage online platforms to
  - introduce and publish policies to address and prevent the use of such platforms for illegal trade in wildlife, **including measures to ensure compliance** with such policies;
  - ensure that such policies are presented clearly and visibly; and
  - encourage them to inform their users about wildlife crime linked to the Internet, by using targeted alerts and other technology to make users aware[63] of relevant laws and website policies;
- Most importantly, the resolution recommends that Parties establish, at the national level, **a unit dedicated to investigating wildlife crime linked to the Internet or incorporate wildlife trade issues into existing units that investigate or monitor computer or cyber-crime**;

In conclusion: Illegal Wildlife Trade should be part of the Code of Conduct's harmful activities

- Unfortunately, the current code of practice does not encompass offenses related to wildlife crimes, such as content that promotes the trade in prohibited wildlife and their parts. Despite the existence of the Endangered Species (Import & Export) Act, which prohibits advertising in any form, it primarily holds individuals involved in such trade accountable, without placing responsibility on the platforms facilitating such activities.
- Most online safety legislation includes some forms of animal abuse in the 'violent content' category. Even though, convergence of trade in drugs, weapons and wildlife have been widely acknowledged[64], trade in illegal wildlife trade is unfortunately not an outright addition to the list of harmful content.

CITES Resolutions on compliance and enforcement (Conf. 11.3 (Rev. CoP19) recommends that Parties incorporate wildlife trade issues into existing units that investigate or monitor cyber-crime.

63. CITES resolutions on compliance and enforcement (Conf. 11.3) CoP19, version available online.
64. Shared Skies: Convergence of Wildlife Trafficking with Other Illicit Activities in the Aviation Industry, 2021.

- Interpol states[65], "Wildlife crime has far-reaching and devastating consequences for society, public health and global economics. Often overlooked and under-prosecuted, it is a sophisticated serious crime with high demand driving high prices and violence."
- In summary, **ACRES strongly advocates for**

    - the inclusion of content associated with illegal trade in endangered fauna and flora in the list of harmful content.
    - offences related to the Wildlife Act and the Endangered Species (Import & Export) Act be incorporated into the First Schedule of the Online Safety (OCHA) Act or integrated into the Code of Practice for Online Safety.

- Enforcement agencies should be encouraged to prioritize online and physical illegal wildlife trade - adequate resources and capacity should be allocated to the enforcement agencies to enhance their ability to detect, disrupt, and dismantle networks involved in the online illegal wildlife trade. NParks has carried out many operations successfully, with effective prosecution. However, currently, with the high case load, often only some cases can be prioritised, leaving the volume substantially high and root causes not addressed. Additionally, increased support to collaborative efforts with NGOs should improve, as organisations not limited to ACRES can provide valuable data and monitoring on the issue and trends.
- The findings and initial recommendations outlined in this report were shared with NParks in early August 2023. Following the official publication of the report in November 2023, ACRES wishes to engage with the relevant authorities and other organisations (in mid 2024) who are tackling this issue, to further discuss the aforementioned recommendations, with the hope that these measures will contribute to addressing the pressing global issue of illegal wildlife trade.

65. Wildlife crime: closing ranks on serious crime in the illegal animal trade, *Interpol website,* 21 December 2020.

If we do not do something to help these creatures, we make a mockery of the whole concept of justice.

DR. JANE GOODALL

Rahayu, the Malaysian giant turtle rescued from Singapore roads with a fish hook lodged in her mouth in 2015. ACRES cared for her before repatriating to the wild in Malaysia in 2017

- **Report published by ACRES in November 2023.**
- **Please direct any communications related to this report to info@acres.org.sg, Attention to Anbarasi (Anbu) Boopal, Co-CEO, ACRES (Advocacy)**

Appendix A

Appendix A: List of reptilian species rescued from the illegal wildlife trade & cared for by ACRES at ACRES Wildlife Rescue Centre in Singapore

S.No.	Common name	Scientific name
1	Indian star tortoise	*Geochelone elegans*
2	Red-footed tortoise	*Chelonoidis carbonarius*
3	Yellow-footed tortoise	*Chelonoidis denticulatus*
4	African spurred tortoise	*Centrochelys sulcata*
5	Radiated tortoise	*Astrochelys radiata*
6	Hermann's tortoise	*Testudo hermanni*
7	Leopard tortoise	*Stigmochelys pardalis*
8	Chinese stripe-necked turtle	*Mauremys sinensis*
9	Alligator snapping turtle	*Macrochelys temminckii)*
10	False map turtle	*Graptemys pseudogeographica*
11	Yellow-spotted Amazon river turtle	*Podocnemis unifilis*
12	Eastern snake-necked turtle	*Chelodina longicollis*
13	Giant Asian pond turtle	*Heosemys grandis*
14	Malaysian giant turtle	*Orlitia borneensis*

Appendix A

S.No.	Common name	Scientific name
15	Common snapping turtle	*Chelydra serpentina*
16	Chinese soft-shelled turtle	*Pelodiscus sinensis*
17	Leopard gecko	*Eublepharis macularius*
18	Green iguana	*Iguana iguana*
19	Savannah monitor lizard	*Varanus exanthematicus*
20	Veiled chameleon	*Chamaeleo calyptratus*
21	Bearded dragon	*Pogona vitticeps.*
22	African ball python	*Python regius*
23	Bornean short python	*Python breitensteini*
24	Burmese python	*Python bivittatus*
25	King snakes	*Lampropeltis spp.*

Appendix B

Appendix B: ACRES's repatriations of trafficked wildlife from the pet trade

Through our repatriation efforts, the vicious cycle of poaching, smuggling and being kept in horrendous conditions, have been reversed for these individuals wh now have a second chance at freedom.

65 SECOND CHANCES IN THE WILD

Appendix B

2004[66]
Blue, the vervet monkey
to the wild in Africa

2006[67]
Asha, the rhesus macaque
to a sanctuary in Indiaa

2015[68]
Pig-tailed macaque
to the wild in Malaysia

2017[69]
Rahayu, the Malaysian giant turtle
to the wild in Malaysia

2018[70]
Two elongated tortoises, Comot & Chomel
to the wild in Malaysia

2018[71]
Boltz, Ayu, Audrey & Andrea
giant Asian pond turtles
to the wild in Malaysia

2018[72]
51 Indian star tortoises
to the wild in India

2019[73]
Barni, the Malaysian giant turtle &
Queen-B, the giant Asian pond turtle
to the wild in Malaysia

2020[74]
Two Asian leopard cats
(rehabilitated by Mandai Nature)
to the wild in Malaysia

2023[75]
Jasmine, the Malaysian giant turtle
Genie, the giant Asian pond turtle &
Saleen, the black marsh turtle
to the wild in Malaysia

66. ACRES press release: FIRST EVER REPATRIATION OF A CONFISCATED PET PRIMATE, 2004
67. ACRES press release, CONFISCATED PET PRIMATE JOURNEYS TO SANCTUARY IN INDIA, 2006
68. Endangered pig-tailed macaque rehomed to Malaysia, *Asia One, 2015*
69. Wildlife Rescue Group ACRES Sends Malaysian Giant Turtle Back Home, *The Straits Times*, 2017.
70. ACRES repatriates four giant turtles, two endangered elongated tortoises back to Malaysia, *The Straits Times, 2018*
71. Acres repatriates four giant turtles, two endangered elongated tortoises back to Malaysia *The Straits Times, Nov 2021.*
72. Star treatment for 51 Indian star tortoises flying home, after being trafficked to Singapore, *The Straits Times, 2018*
73. 2 Turtles rescued by ACRES make their way home to Malaysia, *Today Online, 2019*
74. 2 endangered Asian leopard cats rescued from HDB flat to be returned to wild in Malaysia, *Today Online, 2020.*
75. Critically endangered turtles rescued by Acres make their way home to Malaysia, *The Straits Times, 2023.*

Appendix C

Appendix C: List of publicly reported seizures by the government agencies in Singapore

In 2015, a passenger entering Singapore via the Woodlands Checkpoint was found to have in possession two hedgehogs (Erinaceinae) and one leopard gecko (*Eublepharis macularius*) hidden inside a shoe box and a small plastic container[76]. The offender was issued a composition sum of S$1,500 under the Animals and Birds Act and the Wild Animals and Birds Act for the illegal import of animals. Another case involving smuggling of a bearded dragon (*Pogona spp*) and an iguana (*Iguana iguana*)[77] in between the spare tyre compartment of the vehicle had the offender issued a composition sum of $5,000 under the Animals and Birds Act and the Wild Animals and Birds Act for the illegal import of animals. Another two sugar gliders in 2015[78] were smuggled using a pouch which was hidden under the glove compartment of a vehicle which were seized and the offender was investigated by AVA.

In 2016, 22 live Indian star tortoises (*Geochelone elegans*) were found in the boot compartment of a car inside a plastic bag among other bags of groceries. The animals were seized and the offender was sentenced to one month imprisonment[79].

2016 ICA bust: A 50-year old man was sentenced to one-month imprisonment for smuggling prohibited wildlife and causing unnecessary suffering to the tortoises. AVA's pictures above shows the car boot with cloth bag smuggling 22 Indian star tortoises. AVA

76. Illegal import Of Hedgehogs And Gecko At Woodlands Checkpoint, *ICA media release, 2015.*
77. Two Cases Of Animal Smuggling Foiled By Authorities, *ICA Media release, 2015*
78. Illegal Import Of Spotted Doves And Sugar Gliders At Tuas Checkpoint, *ICA Media release, 2015*
79. Man Sentenced To Jail For Smuggling Star Tortoises, ICA Media release, 2018.

Appendix C

In 2017, a car entering Singapore via the Woodlands Checkpoint had five live leopard geckos (*Eublepharis macularius*) that were hidden inside two pillow cases. The animals were seized and the case was handed over to AVA for investigation[80].

In 2018, a car entering Singapore via the Tuas Checkpoint was found to have six live tarantulas (*Theraphosidae*) inside a sling bag, housed in small containers. Subsequently the authorities seized 92 tarantulas from his residence. The offender was fined $12,800 by the Court for illegally importing and keeping tarantulas in his place of residence[81].

Another case in 2018 saw the seizure of a leopard tortoise *(Stigmochelys pardalis)* that was being transported by car hidden inside an eyewear case inside the glove compartment. The offender also had an African spurred tortoise (*Centrochelys sulcata*), a razor-back musk turtle (Sternotherus carinatus), a snake-necked turtle (*Chelodina longicollis*) and a Mekong snail eating turtle (*Malayemys subtrijuga*) at this residence. He was fined a total of $7,600 for illegal importation and possession of prohibited wildlife[82].

2018: ICA detected smuggling of a leopard tortoise (native to Africa) hidden in an eyewear case inside the glove compartment. AVA's raid of the individual's residence revealed more prohibited wildlife, resulting in a fine of $7,600 for illegal importation and possession of prohibited wildlife. AVA

In 2021, two men who illegally kept exotic animals such as central bearded dragon *(Pogona vitticeps)*, green iguana (*Iguana iguana)* and sugar glider *(Petaurus breviceps)* was fined $8,000 and $1,000 respectively. One of the individuals had also attempted to smuggle animals across woodlands checkpoint and got caught. The animals were kept in plastic containers and breakfast cereal box[83].

80. Five Live Leopard Geckos Detected At Woodlands Checkpoint, ICA Media release, 2017.
81. Man Fined $12,800 for Illegally Importing and Keeping Tarantulas, ICA Media release, 2018.
82. Man Fined $7,600 For Illegal Import And Possession Of Wildlife, ICA Media release, 2018.
83. 2 men including wildlife volunteer fined for keeping illegal exotic pets in their Yishun flats, *Today Online, 2021*

Appendix C

In 2022, two live reticulated pythons (*Malayopython reticulatus*) were seized at Tuas checkpoint. The snakes were kept in a styrofoam box and was found in a Lorry which was transporting cement. The snakes were seized and the driver was referred to the National Parks Board for investigation[84].

Acting on a tip off and investigation findings from ACRES in 2022, a man was fined $7,000 for keeping a sunda slow loris, green iguanas and two sugar gliders. ACRES visited to verify the animals were indeed at the said location before providing credible information to NParks for enforcement action[85].

2022: Sunda slow loris and green iguanas kept by an individual at an industrial estate, images extracted from ACRES undercover investigation.

84. 2 live pythons being smuggled into S'pore seized at Tuas Checkpoint, *The Straits Times, 2022.*
85. Man gets S$7,000 fine for keeping critically endangered Sunda slow loris, sugar gliders at his office, *Today Online, 2022.*

Appendix D

Appendix D: Legislative reforms around the world, that hold digital service providers and online platforms responsible for illicit content they host.

EU: August 2023: Digital Services Act

- The Digital Services Act (DSA) came into effect on August 2023 (for some entities, and will be fully in force from February 2024), establishing an extensive system[86] for holding various digital services and platforms accountable and transparent while they operate within the European Union (EU). Below are some notable features. The DSA introduces a series of obligations, that includes requirements such as
  - watching the content and it's moderation
  - Trusted flaggers programme
  - Transparency in algorithms
  - Targeted advertising
  - Minor protection, among many others.
- The Act recognises the responsibility of platforms to foresee systemic risks, and have systems in place to prevent such content going up. More importantly, the act's provisions ensure that once the platform providers are made aware of illegal/infringing content, they are required to promptly remove or block access to it, if they want protection from liability.
- Article 37 of the DSA, requires an independent auditing to certify compliance of the service provider on their due diligence commitments. In May 2023, the regulatory framework for the procedures has begun (currently in draft stage) to develop auditing methodologies for algorithms and content moderation technologies.
- There have been at least two mentions of **illegal sale of live animals** (to be considered as an illegal content) during this act's recitals[87]. This is to ask very large online platforms (VLOPs) to assess risks related to the dissemination of illegal content, including illegally traded animals.
- This recital (no. 12) serves to provide context to the legislation and offer clear indications regarding the legislation text's objectives, thus confirming that the legislation encompasses the trade of animals.

86. https://www.eu-digital-services-act.com
87. Digital Services Act, Factsheet, accessed Aug 2023

UK: September 2023: Online Safety Bill (UK)

- As of September 2023, the Online Safety Bill (OSB) is at the final stages to receive royal assent in October 2023,[88] and this is one of the much debated legislation since 2019 in many stages and readings. The Act provides for a new regulatory framework requiring service providers to mitigate and manage the risks of harm from illegal content and activity, and content and activity that is harmful to children. The provisions also ensure that online platforms and service providers have moderating systems and process in place, to minmise the length of time for which the prohibited content is present online.
- While this legislation aims to remove harmful illegal content such as protecting children (and adults) and allowing users to avoid harmful (not illegal) content on the large platforms, there are notable mentions on issues related to animals[89] and wildlife:
  - Inclusion of offences relating to torture of animals content, to determine whether there is an offence of sending a communication to encourage or assist an act of animal torture, or sharing content related to animal torture on a regulated service.
  - Prohibited content will include content that depicts real or realistic serious violence, real/realistic serious injury to an animal in graphic detail, or serious violence against a fictional creature in graphic detail.

- The enforcement powers of this act are significant, including the power to issue fines of up to 18 million pounds (approximately 29 million SGD)[90] or 10% of the company's annual global revenue, whichever is highest. Notably, non-compliance to meet certain child protection duties could lead to criminal liability for the company's senior managers.

- In July 2023, one of the proposed amendments (180A)[91] included "Government should also add offences under the Control of Trade in Endangered Species Regulations 2018 to Schedule 7 to the Bill. This would definitely help limit the role of social media platforms in enabling **wildlife trafficking**, helping to uphold the UK's commitments to tackling global wildlife crime."

88. Online Safety Act, Government Bill, UK Parliament Accessed Oct 2023
89. Online Safety Bill: Animal cruelty & wildlife trafficking content Briefing for Lords report stage accessed Oct 2023
90. UK Online Safety Bill: Who is in scope? DataGuidance sheet. Accessed Oct 2023
91. Amendment 180: Online Safety Bill - Report (3rd Day) – in the House of Lords

Both the Online Safety Bill (OSB) and the Digital Services Act (DSA) aim to enhance online safety, yet they diverge in terms of their scope, approach, and enforcement mechanisms. The OSB categorizes services based on their size and perceived risk, in contrast to the DSA, which primarily focuses on digital intermediaries encompassing various entities like social media, search engines, online marketplaces, and cloud services. Moreover, the DSA treats all forms of illegal content uniformly, while the OSB imposes distinct obligations for different types of illegal content.

> **One of the proposed amendments to include wildlife trafficking to OSB states, "*This would definitely help limit the role of social media platforms in enabling wildlife trafficking, helping to uphold the UK's commitments to tackling global wildlife crime.*"**

The nature of risk assessment requirements also differs; under the DSA, compliance is mandatory only for Very Large Online Platforms (VLOPs) and Very Large Online Search Engines (VLOSEs), while the OSB applies to all services within its jurisdiction. Lastly, the DSA's enforcement will be carried out by the EU Commission and Digital Services Coordinators, which are government entities, whereas the OSB will be enforced by Ofcom, the independent communications regulator in the UK.

Brazil: July 2022: Landmark ruling on META for failing to remove content related to illegal wildlife trade [92]

- Brazil's environmental regulatory agency penalised META (Facebook, WhatsApp and Instagram) for failing to remove thousands of online posts that were flagged for offering illegal wildlife, with a USD 2 million.
- This case emphasised that the immunity against user-generated content should not aid platforms in being an active platform to promote environmentally destructive practices such as illegal trafficking of wildlife.

92. Thais Q. Morcatty et al. Tech companies liable for illegal wildlife trade. *Science* **377**,721-721(2022).

India: 2023: Digital India Bill

- In 2021, India added the Intermediary Guideline and Digital Media Ethics Code[93] to it's Information Technology Act. Focussed mainly on content related to harms to children, copyright infringements and more, this guideline and code of ethics requires **due diligence to be exercised by platforms** and have a grievance redressal mechanism in place. Notably, the guideline requires the platforms to publish details of grievance redressal mechanism with contact information, and stipulates timeline for the platform, to acknowledge receipt of complaints (reports/flags) by users and action to be taken for the listed prohibited content.

- In 2023, the new Digital India Bill 2023's goal is to simplify and consolidate current regulations related to the digital universe. Even though, currently there is no mention of wildlife and animal crimes, this area of legislative reform is a developing area for policy, and it remains to be seen, if illegal content will include illegal wildlife trade too.

- This bill will **remove the safe harbour rule from the IT Act,** and will require intermediaries to conduct risk assessments, categorizing them according to their risk levels. This classification helps apply suitable regulations based on the level of risk they pose in the digital realm.

- More notably, the bill[94] grants legal authority to the government to **hold platforms accountable** for hosting prohibited content, encompassing pornography, child-harming material, copyright violations, misinformation, impersonation, content undermining national unity, malware, banned online games, and other unlawful material.

Digital India Bill 2023, grants legal authority to the government to hold platforms accountable for hosting prohibited content, including child-harming material and other unlawful material.

93. **The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021** [updated as on 6.4.2023]
94. Digital India Bill 2023: Key Provisions, Stakeholder Perspectives July 3, 2023 Posted by India Briefing; Written by Khyati Anand

Canada: 2021: Bill C-10

- In 2021, legislators in Canada approved the C-10 bill[95], which will update Canada's Broadcasting Act's scope, seeking to regulate content distributed by media streaming services and social media platforms. This piece of legislation aims to have tech giants the same obligations as traditional broadcasters. TC-10 represents one among many efforts around the world, to oversee the algorithms employed by tech companies. Even though not directly related to the illegal wildlife trade, this bill which sought to emphasise needs and services of Canada, it is an example of level of regulation on the platforms and their content moderating algorithms.

U.S: 2021: Review of Section 230 of Communications Decency Act (CDA)

- The U.S. Department of Justice's proposed reforms focus on incentivising online platforms to tackle illicit content[96].
- Three key changes suggested are:
  - Denying immunity to online platforms that **knowingly facilitate illegal content;**
  - Exempting specific egregious content categories such as child exploitation, terrorism and cyber-stalking from immunity; and
  - Clarifying that **immunity does not apply when platforms have actual knowledge of content** violating federal law.

U.S Review of Section 230 of Communications Decency Act:

Immunity (from user-generated content) should not apply when platforms have actual knowledge of content violating federal law.

- The review's recommendations attempts to find a balance between encouraging responsible online behaviour and holding platforms accountable for harmful content.
- Even though, the **harms do not include wildlife trade**, review articles[97] on this news discusses how social media platforms profit from illicit sale of other goods, including endangered wildlife as well.

95. An Act to amend the Broadcasting Act and to make related and consequential amendments to other Acts. Parliament of Canada Website, accessed Sep 2023.
96. DEPARTMENT OF JUSTICE'S REVIEW OF SECTION 230 OF THE COMMUNICATIONS DECENCY ACT OF 1996. DOJ website, accessed Sep 2023.
97. It's Time to Update Section 230, *Harvard Business Review*, August 12, 2021

Germany : 2017: Network Enforcement Act

- In 2017, Germany's Network Enforcement Act took effect, which holds online platforms responsible for dissemination of prohibited content. One of which includes pornographic content depicting violent acts or sexual acts with animals[98]. Offenders can incur a penalty of imprisonment for a term not exceeding three years or a fine. Social media platforms are anticipated to provide a semi-annual report detailing the complaints they have received and the actions taken in response[99] to those complaints. However, illegal wildlife trade is directly not listed as an illegal content and in 2021, an act to amend this controversial piece of legislation has been introduced.

Australia: 2021: Online Safety Act

- The Online Safety Act 2021 introduces a new standard for online service providers, compelling them to proactively safeguard users from abusive conduct and harmful online content. The online service providers are now expected to take reasonable measures to mitigate bullying, abuse, and other harmful activities, while offering user-friendly avenues for reporting unacceptable content. **eSafety has the authority to mandate that online service providers report on their compliance with these Basic Online Safety Expectations.** Failure to meet reporting obligations can result in new civil penalties for online service providers[100].

- eSafety will possess the authority to publicly identify online service providers failing to meet the Basic Online Safety Expectations, and it can also release statements of compliance for those that meet or surpass these expectations.

The majority of online safety regulations categorize certain types of animal abuse within the 'violent content' classification. However, despite the well-acknowledged convergence of trade[101]routes involving drugs, weapons, and wildlife, the illegal wildlife trade is <u>not</u> explicitly added to the list of harmful content.

98. German Criminal Code, full text.
99. Gesley, Jenny. Germany: Network Enforcement Act Amended to Better Fight Online Hate Speech. 2021.
100. Online Safety Act Factsheet, from esafety commissioner website.
101. Shared Skies: Convergence of Wildlife Trafficking with Other Illicit Activities in the Aviation Industry, 2021.