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#ActForAnimals
For over a decade and a half, the International Fund for Animal Welfare (IFAW) has been monitoring online wildlife trafficking and working to end it. We train enforcement officers in the latest techniques and trends, collaborate with online marketplaces to improve their policies to reduce wildlife trafficking, work with communities to reduce poaching, and ultimately reducing overall wildlife demand.

This report is a continuation of IFAW’s commitment to monitoring illegal wildlife trade online and communicating new findings and trends in order to protect imperiled animals. Our investigators surveyed the digital US market for species that are under US (Endangered Species Act) or international (CITES) protection in a 6-week investigation of 34 online marketplaces. Investigators found nearly 1,200 advertisements for almost 2,400 animals, parts, derivatives, or products of protected species. The three most common types of advertisements were for elephant ivory (44%) taxidermy and trophies (27%) and live animals sold as exotic pets (19%).

The high proportion of elephant ivory is smaller than in 2008 (73%), but it is still surprisingly high considering the US has instituted laws and regulations regarding elephant ivory since. The results indicate that savvy traders are circumventing these regulations by using code words, blurry photos, and claiming exemptions despite lack of evidence.

Taxidermy and trophies of both domestic and international species are sold online with regularity, but whether these advertisements are legal or not is unclear due to the complexity of international, national, and local policies as well as the general lack of information on the advertisements themselves. It is nearly impossible for a potential buyer, marketplace, or even enforcement official to determine legality just by looking at the advertisement.

Reptiles, birds, and primates made up most of the exotic pets for sale and they were often found on smaller, hobby websites. Demand for exotic pets, particularly turtles and tortoises, has skyrocketed in recent years, which is a worrying trend. This demand has decimated many iconic species, caused undue stress and pain for the animals, and increases risk of zoonotic diseases transferring to people.

Online wildlife trafficking remains a significant challenge in the US. Complex laws and regulations, combined with the inherent anonymity and ambiguity of the internet, enables bad actors to sell protected wildlife species on US online platforms. However, governments and private companies can take action to reduce illegal trade online.

The US government should include wildlife trafficking in internet policy reforms, along with other serious crimes, and work to close loopholes in existing policy. In addition, Congress should grant enforcement entities the funding, capacity, and authority to enforce wildlife laws. Finally, the US government should develop whistleblower programs to encourage and incentivize the reporting of online wildlife trafficking by private citizens and government employees.

Online marketplaces should adopt clear, comprehensive, and enforceable wildlife trade policies that ensure their platforms do not contribute to wildlife trafficking. Additionally, platforms should educate their users on wildlife trafficking and provide mechanisms to report wildlife policy violations. They should also invest in their monitoring personnel with consistent training and technology solutions such as machine learning. Finally, marketplaces should look to collaborate with non-government organizations (NGOs), governments, and other platforms to share and implement best practices.

▼ Mark’s Biography:

Mark is a Campaigns Officer with the International Fund for Animal Welfare’s Washington D.C. office where he works to promote coexistence with wildlife across the U.S. He brings a science background to IFAW’s Washington, D.C. policy team, working with both academics and communities on the ground to protect animals and their habitats. Mark works on federal and state policy that has to do with wildlife trafficking, most notably the ivory trade and the pangolin trade. He represented IFAW at the IUCN World Conservation Congress and the CITES Conference of Parties promoting policies that benefit wildlife conservation and reduce illegal wildlife trade. Most notably, Mark was instrumental in advocating for all eight pangolin species to be listed on Appendix I of CITES.

He holds a M.P.P., M.S., and B.S. from the University of Maryland, College Park.
visual data overview: executive summary

1,173 ads for 2,372 specimens

97.5% of species were listed on CITES Appendix I or II

81 species identified

46.3% were listed as threatened or endangered under the US Endangered Species Act

Types of animals for sale:

- Mammals 82%
- Reptiles 10%
- Birds 8%
- Other 2%

- Elephants 41%
- Bears 19%
- Cats 16%
- Tortoises & Turtles 7%
- Primates 8%
- Parrots 8%
- Other 5%
- Iguana 2%
- Whales 1%

Percent of advertisements containing:

- Elephant Ivory 44%
- Live Animals 19%
- Taxidermy & Trophy 27%
- Other 10%

8 out of 1,173 advertisements had supporting documentation

25% percent of advertisements explicitly offering international trade
Section 1

introduction
Since the advent of online marketplaces, the illegal trade of wildlife over the internet has become a significant part of the market for wildlife products and exotic pets. As the web has become more accessible, illicit trade in wild animals and their parts and products has also proliferated, driving an increase in poaching and the decline of imperiled and iconic species and their habitats.

The International Fund for Animal Welfare (IFAW) has been monitoring online wildlife trade since 2004, publishing numerous reports and investigations on the volume and character of trade globally and regionally. In 2008, IFAW released the groundbreaking report, *Killing with Keystrokes*, which found over 7,000 advertisements for species internationally protected from trade on the web in eight countries over a 6-week investigation period. This investigation only captured a snapshot of the billion-dollar industry that is the illegal wildlife trade. According to the United Nations Environment Programme (UNEP), wildlife trafficking is estimated to be worth US $7-23 billion per year.

The loss of wildlife from illegal trade is devastating species that need conservation action such as elephants, lions, tigers, and many species of birds, turtles, and tortoises. These species are part of the complex web of life, which we rely on for clean air, climate change mitigation, clean water, flood mitigation, soil health, and other ecosystem services. Further, the number one risk factor for zoonotic disease spillover to people is sustained contact with wild animals, especially animals that are in close confines and in stressful conditions - key features of wildlife trade.

The findings from *Killing with Keystrokes* and other investigations have spurred IFAW to advocate for stronger government policies across the globe, train government enforcement officials, work with communities that are hurt most by poaching, collaborate with online marketplaces to improve their policies, and continue to monitor the market.

In the US, IFAW helped advocate for federal regulations on elephant ivory that prohibit most trade as well as legislation at the state level. In 2018, IFAW, World Wildlife Fund (WWF), and TRAFFIC launched the Coalition to End Wildlife Trafficking Online with some of the world’s largest online communications and e-commerce companies including Microsoft, Google, eBay, and others. As of 2020, Coalition members reported having removed or blocked well over 4 million advertisements for protected species.

Reducing and regulating trade over the internet is notoriously tricky. International, national, and local regulations on different species (or even sub-species and distinct populations) generate a intricate web of what is legal and what isn’t. This layer of complexity combined with the inherent anonymity of the internet, enables bad actors to continue to illegally sell wildlife pets and products online. Much work has been done, but significant national and international action is needed to effectively disrupt wildlife cybercrime long-term.

This report is intended to provide a broad overview of the online trade in protected wildlife species in the US. The investigation also serves as an update to *Killing with Keystrokes* and a US comparison to IFAW’s 2018 report on European online markets, *Disrupt: Wildlife Cybercrime*. This new report also provides recommendations for the US government and online platforms to help reduce the illicit trade in wildlife species over the internet.

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**Learn more:**


**Elephants in the water in Samburu National Reserve, Kenya.**

**Wild elephants swimming in Amboseli National Park, Kenya.**
Section 2

methods and challenges
The goal of the investigation was to gain a broad understanding of the nature of the online trade in protected wildlife species in the US. The investigation was conducted over a 6-week period by former wildlife law enforcement officials, who surveyed 34 websites for relevant advertisements. These websites were reduced from an initial list of 80 by a preliminary assessment for the presence of protected species for sale.

The investigators searched websites for advertisements of species that are protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the US Endangered Species Act (ESA), or both. Investigators focused on CITES Appendix-I listed species, which are functionally banned from international commercial trade.

Permits are granted only if the exporting country determines that the export will not be detrimental to the survival of the species.

The investigators particularly focused on species, subspecies, and groups of species that are known to be traded. The investigation excluded social media platforms, despite their role in wildlife trade, for the purposes of scope and limited time. The final tally was scrutinized thoroughly to check for anomalies, duplicate adverts across different websites, and accuracy of all the data before starting the analysis process.

Any advertisements found on platforms that are part of the Coalition to End Wildlife Trafficking Online were collated and sent to representatives of the respective marketplaces where they were promptly removed. These platforms included eBay, Etsy, Ruby Lane, and Offer Up.

There are many challenges to recording the number of species available for trade on the web. In most cases, the investigators only recorded where the species could be identified. Unfortunately, much of the wildlife found could not be identified to that level. And even if the species could be identified, whether or not it is legal to sell that species can differ based on what country or region the specimen came from, how it was hunted or captured, what part of the animal was being sold, and other criteria. For example, the sale of black bear in the US (Ursus americana), which are listed on CITES under Appendix II, is highly complex. Most states prohibit the trade of some bear parts but which parts and to where they can be sold varies by state. Some states allow the sale of bear parts and derivatives that were taken in other states but not their own. It is well documented that poachers illegally sell gall bladders, claws, paws, and other black bear parts on the black market. However, it is impossible as an investigator to ascertain with confidence the legality of a particular online advertisement for black bear in the US. Therefore, despite black bear being one of the most heavily traded wildlife species in the US, this report excluded most of the items found of this species.

ESA and CITES:

The ESA is a US law that lists species that are in danger of extinction as Endangered or Threatened. If a species is listed, it is prohibited from import, export, or interstate trade except for certain exemptions.

CITES is the international body that governs the international commercial trade in wildlife species. Species are listed under appendices according to their conservation need and the contribution of trade to their decline. Species listed under Appendix I are afforded the strictest protection. International trade in these species is prohibited except under certain exemptions. Species listed under Appendix II require an export permit to be traded internationally.

Learn more:

3 Testimony

▲ Black bear standing in the grass.
▲ Grizzly bear standing on a log in British Columbia, Canada.
Section 3

results

Photo: © IFAW
The investigators identified nearly 2,400 live animals, parts, and products of protected wildlife species advertised for sale on US-based platforms. Most of the advertisements recorded were found on large platforms with international reach. Often, these marketplaces acted as hosts for small and medium scale sellers that simultaneously used several of these platforms to reach a wider audience. The remaining portion of advertisements were found on smaller, more specific websites that are tailored to one kind of species, animal group, or type of product. Some traders were found selling the same products on multiple platforms while avoiding platforms that had stringent wildlife trade policies.

Almost 1,200 advertisements were recorded. However, these numbers are just a snapshot of the true number of specimens for sale since the investigators only recorded advertisements where species could be identified, and species-level identification is notoriously difficult when the only evidence is a few photos and some context clues.

In most cases, documentation should be provided to ensure legality for sales of protected species. However, only eight of the nearly 1,200 advertisements had supporting documentation. Additionally, a quarter of all advertisements explicitly offered to sell across national borders, which is not allowed for ESA or CITES Appendix I and II listed species without permits.

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For domestic trade, there is even less clarity over what is illegal and what isn’t. Some species, or even subspecies, are listed on different wildlife protection laws based on the region they were hunted or captured from, and therefore have different protections. Adding to the confusion, different states have differing regulations and these can contradict with federal regulations or laws. The best way to characterize the state of online trade of protected wildlife species is an “environment of confusion,” as stated in Killing with Keystrokes.

Savvy traders exploit this confusion by claiming their products or pets are exempt from wildlife laws by one means or another. Unsuspecting buyers are unable to determine if what they are buying is legal or is contributing to the depletion of an imperiled species. Further, government enforcement officials, in many cases, are unable to determine legality. The result: protected wildlife species continue to be openly sold on US online platforms.

“only eight of the nearly 1,200 advertisements had supporting documentation”

▲ A wild baboon mother and baby take a rest while foraging for food in South Africa. Nearly 48 baboons were found for sale in the investigation.

▲ At least 7 different species of monkeys, such as these vervet monkeys in Kenya, were found.
ivory: savvy traders flout restrictions
Nearly half of all advertisements (44%) recorded in the investigation were identified as elephant ivory. In contrast, 73% of advertisements recorded in *Killing with Keystrokes* were identified as elephant ivory.

Since 2008 when *Killing with Keystrokes* was released, the US has implemented federal regulations that severely restrict the trade of elephant ivory across state and international borders with limited exceptions. Additionally, several states where ivory trade had been documented as extensive, passed laws that similarly restricted trade within their borders.

However, the exceptions and loopholes that remain allow savvier traders to circumvent these restrictions. Only 37% of the advertisements recorded as elephant ivory actually described their products for sale as elephant ivory.

Sellers employed different descriptors of the word “bone” in 187 advertisements such as “Chinese bone”, “bovine bone”, “carved bone”, and others. Some traders did not use code words but instead had pictures with clear Schreger lines (these are naturally occurring lines that are used to identify elephant ivory).

A total of 263 advertisements for ivory or suspected ivory used code words.

Many traders also made claims that ivory for sale fit very specific exemptions in US law. For example, 191 advertisements described the item for sale as “pre-ban”, “antique”, or otherwise bought before elephants were listed on CITES. Other traders claimed their elephant ivory specimens were Inuit, First Nation, Native American, or otherwise made by indigenous populations despite evidence to the contrary.

In some cases, individual sellers advertised elephant ivory on some platforms but only advertised non-ivory products on other platforms that have strict policies regarding ivory. Alternatively, they advertised ivory on those platforms but with blurry photos that attempted to conceal the true nature of the product. Overall, investigators recorded a total of 189 advertisements that had a high likelihood in which the seller knowingly broke wildlife laws by concealing the identity of elephant ivory.

44% of all advertisements were for elephant ivory

63% of elephant ivory advertisements: refrained from using the word “ivory” to describe their product

34% of elephant ivory advertisements: claimed their product was somehow exempt from national and/or international regulations

34% of elephant ivory advertisements, it was highly likely that the seller knowingly broke the wildlife laws.

▲ A mother elephant and her calf following as they walk in the bush.

▲ Ivory confiscated in Singapore in 2002 being burned in Kenya as a powerful message to poachers that such ivory had no value.
taxidermy and trophies
Over one quarter of all advertisements recorded were for trophies and taxidermy products. These included skins, skulls, claws, or other animal parts where the primary purpose was for display. Most taxidermy and trophy products were sold under the taxidermy, sporting goods, or collectible categories on various platforms.

Half of the taxidermy and trophy advertisements were for species only found in the wild outside of the US. These species included giraffes, African lions, caracals, and several primate species. The other half were for species native to the US (and Canada). These species included black bears, grizzly bears, Canada lynx, fishers, and polar bears.

It should be noted that in most cases, the trading of CITES-listed species that were specifically imported as sport-hunted trophies is illegal. However, in most of these advertisements, it is impossible to tell whether the specimen was imported as a sport-hunted trophy, or even imported at all.

The aforementioned US-native species are all found in Canada too, so unless specifically noted on the advertisement, it is impossible to determine legality. For example, a Canada lynx trophy could have been hunted in Canada and legally imported into the US (not legal to sell), hunted in Alaska legally (legal to sell), or hunted illegally in either country (not legal to sell). As stated before, almost no advertisements recorded in this report offered any sort of documentation.

Further muddying the waters is that each state has different regulations regarding the sale of sport-hunted trophies and other taxidermy. Depending on which state an animal was hunted in and where it is being sold to, online sale of skins, skulls, and other parts could be illegal.

What is clear is that it is illegal to sell taxidermy and trophies of certain protected species that are imported as sport-hunted trophies. What is unclear is how a potential buyer, enforcement official, or marketplace looking to help wildlife is supposed to determine if that is the case.

27% of all advertisements that were for taxidermy products
50% of all taxidermy products were US-native species

Cats 32%
Bears 27%
Primates 23%
Giraffes 7%
Other 11%

A female polar bear with her cub, about 9 months old, in the tundra of the southern coast of Wrangel Island.

Grizzly bear on Kodiak Island in Alaska.
Section 6

exotic pet trade: cruel and dangerous
Live animals to be sold as exotic pets made up 219 of the 1,173 total advertisements (19%). Most of these advertisements were for birds and reptiles (44% and 40% respectively) with the remainder consisting of mammals. While 19% is relatively fewer than parts and products such as taxidermy and elephant ivory, live animal advertisements tended to be of higher value and made up a large share of the overall dollar value recorded.

Nearly three fourths of the 34 advertisements for protected wildlife species valued at USD 10,000 or higher were for live animals. Certain species of birds were particularly valuable with 10 different advertisements featuring birds for sale for over USD 25,000. Turtles and tortoises also made up a significant part of the live animal trade. Almost 90% of all turtles and tortoises for sale were for the pet trade. Additionally, 37% of the turtles and tortoises for sale were protected species native to the US.

Nearly all live animals were sold on smaller hobby websites that are dedicated to specific groups of animals. For example, “birdsnow.com”, “exoticanimalsforsale.net”, and “hookbillsforsale.com” each had well over 25 advertisements each. These websites do not have any policies easily available to the public regarding the sale of protected species.

The proportion of live animals in trade is consistent with the findings from Killing with Keystrokes in 2008 where about 20% of advertisements were for exotic pets. However, nearly all of those live animals were birds. The data from this report suggest that demand for live turtles, tortoises, wild cats, and primates has proliferated since then. This is consistent with IFAW’s findings from Disrupt: Wildlife Cybercrime where reptiles made up the largest group of animals found for sale followed closely by birds.

The enormous asking prices for certain species of birds, mammals, and reptiles, as well as the proliferation of the reptile trade indicates a worrying trend. Trafficking live animals has severe consequences for the conservation of wildlife species and animal welfare. Demand for birds as pets, coupled with habitat loss, has led to several species becoming depleted in the wild. Further, the pet trade is harrowing for individual animals, often shipped thousands of miles in close confines and inhumane conditions. Live animals can also carry zoonotic diseases, and when exposed to the stressors that are commonly found in wildlife trade, the chance of spillover is only increased.

Zoonotic diseases, defined as diseases transferred from animals to people, have become more common in recent decades. Studies have found that between 60% and 75% of emerging infectious diseases come from animals, and that nearly 3 quarters of those are from wild animals. Some of the deadliest diseases in human history such as the avian influenza (bird flu), the bubonic plague, severe acute respiratory syndrome (SARS), human immunodeficiency virus (HIV), and many others originated in wildlife. The chance of spillover, or diseases transferring from animals to people, is increased by sustained contact with wildlife, habitat destruction, and biodiversity loss, all features of wildlife trade. For example, a monkey pox outbreak in 2003 in the US occurred when infected Gambian rats imported from Africa as pets were housed with prairie dogs. These prairie dogs were sold as pets and infected 70 people.

Learn more:
- Preserving Human Health
- More than 18 species of turtles were found for sale
- A spider monkey forages in the thick jungle around the village of Nuevo Durango, Mexico.
Section 7

recommendations
This investigation’s findings clearly indicate that despite progress made in the halls of Congress, by federal agencies, and by private companies, online trafficking of protected wildlife species remains a significant challenge in the US. Ivory sales online continue at high volume despite recent statutory and regulatory reforms designed to restrict trade. Unscrupulous ivory sellers exploit loopholes in existing federal regulations while also using the sheer complexity of relevant international, national, and local laws to conceal illegal trade. That complexity also prevents enforcement of prohibitions against trade in trophies and taxidermy from protected species, for which it is particularly challenging to determine legality based solely on an online image or advertisement. Demand for exotic pets would appear to be proliferating, with several endangered species of birds, turtles, tortoises, and primates commanding towering prices. Rising demand for exotic pets is especially problematic considering the trade’s serious, adverse animal welfare impacts and risk of zoonotic disease spillover.

The good news is that governments, enforcers, non-governmental organizations (NGOs), private citizens, and private companies are devoting time and attention to the issue. Despite the growth of wildlife cybercrime, international, cross-sectoral efforts to shut down online markets for imperiled animals suggest that there is cause for optimism. The US government and US-based online marketplaces must now ramp up efforts to stop illegal online wildlife trade. The recommendations in this report focus on the US government and online marketplaces, however, online wildlife trafficking is a global issue that requires collaboration across countries, governments, and private sectors including the financial sector.\(^5\)

**US Government:**

**Prioritization**

Explicitly incorporate wildlife trafficking into any new policy or reforms to existing policy (legislation or regulation) that involve online communications, commerce, or law enforcement. Wildlife trafficking is a serious crime and should be treated as such. The END Act (Eliminate, Neutralize, and Disrupt Wildlife Trafficking Act), which was enacted in 2016, established wildlife trafficking as a predicate offense for money laundering.\(^6\) However, this is one small step towards treating these crimes as similar to other serious crimes. Congress should designate wildlife trafficking and other wildlife trade violations as predicate offenses under a broader array of statutes.

**Funding and Authority**

Ensure that enforcement entities, including the US Fish and Wildlife Service’s (FWS) Office of Law Enforcement (OLE) and state counterparts, be provided with funding and resources sufficient to develop, implement, and expand tools and techniques for disrupting wildlife cybercrime. Additionally, OLE should be empowered with subpoena for matters that fall within its jurisdiction. The US should increase funding for anti-poaching, conservation, and anti-trafficking efforts for protected species through programs under the Department of Interior, US Agency for International Development, and the State Department.

**Research and Capacity**

Expand the technical capacity of enforcement agencies and officials, and ensure that enforcement operations can function flexibly and nimbly while investing in innovation to expand digital forensics capabilities. The report shows that wildlife traffickers often shift among online platforms, rely on evolving code terms, and otherwise seek to evade enforcers through rapid adaptation.

**Loopholes**

Pass legislation and/or develop regulations that explicitly require the proper CITES or ESA documentation to sell protected species online and place the burden of proof on the seller. Any new legislation or regulatory reform must account for the difficulty—and often impossibility—of identifying illegal wildlife at the species level in online advertisements and images.

**Online marketplaces:**

**Company Policy**

Implement policies that do not allow the trade in species or products that are illegal to trade or contribute to wildlife trafficking, in order to curb the environment of confusion that surrounds the trade in protected species, online marketplaces and communication platforms.

**Educating Users**

Clarify to both sellers and buyers what company policy is for individual species and products of concern, including but not limited to elephant ivory, big cats, exotic birds, and reptiles.

**Staff Training and Monitoring**

Conduct extensive training for in-house monitoring personnel and consistently remove advertisements of protected species. Marketplaces should also employ monitoring techniques such as machine learning and citizen spotters.

**Collaboration**

Work together with NGOs, advocates, government, and other private companies in order to implement best practices and share the latest trends in online wildlife trafficking. The Coalition to End Wildlife Trafficking Online\(^7\) assists member companies with implementing wildlife friendly policies, staff training, collaboration, and other best practices.

If you are interested in joining the Coalition, please contact IFAW at info@ifaw.org.

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5 Financial Action Task Force  
https://www.fatf-gafi.org/home

6 END Wildlife Trafficking Act  

7 Coalition to End Wildlife Trafficking Online  
https://www.endwildlifetraffickingonline.org/

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\(^*\) Learn more:

\(^5\) Financial Action Task Force  
https://www.fatf-gafi.org/home

\(^6\) END Wildlife Trafficking Act  

\(^7\) Coalition to End Wildlife Trafficking Online  
https://www.endwildlifetraffickingonline.org/

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▲ Blue great Hyacinth macaw in a rainforest.
animals and people

thriving together