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WILDLIFE CYBER CRIME TRENDS IN CHINA

Online Monitoring Results 2017-2018

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KEY points:

- During the period of 2017-2018, the average number of new wildlife product advertisements every month on website platforms declined 73% compared to 2012-2016;
- Compared with 2017, 2018's average number of daily advertisements on social media platforms declined by 25%, and daily active users declined by 22%.
- In social media and the online community, lots of advertisements of illegal wildlife products didn't include any key words or text, which makes market monitoring and law enforcement more difficult.
- Advertisements of illegal wildlife products are found in new emerging channels, such as: short video streaming APPs, traditional Chinese handicraft APPs and second-hand trade APPs.
- Some tortoises and turtles' species are thought to be traded through websites illegally. Golden Coin Turtle, Yellow Pond Turtle and Chinese Box Turtle are the top three species with the most advertisements on the monitored websites.
- Law enforcement agencies need to further strengthen supervision of Internet platforms and identify new channels for illegal wildlife trade.

EXECUTIVE SUMMARY

TRAFFIC has been keeping a close watch on the trade and consumption trend of illegal wildlife, conducting monitoring on online trade on a regular basis. In addition to the website platforms and social media that have been monitored in the past, we expanded the 2017-2018 survey scope to online communities, APPs related to short video stream, second-hand trade, traditional Chinese handicraft trade and websites focused on live reptiles. The result showed that during the period of 2017-2018, the average number of new wildlife product advertisements every month on website platforms declined 73% compared to 2012-2016. On social media platforms, compared with 2017, 2018's average number of daily advertisements declined by 25%, and average daily active users declined by 22%. However, increasing numbers of advertisements of illegal wildlife products on social media and online community without any key words or text were detected, which could greatly increase the difficulty of market monitoring and law enforcement. The survey also showed that advertisements of illegal wildlife products are found in new emerging APPs. Some Chelonian species are thought to be traded through websites illegally. The report's findings showed the trends of online illegal wildlife trade, urging law enforcement agency to further strengthen supervision of Internet platforms and identify new channels for illegal wildlife trade.

I.BACKGROUND

While having made people's life more convenient, the internet has also provided new channels for illegal commerce, with various websites and social media having become the major platforms for the sale of illegal wildlife products (Xiao and Wang, 2015; Guan and Xu, 2015; Xiao *et al.*, 2017; Zhao *et al.*, 2017). TRAFFIC has been keeping a close watch on the trade and consumption trend of illegal wildlife, conducting monitoring on online trade on a regular basis, and sharing the monitoring results with relevant law enforcement agencies. Over the past two years, this monitoring shows that illegal wildlife products continue to be advertised and traded online and then delivered to buyers through couriers and logistics providers. Criminal cases regarding illegal online wildlife trade have been pursued by China's law enforcement authorities, resulting in confiscations of several hundred kilograms of ivory, rhino horn and other illegal wildlife products in China (Dahe.cn, 2016; People.com.cn, 2017).

The period between 2017 and 2018 marks an important transition for China's regulatory efforts to combat wildlife cybercrimes. The revised *Law of the People's Republic of China on the Protection of Wildlife*, which came into effect on January 1, 2017, officially defined the liability of Chinese Internet companies regarding their roles in the potential facilitation of illegal online wildlife trade.

Private sector responses have also made progress, with Baidu, Alibaba and Tencent (BAT), together with eight other Internet companies, launching the Alliance of Chinese Internet Companies (the Alliance) in November 2017, the first of its kind globally to focus on illegal wildlife trade. This Alliance was taken further in March 2018 with the launch of the "Coalition to End Wildlife Trafficking Online". Twenty-one Internet

companies¹ from North America and Asia make up the Coalition, which has pledged to work together to reduce the availability of illegal wildlife trade on their online platforms by 80% by 2020.

TRAFFIC published two reports on China's online wildlife trade in 2015 and 2017, respectively, documenting illegal trade on some websites and social media platforms in China from 2012 to 2016. Regular monitoring and surveys on this topic continued in 2017 and 2018. As online commerce and communication platforms grow rapidly, new channels for online wildlife trade continue to emerge, in tandem with an increasing variety of wildlife products becoming available on the Chinese-language internet. TRAFFIC has expanded its scope of online monitoring, aiming to help the Chinese government and relevant online companies, as well as the general public to fully understand the current status of illegal online wildlife trade in China and provide recommendations for strengthening policy in the years to come.

II. SURVEY METHODOLOGY

This study is based on the data collected by TRAFFIC from January 2017 to December 2018 of illegal online wildlife trade monitoring, compared and analysed with the data collected in 2012-2016. In addition to websites and social media which have been covered in the last report, TRAFFIC expanded its survey scope to other social media, and APPs related to short video stream, second-hand trade, traditional Chinese handicraft trade and websites focused on live reptiles. The target species monitored on websites, social media and APPs include: Elephants *Elephantidae*, Rhinos *Rhinocerotidae*, Tiger *Panthera tigris*, Hawksbill *Eretmochelys imbricata*, Helmeted Hornbill *Rhinoplax vigil*, Saiga antelope *Saiga tatarica*, Pangolins *Manidae*, Leopards Snow Leopard, Leopard and Clouded Leopard, *Panthera uncia*, *Panthera pardus*, *Neofelis nebulosa*, Whales Sperm Whale and Narwhal, *Physeter macrocephalus* and *Monodon monoceros*. Target species monitored on reptile trading websites included Chelonian species listed as Key Protected Animals at National Level in China and on the Appendices of CITES. Species included: Golden Coin Turtle *Cuora trifasciata*, Chinese Box Turtle *C. flavomarginata*, Amboina Box Turtle *C. amboinensis*, Yellow Pond turtle *Mauremys mutica*, Red-necked Pond turtle *M. nigricans*, Radiated Tortoise *Astrochelys radiata*, African Spurred Tortoise *Geochelone sulcata*, Red-footed Tortoise *G. carbonaria*, Aldabra Giant Tortoise *G. gigantea*, Hermann's Tortoise *Testudo hermanni*, Leopard Tortoise *Stigmochelys pardalis* and Hawksbill Turtle *Eretmochelys imbricata*. All the findings have been shared with relevant law enforcement agencies and online platform operators for further actions.

2.1 Online platforms

The same methodology used in TRAFFIC's last report was applied in this study (Xiao *et al.*, 2017), which is based on the routine monitoring of 31 Chinese websites by searching keywords for specific illegal wildlife products and recording the number of new wildlife product advertisements (NWPAs) every month (unless otherwise noted, "advertisements" hereinafter refer to "new wildlife product advertisements", NWPAs). Six new keywords were added in 2017 and 2018 to better reflect the illegal trading of some new wildlife products. For instance, after TRAFFIC found elephant's skin was used to produce Buddha bracelets, it included "elephant's skin" (or Xiang Pi, and its abbreviation form, XP, in Chinese) as one of the keywords. As of the end of 2018, a total of 118 keywords were used in TRAFFIC's online monitoring survey.

2.2 Social media and online communities

During the monitoring of online and physical markets, TRAFFIC systematically added social media accounts of those suspected of offering illegal wildlife products for sale and continued to monitor online activity; as of April 2017, the number of these monitored accounts totaled 287. In April 2017, TRAFFIC conducted a pre-survey on these social media accounts, and 58 accounts that have posted advertisements on illegal wildlife products were identified. Since July 2017 to December 2018, TRAFFIC has conducted routine monitoring twice per month on the advertisements of illegal wildlife products posted on the sharing homepage of the 58 social media accounts (a process similar to a Facebook user's timeline).

During each monitoring, the investigators checked all the advertisements posted on the 58 accounts on a daily basis, screened all the suspected advertisements related to endangered wildlife products, and recorded the specific number of species, photos and videos in each advertisement.

¹There are 24 companies by February 2019.

TRAFFIC conducted a survey on the world's largest online Chinese community on this occasion. Such communities bring together people in different online forums depending on their hobbies and interests. Some sellers post illegal wildlife product sale advertisements on the online forums of traditional Chinese handicraft and TCM, etc. Through pre-surveys, TRAFFIC screened 72 online forums that are involved in trade of illegal wildlife products, with group names such as Large Tiger Bone, and Saiga Antelope. Since November 2018, TRAFFIC conducted surveys on these online forums by searching keywords and through targeted browsing to record the number of NWPAs per month.

2.3 Other online platforms

In addition, TRAFFIC conducted a pre-survey on other emerging online platforms to understand the trade of illegal wildlife products on these platforms.

The methodology used for the survey of APPs related to second-hand trade is to search for advertisements posted within seven days with the keywords monitored by TRAFFIC on illegal online trade, and to record the number of advertisements and the specific species following screening by a human.

As for the APPs related to traditional Chinese handicraft and short video streams, the methodology of searching and recording the number of advertisements posted in specific periods was applied separately. However, due to the unique characteristics of each platform, the specific survey methodologies will be presented in more detail in the Results section.

During the period from July to September 2018, TRAFFIC examined all the advertisements posted on seven reptile-focused websites within seven days to identify and record the Chelonian species potentially being traded illegally.

III. RESULTS

3.1 Website monitoring results

The trend for the number of NWPAs on the online platforms per month during the period from January 2017 to December 2018 is shown in Figure 1. A total of 9,737 NWPAs were recorded during the 24 month period, with monthly average advertisements of 406. The number of NWPAs fell to 171 in October 2017, but later rebounded and reached its peak of 794 in April 2018, and then dropped again. The lowest point within the past two years occurred in October 2018, when the number of advertisements was recorded to be only 108.

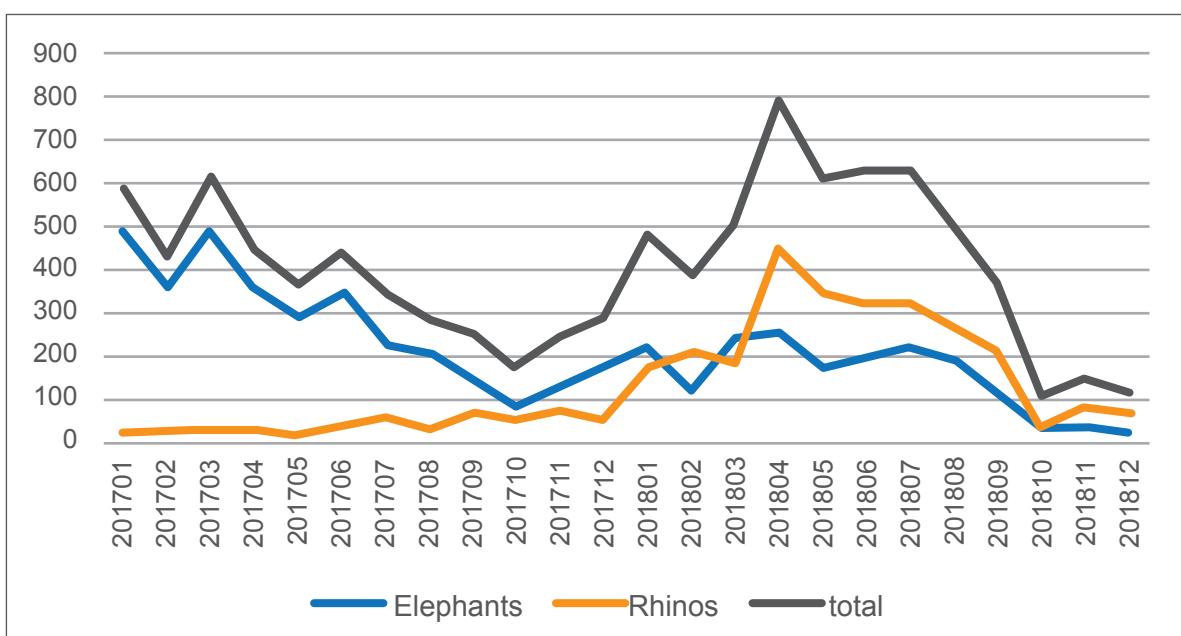


Figure 1. NWPAs on online platforms per month during 2017-2018

The major reason behind the rebound for the number of NWPAs during the period from the end of 2017 to early 2018 was due to the increase of rhino product advertisements. In most of the months in 2018, the number of rhino product advertisements exceeded that for ivory products. Compared with ivory products, it is very difficult for website managers to distinguish genuine rhino horns from fake ones from photos alone. By taking advantage of this ambiguity, some sellers post a large number of rhino horn advertisements on the websites to attract attention from buyers and promote their wildlife products on their own social media accounts. TRAFFIC has already communicated with the relevant websites and guided them to delete the suspected rhino horn advertisements in a timely manner.

Over the past few years, some major websites have established routine monitoring mechanisms to identify and shield against advertisements for illegal products. In November 2017, BAT worked with other Chinese Internet companies to launch the Alliance and jointly combat illegal online wildlife trade. Meanwhile, TRAFFIC has organized training workshops for the members of the Alliance to improve their capacity and efficiency of handling information on illegal wildlife trade. TRAFFIC has noticed that some Internet companies (which are not members of the Alliance) have reduced their human resource capacity and focus on user education regarding illegality, which has likely influenced the resurgence of illegal advertisements on those websites. With the support of TRAFFIC, the relevant law enforcement agencies held urgent meetings with the internet companies hosting those websites in August 2018, highlighting the importance of regulating the online markets and demanding those internet companies to pay more attention to handling illegal wildlife trade information. Afterwards, a warning message was posted (Figure 2), declaring that they “strictly prohibit any posting of information on wildlife products. The offenders shall be held responsible for any consequence arising therefrom. Those who have posted such illegal information are required to delete as soon as possible!”

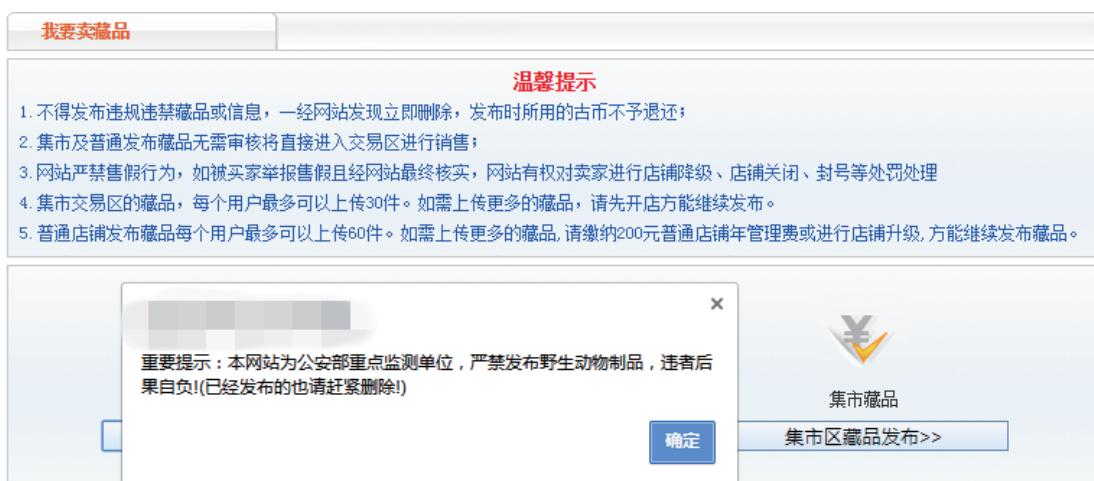


Figure 2. Message posted warning sellers to remove advertisements for illegal wildlife (text in the Pop-up Box of Figure)

By comparing the target species involved in illegal advertisements during 2017-2018 with previous data from 2012 to 2016, the proportion of advertisements on elephant products in all the advertisements has declined from 63.1% during the period between 2012 and 2016 to 52.4% during the period between 2017 and 2018 (Figure 3). Although the major proportion of advertisements is still dominated by elephant products, the proportional reduction is possibly due to the fact that the Chinese government began to implement the commercial ivory trade ban at the end of 2017. Some sellers have stopped posting ivory advertisements while advertisements for rhino horn and other endangered species products have increased by comparison, possibly as it attracts less law enforcement attention and may be more difficult to identify online.

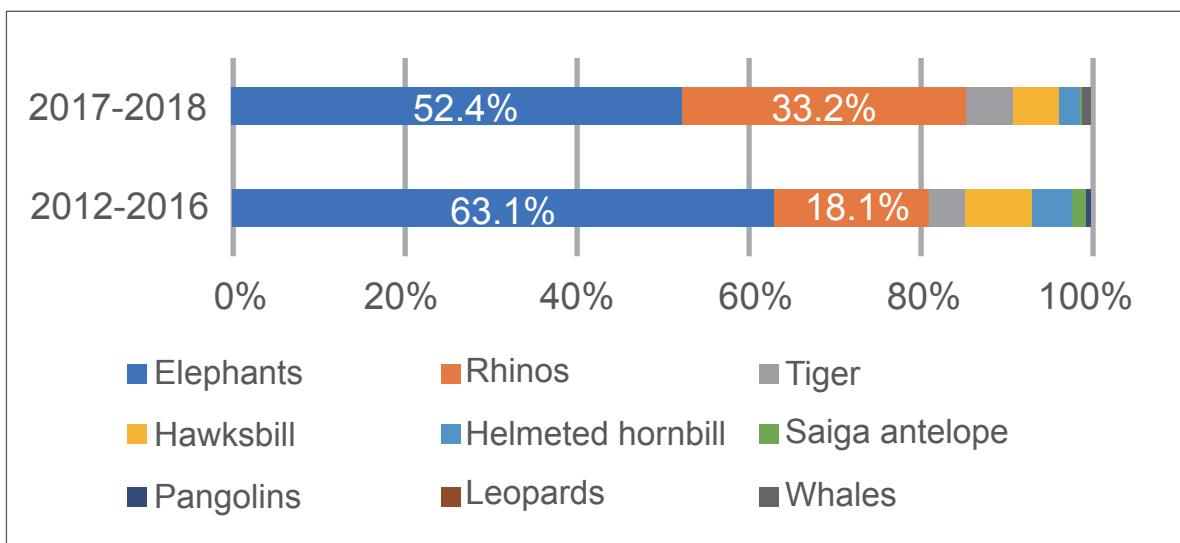


Figure 3. Proportion of different species products in NWPAs during the periods between 2012 and 2016, and between 2017 and 2018

By checking the annual number of NWPAs posted on monitored websites since 2012, it can be found that despite some of the rebounds in 2014 and 2015, the overall trend shown in figure 3 is declining. The number of advertisements recorded in 2017-2018 is only 1/5 of that in 2012 (Figure 4). The rebound in number of NWPAs in 2014-2015 could have been due to the increased number of monitored websites and keywords within the survey sample (Xiao *et al.*, 2017).

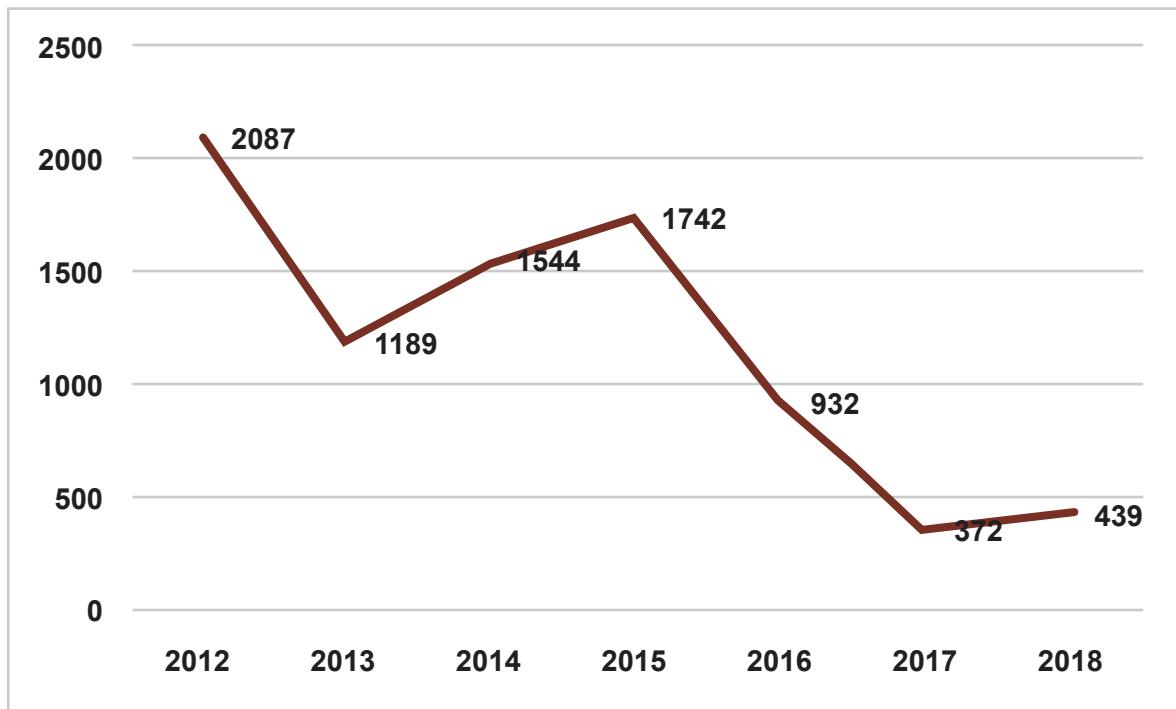


Figure 4. Average NWPAs of on online platforms during 2012-2018

3.2 Social network monitoring results

3.2.1 Social media

Routine monitoring by TRAFFIC on the 58 social media accounts found that the number and frequency of advertisements tended to decline during the period between July 2017 and December 2018 (Figure 5). The number of advertisements was at a low level from November 2017 to March 2018. This was partly due to the launch of the Alliance having prompted some social media operators to crack down against the posting of illegal wildlife products. Meanwhile, the commercial ivory trade ban has reduced the posting of ivory product advertisements to some extent. In addition, many manufacturing companies and couriers and logistics companies suspend operations during the New Year holidays (western and Chinese lunar calendars); purchasing and delivery of products during that period is more difficult, so less sellers posted such information during the holidays. During the first survey in April 2018, however, the number of advertisement postings surged to 356. The “Campaign of Spring Thunder 2018” was carried out by the forestry police authority between April 1 and May 31, and had some impact on reducing the number of posts during that period. The lowest point occurred in the first survey of November 2018, when the recorded number of advertisements was only 105.

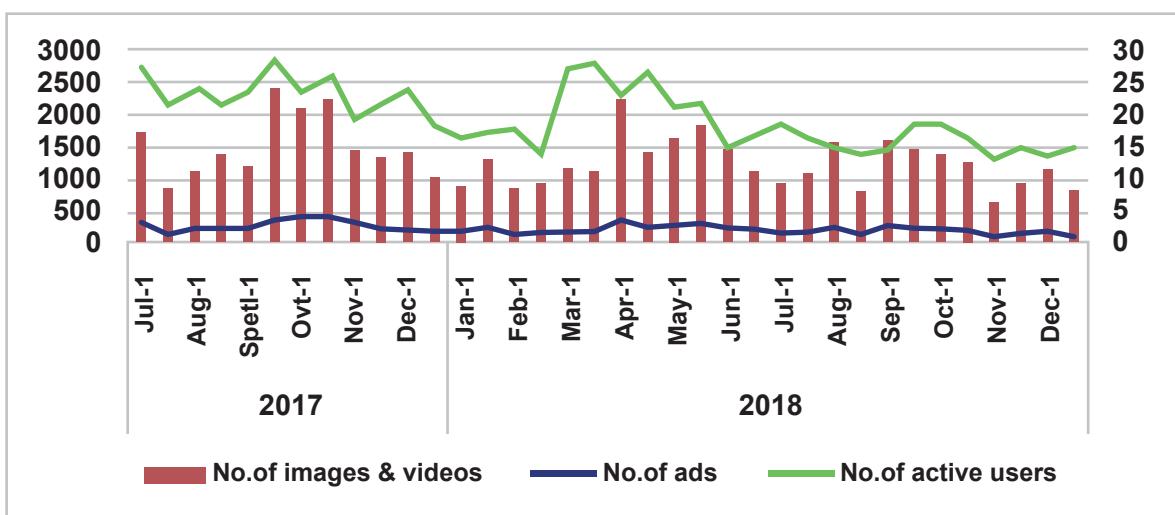


Figure 5. No. of illegal wildlife ads, images & videos and daily active users monitored on social media accounts from 2017 to 2018 (data collected on 36 individual days)

In terms of average daily advertisements, the number during the period between July and December 2017 reached 273, with an average of 23 daily active users and the number in 2018 was 204, with an average of 18 daily active users. Compared with the average number of daily active users and advertisement postings in 2017, those in 2018 showed a decline.

The advertisement postings on social media accounts were dominated by ivory and rhino horn products (Figure 6), which are associated with the fact that most of the accounts monitored by TRAFFIC are handicraft collection sellers. Since the number of advertisement postings by the top 10 sellers accounts for 65.7% of the total number, law enforcement actions against these sellers can help effectively control and reduce the number of illegal wildlife advertisements on online markets.

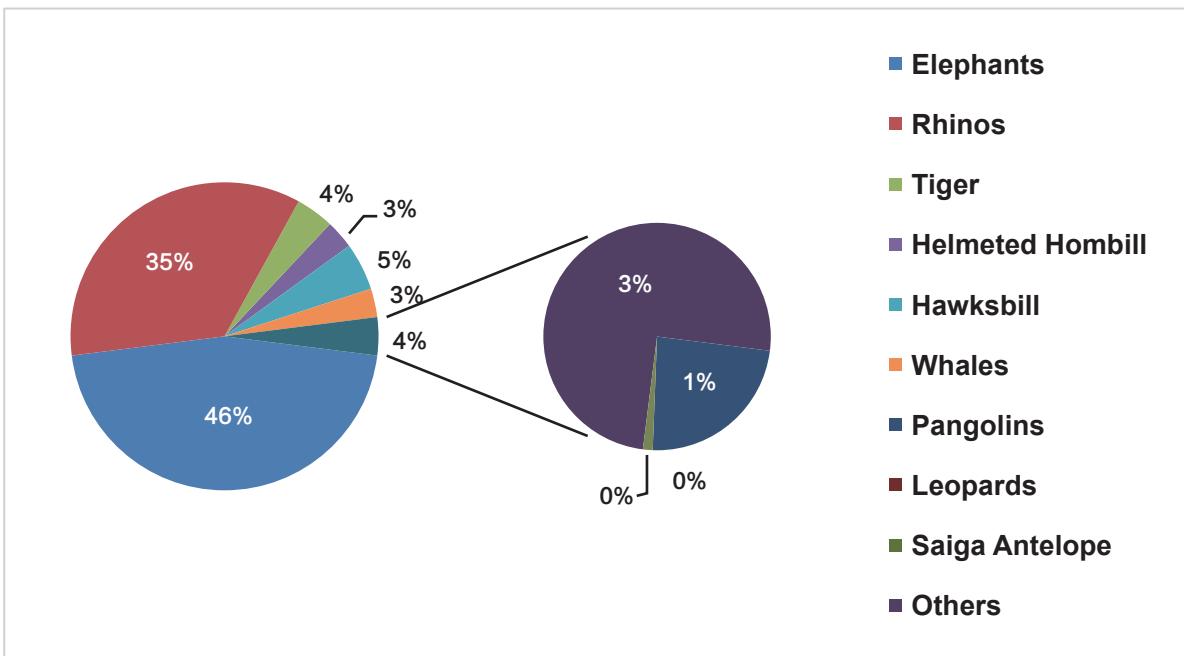


Figure 6. Proportion of advertisements in social media accounts by species 2017- 2018

It was noticed that increasingly sellers on social media only use generic terms as “Have a look”, “Good things”, or “For sale” when they post advertisements. They use an animal graphic emoji when typing a reference to the wildlife species, and sometimes do not use any text description at all (Figure 7). This is done in an attempt to get the attention of experienced buyers and to avoid detection by those running the online platforms.



Figure 7. Advertisements using emojis to refer to wildlife and advertisements without using words in social media

3.2.2 Online community

TRAFFIC's pre-survey found that, similar to the situation on social media, the titles and text of many advertisements found in the online community do not contain keywords, or even any text description (Figure 8). Such advertisements might not be detected if only searched by keywords with software. As people with the same interests are often brought together in the same online forum, they are very familiar with and can easily identify wildlife products, and the sellers can attract experienced buyers by only using photos. This practice of posting advertisements without text can result in them not being detected by investigations conducted on the websites, allowing the potential buyers to communicate with the sellers through instant messaging tools in the online community or after they have exchanged social media accounts.

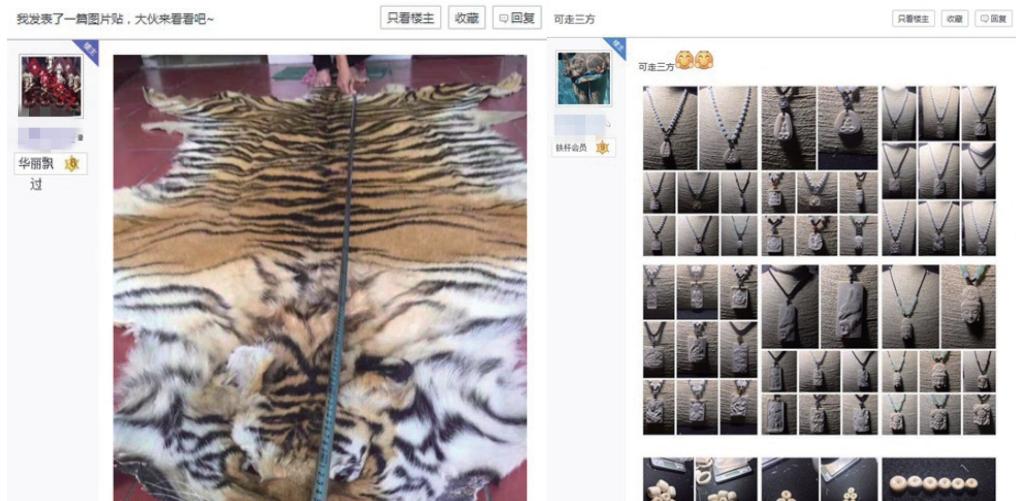


Figure 8. Advertisements which do not contain any text in online community

The number of NWPAs in the online community survey was 234 in November 2018 and 281 in December 2018 (Figure 9). Some users were especially active in posting a large number of illegal wildlife product advertisements (Figure 10). In terms of species, products from elephants, rhinos and tiger are still the most significant, followed by cetaceans. According to feedback from the online community operators, they have closed down some online forums and banned the use of some accounts.

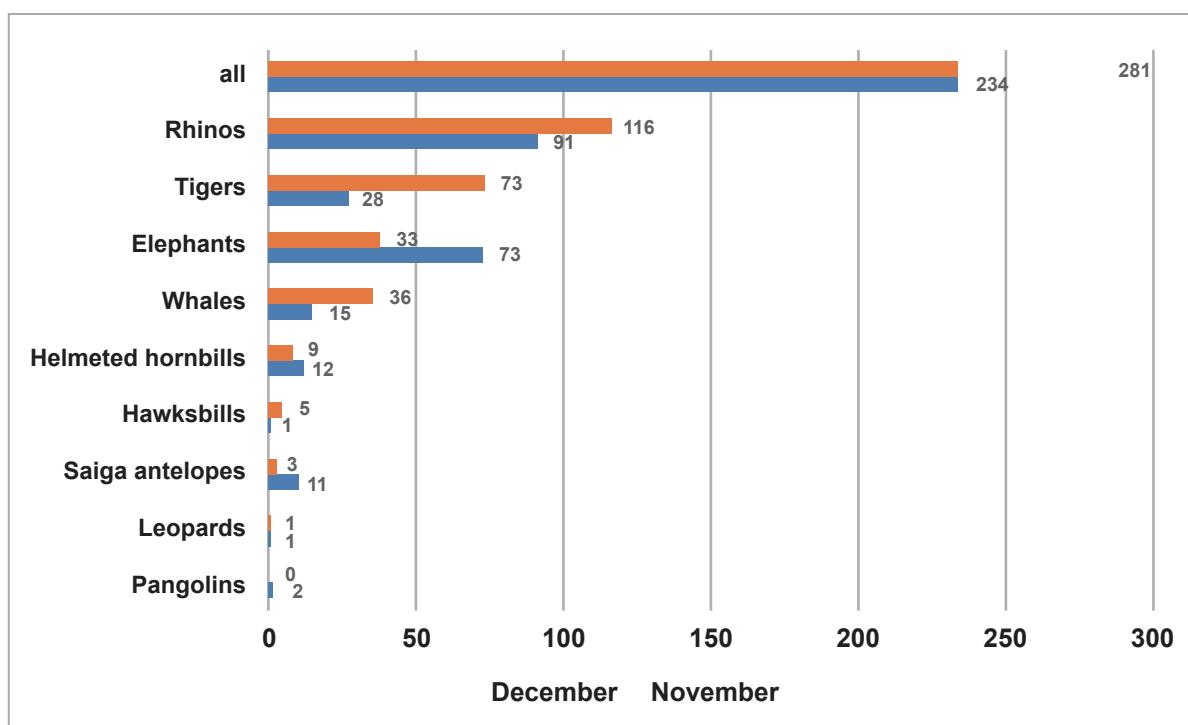


Figure 9. No. of illegal wildlife product advertisements per month by species on the online community (November- December 2018)

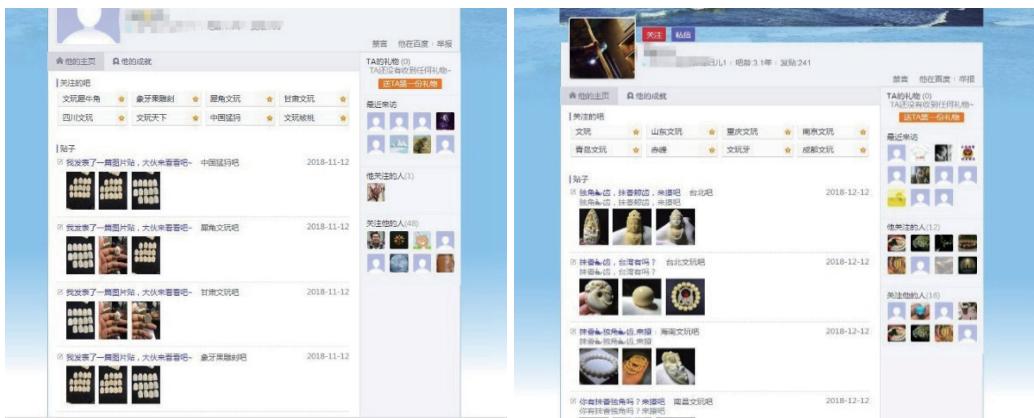


Figure 10. Users who have posted a lot of advertisements on illegal wildlife products

3.3 Other online platforms monitoring results

3.3.1 APPs related to short video stream

In 2018, TRAFFIC researchers registered accounts on two APP platforms related to short video streams, searching information with pre-defined keywords.

In one of the APPs, 16 users were identified with the keyword of “Ivory carving” (only the user name of these videos can be searched, without the function of searching the titles or comments of these videos). While most of the users post videos on mammoth ivory products, some of the postings are related to ivory, rhino horn or helmeted hornbill products. TRAFFIC used research accounts to subscribe to these users. Afterwards, the APP recommended similar videos to those already subscribed to, including some videos related to illegal wildlife products. Some videos on illegal wildlife products in the APP have been viewed more than 1,000 times. For instance, a video on hornbill products has been viewed 3,135 times at the time of writing (Figure 11). During the survey, some people were found to ask for a price in the comment section indicating a high possibility of trading between users linked in a 1:1 “private message”.



Figure 11. Screenshot of a video on hornbill products which has been viewed 3,135 times as a short video stream

In another APP related to short video stream, no relevant accounts have been found, and researchers can only passively receive the videos recommended by the APP according to their interests. Although no contents on illegal wildlife products have been identified so far, the possibility of selling such products through the APP cannot be eliminated.

3.3.2 APPs related to second-hand trade

There were 312 advertisements of illegal wildlife products posted on two second-hand trade APPs over a period of seven days (Figure 12). Ivory products made up the highest number of advertisements (180) followed by hawksbill, tiger, rhino and whale products². This result is essentially consistent with the survey findings on major websites and social networks.

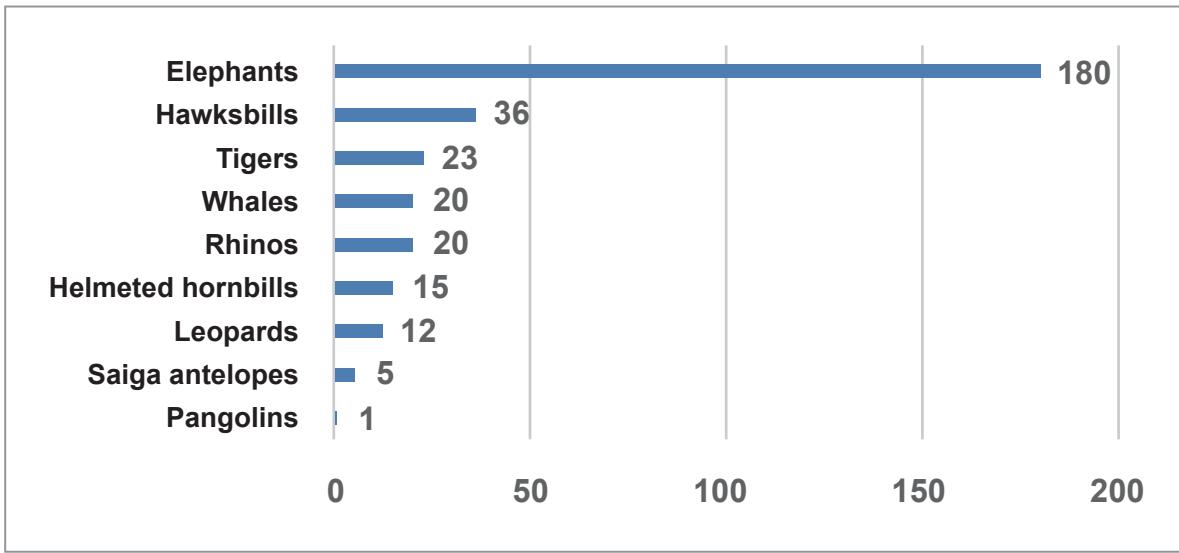


Figure 12. No. of advertisements on illegal wildlife products posted within seven days in an APP related to second-hand trading

The second-hand trade generally features transfer of personal items, but some sellers were found to sell various products. In addition, some sellers include the wording of “recruitment agent” in their user name, showed their willingness to recruit others to sell their products, who may use the APP as a way to create new channels for selling products, including illegal wildlife products. (Figure 13).



Figure 13. Suspected seller of illegal wildlife products on a second-hand trading APP

²TRAFFIC learned from APP operators that sellers can update a commodity to keep its advertisements being easily viewed by buyers. For this reason, the advertisements viewed over a seven day period may include commodities that have been put on sale seven days ago and then updated, and the actual number of monthly advertisements may be less than four times the number of advertisements viewed within the last seven days.

3.3.3 APPs related to traditional Chinese handicrafts

TRAFFIC has browsed many APPs related to traditional Chinese handicrafts and two APPs dealing with illegal wildlife products were selected for investigation.

One of the APPs targets users interested in traditional Chinese handicrafts and provides contact details of sellers' social media accounts. TRAFFIC monitored 16 such sellers' social media accounts recommended by the APP and found six accounts posted advertisements on illegal wildlife products on their sharing homepages within seven days; 10 ivory products, four hawksbill turtle products, one helmeted hornbill product and one sperm whale product were recorded.

Another APP featuring the auctioning of traditional Chinese handicrafts has the function of bidding and auctioning. Sellers can post on their social media the hyperlink in the APP or photos containing a QR code, so guiding the potential buyers from social media to the APP. TRAFFIC found 10 ivory products, one pangolin product and one hawksbill product on the APP. It should be noted that some "ivory" might be sold in the name of "mammoth ivory". The words indicated with "mammoth" and "mammoth xuè yá" (Figure 14) may actually be elephant ivory and the description also confirmed this suspicion.



Figure 14. The term mammoth ivory is used in traditional Chinese handicraft APPs to refer to modern ivory

3.3.4 Monitoring of live reptile websites

The number of advertisements containing Chelonian species, the target monitored species, in seven websites selling live reptiles is shown in Table 1. The three Chelonian species, namely, Golden Coin Turtle, Yellow Pond Turtle and Chinese Box Turtle, have the largest number of advertisements, accounting for more than 90%. Because the captive breeding of Chinese Box Turtle and Yellow Pond Turtle has been very successful, only the wild population of the two species is protected under Chinese law. However, it is very difficult for researchers (or any enforcement officers) to exactly identify the source of the species on live reptile websites.

Table 1: No. of advertisements by species on live reptile websites

Name of the species	Latin names	No. of advertisements	CITES	Red List	National level of protection in China
Golden Coin Turtle	<i>Cuora trifasciata</i>	3512	II	CR	Level 2
Yellow Pond Turtle	<i>Mauremys mutica</i>	2566	II	EN	Level 2 (only for wild population)
Chinese Box Turtle	<i>Cuora flavomarginata</i>	631	II	EN	Level 2 (only for wild population)
Red-necked Pond Turtle	<i>Mauremys nigricans</i>	65	III	EN	Terrestrial wildlife with important ecological, scientific and social values (IESS)
African Spurred Tortoise	<i>Geochelone sulcata</i>	41	II	VU	
Radiated Tortoise	<i>Astrochelys radiata</i>	36	I	CR	
Amboina Box Turtle	<i>Cuora amboinensis</i>	34	II	VU	IESS
Hermann's Tortoise	<i>Testudo hermanni</i>	22	II	NT	IESS
Red-footed Tortoise	<i>Geochelone carbonaria</i>	6	II		
Leopard Tortoise	<i>Stigmochelys pardalis</i>	4	II	LC	
Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	3	I	CR	Level 2
Aldabra Giant Tortoise	<i>Geochelone gigantea</i>	3	II	VU	

Additionally, some advertisements stated “turtles from mountains” (Figure 15), implying that they came from a wild population. Of particular note is that apart from the fact that the products in the Self-Operated Zone (a special forum where products are offered on the website) are traded on such websites themselves, many sellers would leave their mobile phone numbers or social media accounts for trading to be processed using 1:1 contact between seller and buyer, or via social media, which makes it difficult to trace such hidden trade activities.



Figure 15. “Turtles from mountains” —claims of wild-sourced Golden Coin Turtle sold on the Internet

IV. DISCUSSION

Based on a monthly website-based survey conducted for seven consecutive years, the results of data analysis show that the number of illegal online wildlife trade advertisements has declined overall. In particular, the monthly average NWPAs (406) in 2017-2018 was significantly lower than that of 2012-2016 (1,499).

As the most basic and popular platform targeting the general public, traditional e-commerce websites and collection-based websites (which include transaction facilities) are still important platforms for illegal wildlife trade. Most of the potential buyers become interested in wildlife products after they have been exposed to such information through various websites and online forums, and then purchase products through these websites or other channels. Illegal sellers are fully aware of this customer behaviour pattern. Despite there being many other ways to advertise products that are safer and more hidden, these sellers insist on using collection-/trading-based websites to post such information.

Online platform operators commonly ignore some advertisements suspected to be related to rhino horn and tiger bone products, because many of such products are more likely to be fake. In law enforcement, people who have sold fake wildlife products are generally charged with fraud in China. If someone is caught selling fake tiger or leopard skin (yznews.com.cn, 2015), it will be handled only as an administrative case and a fine will be issued due to the low value of the item involved. However, it is more difficult to handle illegal online wildlife trading. Sellers often attract buyers' attention through old rhino horn, tiger bone, tiger tooth, and other wildlife product advertisements. Once a connection between seller and buyer is established, the genuine illegal wildlife trade could be conducted on social media platforms. For this reason, for any online advertisements related to endangered species products, the relevant law enforcement agencies and online platform operators should dedicate sufficient resources for surveillance and monitoring in order to detect and take action on any illegal information in a timely manner.

Previous TRAFFIC research pointed to the occurrence of social media advertisements for illegal wildlife products which contained no keyword (Xiao *et al.*, 2017). Since then, more and more advertisements without any text descriptions were posted online, as recorded in this 2017-2018 survey. Social media platforms often bring together potential buyers who share the same interests on certain topics or products. They have a certain understanding about these products, so not having a text description will not influence their understanding of the advertisement and they are able to identify and purchase such products. The author of "Identifying ivory advertisements with data mining technology" in 2015 claimed that the accuracy rate to identify ivory could reach up to 93% (David and Julio, 2015); however, more tests and higher accuracy rates are needed, if the laboratory research findings are to be applied in real scenarios of identifying the illegal online wildlife trading. As the use of social media and an increasing diversity of other types of online channels proliferates further, manpower and material costs needed to screen information manually will possibly become prohibitive. Internet companies and law enforcement departments may need to develop and deploy data mining and image identification technology as soon as possible.

It was also found in this survey that advertisements on illegal wildlife products were posted on other online platforms, including APPs related to short video stream, second-hand trade, and traditional Chinese handicrafts, and websites advertising live reptiles. Although the APPs related to short video stream do not feature a transaction platform, they have a large number of users, which rose to 353 million in 2018 (China Commerce and Industry Research Institute -CCIRI, 2018). Their huge traffic and large number of users provide more opportunities for the exposure of illegal wildlife products online. Many online platforms feature the function of private communication, which makes it possible for buyers and sellers to exchange their social media accounts and to complete transactions through social media. In addition to being used by individual users to exchange second-hand goods, the APPs related to second-hand trading may have become a new selling platform for some sellers. So far, the APPs related to traditional Chinese handicraft typically link with social media. Despite a small number of advertisements, the social media platforms themselves have become a key channel for conducting illegal wildlife trade. The mutual transfer of traffic between social media and APPs related to traditional Chinese handicrafts may increase the advertisements on both channels.

While browsing some portals and We-Media channels (i.e. a platform for individual writers, where anyone can post an article or blog on any topic) TRAFFIC has found some articles showing or presenting illegal wildlife products. Although no transactions are directly completed on such platforms, their promotion of illegal wildlife products may encourage demand from the general public for buying such goods. This can be evidenced by the fact that the social media accounts of some dealers are included together with some images of the articles, which shows an apparent intention to sell illegal wildlife products (Figure 16).

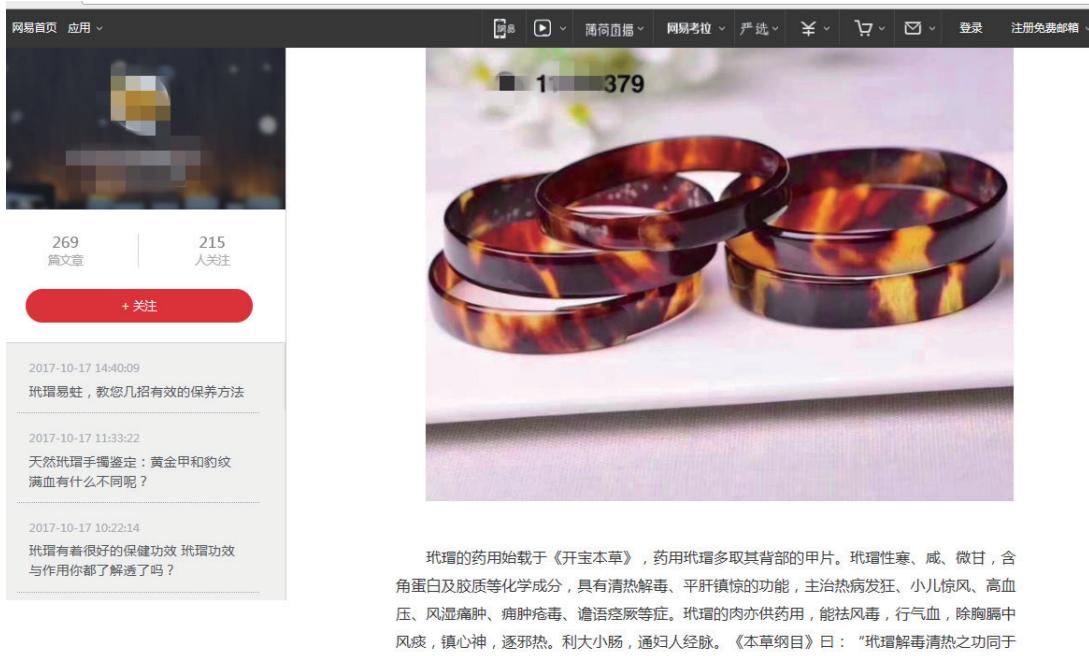


Figure 16. Articles on illegal wildlife products at a portal, with the seller's social media account in the picture

A large number of advertisements on Chelonian species included in the List of Key Protected Animals at National Level and on the CITES Appendices are found to be posted on websites advertising live reptiles. In the Notice No. 69 issued by the Ministry of Agriculture and Rural Affairs (MARA) in 2018 (MARA, 2018), any aquatic species (including turtles) included in the CITES Appendices are recognized as wild animals under State protection. However, protection of the wild population and that of captive-bred populations of some species are differentiated (protection only applies to the wild population). As no source has been indicated in all the online advertisements, it is not possible for buyers to distinguish whether the Chelonian species posted on the advertisements are wild caught or captive-bred, and the sellers often deliberately imply in their advertisements that these products are from the wild population.

According to the provisions in Articles 25, 27 and 28 under the revised *Law of the People's Republic of China on the Protection of Wildlife 2016* (NPC, 2016), administrative approval must be obtained for the captive breeding of wild animals under State protection, and these animals can only be sold and utilized with a specialized mark to ensure their traceability. However, no specific implementation rules or regulations have yet been published. It still remains unclear how to obtain such approval and special mark, and how to use it. In *Article 15 of the E-Commerce Law of the People's Republic of China* adopted on August 31, 2018, it is stipulated that e-commerce operators shall display the administrative license information related to its operation in a visible place on its homepage (NPC, 2018). This will become a legal requirement to regulate the operation of e-commerce websites as of January 1, 2019, which will play a significant role in urging the government agencies to improve management and fill the gap in terms of managing online trade of captive-breed wildlife.

Since the commercial ivory trade ban was enforced in China at the end of 2017, the relevant law enforcement agencies and Internet companies have taken measures to crack down on illegal online wildlife trade. For instance, the “Campaign of Spring Thunder 2018” was launched by the National Forest Police in April -May 2018. One of the major actions was “to combat against the acts of illegally selling rare and endangered wildlife and their products on e-commerce platforms according to law” (People.com.cn, 2018). Tencent helped the National Forest Police uncover many cases, involving a total value of more than CNY30 million (USD 4.45 million) (Tencent, 2019).

V. RECOMMENDATIONS

TRAFFIC is committed to monitoring the illegal wildlife trade through e-commerce and social media, and works closely with websites, social media operators and law enforcement agencies to combat wildlife cybercrime. The following recommendations are made from research findings regarding online wildlife trade in the period 2017-2018:

Government agencies:

- Law enforcement agencies need to further strengthen supervision of Internet platforms, identify cases and trends for illegal wildlife trade in a timely manner, and demand Internet companies to take effective actions to comply with relevant laws. For example, the emerging platforms not conventionally associated with illegal wildlife trade, and the suspected sale of elephant ivory in the name of mammoth ivory needs regular monitoring attention by relevant government agencies and companies;
- The wildlife authorities need to promulgate rules on “the specialized mark on China Wildlife Management (CNWM)”, including how to apply and use these tools, in particular the Measures for the Management on the Operation and Use of Living Bodies, specifically regarding Chelonian species;
- In line with the E-Commerce Law, the wildlife authorities need to promulgate rules on legal online wildlife trade as soon as possible, particularly on captive-bred wildlife and their products that are allowed for commercial transaction, in order to prevent the illegal wild population from being introduced and sold through Internet/online channels.

Internet companies:

- Internet companies need to further improve their capacity to detect and delete advertisements and information promoting the purchase of illegal wildlife and their products in a timely manner. The establishment of a public reporting mechanism is recommended to actively reduce the online trading of illegal wildlife and their products, and it would help companies to detect illegal wildlife trade;
- Internet companies need to fully comply with the E-Commerce Law as soon as possible, including requesting dealers to always provide their business licenses and administrative license information related to their operations, and stop the operation of dealers who refuse to provide such information;
- Internet companies need to co-operate more closely with relevant law enforcement agencies and NGOs, and jointly conduct information campaigns to raise users' awareness of the law, with the aim to deter participation in the online illegal wildlife trade.

The general public and NGOs:

- Monitoring by NGOs on illegal online wildlife trade should continue to generate relevant information to assist law enforcement agencies and website administrators in order to effectively regulate the online markets and combat wildlife cybercrime;
- The general public and NGOs need to encourage and support relevant research institutions and Internet companies to develop technologies on photo recognition and data mining and apply these technologies to detect and deter illegal online wildlife trade.

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TRAFFIC, the wildlife trade monitoring network, is a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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