

# TRAFFIC

## REPORT

JULY 2017

# THE US ELEPHANT IVORY MARKET: A NEW BASELINE

*Rachel Kramer, Robin Sawyer, Sal Amato and Peter LaFontaine*





## TRAFFIC REPORT

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

The views of the authors expressed in this publication do not necessarily reflect those of TRAFFIC, WWF, IUCN or IFAW.

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Front cover photograph: Portrait of George Washington painted on elephant ivory in an elephant ivory frame offered for sale at a Washington, DC area expo, July 2016.  
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Insert page photograph: Carved elephant ivory tusk at a New York City antiques gallery, June 2016. © TRAFFIC

# THE US ELEPHANT IVORY MARKET: A NEW BASELINE

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# ABBREVIATIONS AND ACRONYMS

AfECA	African Elephant Conservation Act
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoP	Conference of the Parties
DEC	New York State Department of Environmental Conservation
ETIS	Elephant Trade Information System
HSI	Humane Society International
HSUS	Humane Society of the United States
IFAW	International Fund for Animal Welfare
IUCN	International Union for the Conservation of Nature
Lao PDR	Lao People's Democratic Republic
LEMIS	Law Enforcement Management Information System
MIKE	Monitoring the Illegal Killing of Elephants
NGO	Non-Governmental Organization
NRDC	Natural Resources Defense Council
NYSDEC	New York State Department of Environmental Conservation
OLE	Office of Law Enforcement of the United States Fish and Wildlife Service
SFA	State Forestry Administration of China
STE	Save the Elephants
US	United States of America
USDOI	United States Department of the Interior
USFWS	United States Fish and Wildlife Service
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund (World Wide Fund for Nature)

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# INTRODUCTION

## Closing Domestic Ivory Markets

In order to address the impact of domestic elephant ivory markets as drivers of the current elephant poaching crisis, countries with legal domestic markets that contribute to the illegal trade were, in October 2016 at the 17th Conference of the Parties (CoP) to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), called upon to “take all necessary legislative, regulatory and enforcement measures to close their domestic markets for commercial trade in raw and worked ivory as a matter of urgency” (CoP 17 Com. II. 6). Two of these Parties, the US and China, have the largest economies in the world<sup>1</sup> (World Bank, 2015) and are two of the top consumer markets for wildlife products (WWF 2016). Available data from 2014 indicated that China had one of the world’s largest illegal ivory markets, and that China “continued to be the main end-use destination for ivory from Africa” (Milliken *et al.*, 2016). In 2008, the US was assessed based on a 2006–2007 domestic market survey to be the second largest elephant ivory market for openly available product by volume—of which one-third was estimated by those researchers to be illegal (Martin and Stiles, 2008). Analysis by TRAFFIC of global ivory seizure records contained in the Elephant Trade Information System (ETIS) found that in the 2007–2014 period, the US was not implicated in any large-scale ivory seizures, yet active domestic ivory trade occurs “in mostly pre-Convention and antique items” (Milliken *et al.*, 2016).

In order to address the illegal trade in elephant ivory in the US and China, former US President Barack Obama and China’s President Xi Jinping agreed in September 2015 to enact general ivory trade bans at the domestic level, with some limited exceptions, and to take significant and timely steps to halt their domestic commercial trades in elephant ivory (The White House, 2015). On July 6, 2016, the USFWS enacted a series of changes to US federal regulations that impose what is referred to as a “near-total ban” on imports, exports, and domestic trade of African elephant (*Loxodonta africana*) ivory (USFWS, 2016). On December 30, 2016, the Chinese government consequently committed to ending its legal domestic ivory trade by the end of 2017 (WWF, 2016).<sup>2</sup> On March 24, 2017, China’s State Forestry Administration announced a list of 12 licensed ivory factories (out of 34) and 55 retail ivory shops (out of 130) that were to be closed immediately. The remainder are scheduled to be closed by the end of 2017 (WWF, 2017).

In order to evaluate the impact of any new regulations, including commercial trade bans, it is essential to have a “baseline” for monitoring change. To establish such a point of reference for future monitoring of elephant ivory markets in the US and China, TRAFFIC performed two assessments in 2016.<sup>3</sup> One assessment was led by WWF and TRAFFIC in China and examined China’s legal and illegal ivory market from a survey of physical retailers in 10 cities,<sup>4</sup> in addition to online offers for sale (Xu *et al.*, 2016). The companion assessment presented by TRAFFIC in this report, with support from WWF and IFAW, surveyed a sample of retail outlets in six US cities and six major

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<sup>1</sup> Gross domestic product ranking table based on purchasing power parity.

<sup>2</sup> On February 26, 2015, China imposed a one-year trade ban on the import of ivory carvings acquired after CITES took effect in 1975, followed by further measures to prohibit the import of elephant trophy imports through to December 2019 (SFA, 2016).

<sup>3</sup> Other surveys of global domestic ivory markets were also conducted by TRAFFIC in 2016 in the UK (Lau *et al.*, 2016), Thailand (Krishnasamy *et al.*, 2016), Hong Kong (Lau *et al.*, 2017), Central Africa and Lao People’s Democratic Republic.

<sup>4</sup> Including Beijing, Shanghai, Guangzhou, Tianjin and Xiamen.

online platforms. Together, these assessments deliver a foundation of data against which the impact of regulations and enforcement aimed to restrict domestic commercial sales of elephant ivory, and future shifts in availability as an indicator of ivory demand, may be measured.

## Establishing a Baseline for the 2016 US Market

This report presents findings from a 2016 assessment of the US elephant ivory market. A range of studies over the past decade (see Table 1) have investigated ivory trade on specific online platforms and within specific US state markets (IFAW, 2008; IFAW, 2013; IFAW, 2014; IFAW and WCS, 2015; NRDC, 2015; IFAW, NRDC, WCS, and HSI 2016). The findings presented in this report (from six US cities and six major online platforms) offer the broadest quantitative indicator of the domestic market since a more extensive survey (of 16 US towns and cities) was carried out by Care for the Wild International and Save the Elephants in 2006–2007 (Martin and Stiles, 2008).

This 2016 assessment has two components: (1) a series of in-person, site-based surveys (referred to in this report as “physical market surveys”) performed in six major US cities to document the availability, quantity, and price of elephant ivory for sale between May and July 2016, including in classifieds posted online for surveyed cities; and (2) a complementary investigation into the availability, quantity, and price of elephant ivory offered for sale on six prominent internet commerce platforms (referred to in this report as “online market surveys”), between May and August 2016. The sample of six US cities and six online platforms covered under this assessment was chosen according to their significance as major ivory markets in the 2008 report by Martin and Stiles, and based on recommendations obtained from informational interviews with contacts in law enforcement, industry, and other sources.

Previous US surveys determined New York, San Francisco and Los Angeles to be the top three ivory markets in the US (Martin & Stiles, 2008). Given that a primary objective of this research was to assess the 2016 status of ivory trade in the US in order to provide a baseline for determination of the effectiveness of federal and state measures designed to prohibit or regulate ivory sales, three urban centers were selected in the States of New York and California (New York City, San Francisco and Los Angeles) where state legislation was in effect at the time of data collection. Three urban centers in the States of Oregon, Massachusetts and the greater District of Columbia (including sites in surrounding Maryland and Virginia) were selected based on anecdotal information from law enforcement and other sources which indicated that significant ivory markets were in place at the time of this assessment, and where state legislation was not in effect.<sup>5</sup> Portland, Boston and Washington, DC afforded the opportunity for researchers to document relative markets and to establish baselines for states prior to legislation going into effect.

This report does not attempt to present a comprehensive catalogue of all elephant ivory available online and in physical sale on the US market during the 2016 research period, and the authors do not estimate the proportion of illegal ivory items that were available in commercial trade on the US market at the time of this assessment. Rather, these findings offer a valuable snapshot of a segment of the 2016 elephant ivory market that will serve as an efficient and cost-effective guide for future monitoring of the impact of federal regulations that came into effect on July 6, 2016, to impose a nearly complete ban on the import, export and domestic trade of African elephant ivory in the US (USFWS, 2016).

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<sup>5</sup> It should be noted that although Boston and the District of Columbia areas were included in the Martin and Stiles 2008 US ivory market report, there had been no existing baseline for Portland. Following the completion of this survey, the state of Oregon passed its own legislation banning the intrastate commercial sale of elephant ivory (see Table 2).

Over the course of this assessment, the anonymous researchers, on occasion and when deemed appropriate, provided detailed information to relevant law enforcement authorities regarding possible violations of the law. At the time of publication of the report, that information had resulted in a number of on-going active investigations, including the execution of at least one search and seizure warrant, the assessment of fines and penalties, forfeiture of inventory, and the pending prosecutions of a number of individuals.



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# EXECUTIVE SUMMARY

A general summary of findings from this assessment of the US elephant ivory market are as follows (unless otherwise specified, all references to “ivory” in this report refer to “elephant ivory”):

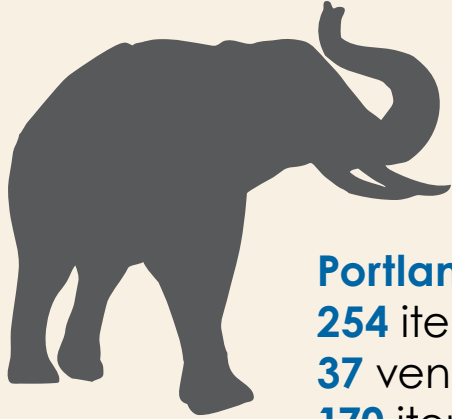
- In order to standardize an efficient process for future assessments of the impact of 2016 federal regulations on the US ivory market, researchers surveyed six indicator cities over a period of four-to-five days per city, and monitored six internet platforms (including auction sites and online marketplaces) over a seven-week period<sup>6</sup>. Online classified advertisements were also monitored by researchers for the six cities covered by physical surveys.
- Surveys of physical marketplaces included stores, multi-vendor galleries, flea markets, and trade shows in the following cities: greater Boston, Massachusetts; greater Los Angeles, California; New York City, New York, Portland, Oregon; San Francisco, California; and greater Washington, DC.
- Researchers visually identified a total of 1,589 ivory items offered in physical retail premises from 227 vendors between May and July 2016. Greater Washington, DC had the highest number of ivory items on offer (68 physical vendors, 658 items), followed by Portland (37 vendors, 254 items), New York City (41 vendors, 224 items)<sup>7</sup>, greater Boston (22 vendors, 188 items), greater Los Angeles (42 vendors, 177 items), and San Francisco (17 vendors, 88 items).
- With limited outliers, physical vendors had an average of seven items on offer. The most common were carved ivory figurines (780 items), jewelry (417 items), household goods (261 items), personal items (95 items), musical instruments (23 items), uncarved ivory (13 items) and furniture (6 items).
- The majority of online classified advertisements surveyed for these six cities offered antique pianos with ivory keys (205 piano listings).
- The six internet platforms surveyed by researchers had a total of 2,056 ivory items offered from vendors based in 47 US states. Florida (74 online vendors, 573 items), California (93 vendors, 173 items), New York (62 vendors, 117 items), Colorado (7 vendors, 116 items), Pennsylvania (24 vendors, 102 items), and Arizona (19 vendors, 93 items) had the highest number of sellers offering ivory for sale online. The majority of these vendors offered no form of proof or documentation showing the provenance of the ivory that they advertised for sale online.
- The age and origin of items documented in US physical and online marketplaces could not be verified without lab testing and/or access to supporting documentation, which was generally unavailable. For this reason, the authors do not make allegations as to the proportion of ivory that was offered for sale illegally by US-based vendors in the 2016 survey period.

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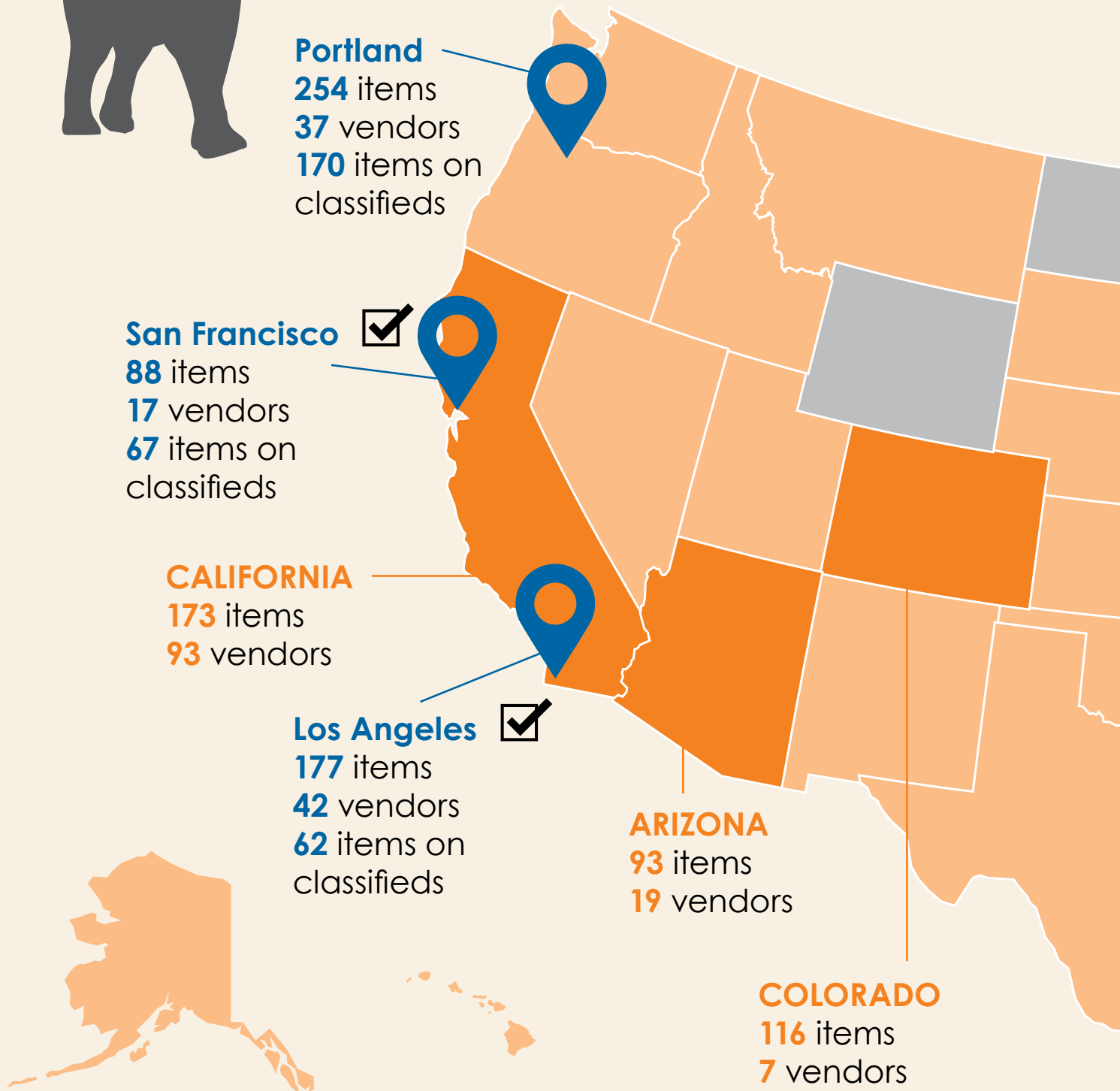
<sup>6</sup> This research was limited to US-based sellers.

<sup>7</sup> Two New York City-based retailers with significant inventory that was indicated to be “mammoth” or “bone” could not be validated by the researchers on visual inspection, due to the heavily worked, polished and (in cases) painted nature of the objects. These items were not included in this accounting. Information on the vendors was provided to the authorities.

# ELEPHANT IVORY IN SURVEYED 2016 US MARKETS



**FIGURE 1.** Quantities of elephant ivory observed in physical trade in six US metropolitan areas (including online classified listings) and top states with vendors offering ivory on six US-based internet platforms, in the May–August 2016 survey window.





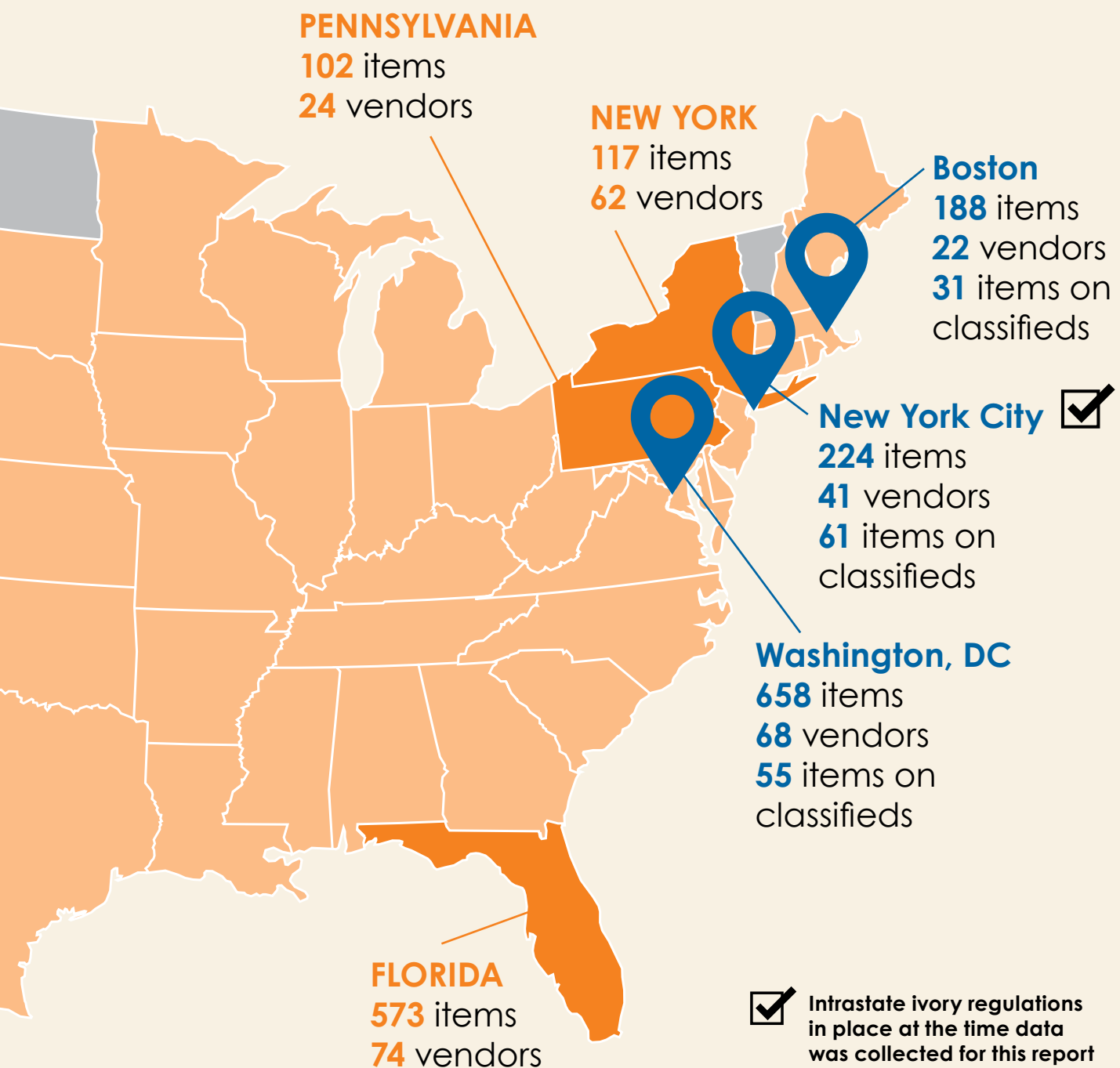
### PHYSICAL MARKETS

- 6 cities surveyed
- 1,589 ivory items
- 227 vendors
- 446 ivory listings in online classifieds



### ONLINE MARKETS

- 6 marketplaces & auction sites surveyed
- 2,056 ivory items
- vendors in 47 states



The general conclusions from this assessment are as follows:

- The US physical ivory market appears to have markedly declined in the face of strong regulatory and public awareness measures by the US government, to ban the elephant ivory trade.<sup>8</sup> However, commercial trade in elephant ivory by US-based sellers may be increasingly driven online. Future, regular monitoring against the 2016 “baseline” presented in this report (following this consistent methodology) will be necessary to determine the full extent of this transition.
- In 2016, relatively limited quantities of ivory were observed in physical marketplaces in the top-three historical US ivory markets of New York City, San Francisco and Los Angeles. TRAFFIC researchers documented 489 items in these locations in 2016, compared with 16,758 items documented by Care for the Wild International and Save the Elephants in 2006–2007 (Martin and Stiles, 2008). At face value, this indicates as much as a 97% reduction in the last decade in physical ivory availability in the prior top-three US ivory markets. However, it should be noted that survey durations varied significantly<sup>9</sup> and there were differences in quantitative and qualitative assessment methodologies.
- This reduction in elephant ivory openly available in physical markets may be attributed to increased law enforcement and public awareness in the States of New York and California, where enacted legislation regulated the intrastate commercial sale of elephant ivory at the time that these data were collected in 2016. These state bans may have had a distinct impact on reducing the open availability of elephant ivory—however it is possible that stocks are shifting out of historical physical markets and into internet sales and/or other states without strict regulation.
- Anecdotal information gathered by the researchers indicate that markets may have pivoted from states where bans are now in place to others, including Nevada and Florida. For this reason, this survey assessed physical availability of elephant ivory on the Portland, Oregon market due to its proximity to Seattle, Washington where a state ban went into effect late in 2015. In Portland, 254 items were documented from 37 vendors—the second-highest quantity of the six cities surveyed. Likewise, the Washington, DC area (including sites in surrounding Virginia and Maryland) where there was no state ivory legislation in place, had three-times the volume of ivory documented in this survey (658 items, 68 vendors), as was documented in a 2006 survey (236 items from 25 vendors) (Martin and Stiles, 2008).

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<sup>8</sup> With limited exceptions.

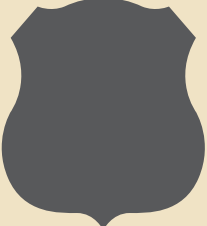

<sup>9</sup> For purposes of standardizing an efficient assessment process for future monitoring, TRAFFIC adopted a four-to-five-day survey window per city for all six cities monitored in 2016. In 2006–2007, Martin and Stiles surveyed Los Angeles, California over a non-contiguous period of a roughly 14 days; in 2006 San Francisco, California was surveyed over a contiguous period of 9 days; and in 2006–2007 New York City, New York was surveyed over a non-contiguous period of 21 days.



- Vendors in surveyed cities with active state bans were confused about specific details of the law, however many stated to the researchers who presented themselves as prospective buyers, that they believed they were breaking the law by selling elephant ivory. Most vendors were nonetheless interested in negotiating lower prices, to get rid of their items.
- The most significant quantities of ivory were offered for sale at “antique” expos and flea markets, with limited availability in physical storefronts (although look-alike materials such as bone, resin and other animal ivories were commonly available, and certain vendors also alleged that all pieces on offer were extinct mammoth ivory). Vendors told the researchers that this was a result of rising retail rents and higher risk involved with displaying ivory on store and gallery shelves.
- Researchers noted that ivory offered for sale online was often mislabeled as another material, such as bone or celluloid. In some instances, this may have been due to genuine ignorance of the material, although more often it appeared to be an intentional tactic to trade ivory, illegally. Although several online companies have taken measures to remove illegal wildlife products from their platforms, this study shows that some filters are not completely catching sales prohibited by online company policies.
- Certain vendors indicated to the researchers that they felt that federal and state laws are changing rapidly. In a few cases, vendors suggested that they are stockpiling items for later sale, in case the market opens back up.

## Recommendations

This report concludes with recommendations for US law enforcement, e-commerce companies, retailers and industry associations. In summary:

<p><b>The USFWS Office of Law Enforcement (OLE) and other US federal and state law enforcement agencies are encouraged to:</b></p> 	<ul style="list-style-type: none"> <li>• Dedicate additional staffing and resources to cybercrime investigations.</li> <li>• Establish and maintain protocols with online companies for investigation of persistent offenders with potentially illegal ivory items offered on their platforms.</li> <li>• Increase publicity on punitive measures arising from court cases, to deter criminal activity and reduce consumer demand.</li> <li>• Invest in lower-cost rapid forensics to facilitate better determination of animal origin and age of ivory items in trade.</li> <li>• Scale efforts to educate industry, private sellers and the US public on regulations pertaining to the import and domestic sale of elephant ivory.</li> <li>• Support regular quantitative domestic market monitoring to measure shifts in the US physical and online markets against the findings of this 2016 assessment, to determine whether sales may be pivoting to new physical and particularly online locations, such as peer-to-peer social media platforms.</li> </ul>
<p><b>US e-commerce companies (including auction sites, marketplaces and classifieds) are encouraged to:</b></p> 	<ul style="list-style-type: none"> <li>• Share information between companies and law enforcement on persistent offenders selling ivory against site policy, and potentially illegally.</li> <li>• Regularly consult with wildlife trafficking experts in government agencies and civil society to update filters with the latest keyword and workaround trends used by sellers to advertise real elephant ivory online.</li> <li>• Consult with other e-commerce and social media companies to share best practices in detecting elephant ivory.</li> <li>• Assess the feasibility of technological solutions, such as data mining and machine learning, to detect elephant ivory advertisements online automatically, rather than manually. Establish an online campaign by companies to raise awareness and have suspect advertisements reported by users, which are then checked and removed by the companies if counter to the site policy.</li> </ul>

**The US retail sector and industry associations relevant to elephant ivory trade (such as those involved in supporting the interests of antiques, carving, jewelry, auctioneers, musical instruments, orchestras, and others) are encouraged to:**



- Be fully aware of relevant federal and state regulations, and regularly inform their membership of requirements and precautions.
- Actively promote at trade fairs, expos, conventions and through industry newsletters and publications, information on how to protect their members and/or their sector from breaching state, federal and internal controls on the sale, purchase, transport and import/export of elephant ivory.
- If selling elephant ivory that is exempt from regulations and can in the view of the seller be legally traded, provide clear information at point of sale, including any documentation that is held to prove legal origin and specify details when qualifying for a *de minimus* exemption.
- Not sell or purchase ivory items where the legal provenance cannot be assured through documentation that would pass the scrutiny of federal or state law enforcement.



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# A CHANGING US MARKET

Resurgent global demand for elephant ivory has been driving a poaching crisis in Africa since the mid-2000s (Milliken *et al.*, 2016; Milliken *et al.*, 2013). In 2016, the International Union for the Conservation of Nature (IUCN) Species Survival Commission's African Elephant Specialist Group released a Status Report that found that Africa's overall elephant population has seen its worst decline in 25 years, primarily as a result of intensified poaching for ivory (Thouless *et al.*, 2016).<sup>10</sup> Data released in 2016 by the Monitoring the Illegal Killing of Elephants (MIKE) program of CITES estimated that 20,000<sup>11</sup> African elephants were killed illegally in 2015—nearly twice the number illegally killed in 2006 (CoP 17 Doc 57.5). That report further alleged that poaching has escalated to unsustainable levels for the African elephant population at-large, and that in some parts of the continent, localized extirpations have occurred.

Records from global ivory seizures analyzed by TRAFFIC for ETIS show that the total volume of the illegal ivory trade has tripled since 2007 (Milliken *et al.*, 2016). Between 2007 and 2014, 274 metric tons<sup>12</sup> of raw and worked elephant ivory were seized from 9,899 law enforcement actions in source, transit and consumer countries (Milliken *et al.*, 2016). This surge in poaching for the illegal ivory trade not only poses a threat to wild populations and conservation efforts, it also adversely impacts local livelihoods and economies that depend on income from tourism and other wildlife-dependent systems. Increasingly, poaching involving heavily armed groups is also acknowledged as a threat to national and global security (U.S. National Strategy for Combatting Wildlife Trafficking, 2014).

The full scope and scale of the present ivory trade in the US is challenging to define. Although prior to the late-1980s, the US was a major global importer of elephant ivory (Barbier *et al.*, 1990), ETIS records show that the US has not been implicated in recent large-scale ivory seizures (Milliken *et al.*, 2016). Domestic ivory trade continues in the US, although it is estimated that this is currently “in mostly pre-Convention and antique items” (Milliken *et al.*, 2016). US border enforcement and inspection protocols are considered to be stronger than in many other countries, however the nature and complexity of international supply chains may create a level of anonymity for traders of elephant ivory that challenges protection measures, and necessitates regular monitoring. Consequently, traditional physical and online market surveys remain a reliable and necessary method for assessing the scope and nature of domestic ivory markets. In addition to this assessment of the US market, in 2016 TRAFFIC performed surveys of China's ivory market (Xu *et al.*, 2016), the UK ivory market (Lau *et al.*, 2016), the Thai ivory market (Krishnasamy *et al.*, 2016), the Hong Kong ivory market (Lau *et al.*, 2017), as well as research in Central Africa and Lao PDR.

Since 2002, studies by various groups have assessed segments of the ivory market in the US. These present a valuable reference point on imports, seizures, physical sales and online sales in the past 15 years. A summary of findings from these studies is compiled in Table 1.

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<sup>10</sup> According to the report, habitat loss poses an increasingly serious, long-term threat to African elephants.

<sup>11</sup> At a 3% natural mortality rate.

<sup>12</sup> In Raw Ivory Equivalent (RIE) terms. See: <https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf>

TABLE 1. OVERVIEW OF US MARKET SURVEYS (2002-2016) PRIOR TO THIS ASSESSMENT

YEAR	ORGANIZATION	REPORT	SUMMARY OF FINDINGS
2002	HSUS	<i>An Investigation of Ivory Markets in the United States</i>	<ul style="list-style-type: none"> <li>Between 1997–2001, ivory legally imported into the US was valued at 164.8 million USD per year.</li> <li>35,722 ivory items were cleared for import into the US.</li> <li>During this timeframe, US authorities seized 4,451 ivory items on attempted import, the majority of which included carvings, jewelry, and other pieces.</li> <li>Investigators took a snapshot of ivory sales on eBay, finding roughly 1,000 items available for sale on any given day. HSUS also found other online sites selling ivory. In most cases, online sellers provided no indication of age or origin of ivory offered for sale.</li> <li>On-the-ground investigation in New York City, San Francisco, and a Virginia jewelry and gem shows found that numerous dealers were aware of laws restricting sales, yet were willing to circumvent them.</li> </ul>
2004	TRAFFIC	<i>Tackling the Ivories: The Status of the US Trade in Elephant and Hippo Ivory</i>	<ul style="list-style-type: none"> <li>From January to mid-April 2004, the contemporary role of the US in international trade of elephant and hippo ivory was researched.</li> <li>Between 1995–2002, the US imported more than 5,400 shipments of worked elephant ivory, involving more than 32,500 ivory items; the majority being ivory carvings coming mainly from the UK.</li> <li>This report found that the US continued to serve as a major end market for illegal elephant ivory, which was thought to mainly come from US citizens traveling abroad who were unaware of the law; however, there were documented cases of antiques trade seizures from Europe, as well as larger-scale smuggling for commercial purposes.</li> <li>Active online trade of elephant tusks from China was found, with shipments sometimes mislabeled as “bone.”</li> </ul>
2008	Care for the Wild Int'l, STE	<i>Ivory Markets in the USA</i>	<ul style="list-style-type: none"> <li>A widely-cited overview of the US elephant ivory trade, researchers surveyed 16 towns and cities in the US in a 2006–2007 period and found 24,004 ivory items for sale in 657 outlets, most of which were likely legal. One-third of the total may have been crafted after 1989.</li> <li>The top three US ivory markets were New York City (11,376 items), San Francisco (2,777 items), and Los Angeles (2,065 items). Inspection of some of the pieces suggested that many figurines and jewelry pieces were recently made.</li> <li>The researchers noted that 40,000 worked ivory items were imported into the US from 1995–2007. The US also imported 3,530 tusks and 2,400 raw ivory pieces from 1990–2005. Investigators suggest that some of this was illegally sold into the commercial market. (Martin and Stiles, 2008)</li> </ul>
2008	IFAW	<i>Killing with Keystrokes: An Investigation of the Illegal Wildlife Trade on the World Wide Web</i>	<ul style="list-style-type: none"> <li>This 2008 investigation looked into potential illegal trade in endangered species on the internet. Over 73% of the activity monitored in a three-month period was ivory-related.</li> <li>A simultaneous investigation was undertaken in 11 countries. The US accounted for 70.5% of online postings worth 1,896,827 USD (including 3,914 elephant ivory items).</li> <li>The investigation concluded that there is a lack of awareness about wildlife regulations and there is weak monitoring and enforcement of online sites. The report concluded that wildlife traffickers could easily operate without detection.</li> </ul>

2013	IFAW	<i>U.S. Ivory Trade: Can A Crackdown on Trafficking Save the Last Titan?</i>	<ul style="list-style-type: none"> <li>This analysis of USFWS LEMIS data showed that between 2009–2012, 13,221 ivory objects and 430 kg of additional tusks and ivory pieces were legally imported into the US. There were 1,746 hunting trophies imported. Additionally, there were 6,753 legal exports.</li> <li>In the same timeframe, LEMIS data showed that there were seizures of 1,795 elephant specimens and 17.7 kg of parts and derivatives, 566 ivory carvings, 167 pieces of ivory jewelry, and 918 other ivory pieces/parts upon attempted import. Agents also seized 251 ivory products upon attempted export.</li> <li>The investigators conducted a “snapshot” investigation of ivory sales on online auction houses from 1999–2013, which demonstrated a surge that mirrored the rise of e-commerce in other sectors. This small survey showed that there were 28 sales in 1999, which rose to 17,675 in 2013 (a total of 82,114 sales).</li> </ul>
2014	IFAW	<i>Bidding Against Survival: The Elephant Poaching Crisis and the Role of Auctions in the U.S. Ivory Market</i>	<ul style="list-style-type: none"> <li>This two-part investigation looked at live auctions and online auctions. In early 2014, investigators attended 14 US auctions (or auction previews) and monitored 833 ivory lots for sale<sup>13</sup> ranging in value from 10 to 25,000 USD. For nine weeks, investigators also gathered data from 340 online auctions on two major platforms, documenting 4,186 ivory lots for sale.</li> <li>For both the online and physical components of the investigation, the vast majority of auction houses and individual sellers took a lax approach to documenting the provenance of their ivory, issuing shipping restrictions, or otherwise self-regulating the trade to ensure compliance with international, state, or federal laws.</li> </ul>
2015	IFAW, WCS	<i>Elephant vs. Mouse: An Investigation of the Ivory Trade on Craigslist</i>	<ul style="list-style-type: none"> <li>During this five-day snapshot investigation of a major online classified website, 522 postings offering more than 615 pieces of ivory and related wildlife product items were found. The combined list price for these items was at least 1,429,151 USD.<sup>14</sup></li> <li>The survey was limited to only 28 of the more than 420 US sub-sites on the platform. The San Francisco Bay area (86 items), Los Angeles (79 items), South Florida (60 items), Boston (45 items), and Washington, DC (44 items) were the top five markets during this period.</li> <li>Despite the online classified platform’s official prohibition on trade of wildlife products, the authors found that “[f]ew sellers offered any documentation on age or provenance of their items. Only 21 out of 615 total posts offered any documentation.”</li> </ul>
2015	NRDC	<i>Elephant Ivory Trafficking in California, USA</i>	<ul style="list-style-type: none"> <li>This one-month survey of commercial vendors selling ivory in San Francisco and Los Angeles found 1,250 ivory items from 107 vendors.</li> <li>In Los Angeles, between 77–90% of ivory seen was thought to be illegal under California law; and between 47–60% was assumed to be illegal under federal law. In San Francisco, 80% was deemed likely illegal under California law; 52% potentially illegal under federal law.</li> <li>There appeared to be more recent ivory for sale, roughly doubling what was seen by the researcher in 2006. Additionally, many of the items seen for sale were advertised as antiques, but the researcher noted that they appeared to be more likely from recently killed elephants. Most of the products appeared to have originated from East Asia. (Stiles 2015)</li> </ul>
2016	IFAW, WCS, NRDC, HSI	<i>An Investigation of Hawaii’s Online Ivory Trade</i>	<ul style="list-style-type: none"> <li>This six-day snapshot investigation of 47 online retailers and individual sellers based in Hawaii uncovered 4,661 elephant ivory items and related wildlife products,<sup>15</sup> with a total value of some 1.22 million USD. 85.5% of the inventory was thought to be elephant ivory. Few retailers provided any evidence that the ivory was legally imported.</li> <li>28% of sellers referenced the items as “pre-ban,” “antique,” or “vintage,” but only one provided supplemental documentation of the import.</li> <li>The inventory available online was likely incomplete, as 490 products were advertised, but either out of stock, or not for sale.</li> </ul>

<sup>13</sup> Each lot can contain more than one item; for example, a set of figurines or assorted jewelry.






<sup>14</sup> This is a conservative figure: sellers often listed their items for 1 USD in the headline, but indicated in the post itself that prospective buyers should make an offer. Those posts were not included in this value tally.

<sup>15</sup> Including walrus tusks, whale teeth and bone, mammoth ivory, and hippopotamus teeth.

## The 2016 US Market in Context

Of the US ivory market studies conducted within the last decade, the most comprehensive depictions of the scope of the domestic physical market are Martin and Stiles (2008) (which examined 17 US cities and towns in 2006–2007) and the findings detailed in this assessment by TRAFFIC (which examined six major metropolitan areas in 2016). It is important to note that across these two studies, survey durations varied by city, as did quantitative and qualitative methods. However, a comparison of overlapping cities reveals interesting trends (Table 2). In 2016, quantities of elephant ivory in the top-three historical ivory markets of New York City, San Francisco and Los Angeles were

**TABLE 2. A COMPARISON OF IVORY QUANTITIES, NUMBER OF OUTLETS/VENDORS AND LOWEST/HIGHEST ASKING PRICES ACROSS THE PHYSICAL US MARKET IN 2006–2007 (MARTIN AND STILES, 2008) AND 2016 (TRAFFIC, 2017)**

US METROPOLITAN AREA	SURVEY YEAR <sup>16</sup>	SURVEY DURATION (DAYS)	NO. IVORY ITEMS	NO. OUTLETS/VENDORS	PRICE RANGE (USD)
 Greater Boston, MA	2006	6	758	20	32–1,600
	2016	4	188	22	25–3,500
	% change in market			-75%	10%
 Greater Los Angeles, CA	2006/2007	14+	2,605	170	15–30,000
	2016	4	170	42	10–10,500
	% change in market			-93%	-75%
 New York City, NY	2006/2007	21	11,376	124	30–80,000
	2016	5	224	41	28–25,000 (220,000*)
	% change in market			-98%	-67%
 San Francisco, CA	2006	9	2,777	49	16–55,000
	2016	4	88	17	20–12,000
	% change in market			-97%	-65%
 Greater Washington, DC	2006/2007	11	236	25	1–6,250
	2016	5	658	68	10–2,495
	% change in market			179%	172%

<sup>16</sup> Physical survey windows by study: Greater Boston, MA: November 2006 (Martin and Stiles, 2008) / June 2016 (TRAFFIC, 2017); Greater Los Angeles, CA: March–May 2006, March–May 2007 (Martin and Stiles, 2008) / July 2016 (TRAFFIC, 2017); New York, NY: October–December 2006, May 2007 (Martin and Stiles, 2008) / June 2016 (TRAFFIC, 2017); San Francisco, CA physical survey windows: May 2006 (Martin and Stiles, 2008) / July 2016 (TRAFFIC, 2017); Greater Washington, DC: December 2006, May 2007 (Martin and Stiles, 2008) / May–July 2016 (TRAFFIC, 2017).

\*Outlier: Piano with elephant ivory keys where elephant ivory did not account for the majority value of the item.



significantly diminished. As compared with 2006–2007, TRAFFIC researchers observed a 98% reduction in the quantity of ivory in the New York City physical market (and a 67% reduction in number of outlets/vendors); a 97% reduction in the San Francisco ivory market (with a 67% reduction in outlets/vendors); and a 93% reduction in greater Los Angeles ivory market (with a 75% reduction in outlets/vendors). For greater Boston, a roughly 75% reduction in ivory was observed (although a roughly equivalent number of outlets/vendors offering ivory items were found in both studies). Of note, the data show a tripling of ivory items on offer in the greater Washington, DC market, as well as a tripling of the number of vendors offering ivory items compared with 2006–2007. It is likely that this is due to the enactment of stricter regulations governing intrastate ivory sales in some of these states, and resulting increases in enforcement.

In examining studies of the US online market within the last decade, drawing comparisons of change over time is challenging due to extensive variation in their duration, scope and methods (Table 3). Certain studies (such as IFAW, WCS, NRDC, HSI, 2016) looked exclusively at transactions for six days in 2015 in online marketplaces involving sellers within a single state. Others (such as IFAW, WCS, 2015) have looked at online classified listings within 28 US cities/metropolitan areas. None of these studies has provided an indication of a representative scope of online trade involving US-based sellers across a range of major internet platforms, including marketplaces, auctions and classifieds. This broader scope is necessary to provide a robust indication of the extent of online trade in ivory in the US, and to determine change over time. It is recommended that the data presented in this report be considered a “baseline” for 2016, and that the methods described in the 2016 *Assessment Methods* section be used for future research. It may also be important to expand the scope of online research to incorporate trade by US-based sellers on social media platforms.

**TABLE 3. A COMPARISON OF IVORY QUANTITIES, NUMBER OF VENDORS/LISTINGS ACROSS MARKETPLACES, AUCTIONS AND CLASSIFIEDS (2008–2016)**

ONLINE PLATFORM CATEGORY	SURVEY YEAR*	SURVEY DURATION	NO. SITES SURVEYED	NO. STATES INVOLVED	NO. IVORY ITEMS	NO. VENDORS/ LISTINGS	ORGANIZATION
Marketplace	2008	6 weeks	1		3,914		IFAW*
Marketplace	2015	6 days		1	4,661	47 vendors	IFAW, WCS, NRDC, HSI
Marketplace	2016	7 weeks	3	45	796	408 vendors	TRAFFIC
Auction	2014	9 weeks	2		4,186 (lots)	223 vendors/ 340 listings	IFAW
Auction	2016	7 weeks	3	30	1,260	103 vendors/ 972 listings	TRAFFIC
Classifieds	2015	5 days	28	20**	615	522 listings	IFAW, WCS
Classifieds	2016	7 weeks	1	6	447	282 listings	TRAFFIC

\* This survey included 11 countries; the data presented is limited to the US

\*\*20 states, including the US Virgin Islands

## Regulations Governing Ivory Trade in the US

US regulations do not restrict personal possession of ivory, but do require that any commercial sale comply with relevant state, federal and international laws. In releasing its 2016 proposed rule on African elephant ivory, the USFWS acknowledged that “the United States continues to play a role as a destination and transit country for illegally traded elephant ivory” (USDOJ, 2015). Elephant ivory trade is subject to federal and state wildlife laws, the most prominent of which are the US Endangered Species Act (ESA), the African Elephant Conservation Act (AECA), and the Lacey Act. Additionally, the US has been a party to CITES since 1975, and CITES regulations are implemented domestically through the ESA. Under the US federal regulations revised on July 6, 2016, limited exemptions are permitted by law for certain antiques, *de minimus* objects, imports and exports, and interstate commerce within the US (USFWS, 2016a). By law, sellers assume the burden of proving that their ivory item qualifies for a given exemption.

### The Endangered Species Act

The Endangered Species Act is a statute that makes wildlife conservation a priority of the US government. Implemented by the USFWS<sup>17</sup>, this law serves to protect animals through a basic mechanism of listing species as “Endangered” or “Threatened,” each of which limit to varying degrees the “take”<sup>18</sup> of species. Asian elephants have been listed as Endangered since 1976, which means that their parts and products are barred from commercial trade in the US (with the exception of antiques). African elephants have been listed as Threatened since 1978. Threatened species may be accorded “special rules,” allowing for limited trade at the discretion of the USFWS, and the agency has revised its approach to African elephant trade several times.

In order to regulate the trade in African elephant ivory more strictly, to ensure that the US market is not driving the poaching of elephants, the Obama Administration set a process in motion in 2013. Executive Order 13648<sup>19</sup> on Combating Wildlife Trafficking was issued in July 2013, and priorities were outlined in the US National Strategy for Combating Wildlife Trafficking issued in February 2014, including the use of administrative tools to strengthen controls on the trade and commercial importation of elephant ivory. The USFWS finalized its latest round of regulatory revisions under section 4(d) of the ESA [50 CFR 17.40 (e)], which went into effect on July 6, 2016. This final Federal rule authorizes limited exceptions to trade, including for:

1. Antiques – The ESA does not apply to *bona fide* antiques, that is, items that (a) are 100 years or older; (b) are composed in whole or in part of an ESA-listed species; (c) have not been repaired or modified with any such species after December 27, 1973; and (d) were imported through an endangered species “antique port” (if import occurred after September 22, 1982). The antique seller must provide a qualified appraisal, conducted by an independent party not involved in the transaction of the item. Details for what USFWS accepts as a qualified appraisal are available online (USFWS, 2014). These items may be sold in domestic trade.

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<sup>17</sup> Note that many marine species fall within the purview of the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service; however the USFWS has jurisdiction over marine mammals defined in 50 CFR 18.3, and can enforce the Marine Mammal Protection Act (MMPA) on other marine mammals on import, per CITES.

<sup>18</sup> The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. See: <https://www.fws.gov/endangered/laws-policies/section-3.html>

<sup>19</sup> For more information, see: <https://www.federalregister.gov/documents/2013/07/05/2013-16387/combating-wildlife-trafficking>

2. De minimus objects – Under the revised 2016 regulations, domestic trade in older (but not antique) items with a small amount of African elephant ivory is still allowed. To qualify for this exemption, the product must meet the following criteria:
  - if the item is located within the US, the ivory was imported into the US prior to January 18, 1990, or was imported into the US under a CITES pre-Convention certificate with no limitation on its commercial use;
  - if the item is located outside the United States, the ivory was removed from the wild prior to February 26, 1976;
  - the ivory is a fixed or integral component or components of a larger manufactured or handcrafted item and is not in its current form the primary source of the value of the item, that is, the ivory does not account for more than 50% of the value of the item;
  - the ivory is not raw;
  - the manufactured or handcrafted item is not made wholly or primarily of ivory, that is, the ivory component or components do not account for more than 50% of the item by volume;
  - the total weight of the ivory component or components is less than 200 grams; and
  - the item was manufactured or handcrafted before July 6, 2016.
  
3. Intrastate commerce – With certain state exceptions, trade solely within a US state's borders is allowed for all African elephant items that were legally imported to the U.S. prior to January 18, 1990 (the date of listing in CITES Appendix I), or imported under a CITES Pre-Convention certificate.
  
4. Imports and exports – US law allows noncommercial imports of sport-hunted trophies, certain musical instruments, certain items that were part of a household move or inheritance, and certain items that are part of a travelling exhibition. Commercial exports are restricted to *bona fide* antiques, while noncommercial exports may include the above categories (with the exception of sport-hunted trophies) and “pre-Act” specimens.

According to the USFWS, documentation that is required by a seller to show compliance with the law “could be in the form of a CITES pre-Convention certificate, a datable photo, a dated letter or other document referring to the item, or other evidence. [One does] not need to obtain a permit from the Service for sales within a state. However, if [one is] offering African elephant ivory for sale, [one] should be prepared to provide appropriate documentation to the Service, if asked” (USFWS, 2015). The USFWS has provided guidance on what evidence or documentation may be used to meet this standard, but has declined to provide an exhaustive list, instead allowing enforcement agents to make their best judgments based on available evidence. For example, in guidance to sellers on determining the age of an ESA antique, the USFWS posited that “such proof can be in the form of testing using scientifically approved aging methods by a laboratory or facility accredited to conduct such tests, a qualified appraisal, or another method that documents the age by establishing the provenance of the article. The provenance may be determined through a detailed history of the article, including but not limited to family photos, ethnographic fieldwork, or other information that authenticates the article and assigns the work to a known period of time or, where possible, to a known artist.” (USFWS Director’s Order 210).

### **The African Elephant Conservation Act**

The African Elephant Conservation Act (AfECA) is the second pertinent law governing African elephant ivory trade in the US (16 U.S.C. §§ 4201–4246). For present purposes, the most notable provision of AfECA grants the USFWS the authority to establish and enforce controls—including full moratoria, should it choose—on ivory imports. As a matter of enforcement discretion, the USFWS had until recently allowed the continued import of certain items such as antiques. Through Director’s Order 210, the USFWS narrowed the scope of these exceptions to certain noncommercial items, while fully enforcing the moratorium for all commercial imports regardless of the age of the item. AfECA does not authorize the USFWS to regulate trophy imports, but that power is granted under the ESA.

### **The Lacey Act**

Under the Lacey Act (16 U.S. Code § 3372), it is unlawful “to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law”. For example, if a person illegally obtains an elephant ivory tusk or carving overseas, and then imports or sells it in the US, officials can choose to pursue federal charges under the Lacey Act.

### **CITES**

Beyond these domestic measures, international trade in ivory is regulated under CITES (which is implemented in the US via the ESA). The USFWS is the designated CITES Scientific and Management Authority for the US, and therefore oversees implementation of the treaty—including laws and regulations pertaining to the ivory trade—in this country. The CITES “use after import” regulations, which the USFWS amended in May 2014, are the only federal element that also affects intrastate ivory trade.

### **Federal Penalties for Ivory Trafficking**

Elephant ivory trafficking cases in the US may be subject to civil and/or criminal penalties under the African Elephant Conservation Act (16 U.S.C. 4224(b)), the Endangered Species Act of 1973 (16 U.S.C. 1540(a)(1)) and the Lacey Act Amendments of 1981 (16 U.S.C. 3373(a)) (US Federal Register 2016a). Other provisions of the US Criminal Code, such as Conspiracy, Smuggling, Money Laundering, International Money Laundering, Mail Fraud, Tax Evasion, Bribery and False Documents may also apply (USFWS 2016b). US penalties for ivory trafficking range from civil and criminal fines, to forfeiture of wildlife and revocation of permits. See Appendix I for a list of penalty provisions in USFWS statutes that can apply to ivory trafficking cases, and a sample of reported prosecutions and associated penalties administered in the US in 2016 for ivory trafficking.





Felony charges for violations of The Lacey Act can yield fines of up to 250,000 USD for an individual and 500,000 USD for an organization, and up five-years in jail (Appendix I details other penalties by provision). In one notable 2016 case, elephant ivory, rhinoceros horn and other items with an estimated market value of over 1 million USD were illegally exported from the US destined for buyers in China and elsewhere, by a seller who operated an online business. That seller pleaded guilty to smuggling and a Lacey Act violation, with penalties including a 500,000 USD fine, a three-year term of probation, and 150 hours of community service (USDOJ, 2016f).

### **State Ivory Regulations**

As mentioned above, the USFWS can enforce CITES “use after import” provisions (50 C.F.R. 2355), which limit intrastate ivory sales to items that were legally imported to the US prior to January 18, 1990 (the date of listing in CITES Appendix I), or to items that were imported under a CITES Pre-Convention certificate. Under US law, oversight of intrastate trade is largely reserved to state governments. In recent years, six states have passed legislation or ballot initiatives that further restrict intrastate ivory sales. They include (as of the publication of this report): California (CA), Hawaii (HI), New York (NY), New Jersey (NJ), Oregon (OR) and Washington (WA) (Table 3). Other states with legislation in play at the time of publication of this report included Colorado (CO), Connecticut (CT), Delaware (DE), Maryland (MD), Massachusetts (MA), Nevada (NV) and Vermont (VT). Note that all of the existing state laws listed in Table 3 contain specific exemptions for scientific and law enforcement specimens.

As an important matter of note, the researchers of this assessment were informed by multiple sellers who resided in states with intrastate ivory trade regulations in place, that they had traveled to another state that lacked such regulation in order to offer ivory items for sale. Such activity qualifies as engagement in interstate commerce and requires permits from USFWS. The same applies to sellers who offer to ship ivory items to a buyer in another state. Although sellers may think that they can evade the Federal prohibition on interstate commerce by engaging in such practices, they are mistaken. The researchers also encountered a range of advertisements for ivory items online, for which sellers were confused of relevant regulations. It is important to clarify that if an advertisement is such that the distribution or audience is likely to be beyond state borders, then that would qualify as an offer in interstate commerce. It is also likely that some traders knowingly breached federal regulations in transporting their ivory for sale in other states, particularly those who had larger stocks of ivory and had been in business for a long period, with inventory that does not qualify as antique or *de minimus*.

**TABLE 4. SUMMARY OF US STATE LEGISLATION GOVERNING THE INTRASTATE COMMERCIAL TRADE IN ELEPHANT IVORY**  
 (\*STATES COVERED BY PHYSICAL SURVEYS UNDER THIS ASSESSMENT)

STATE	LEGISLATION: SYNOPSIS	DATE SIGNED INTO LAW	EFFECTIVE DATE	WILDLIFE COVERED	ANTIQUES EXEMPTION	MUSICAL INSTRUMENT EXEMPTION	SOURCE
NY* 	<b>Bill S7890:</b> Prohibits the sale, purchase, trade, barter and distribution of certain ivory articles and rhinoceros horns	6/19/2014	6/19/2014	Elephant, mammoth, <sup>20</sup> rhinoceros	Antiques documented to be over 100 years old and less than 20% covered product	Instruments containing covered product that were made no later than 1975	State of New York (2014)
NJ 	<b>Bill S2012:</b> Prohibits import, sale, purchase, barter, or possession of ivory or rhinoceros horn and items containing ivory or rhinoceros horn, with limited exceptions	8/1/2014	2/1/2015	Ivory from any animal, rhinoceros horn	None	None	State of New Jersey (2014)
CA* 	<b>Assembly Bill 96:</b> Animal parts and products: importation or sale of ivory and rhinoceros horn	10/4/2015	6/1/2016	Elephant, hippo, mammoth, mastodon, walrus, warthog, whale, narwhal, rhinoceros	Antiques documented to be over 100 years old and less than 5% covered product	Instruments containing less than 20% covered product that were made no later than 1975	California Legislative Information (2015)
WA 	<b>Ballot Initiative<sup>21</sup> I-1401:</b> Washington animal trafficking	11/3/2015	11/3/2015	Threatened species of elephant, rhinoceros, tiger, lion, leopard, cheetah, pangolin, marine turtle, shark, ray	Antiques documented to be over 100 years old and less than 15% covered product	Instruments containing less than 15% covered product	State of Washington (2015)

<p><b>HI</b></p> 	<p><b>Bill S2647:</b> Prohibits the sale, offer to sell, purchase, trade, possession with intent to sell, or barter of any part or product from various animal and marine species. Provides exceptions to this prohibition, including for traditional cultural practices protected under the State Constitution. Imposes penalties for violations of the prohibition on trafficking animal parts and products</p>	<p>6/23/2016</p>	<p>6/30/2017</p>	<p>Elephant, rhinoceros, tiger, great ape, hippo, lion, pangolin, cheetah, jaguar, leopard; endangered species of sea turtle, monk seal, narwhal, whale, walrus, shark, ray</p>	<p>Antiques documented to be over 100 years old and less than 20% covered product (if product is fixed and not the primary source of value.</p> <p>Guns and knives that are documented to have been manufactured before 1976.</p>	<p>Instruments containing less than 20% covered product if product is fixed and not primary source of value. Documented to have been documented before 1976 (or are 100 years old in the case of antiques)</p>	<p>Hawaii State Legislature (2016)</p>
<p><b>OR*</b></p> 	<p><b>Measure 100:</b> To crack down on wildlife trafficking and protect wildlife from poaching</p>	<p>11/8/2016</p>	<p>7/1/2017</p>	<p>Elephant, whale, rhinoceros, tiger, lion, leopard, cheetah, jaguar, pangolin, sea turtle, shark, ray</p>	<p>Documented to be over 100 years old and less than 200 grams covered product (if product is fixed and not the majority of the item)</p>	<p>Legally acquired and less than 200 grams covered product (if product is fixed and not the majority of the item)</p>	<p>OregonVotes.gov (2017)</p>

<sup>20</sup> The New York State DEC has made available an “Ivory and Rhinoceros Horn Restrictions, Frequently Asked Questions” document (DEC 2014). It should be noted that although the law prohibits the sale of mammoth ivory, the DEC adopted a discretionary position to not enforce the statute with regard to mammoth ivory. That discretionary grace period was due to expire after June 30, 2016.

<sup>21</sup> Ballot initiatives are legislative measures directly voted upon by citizens, rather than by elected bodies.












# 2016 ASSESSMENT METHODS

Data collection for this assessment was carried out from May 15 to August 15, 2016. Physical market surveys were performed by TRAFFIC staff and an experienced retired wildlife law enforcement consultant, all of whom were able to reliably visually identify ivory and ivory look-alikes. Online market surveys were performed by TRAFFIC staff, who were experienced in monitoring the online trade in wildlife, in tandem with IFAW research assistants. The researchers involved in physical and online surveys performed all assessments in accordance with local, state and federal laws.

Ivory items observed in physical and online markets were assigned to the following categories: “Figures”, “Furniture”, “Household Goods”, “Jewelry”, “Musical Instruments”, “Personal Items”, and “Uncarved Ivory”. Due to the lack of consistency between size classes in both physical and online markets (and the frequent lack of clear size information provided by online vendors to accompany sales images), size indicators are not differentiated within these topline categories. Within the “Figures” category, items were inventoried as “large”, “medium” and “small”. Table 5 shows the range of elephant ivory items that were documented on offer for commercial sale in the US during this survey period:

**TABLE 5: IVORY ITEMS BY CATEGORY OBSERVED IN THE US MARKET FROM MAY–AUGUST 2016 SURVEY PERIOD.**

CATEGORY	IVORY ITEMS IN THE PHYSICAL AND ONLINE MARKETS
<b>FIGURES</b> 	Figurine (large) <sup>22</sup> , figurine (large, multi-figure scene), figurine (medium), figurine (small), netsuke, scrimshaw, tusk (carved), tusk tip (carved)
<b>FURNITURE</b> 	Misc. furniture (ivory inlay)
<b>HOUSEHOLD GOODS</b> 	Art-deco clock (timepiece), box (carved), box (inlay), box (painted), candlestick holder, chess set (pieces, inlay board), chopsticks, cork screw, cribbage board, cup, jars with lids, knife rest, letter opener, magnifying glass (handle), measuring stick, mirror, napkin ring, needle holder, page turner, pen holder, perfume bottle, perfume bottle (stopper), picks with stand, picture frame, portrait, salt & pepper shaker, scale (ruler), scissors (handle), silverware (handle), snuff box, spice box (inlay), spoon, stamp (handle), stamp roller, tea set (silver and ivory), tiles (carved set), utensils (misc.)
<b>JEWELRY</b> 	Barrette, bracelet, brooch, cameo, cuff links (pair), earrings (pair), necklace, pendant, ring
<b>MUSICAL INSTRUMENTS</b> 	Misc. musical instrument (parts), piano (keys), wind instrument (parts)
<b>PERSONAL ITEMS</b> 	Belt buckle (scrimshaw), brush, button hook, cane (handle), cigarette holder, comb, dagger (scabbard), fan, glove stretcher, handgun (grip, pair), hygiene set, knife (folding), knife (grip), notepad, opera glasses, page turner, pen knife (handle), perfume bottle (stopper), pistol (grip), purse (clasp), shoe horn, snuff bottle, snuff box, surgeon's tool set (Civil War era), sword (grip), toothpick, toy (rattle), toy (spinner)
<b>UNCARVED IVORY</b> 	Tusk cross-section, tusk tip, uncarved tusk

<sup>22</sup> Includes carved ivory figures and bronze and ivory sculptures.

## Visual Identification of Elephant Ivory

The term “ivory” may be liberally used to describe any mammalian tooth or tusk of commercial interest that is large enough to be carved or scrimshawed<sup>23</sup> (WWF TRAFFIC CITES, 1999). There are also alternative “ivories” traded in global markets that are not of mammalian origin, ranging from vegetable ivory (such as carved tagua nut) to avian ivory (such as hornbill ivory). Synthetic ivory alternatives are also available in trade (see image below). Elephant ivory look-alikes that were observed and noted by the researchers in this physical survey included: mammoth ivory, walrus tusk, whale tooth, whale bone, narwhal tusk, hippopotamus tooth, warthog tusk, animal bone (such as ox bone) and antler, vegetable ivory, shell, and synthetic materials and resins (such as Bakelite, celluloid, and various “resins”).



Elephant ivory (left) and ivory look-alikes (right) made from “resin”. Vendors of the pictured look-alike items told researchers that “selling ivory from elephants is illegal”, and that these items were from man-made materials. (Locations: New York City (top row); (b) Chantilly, VA (bottom row).

<sup>23</sup> For more information, see the WWF-TRAFFIC-CITES handbook “designed to offer wildlife law enforcement officers, scientists and managers a tentative visual means of distinguishing legal from illegal ivory, and a ‘probable cause’ justification for seizure of the suspected illegal material”: <https://cites.org/sites/default/files/eng/resources/pub/E-Ivory-guide.pdf>

Despite best efforts, there were certain cases in which the researchers could not visually confirm the presence of Schreger lines (cross-hatching angles greater than 115 degrees that are unique to elephant ivory<sup>24</sup>) (image below) or other identifying features in suspected elephant ivory items encountered in trade. These items were documented by the researchers as “possibly ivory”, however they were not included in reported figures for elephant ivory items observed in each physical market. In the online markets, however, such items were classified as “suspect ivory”. Those methods are described in greater detail, below.



Clear Schreger lines (>115 degrees) are visible in this tusk cross section (top left), in a worked bracelet (top right), in an African-style carved tusk figurine (lower left) and in an elephant ivory-framed “portrait on ivory” (lower right) (Chantilly, VA).

<sup>24</sup> As compared with mammoth ivory, which has Schreger lines at an angle of <90 degrees.

## Physical Surveys

For this assessment, the researchers presented themselves as collectors in order to solicit information from vendors regarding items that were on display or in stock, as has been performed in similar ivory market surveys (such as Lau *et al.*, 2016). Where possible, and always within legal limits, photos and/or videos were obtained in order to assist with species identification, verification of presence and offer for sale, as well as to estimate the quantity of ivory present. Collected data included details on vendor location(s), as well as the type, quantity, price of elephant ivory, and elephant ivory look-alikes on display. Where time-sensitive information was collected concerning potential violations, the researchers supplied observation reports directly to law enforcement for follow up, as appropriate.

Six locations were selected based upon a number of criteria, including rankings established during previous surveys of the US market, which determined New York, San Francisco and Los Angeles to be the top three ivory markets in the US (Martin and Stiles, 2008). Given that a primary objective of this research was to assess the current status of ivory trade in the US to provide a baseline for assessment of the effectiveness of federal and state measures designed to prohibit or regulate ivory sales, three urban centers were selected in the states of New York and California (New York City, San Francisco and Los Angeles) where state legislation was in effect at the time that these data were collected. Three urban centers in the states of Oregon, Massachusetts and the greater District of Columbia (including sites in surrounding Maryland and Virginia) were selected based on anecdotal information from law enforcement and other sources, which indicated that significant ivory markets were in place.<sup>25</sup> Although Oregon, Massachusetts and the District of Columbia had introduced state ivory legislation or ballot initiatives at the time that this data was collected, these measures were not enacted at the time of this assessment (although a ballot measure in Oregon passed in November 2016). Portland, Boston and Washington, DC therefore afforded the opportunity for researchers to document relative markets and to establish baselines for states prior to legislation going into effect.

As opposed to a comprehensive “blanket” assessment of all possible ivory trade occurring in a given location, this assessment adopted a targeted approach. Physical surveys focused on outlets where ivory sales were most likely to be present. Research was performed on a broad range of outlet “types,” including art and antiques stores, gift shops, jewelry stores, auction houses, musical instrument dealers, firearm and knife shows, and flea markets. Retail selection criteria included:

- Reference to a business, either specifically or generally, in a previous ivory market survey;
- Information gathered from area experts including local law enforcement and businesses;
- Current or recent advertisements of ivory either on a website or social media site associated with a business;
- Reference to a business, either specifically or generally, in an online article regarding ivory sales;
- Information collected during TRAFFIC and partner organization informal physical scoping visits and remote scoping using online maps.

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<sup>25</sup> It should be noted that although Boston and the District of Columbia areas were included in the 2008 assessment, there is no existing baseline for Portland.

## Online Survey

The online (internet) survey component of this assessment is not intended to be an exhaustive determination of total volume of online offers for sale; rather to provide a measured snapshot of availability, price and trends, and where possible, to complement physical market findings. Based on previous studies, researchers focused on two types of internet platforms: (1) online marketplaces, which function as an open portal for buyers and sellers to trade goods; and (2) online auctions, which facilitate online transactions between sellers and bidders. In total, there were six websites sampled, which included three marketplaces and three online auction sites. Online classified advertisements in the six geographic locations of the physical survey were also monitored.

Data were collected from at least one website per day, Monday through Friday, for a period of seven weeks from June 20–August 7, 2016. Each website was monitored for a total of 12–25 days. Online classifieds for each of the six cities were monitored between 6–8 days. During this time, researchers focused on collecting data on advertisements that contained elephant ivory. In several instances, the same seller was documented advertising on multiple sites, often for the same item. These obvious duplicates were eliminated from the dataset. During the search, and the subsequent validation, other animal ivory labeled by the vendors as whale tooth, hippopotamus, walrus, and mammoth ivory were also found, but were excluded from total ivory counts presented in these results. As determining elephant ivory online is not straightforward, researchers classified items as either:

- “Likely elephant ivory” (based on a preponderance of evidence, such as visible Schreger lines, language used in product descriptions, other photographic evidence such as the item weighed on a scale), or;
- “Suspect elephant ivory” (when items appeared to be ivory, but photo quality was poor and/or the description warranted further investigation).

Given the nature of this assessment, which required researchers to classify items based solely on vendor-provided descriptions and images, conservative assumptions were made when information was insufficient to determine whether a product contained elephant ivory. Where objects such as musical instruments were sold, investigators researched the make, model, and year of the item to make an educated assumption as to whether elephant ivory was present or not, as most photos were inconclusive. Researchers captured additional online data that might inform physical surveys, and where appropriate, law enforcement. All advertisements were limited to sellers located in the US. All advertisements were captured as pdf files, and product photos were saved as jpeg files.

### **Recording volumes**

For each advertisement, the number of ivory items for sale was recorded. For instance, if an item was sold as a set (i.e. one set of 12 ivory toothpicks), 12 was recorded as the number of products offered for sale. Earrings were counted as one item, unless they were sold with another piece of jewelry. In the case of auctions, advertisements were sold as “lots” which contained multiple items. In cases where non-ivory was included in a lot with ivory, only the ivory was counted and analyzed.

**Recording price**

Price was recorded for all elephant ivory advertisements. For marketplaces, the sale price was used for analysis. In cases of auctions, lots containing both ivory and non-ivory are not priced individually, but as one “lot,” and the prices available were starting bids. In these cases, the starting bid was used to generate initial market values and where possible, the final sale price was captured opportunistically.

**Additional data applications**

Proportion of ivory was used to assess how much of the product or lot for sale contained ivory, according to the following categories:

- The proportion of ivory in a product or lot for sale was assessed as follows:
  - “Small” contained less than 25% of ivory;
  - “Important” contained somewhere between 25–75% of ivory; and
  - “Most” contained more than 75% of ivory.

**Other available data** were recorded and used for analysis, including:

- Description of the item or lot for sale;
- Seller name, seller websites(s), and location;
- URL;
- Shipping disclaimer language; and
- Reference to permits or authenticity.

# FINDINGS: US PHYSICAL MARKET

## Overview

This 2016 assessment of the US physical market found that greater Washington, DC had the highest number of observed elephant ivory items (68 vendors with 658 items), followed by Portland, OR (37 vendors with 254 items), New York City, NY (41 vendors with 224 items), greater Boston, MA (22 vendors with 188 items), greater Los Angeles, CA (42 vendors with 177 items), and San Francisco, CA (17 vendors with 88 items) (Table 4), although for San Francisco, a two-day scoping assessment performed by TRAFFIC in April 2016 using a Chinese investigator did show significant availability of elephant ivory openly for sale (20 vendors with an estimated 703 items), prior to the implementation of the California State ban (TRAFFIC unpublished research, 2016). The researchers believe that these comparatively limited quantities of ivory in physical retail in the New York City, Los Angeles and San Francisco markets is likely a result of increased regulation (see Figure 2) and associated law enforcement effort in the States of New York and California.

Within online classifieds in these cities, the most common elephant ivory-containing items documented for sale were pianos with ivory keys. In total, there were 205 piano listings documented across the six cities, within this survey window. The asking prices were based on model, make, age, and condition, and not necessarily founded on the prevalence of ivory. Findings in online classifieds are described by city in this section of the report, however tables and references to physical market quantities only represent items directly observed by the researchers in retail, that were visually confirmed to be elephant ivory.

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<sup>26</sup> Two New York City-based retailers with significant inventories that were indicated to be “mammoth” and “bone” could not be validated by the researchers and were therefore not included in this accounting. Information on these vendors was provided to the authorities

**TABLE 6. SUMMARY OF THE TOTAL NUMBER OF VENDORS OBSERVED WITH ELEPHANT IVORY, NUMBER OF ELEPHANT IVORY ITEMS, AND AVERAGE NUMBER OF ELEPHANT IVORY ITEMS PER VENDOR IN PHYSICAL SURVEYS IN SIX US CITIES.**

LOCATION	SURVEY WINDOW (4-5 DAYS)	NO. OF OUTLETS WITH IVORY	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET
Washington, DC (including Georgetown, Chantilly, VA and Kensington, MD)	May–July 2016	68	658	5 (10 <sup>27</sup> )
Portland, OR	July 2016	37	254	7
New York City, NY	June 2016	41	224	6
Boston, MA (including Cambridge and Concord)	June 2016	22	188	9
Los Angeles, CA (including Alhambra, Pasadena, San Gabriel and West Hollywood)	July 2016	42	177	4
San Francisco, CA	July 2016 <sup>28</sup>	17	88	5
<b>Total</b>		<b>227</b>	<b>1,589</b>	<b>7</b>

<sup>27</sup> A single NY-based vendor selling items at the Big Flea in Chantilly, VA had a significant quantity (an estimated 320 pieces) of elephant ivory jewelry, netsuke, small-sized figurines, medium-sized figurines, and picture frames consolidated in several cases, skewing the average number of observed items per vendor in the Washington, DC area. Excluding this outlier, each elephant ivory vendor in the greater Washington, DC area had an average of 5 pieces for sale.

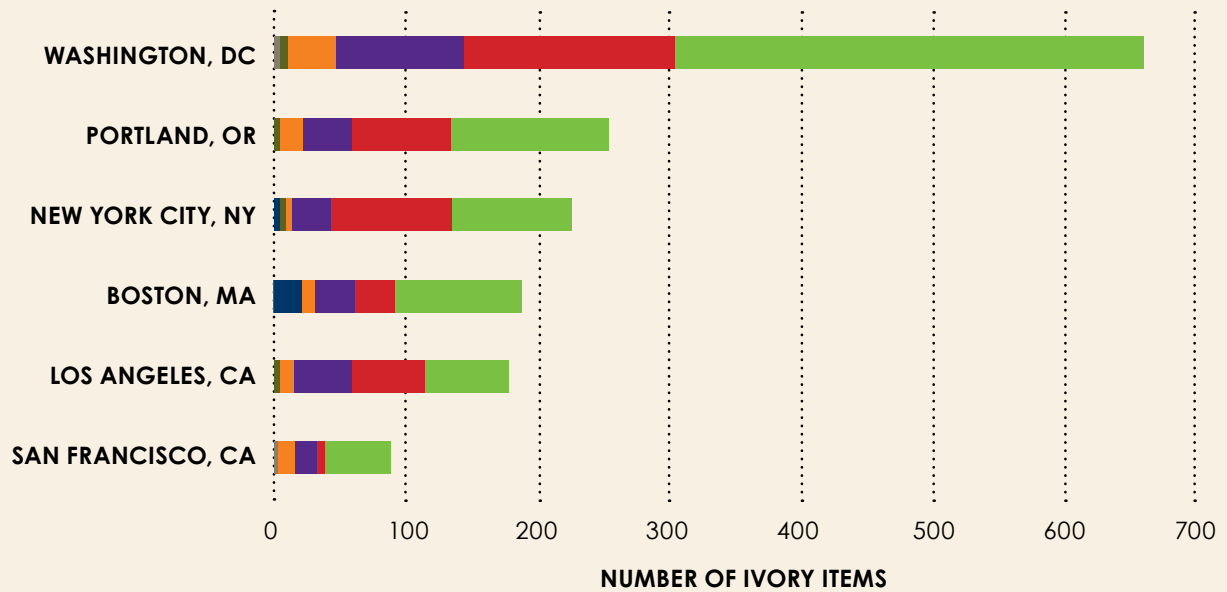
<sup>28</sup> A two-day scoping trip was also performed by TRAFFIC with a Chinese investigator in April 2016 to inform appropriate locations for this physical survey.

A variety of ivory items were offered for sale in physical markets. Carved ivory figures were encountered in highest numbers across all six US cities, followed by jewelry and household goods. Boston and New York City were the only US cities found offering musical instruments with ivory for sale, and uncarved ivory and furniture offers for sale in physical markets were minimal (Figure 2).



**FIGURE 2.** Ivory items by category observed for sale in the US physical market in the May–July 2016 survey period.

## IVORY ITEMS IN SURVEYED 2016 US PHYSICAL MARKETS



## Vendor Anecdotes

The researchers found that elephant ivory was available in the greatest volumes at “antique” expos and flea markets. There was generally limited availability in physical storefronts in surveyed locations at the time of this assessment. Vendors told researchers that this was a result of rising rents and higher risks associated with displaying ivory on store and gallery shelves. None of the vendors surveyed had visible documentation showing either legal origins of importation or state level sales permits, where required (for example, see the NYSDEC Ivory Permitting Process section of this report).

Certain vendors told the researchers that they were relocating elephant ivory items from states with intrastate commercial restrictions in place or pending, to states lacking legislation, for purposes of commercial sale. During a reconnaissance trip to San Francisco’s Chinatown prior to the window of this survey, the owner of one large ivory shop indicated that he was moving all of his elephant ivory inventory to Las Vegas, NV to sell it there before the California State ban went into effect in a few months’ time (TRAFFIC unpublished report). That shop was revisited as part of this survey, and elephant ivory was not observed in the location. At least one antiques gallery owner in the San Francisco Chinatown area indicated to a researcher during this assessment that all mammoth ivory pieces in their collection had been shipped to another store that the vendor owned in Las Vegas. That gallery owner indicated that after July 1, 2016, mammoth ivory could no longer be sold in California, but could be sold from their store in Nevada. The vendor offered to provide pictures of items to buyers via email, which after purchase could be shipped from the Las Vegas location to anywhere in the US.<sup>29</sup> Prices quoted by that gallery, and indeed most galleries in that location, included insurance and shipping and handling to a final destination.

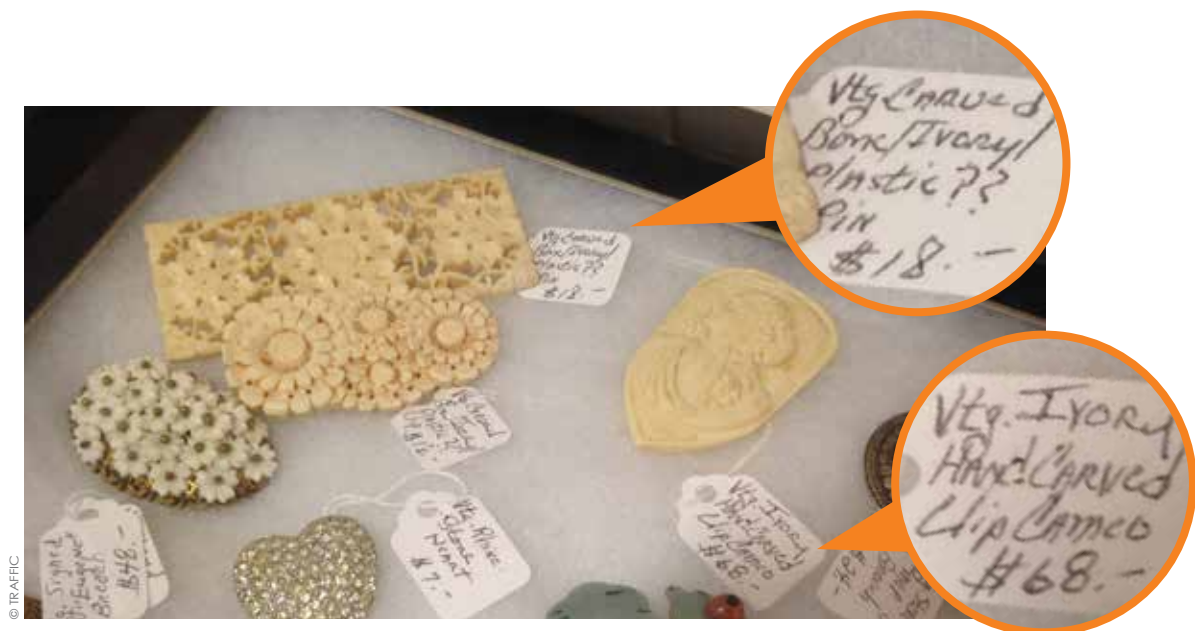
The researchers found that many surveyed vendors lacked a clear understanding of federal and state laws regulating the commercial sale of elephant ivory in the US. This was evident from the unclear or ambiguous signage posted by certain vendors (image below).



**Items (including worked elephant ivory) on display at an antiques gallery in San Francisco, and a sign displayed at the same gallery stating: “Ivory is not for sell! Sorry, if any item in the gallery is determined to be ivory we cannot sell it! We are not professional ivory experts! ‘Determining what is illegal material can not be assessed by [this] Gallery’”.**

<sup>29</sup> Federal regulations finalized in July 2016 require interstate commerce of African elephant ivory to meet outlined benchmarks. Shipment of ivory items across California or Nevada state lines, in pursuit of commercial activity, would be illegal unless those benchmarks were met.

Other vendors were unable to distinguish between elephant ivory and elephant ivory look-alikes in their own stock, particularly where Schreger lines were not visible (note Chantilly, VA example below). Other vendors marked all items as “mammoth”, presumably to avoid questions of legality (note Chantilly, VA example below).



Vendor labeling in surveyed physical markets varied widely. Certain vendors used the blanket label ‘mammoth’ to describe their entire stock (see example, top left). (Location: Chantilly, VA). Others, such as the seller of this elephant-carved ivory bracelet, labeled or stated items to be “Vintage Pre Ban Ivory” (top right). (Location: New York City, NY) Items on offer in the case pictured to the lower center included the following labels: “Vtg Carved Bone/Ivory/Plastic?? Pin \$18” (upper left) and “Vtg. Ivory Hand Carved Clip Cameo \$68”. (Location: Chantilly, VA)

### Elephant Ivory Market Prices

The price of elephant ivory, particularly raw ivory, can be an essential indicator of trends in the market (Martin and Stiles, 2008). The majority of items observed for sale in the US physical markets during this survey period were carved items offered in small quantities (an average of four items per vendor in the greater Los Angeles area, ranging to an average of nine items per vendor in the greater Boston area<sup>30</sup>) (Table 4). Generally, elephant ivory items were mixed in with miscellaneous antiques, jewelry and other pieces. Prices for worked elephant ivory varied widely according to size, age and quality of carving (for itemized lists of quantities and asking prices by city, see Appendices 1–2). Few intact elephant tusks were encountered in physical retail. The researchers were offered a pair of uncarved mounted elephant tusks for 15,000 USD from a vendor in New York City. A single Asian-style carved elephant tusk was also offered for 15,000 USD in the same city. In Portland, an African-style carved elephant tusk was offered for 1,800 USD (image below).



African-carved elephant ivory tusk. (Location: Portland, OR)

All surveyed locations had low-cost elephant ivory items for sale, starting in the 10 to 35 USD range (Table 5). An antique piano with ivory keys (comprising roughly 5% of the total item) offered by a vendor in New York City was listed at 220,000 USD. The researchers encountered highest-priced items in locations with state-level ivory legislation in place. This may be attributed to the high relative affluence of these areas and/or the buying power of tourists visiting the cities of Los Angeles, New York and San Francisco, who may or may not be aware of relevant laws (Table 7). In New York City, several vendors told the researchers that they knew it was illegal to sell their elephant ivory pieces, and that they would offer discounted prices in order to rid themselves of risky inventory. In certain cases (including several vendors in New York City), large elephant ivory figures were stored in back rooms out of public view but the researchers were invited into these rooms to consider purchasing them.

<sup>30</sup> Excluding outliers.

**TABLE 7. LOWEST AND HIGHEST-PRICED ELEPHANT IVORY ITEMS ENCOUNTERED IN PHYSICAL SURVEYS IN LOCATIONS WITH AND WITHOUT STATE-LEVEL IVORY LEGISLATION IN PLACE.\***

LOCATION	LOWEST PRICE ELEPHANT IVORY ITEM*	PRICE (USD) (% ELEPHANT IVORY)	HIGHEST PRICE ELEPHANT IVORY ITEM*	PRICE (USD) (% ELEPHANT IVORY)
<b>State-level ivory legislation</b>				
Los Angeles, CA (including Alhambra, Pasadena, San Gabriel and West Hollywood)	Figurine (small)	10 (100)	Box (carved)	10,500 (70)
New York City, NY	Figurine (small)	28 (100)	Piano (ivory keys)	220,000 (5)
San Francisco, CA	Snuff box	20 (50)	Figurine (large)	12,000 (10)
<b>No state-level ivory legislation</b>				
Boston, MA (including Cambridge and Concord)	Pen knife (ivory handle)	25 (50)	Figurine (medium)	3,500 (100)
Portland, OR	Figurine (small)	35 (100)	Tusk (carved, large)	1,800 (100)
Washington, DC (including Georgetown, Chantilly, VA and Kensington, MD)	Figurine (small)	10 (100)	Figurine (large)	2,495 (100)

\*Note that prices were often unmarked, requiring the researchers verbally to ask vendors for price information. Where vendors were not present or unavailable, items were documented but price information could not be collected.

### Notable Enforcement Cases

Wildlife law enforcement effort is clearly being scaled in certain US physical markets. According to media reports, in one notable case from September 2016, three owners of a midtown Manhattan gallery were indicted on two counts of illegal commercialization of wildlife (TIME, 2016). In November 2015, undercover NYDEC officers purchased a carving from the shop in question that a salesman claimed had been made from mammoth tusk. According to the district attorney’s statement, subsequent inspection revealed it to be elephant ivory. Upon returning with a search warrant, officers allegedly found and seized 126 articles of elephant ivory with an estimated value of 4.5 million USD, including elephant ivory carvings and tusks “up to 7ft long” (TIME, 2016).

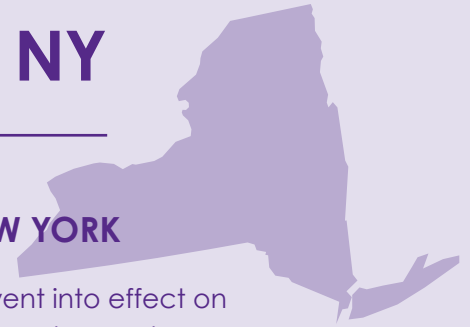
In an unrelated conviction in 2016, a sentence of one year and one day in prison, three years of supervised release, and a 10,000 USD fine was imposed on a California-based senior auction administrator by a U.S. District Judge for the Southern District of New York, for conspiring to smuggle rhinoceros horn, elephant ivory and coral with a market value of at least 1 million USD (USDOJ 2016e, also see Table 25). According to allegations contained in court filings and proceedings, the auction administrator “personally falsified customs forms by stating that rhinoceros horn and elephant ivory items were made of bone, wood or plastic” (USDOJ 2016e).

In another March 2017 enforcement case, evidence of intentional mislabeling of illegal elephant ivory as “carved mammoth tusks” led to a Class D felony conviction of a Manhattan-based antiques merchant (NYSDEC, 2017). A sample of penalties issued in US courts in 2016 for elephant ivory trafficking (among other illegal wildlife products, in certain cases), is provided in Appendix I.

The following section of the report provides detailed physical market assessment findings for each survey location, divided into two parts: (1) physical locations with state-level ivory trade legislation in place at the time of data collection; and (2) physical locations without state-level ivory trade legislation in place at the time of data collection. Findings are detailed within these two parts, in order of a location’s relative number of ivory items observed by the researchers.



## NEW YORK CITY, NY



### LEGALITY OF IVORY SALES IN NEW YORK

New York State Senate Bill S7040, which went into effect on August 12, 2014, prohibits the sale, offer for sale, purchase, trade, barter or distribution of elephant and mammoth ivory. However, the New York State Department of Environmental Conservation (DEC) may issue licenses or permits authorizing these activities, provided that the owner or seller proves that they meet one of the following limited exceptions:

- a) The ivory article comprises less than 20 percent of an antique that is at least 100 years old;
- b) The distribution or change in possession is for educational or scientific purposes;
- c) The distribution is to a legal beneficiary, heir or distributee of an estate; or
- d) The article is a musical instrument that contains ivory and was manufactured no later than 1975.

### Overview

A 2006–2007 US ivory market survey (Martin and Stiles 2008) referenced New York as the largest ivory market in the US, with 11,376 elephant ivory items observed for sale over a non-contiguous data collection period of 21 days in October, November and December 2006, and May 2007. For purposes of continuity across the six locations covered in this assessment, the researchers surveyed New York City for five contiguous days in June 2016. A total of 41 vendors were observed offering approximately 224 elephant ivory items for sale. Of these 41 vendors, 80% had five items or fewer and 34% had only one item each (Table 8).

**TABLE 8. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN NEW YORK CITY SURVEYS, JUNE 2016.**

MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Antiques Markets (129 vendors)	12	44	85	7
Flea market (Chelsea) (60 Vendors)	13	23	82	6
Antiques galleries	4 <sup>31</sup>	29	33	8
Jewelry stores	5 <sup>32</sup>	33	14	3
Gift shops <sup>33</sup>	3	19	5	2
Flea market (Hell's Kitchen) (20 vendors)	3	15	4	1
Art galleries	1	50	1	1
Chinatown shops	0	0	0	0
<b>Total</b>	<b>41</b>		<b>224</b>	<b>6</b>

The majority of vendors with multiple items were seen in antiques galleries and flea markets, offering an average of eight and seven items, respectively. Even among these vendors, only a few had more than five items. For example, out of 12 vendors observed selling ivory in antiques markets, five had one piece each, five had three to four pieces each and two had an estimated 62 pieces between them (22 and 40, respectively). The Chelsea Flea Market (image below) housed the next highest number of items observed, with an average of six ivory items per vendor. The most commonly observed elephant ivory items in New York City outlets were medium-sized figurines (17%), bracelets (14%), netsuke (12%), small-sized figurines (10%), necklaces (9%), portraits on ivory (7%) and pendants (6%) (Table 9; itemized list available in Appendix II).



**Portrait with ivory and tortoise shell frame offered for sale for 500 USD at the Chelsea Flea Market (left); elephant ivory bangles offered for sale 125 USD each at the Hell's Kitchen Flea Market (right).**

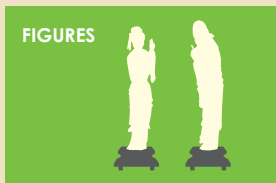
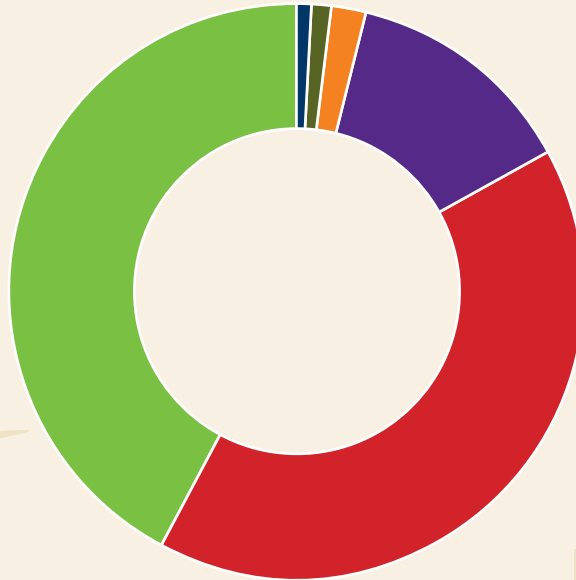
<sup>31</sup> Does not include two antiques galleries with very large quantities of items declared as “bone” or “mammoth” that could not be verified as such by the researchers (see Prevalence of Mammoth Ivory section).

<sup>32</sup> 4 of 5 retail outlets in this category could be categorized as vintage or antique jewelry stores.

<sup>33</sup> Includes two street vendors.

TABLE 9. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN NEW YORK CITY (ITEMIZED LIST AVAILABLE IN APPENDIX II).

## NEW YORK CITY: IVORY IN PHYSICAL RETAIL



FIGURES

**93**  
items

**40–100**  
% elephant ivory

**\$28–\$25,000**  
price range (USD)



JEWELRY

**91**  
items

**50–100**  
% elephant ivory

**\$45–\$1,500**  
price range (USD)



HOUSEHOLD GOODS

**30**  
items

**10–100**  
% elephant ivory

**\$100–\$3,500**  
price range (USD)



PERSONAL ITEMS

**4**  
items

**55–100**  
% elephant ivory

**\$125–\$850**  
price range (USD)



UNCARVED IVORY

**3**  
items

**100**  
% elephant ivory

**n/a–\$15,000 (pair)**  
price range (USD)



MUSICAL INSTRUMENTS

**3**  
items

**5–10**  
% elephant ivory

**\$1,700–\$220,000**  
price range (USD)



## Online Classifieds

Online classified advertisements for metropolitan New York City were monitored at least one day a week from June 20–July 19. Surveys found 61 ivory items for sale with a combined offer price of 613,130 USD. The vast majority (89%) of the pieces for sale were antique pianos with ivory keys, ranging in price from zero to 125,000 USD, of which six pianos were offered for free. Some of the more expensive pianos were offered from specialty piano shops, which may account for high list prices.

## NYSDEC Ivory Permitting Process<sup>34</sup>

A request by the researchers pursuant to NY State's Freedom of Information law revealed that since August 12, 2014 (the date the ivory ban became effective in New York) the New York State Department of Environmental Conservation (NYSDEC) issued only 18 permits authorizing legal sale, covering a total of 108 elephant ivory pieces. It is assumed that these permit holders were able to provide sufficient documentation to meet one of the limited exceptions listed above. During this same timeframe, the NYSDEC denied nine permit applications authorizing legal sale because a finding was made that they did not provide adequate documentation to meet one of the limited exceptions listed above.

## Prevalence of Mammoth Ivory

During this survey period, the researchers visited two notable antiques galleries in midtown Manhattan that had very large displays of ivory-appearance items that were communicated to be made from either “mammoth” or “bone”. It is important to note that the changes to New York State's ivory law that were enacted in August 2014 also made mammoth ivory illegal to sell without a permit. However, dealers were provided a two-year period to rid themselves of existing stock before enforcement would take effect<sup>35</sup>.

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<sup>34</sup> Neighboring the State of New York, New Jersey's Bill S2012 is a comprehensive ban on sales that encompasses all animals with ivory, was signed into law on August 1 2014, and implemented six months later. This ban extends to all animals with ivory (not just elephants and mammoth), as well as rhinoceros horn. New Jersey is not considered a large market for ivory in and of itself, but its proximity to New York (the states share a border and strong commercial ties) helps to amplify the effect of regulations in both states.

<sup>35</sup> Arguably, this introduced a loophole which at least one midtown Manhattan seller has been convicted of attempting to exploit (NYSDEC, 2017).



Items that the gallery representative told the researchers were made from mammoth ivory, displayed inside an antiques gallery in midtown Manhattan.

One gallery visited by these researchers had two large rooms with floor-to-ceiling display cases containing exclusively ivory-looking pieces (image above). The majority of these pieces were carved, highly polished and potentially dyed/stained medium-to-large figures and statues. This gallery also had an extensive netsuke display with a sign indicating “GENUINE NETSUKES ½ OFF” (image below). Despite examining a number of pieces, and consulting an external expert, the researchers were not able to confirm the material(s) used in their manufacture. This may be explained by the manner in which the pieces were polished and/or colored, or else the pieces may have been made using a composite material which could not be identified by experts. One piece, an ornately carved dragon, approximately 30" long by 16" high, was offered to the researchers for 12,000 USD, which included in-house certification, shipping and insurance. The gallery representative made repeated claims that all items in the gallery were mammoth ivory, stating, “It would be illegal for me to sell them if they weren’t”.<sup>36</sup>

<sup>36</sup> Researchers learned that after June 30, 2016, all elephant ivory items had been removed from display from this antiques gallery.



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# LOS ANGELES, CA



## LEGALITY OF IVORY SALES IN CALIFORNIA

Signed by Governor Jerry Brown in October 2015, a law banning the sale of nearly all ivory in the State of California went into effect July 1, 2016 (approximately one week prior to the survey performed for this assessment). This ban covers teeth and tusks from elephant, hippopotamus, mammoth, mastodon, walrus, warthog, and narwhal, as well as rhinoceros horn. Under the new law, ivory from the species listed above, whether worked or unworked, may no longer be purchased, sold, or possessed with the intent to sell, with the exception of the following limited exceptions:

- a)** Ivory or rhinoceros horn that is part of a *bona fide* antique (with historical documentation showing that the item is at least 100 years old) provided that the item is less than 5% ivory or rhinoceros horn by volume.
- b)** Ivory or rhinoceros horn that is part of a musical instrument (with documentation of pre-1975 construction) provided the instrument contains less than 20% ivory or rhinoceros horn by volume; and
- c)** Activities expressly authorized by federal law, or federal exemptions or permits.

The law, as enacted, which can be found in the Californian Fish and Game Code Section 2022, considers possession of ivory or rhinoceros horn in a retail or wholesale outlet commonly used for the buying or selling of similar items as *prima facie* evidence, or sufficient on its own, to prove possession with intent to sell (Section 2022(d)).

## Overview

The metropolitan area of Los Angeles, CA as surveyed for this assessment, consisted of the cities of Los Angeles, Alhambra, Pasadena, San Gabriel and West Hollywood. The 2008 Martin and Stiles study identified Los Angeles and San Francisco as the US cities with the highest proportions of potentially illegal ivory pieces and the largest ivory markets overall, behind New York City (Martin and Stiles, 2008). That survey found 2,605 ivory items for sale in the greater Los Angeles area in 170 outlets over a non-contiguous data collection period of a minimum of 13 days between March and May 2006 and March and May 2007. A more recent 2014 study carried out between March 15 and April 11, 2014 found a total of 77 vendors in 32 stores and 10 multi-vendor malls or markets selling 777 pieces of ivory in the greater Los Angeles area (NRDC, 2015).

For this assessment, a researcher surveyed key markets over five contiguous days in July 2016. Forty-two vendors were documented as having a total of 177 elephant ivory pieces offered for sale. On average, vendors each had approximately four pieces of elephant ivory in their inventories which comprised a minor amount of the total quantity of goods for sale (Table 8). The most commonly observed elephant ivory items were small-sized figurines (26%), boxes made with ivory inlay (14%), bracelets (12%), earrings (6%), pendants (6%), and small carved boxes (5%) (Table 10).

**TABLE 10. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN LOS ANGELES, CA METROPOLITAN AREA SURVEYS, JULY 2016.**

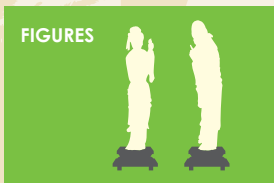
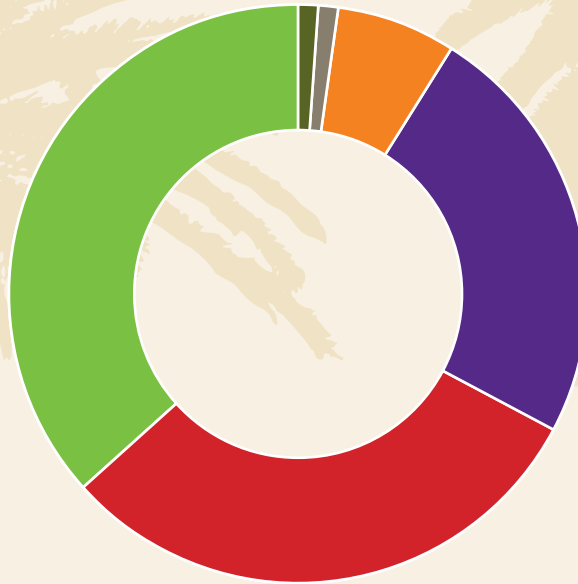
MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Flea markets	16	< 3	86	7
Antiques shops	6	50	46	8
Antiques markets	15	15	20	1
Art galleries	1	33	15	15
Jewelry stores	2	6	8	4
Gift shops (Chinatown)	1	33	1 <sup>37</sup>	1
Gun shops	1	50	1 <sup>38</sup>	1
<b>Total</b>	<b>42</b>		<b>177</b>	<b>4</b>

<sup>37</sup> Item was labeled as an elephant bone fan, offered at 18.98 USD.

<sup>38</sup> Gun shops surveyed opportunistically, 1 of 2 shops visited had an ivory handle knife offered at 2,000 USD.

TABLE 11. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN LOS ANGELES, CA (ITEMIZED LIST AVAILABLE IN APPENDIX II).

## GREATER LOS ANGELES: IVORY IN PHYSICAL RETAIL



FIGURES

**65**  
items

**15–100**  
% elephant ivory

**\$10–\$2,500**  
price range (USD)



JEWELRY

**55**  
items

**60–100**  
% elephant ivory

**\$35–\$740**  
price range (USD)



HOUSEHOLD GOODS

**43**  
items

**5–100**  
% elephant ivory

**\$20–\$10,500**  
price range (USD)



PERSONAL ITEMS

**12**  
items

**10–100**  
% elephant ivory

**\$20–\$2,000**  
price range (USD)



FURNITURE

**1**  
item

**15–30**  
% elephant ivory

**\$9,750**  
price range (USD)



UNCARVED IVORY

**1**  
item

**100**  
% elephant ivory

**\$400**  
price range (USD)



Two elephant ivory containers offered for sale at 8,700 USD and 10,500 USD at a Los Angeles antiques gallery (left); two solid elephant ivory pagodas offered for sale at 300 USD each at a Los Angeles art gallery (right).

## LA Area Flea Markets

Two large Los Angeles area flea markets were visited for this survey. According to the website of the show's managing company, one of these flea markets features over 2,500 vendors and attracts over 20,000 buyers every month. The researcher focused survey efforts on two large areas of this flea market, which are reserved for vintage and antique items. Within these areas, a total of 11 vendors were observed selling ivory items. Of these, eight had four or fewer ivory items, and the remaining three had six, 12 and an estimated 35 ivory products, respectively. The majority of ivory items observed were either jewelry or small carved figurines, with the exception of two ceremonial swords with ivory handles and a polished elephant tusk tip approximately 16" long, the latter with an asking price of 400 USD. Many of the vendors at this flea market indicated that they had obtained their ivory pieces from estate sales. A number of vendors indicated some level of knowledge regarding the prohibition on ivory sales in California. One vendor stated that the status of ivory in California was, "Up in the air as they are trying to decide what to do with antique items." Another vendor stated that she referred to her elephant ivory items as "ivory colored" because it was illegal to sell ivory in California. The vendor of a polished elephant ivory tusk stated that the piece was made from "bone", although Schreger lines were clearly visible at its base.

Another smaller surveyed flea market that is open on Sundays and, according to its website, attracts approximately 3,000–5,000 people each week, had roughly 100 tents and booths, presumably representing an equal number of vendors. Five vendors had a total of 11 elephant ivory items displayed for sale. Of the 11 items, seven were jewelry pieces (earrings, cuff links, a pendant and two necklaces), and the remainder were three small carved figurines and a jewelry box. The price range for ivory items at the market ranged from 45–75 USD, with the only exception being two small beaded necklaces offered at 140 USD each. Only one vendor at this market indicated any knowledge regarding the state ban on ivory sales, stating, "I don't like to deal in ivory unless I have a pretty good idea how old it is." She went on to indicate that the ivory jewelry items she was offering were "World War II-era" pieces.



Display cases featuring elephant ivory items offered for sale at Los Angeles area flea markets.

## Online Classifieds

Classified advertisements were surveyed for Los Angeles and surrounding cities for at least one day a week from June 21–July 15. During this time, there were 52 advertisements selling 62 ivory items. Fifty-two percent of the products for sale were antique pianos with ivory keys. The average piano price was 165,735 USD. Eighteen percent of the other ivory items posted for sale included one advertisement that was selling 11 pieces of the seller's grandmother's ivory jewelry collection.

## SAN FRANCISCO, CA

### Overview

San Francisco is a popular tourist destination, and the city's Chinatown is the largest Chinese diaspora outside of Asia. A previous US ivory market survey found a total of 2,587 ivory items for sale in 45 outlets in the San Francisco Bay Area, over a data collection period of nine days from 7–15 May 2006 (Martin and Stiles, 2008). For this assessment, researchers surveyed the city of San Francisco for four contiguous days in July 2016. A total of 17 outlets, selling approximately 88 ivory items were observed during the research period. On average, each of the 17 vendors displayed just over five items each (Table 12). The vast majority of ivory observed (over 90%) was seen at antiques galleries. Of all the vendors observed with ivory pieces, only one had more than six pieces. This vendor, who had an estimated 50 pieces of ivory displayed in the shop, also displayed small type-written signs on the display cases stating the ivory was not for sale. The most commonly observed elephant ivory items in the San Francisco market included: small-sized figurines (28%), bronze and ivory sculptures (17%), candlestick holders (7%), jars with lids (7%), knives (folding) (6%), and knife handles (5%) (Table 13). During this survey, at least one antiques gallery owner in the San Francisco Chinatown area indicated that they had shipped all of their mammoth ivory pieces to another store that they own that is located in Las Vegas, after July 1, 2016.





**TABLE 12. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN SAN FRANCISCO, CA, JULY 2016.**

MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Antiques gallery	14	44	80	8
Jewelry stores	1	50	5	5
Gift shops	1	25	2	2
Knife stores	1	100 <sup>39</sup>	1	1
<b>Total</b>	<b>17</b>		<b>88</b>	<b>5.2</b>

## Bronze and Ivory Reproduction Sculptures

A number of antiques galleries located in San Francisco’s Chinatown area carried art-deco or art nouveau bronze and ivory sculptures determined to be reproductions of pieces by artists, such as Demetre Chiparus. Chiparus was known for this chryselephantine<sup>40</sup> technique of combining metal (including bronze) and ivory, where in his sculptures small amounts of ivory were used to depict human skin. Originals are exceptionally rare and highly valued, so many sculptures that claim to be Chiparus may in fact be replicas<sup>41</sup>. No fewer than 15 of these types of pieces were observed in six galleries on a single Avenue. The galleries claimed the sculptures were made of bronze and either bone or mammoth ivory. Physical inspections, however, revealed many with clearly discernable Schreger lines (image below). The prices and claims of legitimacy (whether they were originals or reproductions) varied greatly depending upon the gallery, with asking prices ranging from 2,000–12,000 USD depending upon the amount of negotiation by the researcher posing as a prospective buyer.



**Face detail of a bronze and ivory reproduction sculpture seen in a San Francisco Chinatown antiques gallery, with visible Schreger lines on the cheek and chin.**

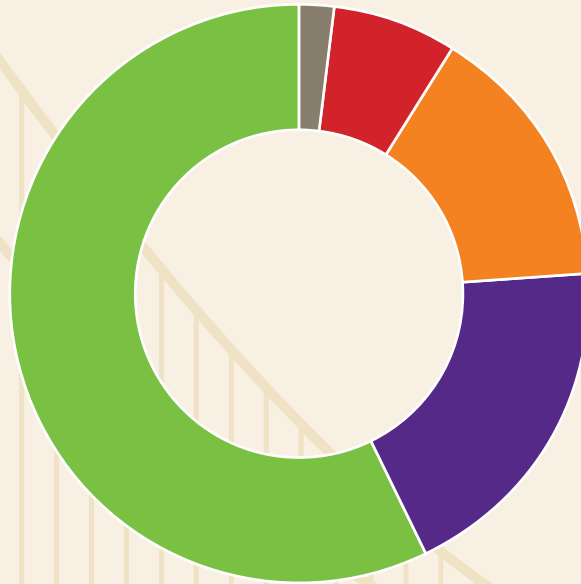
<sup>39</sup> Only one knife store surveyed opportunistically.

<sup>40</sup> Chryselephantine sculptures are historically made with gold and ivory.

<sup>41</sup> <http://antique-marks.com/chiparus.html>

TABLE 13. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN SAN FRANCISCO (ITEMIZED LIST AVAILABLE IN APPENDIX II).

## SAN FRANCISCO: IVORY IN PHYSICAL RETAIL



**50**  
items

**5–100**  
% elephant ivory

**\$2,000–\$12,000**  
price range (USD)



**17**  
items

**<1–100**  
% elephant ivory

**\$50–\$6,500**  
price range (USD)



**13**  
items

**30–100**  
% elephant ivory

**\$800**  
price range (USD)



**6**  
items

**30–100**  
% elephant ivory

**\$275**  
price range (USD)



**2**  
items

**<1–20**  
% elephant ivory

**\$4,000**  
price range (USD)

## California Knife Manufacture and Relative Material Prices

During the assessment period, a researcher opportunistically surveyed a knife store located in downtown San Francisco. The researcher observed a number of custom-made knives that had various types of ivory handles. An employee at this store indicated that all the knives observed had been made by a “Master of Forge” at a company located in northern California. The employee identified the handle of a Damascus folding blade as being made with elephant ivory. This knife was offered for 800 USD. The employee also pointed out a fixed blade knife, the handle of which was identified as made from mammoth bone and walrus oosik<sup>42</sup>. This knife was offered for sale at 750 USD. Lastly, the employee pointed out another fixed blade knife that he indicated was made from giraffe bone, which was also offered for sale at 750 USD. Based on these data, a significant premium does not appear to have been required for elephant ivory, as compared with other materials.

## Online Classifieds

Classified advertisements were surveyed in and around the San Francisco area for at least one day per week from 21 June 21–24 July. In total, 62 advertisements for 67 ivory items were documented. Eighty-two percent of the ivory items listed were antique pianos with ivory keys. The average price of pianos on offer was 8,852 USD.

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<sup>42</sup> Oosik is a term used in Native Alaskan cultures to describe the bacula (penile bone) of walruses, seals, sea lions, and polar bears. Fossilized bacula are polished and used traditionally as handles for knives and other tools.



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# WASHINGTON, DC



## LEGALITY OF IVORY SALES IN THE GREATER WASHINGTON, DC AREA

The ivory trade in the District of Columbia (DC), Virginia (VA), and Maryland (MD) is governed solely by federal laws. In recent years, the VA and MD legislatures and the DC Council have introduced bills to regulate intrastate commerce, but have failed to enact these measures into law as of the date of publication of this report. Generally, under federal law, an ivory product may only be sold in intrastate trade if the seller can prove that it was legally imported to the US prior to January 18, 1990 (the date of listing in CITES Appendix I).

Ivory sold in interstate trade is subject to stricter regulation, but unless a vendor is directly advertising shipment across state lines (or discusses the issue with a purchaser), it would be exceedingly difficult for law enforcement agents to divine intent. Thus, any ivory purchased on the premises is—practically speaking—likely to be regulated under the laxer standards for intrastate trade.

## Overview

The greater Washington, DC area, as surveyed for this assessment, consisted of the city of Washington, DC (Georgetown), the town of Kensington in Maryland and a major Expo Center in Chantilly, Virginia. In 2006–2007, a survey of the greater Washington, DC area was performed for 11 non-contiguous days from 5–13 December 2006 and 18–19 May 2007 (Martin and Stiles 2008). For this assessment, researchers surveyed key markets over five days in the May–July 2016 period. Sixty-eight vendors were documented with a total of 658 elephant ivory items for sale. Elephant ivory items comprised a small quantity of the total items for sale by the majority of vendors (Table 14). A single allegedly New York-based vendor selling items at an expo in Chantilly, VA had a significant quantity (an estimated 320 pieces) of elephant ivory jewelry, netsuke, small-sized figurines, medium-sized figurines, and picture frames consolidated in several cases, skewing

<sup>43</sup> At the time of data collection for this assessment.

the average number of observed items per vendor in the Washington, DC area. Excluding this outlier, each elephant ivory vendor in the greater Washington, DC area had an average of five pieces for sale. An inventory of other non-elephant ivory wildlife products observed by researchers in the greater Washington, DC area in this study window can be found as a case study in Appendix IV.

**TABLE 14. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN GREATER WASHINGTON, DC AREA SURVEYS, MAY-JULY 2016.**

MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Antiques shops (Georgetown, DC)	2	33	28	14
Antiques shops (Kensington, MD)	9	60	134	15
Flea market (Chantilly, VA)	40	60	438	11
Flea market (Georgetown, DC)	6	21	35	6
Firearm show (Chantilly, VA)	11	5	23	2
<b>Total</b>	<b>68</b>		<b>658</b>	<b>5 (10<sup>44</sup>)</b>

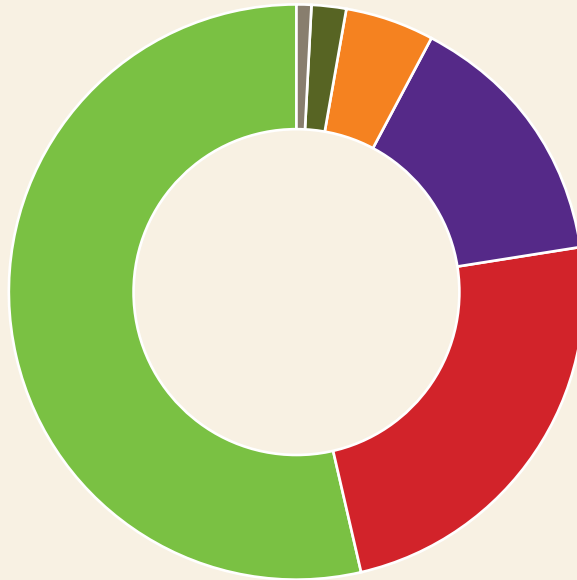
## Georgetown Galleries, Antiques Shops, Tobacco Shops and Flea Market

In June 2016, researchers visited “antiques” shops, a tobacco shop and a gallery in the Georgetown neighborhood of Washington, DC to survey prices, availability and quantities of elephant ivory in retail. A total of six shops were surveyed that were surmised by the researchers to have ivory inventory, including an art gallery, four antiques shops and a tobacco shop. The art gallery and tobacco shop contained no elephant ivory, although ivory-lookalike walking sticks, canes, knife handles, and pipes were observed in these locations. Elephant ivory items available at these antiques shops included (in order of significance): figurines, elephant ivory-handled serving silverware, elephant ivory inlaid furniture bracelets, picture frame, magnifying glass handle, perfume bottle stopper, pendant. In July 2016, a researcher visited a Sunday flea market in Georgetown to survey the availability of elephant ivory. A total of 28 vendors were surveyed, selling items that included but were not limited to paintings, furniture, jewelry and rugs. Of the 28 vendors, six had elephant ivory items for sale and two sold products that vendors claimed were bone. The majority of observed elephant ivory items were bracelets, although necklaces and carved figures were also documented (see detailed inventory in Appendix III).

<sup>44</sup> Including a single outlier described in the Overview.

TABLE 15. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN GREATER WASHINGTON, DC, INCLUDING KENSINGTON, MD AND CHANTILLY, VA IN A FIVE DAY SURVEY PERIOD OVER MAY-JULY 2016 (ITEMIZED LIST AVAILABLE IN APPENDIX III).

## GREATER WASHINGTON, DC: IVORY IN PHYSICAL RETAIL



FIGURES

**355**  
items

**20–100**  
% elephant ivory

**\$10–\$2,495**  
price range (USD)



JEWELRY

**160**  
items

**60–100**  
% elephant ivory

**\$30–\$595**  
price range (USD)



HOUSEHOLD GOODS

**99**  
items

**20–100**  
% elephant ivory

**\$35–\$2,000**  
price range (USD)



PERSONAL ITEMS

**38**  
items

**50–100**  
% elephant ivory

**\$17–800**  
price range (USD)



UNCARVED IVORY

**6**  
items

**100**  
% elephant ivory

—  
price range (USD)



FURNITURE

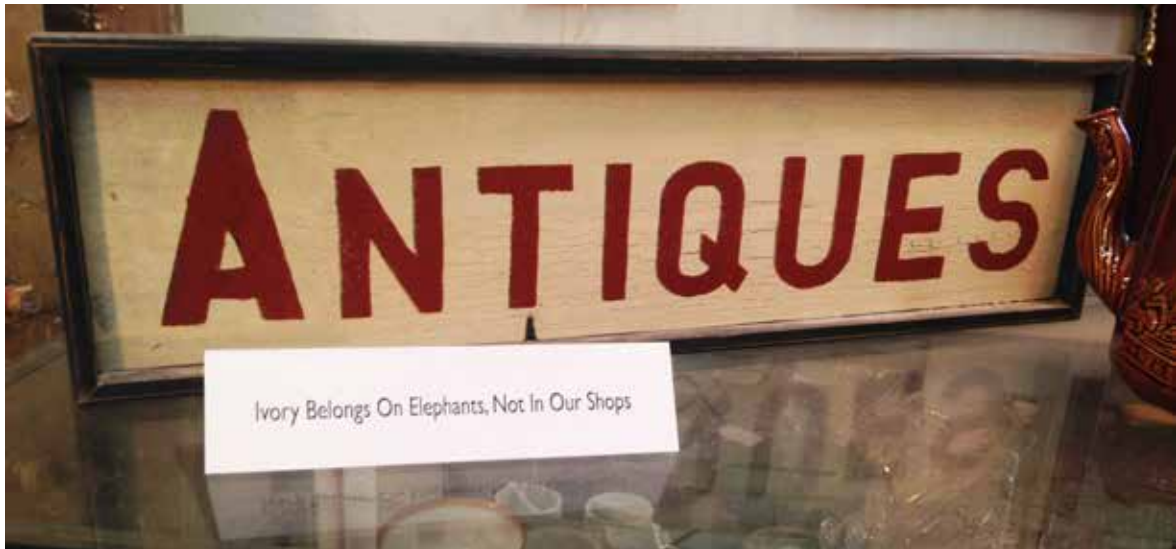
**3**  
items

**30**  
% elephant ivory

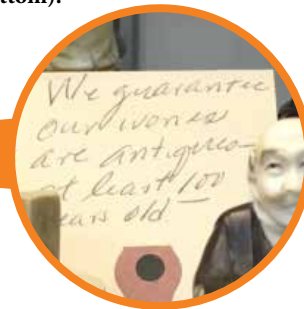
—  
price range (USD)

## Kensington Antiques Shops

In May 2016, researchers visited “antiques” shops in Kensington, MD. A total of 15 vendors were surveyed, of which nine had elephant ivory for sale. A total of 134 elephant ivory pieces were documented<sup>45</sup>. Many labeled items in Kensington were identified by vendors to be “ivory”. Interestingly, one item was labeled by a vendor to be “pre-ban horn/bone” which suggests limited understanding of relevant laws. Vendor attitudes toward elephant ivory sales and labeling of products varied widely within Kensington vendors (samples below). Several vendors who did not label their items lamented to the researchers that stricter ivory laws were impeding their business.



One Kensington, MD vendor prominently displayed the sign, “Ivory Belongs on Elephants, Not In Our Shops” (top); Another vendor provided the blanket assurance, “We guarantee our ivories are antiques at least 100 years old” (bottom).



## Chantilly, VA Flea Market/Expo

In July 2016, researchers visited a large flea market in an expo center in Chantilly, VA to survey prices, availability and quantity of elephant ivory. Kensington, MD vendors recommended this expo to the researchers as a major convening event for ivory “antiques” sellers due to increasing rent costs for maintaining storefronts. According to sellers, these high costs have driven many vendors in Alexandria, VA and elsewhere to close their storefronts and pivot to selling at expos, flea markets and online. Researchers surveyed 67 vendors at this flea market/expo and found that 40 of the vendors

<sup>45</sup> Also available for sale were many animal bone (ivory look-alike) pieces, walrus tusk items (6), sea turtle shell items (4), whale bone items (4), coral items (9), spotted cat fur (1) and shagreen (shark/ray leather) (1).

had elephant ivory pieces for sale. The total number of elephant ivory items observed was 438. The majority of vendors at this flea market/expo acknowledged that their items were in fact made from elephant ivory. One vendor, however, labeled all inventory as “mammoth.” Another stated that his items were “plastic and not real ivory,” but that, “Schreger lines had been added to make his bracelets look more realistic.” Most vendors had only small amounts of elephant ivory in their total inventory. General confusion existed among vendors of current laws. “As of 1979 you can no longer import ivory,” one vendor told researchers. Another vendor, who was based in New York but had two large cases of ivory items on offer in addition to four large elephant ivory figurines, had general knowledge of federal and state regulations. He told researchers that, “The new laws are unconstitutional.”



A vendor's display case filled with numerous elephant ivory items, Chantilly, VA.



## Chantilly, VA Firearm Show

In July 2016, researchers visited a firearm show in Chantilly, VA to survey prices and availability of elephant ivory among vendors of modern guns, antique firearms, knives, ammunition, militaria, accessories, shotguns, rifles, holsters and swords in this periodic expo. A total of 238 vendors were surveyed, including gun, ammunition and accessory vendors, knife vendors, jewelry vendors, antiques vendors, pen and wood carving vendors and vendors of other merchandise. Fewer than five percent of all surveyed vendors had elephant ivory items for sale. Of this 5%, elephant ivory comprised a minor amount of total inventory. Twenty-three elephant ivory items were observed, including nine handgun grips (sold in pairs) and other items sold opportunistically (Table 15). Prices for gun grips varied by material and workmanship (Table 16). Elephant ivory gun grips were priced at roughly 2.5 times the cost of mother of pearl grips, roughly five times antler grips and over 12 times plastic polymer grips.

**TABLE 16. MARKED/DISCUSSED PRICES FOR GUN GRIPS OF VARIOUS MATERIALS, INCLUDING ELEPHANT IVORY, AT A FIREARM SHOW IN CHANTILLY, VA.**

OBJECT (MATERIAL)	PRICE RANGE (USD)
<b>Gun grip (pair)</b>	
· Elephant ivory (handgun)	465–525
· ‘Pearl’ (handgun)	200
· Antler (handgun)	60–150
· Wood (AK-47)	50
· Plastic scrimshaw (handgun)	40
· Plastic (handgun)	40

General confusion of the law was evident when vendors at this firearm show were asked by the researchers if it was legal to purchase elephant ivory pieces. The vendor of one African-carved elephant tusk segment responded, “It’s illegal if it’s a truck load. But collectibles you can buy.” A pen craftsman explained that he now makes pieces mainly from wood, various polymers and false ivory: “You can tell it’s fake because it’s not cold to the touch like ivory on a hot day.” He said that it is possible for him to source mammoth ivory for his carvings but that mammoth is expensive and that he believed the burden was on the seller to prove that it’s not elephant ivory, so he doesn’t want to go to the trouble. Promotional materials for a National Firearm Museum were on display at the gun show, featuring images of large elephant tusks. When the researchers asked the representative about the tusks, he mentioned a pair of Japanese-carved elephant tusks in the Museum’s collection, “You know how much they were worth last year? 100,000 dollars. You know how much they’re worth today? Zero dollars. Why? Because of the new law.”

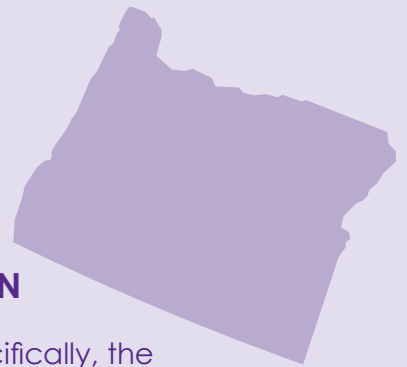
## Online Classifieds

Online advertisements were surveyed for the greater metropolitan Washington, DC area for one day a week from June 20–July 23. In total, there were 36 advertisements selling 55 pieces of ivory. Thirty-one percent of the items were antique pianos with ivory keys, with an average price of 5,591 USD. Twenty-four percent of the items for sale were figurines, averaging 4,583 USD.



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## PORTLAND, OR



### LEGALITY OF IVORY SALES IN OREGON

At the time of this survey, federal law (specifically, the CITES use-after-import regulations promulgated by USFWS) constituted the sole restriction in Oregon for the intra-state sale of elephant ivory. A new regulation passed on November 8, 2016 on Oregon's general election ballot will take effect on July 1, 2017. This new measure will prohibit the purchase, sale, offer for sale, or possession with intention to sell any part or product of a covered animal species with narrow exemptions. The 12 covered animal species or groups of species include elephants, rhinoceroses, whales, tiger, lions, leopards, cheetah, jaguar, pangolins, sea turtles, sharks (with the exception of spiny dogfish) and rays. The measure includes exemptions for legally acquired musical instruments and antiques documented to be over 100 years provided that any covered wildlife it contains is fixed, not a majority of the item, and totals less than 200 grams.

### Overview

The city of Portland was selected for this assessment to establish a 2016 baseline for its market, given the opportunity to assess the impact of future intrastate trade regulations. For this assessment, surveys were performed for four contiguous days in July 2016. A total of 37 outlets selling approximately 254 elephant ivory items were observed during this period. One of the locations visited is the self-proclaimed "largest antique and collectible show in America". On average, each of the 37 vendors displayed seven items. The vast majority of ivory seen (almost 72%) was observed at the antiques and collectables show. The remaining 28% were observed at individual antiques stores spread throughout the city (Table 17). The most commonly observed elephant ivory items included: small-sized figurines (20%), netsukes (15%), medium-sized figurines (9%), small unidentified utensils (8%), bracelets (7%), and beaded necklaces, brooches, and rings (5% each) (Table 18).

**TABLE 17. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN PORTLAND, OREGON AREA SURVEYS, JULY 2016.**

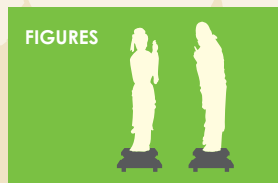
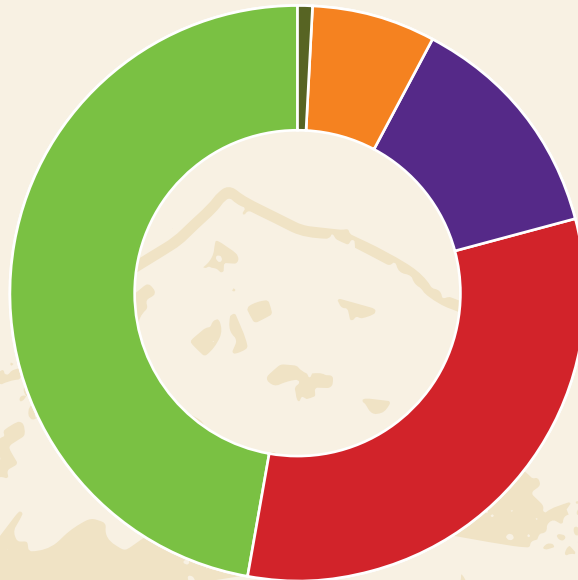
MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Flea Market	31	4	182	6
Antiques Gallery	6	55	72	12
Antiques Market	0	0	0	0
Gift Shop	0	0	0	0
Jewelry Store	0	0	0	0
<b>Total</b>	<b>37</b>		<b>254</b>	<b>7</b>



**Examples of elephant ivory for sale on the Portland antiques and collectables market.**

TABLE 18. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN PORTLAND, OR IN A 4-5 DAY MARKET SURVEY IN JULY 2016 (ITEMIZED LIST AVAILABLE IN APPENDIX III).

## PORTLAND, OR: IVORY IN PHYSICAL RETAIL



FIGURES

**120**  
items

**100**  
% elephant ivory

**\$35–\$1,800**  
price range (USD)



JEWELRY

**75**  
items

**60–100**  
% elephant ivory

**\$50–\$450**  
price range (USD)



HOUSEHOLD GOODS

**38**  
items

**30–100**  
% elephant ivory

**n/a**  
price range (USD)



PERSONAL ITEMS

**18**  
items

**15–100**  
% elephant ivory

**\$200–\$1,200**  
price range (USD)



UNCARVED IVORY

**3**  
items

**100**  
% elephant ivory

**\$299–\$350**  
price range (USD)

## Portland Antiques and Collectables

An annual two-day show that bills itself as, “America’s Largest Antique and Collectible Show,” with over 1,000 registered vendors, was surveyed for this assessment. Elephant ivory items were observed at 31 vendor stalls, which represented only a small portion (an estimated 4%) of the overall number of vendors selling antique items. A total of 182 elephant ivory items were documented by the researcher, representing 72% of the total number of ivory pieces seen in the Portland metropolitan area during this study period. A number of vendors at the show indicated that they had travelled from Seattle or other cities in the bordering State of Washington to sell their items, presumably because of state legislation in place in Washington that prohibited the sale of items made from elephant ivory at that time. One vendor in particular indicated that she had collected enough ivory over the years to fill two large display cases. She indicated that she cannot sell it in Seattle any longer, but brings a small portion every year to the Portland show to try and sell it. No documentation was visible for any of the items on offer.

## Prevalence of Walrus Items

Perhaps unsurprising, given its proximity to Canada and the US State of Alaska, Portland displayed more walrus ivory items for sale than any other area surveyed. At the antiques and collectables expo referenced above, walrus items were frequently displayed side-by-side with elephant ivory items. A number of vendors, however, had large multi-piece displays containing only walrus ivory items. At least 200 items billed as walrus ivory were observed, being displayed by at least as many vendors as were observed selling elephant ivory. The most common walrus ivory items observed were Billikens<sup>46</sup> and other small carved handicraft items. Also observed were walrus pendants, carved or etched tusks and cribbage game boards, as well as walrus oosiks.



Examples of walrus ivory for sale on the Portland “antiques” market.

## Online Classifieds

Surveys of online classifieds for Portland were conducted for at least one day a week from June 21–July 19. During this time, 42 advertisements were found offering 170 pieces of ivory. One particular advertisement was selling approximately 68 pieces of ivory jewelry for 150 USD, which accounts for 40% of the total ivory found online in the area. Other major products that were offered for sale consisted of household goods, mainly ivory toothpicks and ivory-based lamps.

<sup>46</sup> A Billiken is a charm doll (patented in 1908) in the shape of a smiling man that is sometimes carved from animal ivory. The purchase of a Billiken was said to bring good luck, and to be given one was also believed to bring luck.



© TRAFFIC

## BOSTON, MA<sup>47</sup>



### LEGALITY OF IVORY SALES IN MASSACHUSETTS

At the time of this survey, federal law (specifically, the CITES use-after-import regulations promulgated by USFWS) constituted the sole restriction in Massachusetts for the intrastate sale of elephant ivory. Massachusetts Senate Bill S.2241 and House Bill H.1275 were introduced in the state legislative session during the period in which this survey was conducted, however they failed to be enacted before the end of the term. Similar bills were introduced in 2017 to restrict sales of elephant and mammoth ivory and rhino horn.

### Overview

This survey of the greater Boston area included coverage of Cambridge, MA and Concord, MA, which are well-known areas for antiques. Over a six-day data collection period from November 12-17, 2006, a previous US ivory market survey found a total of 758 ivory items for sale in 20 outlets, of which 18 were in Boston and two in Cambridge (Martin and Stiles, 2008). For this assessment, surveys were conducted over four contiguous days in June 2016. A total of 22 outlets selling approximately 188 ivory items were observed during this period. Of the 22 outlets observed selling elephant ivory, eight (36%) had only one item each on offer and ten (45%) had two to four items. The remaining four outlets had an estimated 55, 50, 30, and 20 items, respectively. With the exception of a musical instrument shop and a vintage jewelry store, all ivory items seen were found in antiques galleries or displayed by vendors in antiques market stalls (Table 19). The most commonly observed elephant ivory items in the Boston market were netsukes (44%), musical instruments with elephant ivory parts (11%), beaded necklaces (7%), pendants (6%), utensils (5%) and small figurines (5%) (Table 20).

<sup>47</sup> Including Cambridge and Concord, MA.

**TABLE 19. TYPES OF RETAIL OUTLETS AND TOTAL NUMBER OF IVORY ITEMS OBSERVED IN BOSTON METROPOLITAN AREA SURVEYS, JUNE 2016.**

MARKET CATEGORY/AREA	NO. OF OUTLETS WITH IVORY	% OUTLETS SURVEYED	NO. OF IVORY ITEMS	AVG. NO. OF IVORY ITEMS PER OUTLET (FOR OUTLETS SELLING IVORY)
Antiques Galleries	8	40	146	18 <sup>48</sup>
Musical Instrument Shop	1	100 <sup>49</sup>	20	20
Antiques Markets	11	6	19	2
Gift Shops	1	25	2	2
Jewelry Stores	1 <sup>50</sup>	12	1	1
<b>Total</b>	<b>22</b>		<b>188</b>	<b>9</b>



**Examples of ivory netsukes for sale in Boston, MA.**

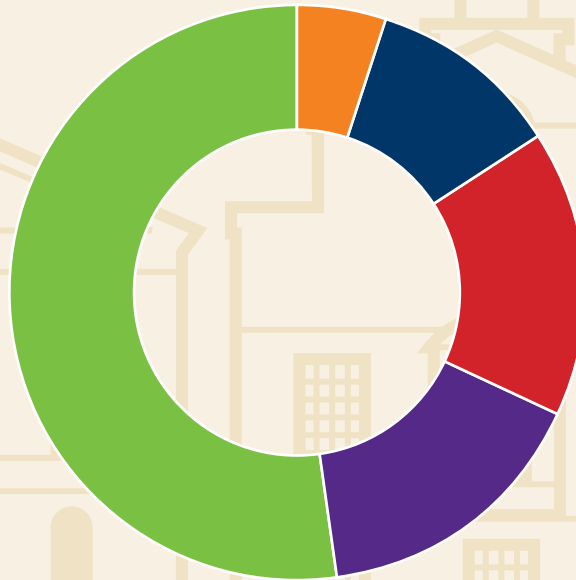
<sup>48</sup> Five of the outlets in this category had 3 or fewer pieces, the other three had an estimated 55, 50 and 30 respectively.

<sup>49</sup> Only one musical instrument shop was surveyed (opportunistically).

<sup>50</sup> Outlet specialized in vintage, reproduction and antique jewelry.

TABLE 20. QUANTITIES AND PRICES BY CATEGORY FOR IVORY ITEMS OBSERVED IN TRADE IN THE BOSTON AREA, INCLUDING CAMBRIDGE AND CONCORD, IN A FOUR-DAY MARKET SURVEY IN JUNE 2016 (ITEMIZED LIST AVAILABLE IN APPENDIX III).

## BOSTON, MA: IVORY IN PHYSICAL RETAIL



**97**  
items

**100**

% elephant ivory

**\$45–\$3,500**  
price range (USD)



**31**  
items

**50–100**

% elephant ivory

**\$85–\$550**  
price range (USD)



**30**  
items

**80–100**

% elephant ivory

**\$65–\$875**  
price range (USD)



**20**  
items

**10–20**

% elephant ivory

**\$1,700–\$3,500**  
price range (USD)



**10**  
items

**50–100**

% elephant ivory

**\$25–\$475**  
price range (USD)



## Cambridge Antiques Market

A multi-story antiques marketplace with 150 dealers located just across the Charles River from Boston was visited for this survey. The researcher observed 19 ivory items in the stalls of 11 different vendors (7%). This is a marked decrease from 81 ivory items observed during the Martin and Stiles survey (2008). None of the vendors had more than three ivory items each. The most prevalent items seen were jewelry items, necklaces and pendants, of which the most expensive item was a sterling silver and ivory serving utensil set, priced at 345 USD.

## Concord Antiques Galleries

In a survey of three antiques galleries, the researcher observed elephant ivory items at all three galleries, although only one gallery had more than three pieces on offer. This gallery had approximately 30 ivory items on display, ranging from small figurines, to jewelry items, to an ornately carved cigarette box which was priced at 300 USD.



Drawer full of miscellaneous ivory items shown to researcher in Boston, MA

## Musical Instrument Workshop

During the course of this survey, the researcher opportunistically surveyed a musical instrument workshop located just outside of Boston that manufactures, sells, and services/repairs high end woodwind instruments, some of which are made with ivory parts. The surveyor was introduced as a researcher interested in understanding the ivory trade in the US and the impact of federal and state legislation being enacted to regulate the trade. When asked about the pending law, an employee at the shop indicated that they were not sure how the new law was going to affect their business. The employee stated that he was reviewing a fact sheet about the pending legislation in MA, and that it was his understanding that after the law is passed they will have to prove that any instrument was made prior to January 1975. Further, the employee stated that although determining a likely age based on design and manufacturer would be easy, proving the manufacture date would be difficult, as most instruments that they deal with are not accompanied by documentation. When asked about the source of their ivory, the employee stated that the company purchased two large tusks that were imported into the US sometime around 1957–1958, and that the company then made a number of recorders (musical wind instrument), either from ivory or with ivory parts throughout the early 1960s. The employee further indicated that the company still had remnants of these tusks in a safe located in a next-door building used for storage. He also related that they have a number of instruments made entirely of ivory that are unfinished and that at this point will likely never be finished. Explaining further, he indicated that not only is the law making things problematic but ivory items are simply not in demand any longer.

## Online Classifieds

Surveys for online classifieds for Boston and surrounding areas were conducted for at least one day a week from 20 June–14 July. During this period, 29 advertisements selling 31 pieces of ivory were documented. Sixty-one percent of the advertisements were for antique pianos with ivory keys; five of them were offered for free.



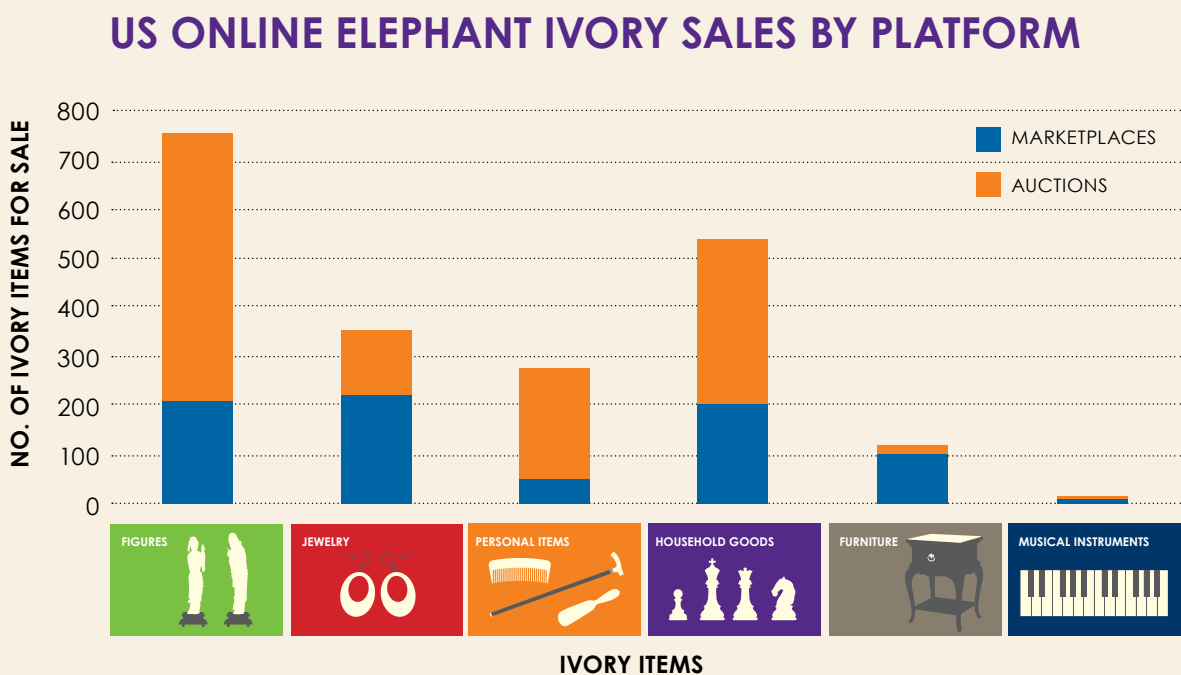
# FINDINGS: US ONLINE MARKET

## Overview

Following a two-week scoping period to determine websites that were likely to have the greatest volumes of ivory products on offer by US-based vendors, surveys of online ivory sales focused on two types of platforms: online marketplaces and online auctions. Data were collected from June 23–August 7, 2016 from six independent websites across these two platform categories. A total of 2,056 pieces of ivory were documented for sale by vendors based in 47 states, worth an estimated starting price of 3,437,250 USD<sup>51</sup>. This number is assumed to be an underestimate of the total value because the online auction amounts were based on the starting bid, which is the minimum amount accepted. Figure 3 illustrates the prevalence of ivory products for sale on the two different online platform categories. The top three states with online sellers offering ivory for sale were Florida (573 sellers), California (303 sellers), and Oregon (223 sellers). The most popular type of ivory item sold across these platforms were figurines; however, the prices varied and were not consistent. For example, figurines were on average listed for 2,322 USD on marketplaces, and 465 USD on auctions. The variability is due to the fact that marketplaces offer sales prices, whereas auctions offer starting price.

Despite the fact that several online companies have taken measures to remove illegal wildlife products from their sites, this survey reveals that ivory can still be found with relative ease. Detailed findings of the online survey can be found in Appendix V. The following provides a snapshot into the availability of ivory products online.

**FIGURE 3. Ivory items offered for sale online by US-based sellers, by platform and item category, June 23–August 7, 2016.**



<sup>51</sup> For auctions, the starting bid was used as the sale price.

## Online Marketplaces

Researchers surveyed US-based sellers on three major marketplaces that collectively offer about 2 billion active listings at any given time, with roughly 200 million active global buyers of all products, worldwide<sup>52</sup>. TRAFFIC investigations into these three marketplaces focused exclusively on US-based sellers that are a smaller proportion of global listings that were filtered out from the global sellers. The US research resulted in detecting 408 retailers across 45 states that advertised 796 pieces of ivory (in 569 advertisements). While these retailers did not have overlapping names across the marketplaces, there may be some redundancy as the same individual may advertise through different user names both within and across marketplaces.

Of the identified elephant ivory, researchers classified 44% to be “likely ivory” due to photographic evidence, descriptions, and/or visible Schreger lines, and 56% to be “suspect ivory” (items which appeared to be ivory, but available information and photographs were not conclusive). Researchers observed that many vendors on these marketplaces often provided either vague descriptions, blurry photos, and/or misrepresented the material, such as referring to the ivory as “bone.” In advertisements where Schreger lines were visible, sellers mostly referenced elephant ivory as “bone,” which occurred 31% of the time. Other popular references of ivory included “plastic,” “horn ivory,” “authentic ivory,” or the material was unspecified. Moreover, some vendors opted to use anecdotes to allude to elephant ivory, such as, “Hot pin test smells like a dentist’s office,” and “Material that was popular many years ago, but not used today.” Table 19 provides a sample of some of these advertisements, including the description and associated photo provided by the seller. These sample advertisements were determined to be “likely ivory” given that they had visible Schreger lines, or based on other photographic or anecdotal evidence. In several of these cases, though Schreger lines were evident, the product was advertised as either “bone” or “faux ivory.” Some sellers, however, did advertise the product as real elephant ivory.

In the majority of advertisements, the vendor used some form of language depicting age, such as “vintage,” “antique,” or referencing a particular period of time, i.e. Victorian, Edwardian, 1930s. Similarly, in about ten instances, the ivory was advertised as “pre-ban.” The researchers could not confirm the actual age of these products.





For each online advertisement, the seller was required to detail shipping policies, including geography, restrictions and fees. In the marketplaces sampled, 25% of the advertisements included a shipping restriction to only the US. The rest of the advertisements either offered worldwide shipping, or included a set number of countries in which they were able to ship.

Across the three sampled marketplaces, the most popular types of ivory were jewelry (28%), household goods (27%), and figurines or sculptures (27%). One marketplace that specialized in high-end antiques and collectibles accounted for 99% of the furniture advertisements. Table 20 summarizes the top findings for marketplaces, including the total products and price range; the remainder of the products documented comprised less than 5% of the elephant ivory for sale. The majority of the ivory products that were listed for sale were located in California (19%), New York (13%), and Florida (10%).

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<sup>52</sup> Aggregated numbers for active listings and active buyers obtained from company websites.

TABLE 21. SAMPLE OF ONLINE MARKETPLACE ADVERTISEMENTS

IMAGE FROM MARKETPLACE ADVERTISEMENT	LANGUAGE POSTED BY SELLER
	<p>“Vintage~ Carved Chinese Bone Bangle Bracelet ~ Ivory Color~ w/Pouch ~ EUC Lovely vintage ivory color carved bangle bracelet from Hong Kong. I think this is Chinese bone...but I’m not 100% sure. In excellent condition~ with pink pouch. Inside diameter is about 2 5/8" ~ the outer diameter is a bit over 3.25". Please view all photos and contact me with any questions. Thanks for looking”</p>
	<p>“Vintage Asian hand carved horse sculpture figure ivory colored on wood base. Please zoom in on all pictures as it is part of the description. Highly detailed. They say a picture is worth a thousand words, so please look over the photos for more details.”</p>
	<p>“Vintage Faux Ivory Carved Eagle Handle Cane Walking Stick: Offered for your consideration is an exceptionally nice vintage faux ivory walking stick. Beautifully rendered Eagle handle. Cane measures 36 3/4" long, handle measures 10". Ferrule tip gone, easy replacement. Overall condition very good.”</p>
	<p>“Antique Chinese carved chopsticks with inscriptions: Here I have a pair of chinese carved antique chopsticks with inscriptions of a tiger and poem. It’s in very good condition. No crack and no split. Please look at photos.”</p>



“Ivory medallion pendant with turning center - Hong Kong 1966. You are bidding on a pre-ban (1989) elephant tusk beautifully carved ivory medallion pendant measuring 2 1/4" diameter. Inside the dragon carving on the outer hoop is a disc with a Chinese character carved through it. This disc is actually carved from the larger pendant piece allowing it to turn or spin around, but not fall out. (You can see how this turns but looking at the sequence of photos.) The cross graining on the piece is very faint but subtle. The medallion is secured by a tear drop gold hoop. This is a most unique and special piece reflecting a history of ivory carving over several decades.”



“This wonderful 1930's/40's ox bone necklace is a work of art. The bearded old man carries a staff which is connected to the figure at the back of the head. His kimono has a green pattern both front and back and the piece appears to have a signature on the foot. I am unsure of age but the beads (0.34") which are bone as well, are strung and knotted between each bead. This leads me to believe age. The attachment of the netsuke appears to be gold (plate?) with no tarnish. The necklace is 18". A beautiful piece in great condition.”









“Early.. Hand Made Carved Charm Bracelet..Pre-War with orig. Box.. Faces... Vintage item from 1930s. Materials: sterling silver, ivory, paint. Early..Hand made Carved Charm Bracelet.. Makino Brothers.....Rare”



“Ivory, faux antique salt and pepper shakers. Vintage item from the 1940s. Minimal wear...see pics...”

**TABLE 22. SUMMARY OF TOP ELEPHANT IVORY ITEMS OBSERVED FOR SALE IN ONLINE MARKETPLACES**

ITEM	QUANTITY	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>JEWELRY</b> 	226	1–8,500	28
<b>HOUSEHOLD GOODS</b> 	213	5–65,000	27
<b>FIGURES</b> 	211	7–95,000	27
<b>FURNITURE</b> 	101	500–285,000	13
<b>PERSONAL ITEMS</b> 	40	1–2,500	5
<b>MUSICAL INSTRUMENTS</b> 	5	4,850–125,000	<1
<b>TOTAL</b>	<b>796</b>	<b>1–285,000</b>	<b>100</b>

Not all products were made entirely of ivory, and the proportion of ivory did not necessarily dictate the sale price or value. For instance, one advertised bangle bracelet that was made of mostly ivory was less expensive than one that was made of less than 25% ivory. Conversely, a walking stick that was made mostly of ivory was ten times more expensive than one that had contained less ivory. Necklaces were roughly worth the same amount, whether they contained less than 25% ivory or more than 75%. For many of these items, it appears that other predominant materials, such as wood, brass, onyx, coral, gold, sterling silver, along with the age and origin of these products determined the sale price.

## Online Auction Sites

Three major online auction sites were surveyed in this study. Collectively, these auction sites reach more than 6 million visitors worldwide. TRAFFIC filtered the advertisers to investigate sales from US based vendors only. Researchers identified 103 sellers across 30 US states that advertised 1,260 pieces of ivory. Sellers across auction sites used similar terminology for their advertisements. Each advertisement was referred to as a “lot,” which is either an item or collection of items sold together as a group. For purposes of this study, only ivory items were included, though the proportion of ivory reflects how much was present in the whole advertisement. For instance, the image below shows a snuff bottle lot for sale, which only contained one piece of ivory. The total proportion of ivory was analyzed to be “small” and only one piece of ivory was documented; however, the listed price would be for the entire lot and not for an individual item.



**Example of an auction lot for sale, which contains one elephant ivory component.**

In comparison with online marketplaces, sellers on surveyed online auction sites provided higher quality information on pieces offered for sale, including high resolution photos. On two of the sites, the photos could be magnified to assist prospective buyers to verify their authenticity. In many photos, the items appeared to have been staged to display Schreger lines intentionally. Across the three sites, 15 of the vendors also offered internal appraisal documents that described provenance and value of the lot, but not all of these included age. Figure 4 shows an example of an internal appraisal document. Although the name has been removed for publication, both the vendor and the appraiser were the same person. In order to comply with the antiques exemption of the ESA, there must be a qualified appraisal, which includes the appraisal performed by an independent party that is not involved in the transaction of the item. This illustrates that there is a limited knowledge and understanding of existing regulations or intent to circumvent regulations.

Across the auction sites, all advertised lots included a price, a starting bid, and an estimate of worth. For purposes of this analysis, the starting bid was used to generate initial market values. These starting bids are most likely an underestimate of the true market value of these objects. In some cases, post-survey, the final sale price was available and was captured to reflect the actual market value for some products. In other cases, final sale prices were unverified, meaning that the auction house had not confirmed the amount that the product was sold for. Additionally, in reviewing some of these advertisements it was revealed that many of the products were “past lots”, meaning that they were unsold. Roughly 56% of the originally captured advertisements were not sold. Some of the products that were not sold were observed being re-posted with the same descriptions, seller, and starting bid, but different lot number and end date. Obvious duplicate listings were removed from this analysis.



**FIGURE 4. Examples of internal appraisal documents found on one surveyed auction site.**

**APPRAISAL**

[REDACTED]

Date: 6-16-16

TO WHOM IT MAY CONCERN:

This is to certify that I have been engaged in the Asian Art Business for over 35 years. I hereby notify that I have this day carefully examined the following:

Description: Pair of Chinese Carved Ivory Covered Handled Urns. Measures - 14 3/4" high, 16 3/8" with stand.

Origin: African, 3<sup>rd</sup> Quarter 20<sup>th</sup> Century

Provenance: Private Collection, Florida

Appraiser [REDACTED]



[REDACTED] West Palm Beach, [REDACTED]

The ivory *Loxodonta Africana* in this card case complies with pre-cites and the Endangered Species Act 1973 which are currently the law in the United States. It is our opinion that this card case was made before 1973 and the ivory has not been repaired or altered. Each lot in this auction is in our opinion legal to sell in the USA except in states that have restrictions. Please check your state law.

**Species Authority:** (Blumenbach. 1797)

**Common Name(s):** African Elephant, African Bush Elephant

Kingdom	Phylum	Class	Order	Family
ANIMALIA	CHORDATA	MAMMALIA	PROBOSCIDEA	ELEPHANTIDAE

Similar to the online marketplaces, vendors included shipping requirements and/or restrictions. Many vendors provided some sort of shipping restriction, whether sales were limited to just the US, or they could not legally ship the item to particular states, such as New York or New Jersey. Interestingly, a good proportion of vendors provided language that essentially stated that they were selling ivory (or a similarly restricted product) and therefore, it was the responsibility of the buyer to obtain the proper documentation. Examples of this language being used can be found in Appendix VI.

Of the identified elephant ivory products, researchers classified 84% to be “likely ivory” due to photographic evidence, listed description, and/or the presence of an appraisal documentation. The majority of the ivory products for sale were from vendors based in Florida (39%), Colorado (8%), and Pennsylvania (6%). Table 21 summarizes the total number of products found and the price range (starting bid), and also includes (where available) the final sale price range. In most cases where the final sale price was captured, the amount was higher than the starting bid. Auctioneers usually have a reserve price, which is the minimum amount for which a vendor was willing to sell the item. Not all of the online auction sites revealed the actual reserve price. It can be assumed that the starting bid is an underestimate of the value of the product. Among the types listed for sale, the most popular were figurines (43%), household goods (33%), which included silver and ivory teapots, cutlery, letter openers, and crucifixes, and personal items (12%), which mostly included walking sticks and swords with ivory handles. Each of the other product types comprised less than 10% of the total inventory across the three auction sites.

**TABLE 23. SUMMARY OF TOP ELEPHANT IVORY ITEMS OBSERVED FOR SALE IN ONLINE AUCTIONS.**













ITEM	QUANTITY	STARTING BID PRICE RANGE (USD)	FINAL SALE PRICE RANGE (USD)
<b>FIGURES</b> 	543	1–35,000	12–4,000
<b>HOUSEHOLD GOODS</b> 	414	5–40,000	10–17,000
<b>PERSONAL ITEMS</b> 	150	5–6,000	20–4,575
<b>JEWELRY</b> 	129	1–800	4–400
<b>FURNITURE</b> 	19	40–5,000	75–5,900
<b>MUSICAL INSTRUMENTS</b> 	5	50–250	475–500
<b>TOTAL</b>	<b>1260</b>	<b>1–40,000</b>	<b>4–17,000</b>

Table 24 summarizes the average starting bid per product and the proportion of ivory. Similarly to marketplaces, the proportion of ivory did not necessarily correlate to the value/starting bid. For instance, many of the figurines for sale had only a small portion of ivory, such as some art deco era figurines. One hundred and three of the 464 figurines were in the style of Demetre Chiparus. Based on the evidence presented online, it is difficult to determine how many, if any, were real, versus replicas. In this case, the proportion of ivory was mostly considered to be small, as it comprised less than 25% of the whole item; however there were a few pieces that had slightly more ivory. Regardless of whether these were real or replicas, they accounted for some of the highest starting bid prices, offering an explanation as to why figurines with small to important amounts of ivory had a much higher starting price than figurines that were mostly comprised of ivory. In the case of Chiparus-style figurines, buyer interest was clearly not dependent on material of manufacture.

**TABLE 24. AVERAGE STARTING BID PER PRODUCT AND PROPORTION OF IVORY FOUND ON ONLINE AUCTIONS**

ITEM	QUANTITY	AVERAGE STARTING BID		
		SMALL (<25% IVORY)	IMPORTANT (25-75% IVORY)	MOST (>75% IVORY)
<b>JEWELRY</b> 	129	\$366	\$87	\$36
<b>PERSONAL ITEMS</b> 	150	\$314	\$254	\$197
<b>HOUSEHOLD GOODS</b> 	414	\$1,333	\$352	\$1,402
<b>FIGURES</b> 	543	\$4,017	\$1,975	\$452
<b>FURNITURE</b> 	19	\$1,648	–	\$50
<b>MUSICAL INSTRUMENTS</b> 	5	\$138	–	–



# US INTERNATIONAL TRADE DATA ANALYSIS

## LEMIS 2007–2016

The USFWS maintains a Law Enforcement Management and Information System (LEMIS) database, in which US imports and exports are recorded by taxonomic data for a large list of species prioritized by USFWS for monitoring and law enforcement. For this survey, three particular taxonomic datasets for elephants were analyzed from 2007-2016: African (*Loxodonta*), Asian (*Elephas*), and Elephantidae (elephant Family), which was used in the data when the genus or species was not known. For this analysis, “illegal” products are defined as products that were initially refused entry to- or exit out of- the US and were either seized, abandoned, or re-exported. “Legal” products are defined as those that were cleared entry or exit at ports in the US.

**TABLE 25: COMPARATIVE LEMIS ANALYSIS OF US ELEPHANT IVORY IMPORTS BY NUMBER OF ITEMS AND/OR KG 1995–2016**

	MARTIN AND STILES 2008 1995–JUNE 2007	TRAFFIC 2017 2007–AUGUST 2016	TOTAL
<b>LEGAL IVORY IMPORTS</b>			
Elephant ivory tusks	701	2,019 <sup>53</sup>	2,720
Raw elephant ivory items (not tusks)	2,400+	5,205 <sup>54</sup>	7,605+
Worked ivory items	~31,000	26,847.5 <sup>55</sup>	57,847.5
<b>ILLEGAL IVORY IMPORTS</b>			
Elephant ivory tusks	351	156 <sup>56</sup>	507
Additional tusks by weight	15.2 kg*	13.8 kg*	29 kg
Raw elephant ivory (not tusks)	724	2,284 <sup>57</sup>	3,008
Additional by weight	495 gm*	2.5 kg*	3 kg
Worked Ivory	8,852	5,410 <sup>58</sup>	14,262
Additional by weight	15.2 kg*		15.2 kg

\* Entries in this category were recorded by number of items and sometimes by weight.

<sup>53</sup> Martin and Stiles did not detail their methods for obtaining their data. For this study, cleared imports were filtered for elephants (*Elephantidae*, *Elephas*, *Loxodonta*), and wildlife description code “TUS” was used. The disposition date was used as the filter for annual range.

<sup>54</sup> Martin and Stiles did not detail the exact number imported, nor what LEMIS description code was used for “raw ivory.” For this study, ivory pieces, or “IVP” was used.

<sup>55</sup> LEMIS description codes used included: IJW (ivory jewelry), IVC (ivory carvings), KEY (individual piano keys), PIV (Entire piano with ivory keys). It is unclear whether Martin and Stiles used the same codes.

<sup>56</sup> For this study, refused imports were filtered for elephants (*Elephantidae*, *Elephas*, *Loxodonta*), and wildlife description code “TUS” was used. The disposition date was used as the filter for annual range. The current analysis uses the disposition codes: abandoned, seized or re-exported.

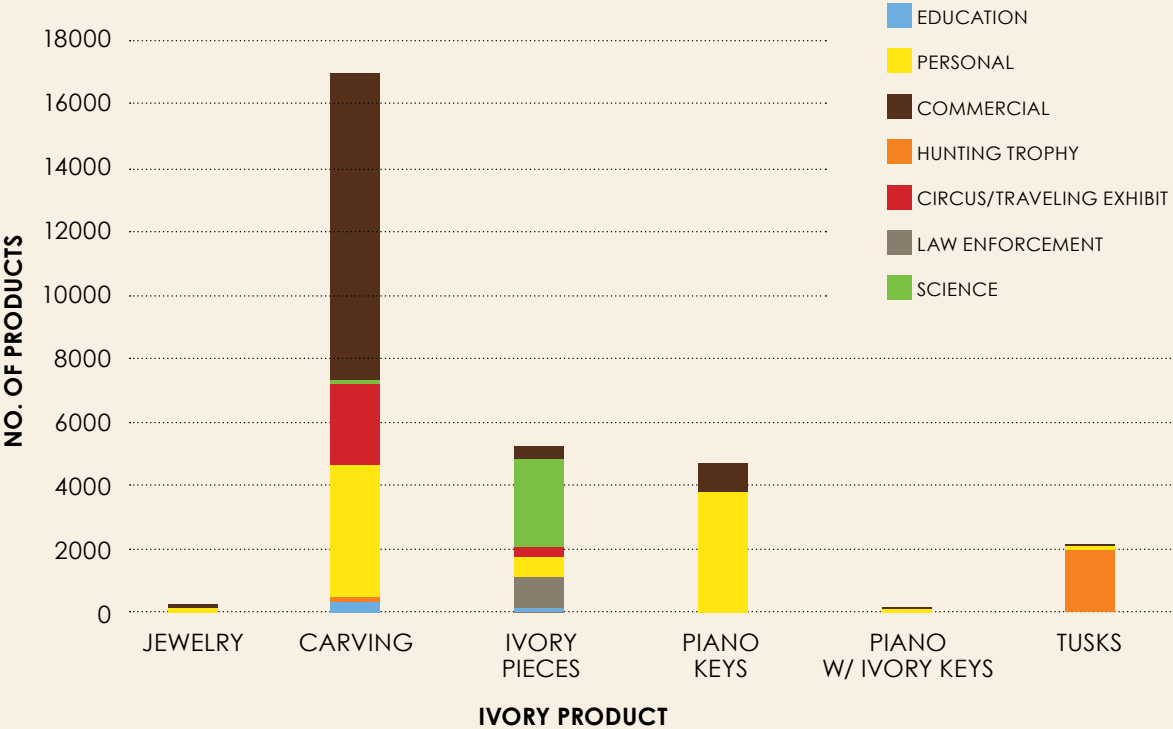
<sup>57</sup> Martin and Stiles did not elaborate the exact number imported, nor what LEMIS description code was used for “raw ivory.” For this study, “IVP”, or ivory pieces was used.

<sup>58</sup> LEMIS description codes used included: IJW (ivory jewelry), IVC (ivory carvings), KEY (individual piano keys), PIV (Entire piano with ivory keys). It is assumed that Martin and Stiles used the same. Additionally, they did not detail the exact number of items that were imported.

In order to provide an updated picture of ivory that has entered and left the US in the past two decades, LEMIS trade data records for US imports and exports of ivory from 2007 – August 2016 were analyzed. Additionally, this was compared with the analysis presented by Martin and Stiles in their 2008 assessment of US ivory imports from 1995 – 2007. The TRAFFIC researchers did have to make some inferences in cases where Martin and Stiles did not detail their methodology for evaluating their data. Table 23 summarizes the findings of both the 2008 report and the current TRAFFIC findings from the latest LEMIS data available. During the period analyzed, this data analysis illustrates that there was an increase in legal elephant ivory imports, specifically tusks and raw, non-worked items. For illegal imports, there was an overall decrease in the number of tusks and worked ivory, but there was a substantial increase in the raw, non-worked ivory. Martin and Stiles, however, did not include elephant ivory exports in their analysis. This may be attributed to a range of factors, such as greater enforcement effort, increased trophy hunting imports, changes in legislation, improved reporting, and/or greater incidence of illegal trade with imports from Africa in particular being detected.

Worked ivory items and raw ivory that were imported into the US from 2007-August 2016 totaled 28,862 items, including jewelry, carvings, individual piano keys, intact pianos with ivory keys, and whole tusks. While the majority of these imports are quantified by number of pieces, some are documented by weight. Similar to the 2008 study, most of the imports were ivory carvings (16,816 in addition to 5 grams), though the second highest import were ivory pieces. Of these ivory items, 15,181 were pre-Convention specimens, 6,054 from an unknown source, and 5,273 from the wild. The majority of documented imports came from the United Kingdom. Figure 5 shows the legal imports of ivory products into the US and their intended import purpose. Most of the products were intended for commercial (38%) or personal purposes (30%).

**FIGURE 5. Legal ivory imports to the US and purpose (2007–August 2016)**

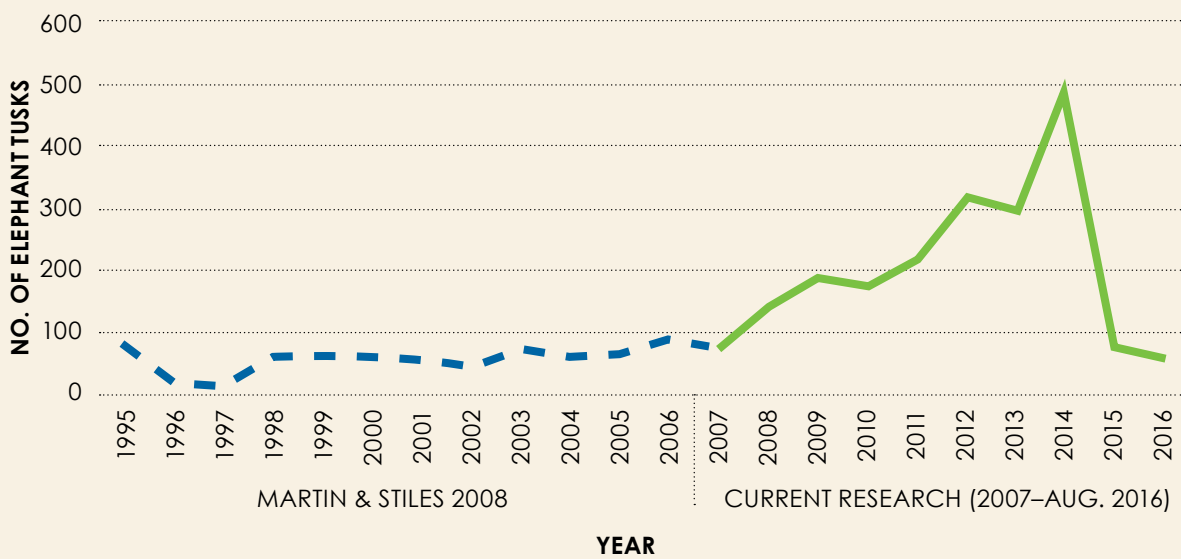


Source: USFWS LEMIS Database

## Legal Ivory Tusk Imports

For this study, LEMIS data for the entire year of 2007 were analyzed through August of 2016, which was the most up-to-date data available. During this timeframe, 2,019 elephant tusks were imported into the US, in addition to 518 kg<sup>59</sup>. Of those tusks, six were from Asian elephants, seven were unspecified (Elephantidae), and 2,006 were African elephant tusks. The Asian elephant tusks came from pre-Convention specimens and were imported for commercial purposes. Of the unspecified tusks, three were pre-Convention specimens and the other four came from an unknown source. Of the African elephant tusks, 97% (1,953) were imported as hunting trophies; most of these were either exported from, or originated in either Botswana or Zimbabwe, which is similar to what was previously found in 2008<sup>60</sup>. In comparison, from 1995–2006, there were 701 elephant tusks legally imported into the US; 681 from African elephants, 13 from Asian elephants, and seven from an unspecified species of elephant. The majority of these tusks were trophies from sport-hunted elephants mainly from Zimbabwe and Botswana,<sup>61</sup> and a few were from pre-Convention specimens (Martin and Stiles, 2008). Figure 6 shows the ivory tusk imports over time by comparing the data previously collected from 1995–2006, with the data collected for this study from 2007–August 2016.

**FIGURE 6. Number of elephant tusks imported into the US (1995–August 2016)**



Source: Martin and Stiles 2008; and TRAFFIC analysis of the USFWS LEMIS database

<sup>59</sup> Not all imports are recorded by number of specimens, as some are recorded by weight.

<sup>60</sup> Country of Export and Country of Origin are not always the same. For instance, a trophy could be taken from South Africa, but exported by Botswana.

<sup>61</sup> In LEMIS, imports have two fields with regard to where they came from: Country of Import/Export and Country of Origin. Martin and Stiles did not specify whether these tusks were exported from Zimbabwe or Botswana or if they originated there. On April 4, 2014, the US put an interim suspension on sport-hunted elephants from Zimbabwe. The suspension was then extended for trophies taken in 2015 and beyond. Similarly, the US had suspended the imports of sport-hunted elephants taken from Tanzania. In both cases, the USFWS determined that in these countries there was not any proven conservation benefit from sport-hunting. It is likely that this accounts for the precipitous drop in 2015 US imports that is shown in these data.

## Illegal ivory imports

Martin and Stiles' 2008 analysis of LEMIS data showed that there were 8,852 pieces of worked ivory (plus 15.2 kg), 724 raw ivory pieces (plus 0.495kg), and 351 tusks (plus 15.2 kg) that were refused entry and seized by the US. The vast majority of the shipments came from the United Kingdom. By comparison, according to LEMIS data, from 2007–August 2016, there were a total of 5,410 pieces of worked ivory, 2,284 pieces of raw ivory (and 2.5 kg) and 156 tusks (and 13.8 kg) that were refused entry and then ultimately either abandoned, re-exported or seized<sup>62</sup>. Both analyses are for African and Asian elephants. The main sources of these imports were the United Kingdom (24%) which largely consisted of ivory carvings, Kenya (24%) which were mostly ivory pieces, and Ethiopia (6%) which were ivory jewelry.

## Legal Ivory Exports

For the 2007 –August 2016 period, this analysis found that the US legally exported 12,072 ivory products, including tusks, including 907 g of ivory carvings and 80 g of ivory pieces. The majority of these shipments were ivory carvings destined for the United Kingdom, Japan, Canada, and Hong Kong.

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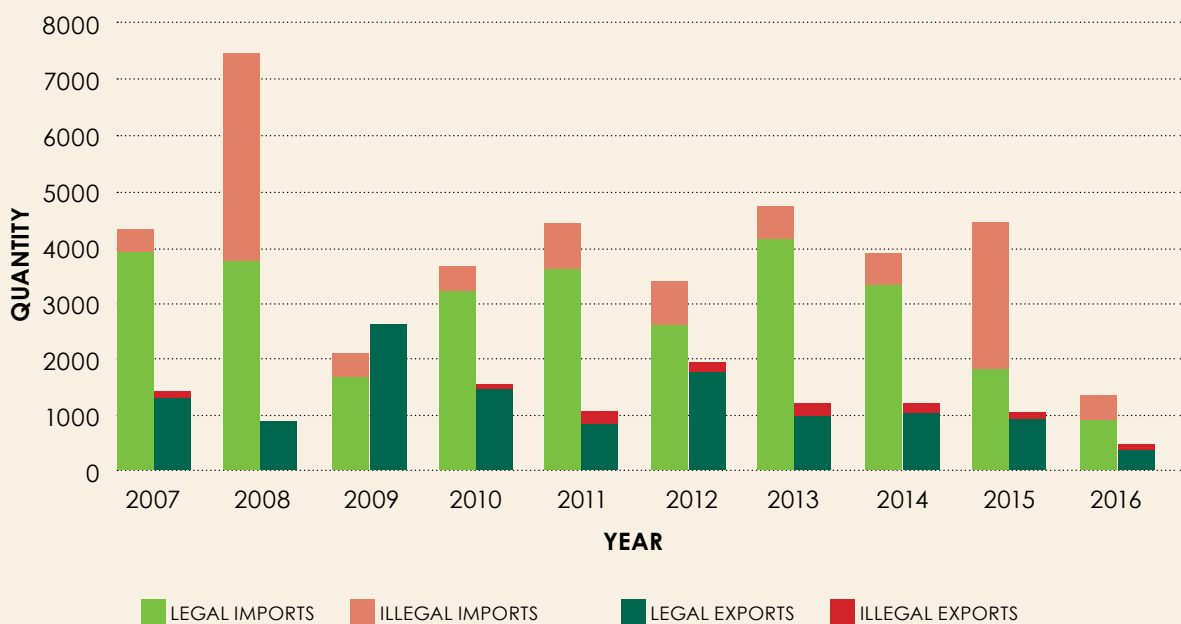
<sup>62</sup> For this study, it was assumed that raw ivory is ivory pieces (IVP in LEMIS).



## Illegal Ivory Exports

For the 2007-August 2016 period, this analysis found that 818 pieces of ivory were refused entry at port; 497 of which were seized, 210 of which were re-exported, and 111 of which were abandoned. The majority of these items were ivory carvings (672). Approximately 70% of all refused exports were for commercial purposes. Roughly half of the recorded shipments were destined for China. Figure 7 summarizes the number of legal and illegal imports and exports each year from 2007–August 2016.

**FIGURE 7. Legal and illegal ivory imports and exports by year (2007–August 2016)**



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# DISCUSSION AND CONCLUSIONS

In order to standardize an efficient process for future assessments of the impact of 2016 federal regulations on the US ivory market, the researchers for this study surveyed six indicator cities over a period of four-to-five days per city, and documented elephant ivory items offered by US-based sellers on six major internet platforms (including auction sites and online marketplaces), over a six-week period. Online classified advertisements were also monitored by researchers for the six cities covered under physical surveys.

This assessment of physical marketplaces covered three major metropolitan areas in states with active intrastate ivory regulation in place, and three major metropolitan areas in states without intrastate ivory regulations. Commercial spaces surveyed included physical stores, multi-vendor galleries, flea markets, and trade shows in greater Boston, greater Los Angeles, New York City, Portland, San Francisco, and greater Washington, DC. These locations are visited by both local consumers and tourists. Relatively limited quantities of elephant ivory were observed in physical marketplaces in the top-three historical US ivory markets of New York City, San Francisco and Los Angeles over the course of this survey. The researchers documented a total of 1,589 ivory items offered in physical retail from 227 vendors between May and July 2016. Greater Washington, DC had the highest number of ivory items on offer (68 physical vendors, 658 items), followed by Portland (37 vendors, 254 items), New York City (41 vendors, 224 items<sup>63</sup>), greater Boston (22 vendors, 188 items), greater Los Angeles (42 vendors, 177 items), and San Francisco (17 vendors, 88 items). With limited outliers, physical vendors had an average of seven items on offer. The most common were carved ivory figurines (780 items), jewelry (417 items), household goods (261 items), personal items (95 items), musical instruments (23 items), uncarved ivory (13 items) and furniture (6 items). None of the physical vendors surveyed had visible documentation indicating either legal origins of importation or state level sales permits (where required). The majority of online classified advertisements surveyed in these six cities offered antique pianos with ivory keys (205 documented piano listings).

The six internet platforms surveyed by the researchers had a total of 2,056 ivory items offered from vendors based in 47 US states. Florida (74 online vendors, 573 items), California (93 vendors, 173 items), New York (62 vendors, 117 items), Colorado (7 vendors, 116 items), Pennsylvania (24 vendors, 102 items), and Arizona (19 vendors, 93 items) had the highest number of sellers offering ivory for sale online. The majority of these vendors offered no form of proof or documentation showing the provenance of the ivory that they advertised for sale online.

While elephant ivory availability in significant historical physical markets appears to be declining in the US in the face of strong regulatory, public awareness, and enforcement measures (which have included the seizure of millions of dollars in elephant ivory items from physical sellers and the administration of jail terms, fines and associated sentences for ivory traffickers in 2016), it is possible that observed reductions in the physical market may be due in part to the pivoting of stocks to locations without state-level bans, and to increasing online offerings. The researchers

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<sup>63</sup> Two New York City-based retailers with significant inventory that was indicated to be “mammoth” or “bone” could not be validated by the researchers on visual inspection, due to the heavily worked, polished and (in cases) painted nature of the objects. These items were not included in this accounting. Information on the vendors was provided to the authorities.

found that vendors in surveyed states with active bans expressed confusion about specific details, but many understood that they were breaking the law by selling elephant ivory. Most vendors in such locations no longer displayed elephant ivory pieces, or were interested in negotiating lower prices to get rid of remaining items. Certain physical vendors also told the researchers that they felt that federal and state laws are “moving targets”. In a few cases, vendors suggested that they are holding on to items for later sale, if or when the market opens back up. Trade associations, industry and other interest groups have strived to inform their members or communities of ivory regulations. In concert with the USFWS and conservation groups, the trade and relevant interest groups can play a key role in improving awareness and providing tools to ensure understanding of regulations that prevent illegal sales or import/export through ignorance.

The general impression of the researchers of this assessment was that the elephant ivory items on offer in physical markets were mostly antique-styled, and likely pre-ban items, nearly all of uncertain age. It is difficult to make a general statement as to the age and legality of items traded online, as accompanying information varied and was not always provided. Notable outliers were encountered over the course of this assessment, including one seller who the researchers had reason to believe sourced inventory from a supplier linked to an ivory carving factory in China. In the case of another seller, the researchers had reason to believe that items may have been sourced recently from Hong Kong.

Based on these findings, it remains essential for the US government to scale efforts to educate sellers, the private sector and the US public on regulations pertaining to the domestic sale of elephant ivory. Random inspections by law enforcement at the federal and state levels are recommended for traders who have been previously found to sell elephant ivory in significant quantities, to ensure compliance with the law after penalties have been administered. Continued high-profile publicity on prosecutions of traders and smugglers who violate the law is recommended for deterrence purposes. Online market research for this assessment found that elephant ivory offered for sale on the internet was often mislabeled by vendors as other materials such as bone or celluloid, possibly to evade filters and facilitate sales. In some cases, this may have been due to genuine ignorance with regard to the material, although quite often, it appeared to be a tactic to enable sellers to trade in elephant ivory, potentially illegally. E-commerce companies including auction sites, marketplaces and city-specific online classifieds are encouraged to consult with wildlife experts and law enforcement more regularly to update filters with the latest keyword and workaround trends used to advertise real elephant ivory online. They are also encouraged to engage with other e-commerce and social media companies to share best practices in detecting elephant ivory, and to assess the feasibility of technological solutions, such as data mining and machine learning, to detect elephant ivory online and to allow for more rapid review and removal of advertisements.

The law enforcement challenges posed by online (and increasingly social media trading) are a global issue. As new laws, such as those adopted in the US and China in 2016, attempt to suppress domestic ivory markets and physical availability declines, it is highly likely that physical trade may be offset by virtual commerce. Law enforcement must deliberate how to address this outcome most effectively, identify means of understanding who is responsible for the trading, where the stocks are, and how seizures, arrests and prosecutions can be made effectively. In order to close loopholes where limited exemptions are allowed, it is recommended that vetted, or otherwise accredited entities, be endorsed by law enforcement to offer appraisals that attest to the antiquity and

provenance of elephant ivory items offered for sale under a specific exemption to any trade ban. It is equally important that technologies be developed to help facilitate rapid, field-based testing of ivory in trade to determine age and species of origin. These may include hand held or portable equivalents of current methodologies and tools.

Regular, comprehensive and consistent market monitoring following the methodology outlined in this report will be essential in order to measure shifts in the US market against 2016 data adequately, particularly to assess whether sales are pivoting from conventional markets to new commercial spaces, online platforms, and/or are being driven underground to covert markets. On a biannual basis, it is recommended that a review of the implementation of ivory trade regulations in domestic markets be undertaken to ensure that there are no problems or loopholes. Such a review may be reported for information to the CITES Conference of the Parties, for transparency and as an indication of progress.

## Recommendations

Based on this assessment, the following recommendations are made for US law enforcement, e-commerce companies, the retail sector and industry associations:

### Law Enforcement

The efforts of US law enforcement, both at the federal and state levels, do appear to be making a difference in reducing the open availability of elephant ivory in physical markets. However, based on the findings of this assessment, the USFWS Office of Law Enforcement and state law enforcement agencies are encouraged to:

- Dedicate additional staffing and resources to enforcement at points of entry and exit.
- Dedicate additional staffing and resources to cybercrime investigations.
- Establish and maintain protocols with online companies for investigation of persistent offenders with potentially illegal ivory items offered on their platforms.
- Increase publicity on punitive measures arising from court cases, to deter criminal activity and reduce consumer demand.
- Invest in lower-cost rapid forensics to better facilitate determination of animal origin and age of ivory items in trade.
- Scale efforts to educate industry, private sellers and the US public on regulations pertaining to the import and domestic sale of elephant ivory.
- Support regular quantitative domestic market monitoring to measure shifts in the US physical and online markets against the 2016 findings of this assessment (anecdotal evidence from discussions with vendors suggests trade expos to be important congregating points, and future surveys should be considered in Miami, Florida and Las Vegas, Nevada<sup>64</sup>, in addition to the Hawaii market) and to determine whether sales may be pivoting to new online locations, such as peer-to-peer social media platforms.

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<sup>64</sup> Per vendor anecdotes communicated to researchers.

### **E-commerce Companies**

US e-commerce companies (including auction sites, marketplaces and classifieds) are encouraged to further their efforts to-date, to:

- Share information between companies and law enforcement on persistent offenders selling ivory against site policy, and potentially illegally.
- Regularly consult with wildlife trafficking experts in government agencies and civil society to update filters with the latest keyword and workaround trends used by sellers to advertise real elephant ivory online.
- Consult with other e-commerce and social media companies to share best practices in detecting elephant ivory.
- Assess the feasibility of technological solutions, such as data mining and machine learning, to automatically, rather than manually, detect elephant ivory advertisements online.
- Establish an online campaign by companies to raise awareness and have suspect advertisements reported by users, which are then checked and removed by the companies if counter to the site policy.

### **Retailers & Industry Associations**

The US retail sector and industry associations relevant to elephant ivory trade have done a good deal to become better informed, and to inform others within their sector, of regulatory changes at the federal and state levels. However, there are still gaps in knowledge among many in the retail industry. To avoid falling foul of the law, it is recommended that:

- Trade associations and interest groups such as those involved in supporting the interests of antiques, carving, jewelry, auctioneers, musical instruments, orchestras, and others be fully aware of federal and state regulations relevant to their area of interest, and inform their membership annually of requirements and precautions. Regular review of state and federal information is recommended, as is discussion with relevant agencies responsible for regulatory measures.
- Trade associations and/or interest groups actively promote at trade fairs, expos, conventions and through industry newsletters and publications, information on how to protect their members and/or their sector from breaching state, federal and internal controls on the sale, purchase, transport and import/export of elephant ivory.
- If selling elephant ivory that is exempt from regulations and can in the view of the seller be legally traded, provide clear information at point of sale, including any documentation that is held to prove legal origin and specify details when qualifying for a *de minimus* exemption.
- Not sell or purchase ivory items where the legal provenance cannot be assured through documentation that would pass the scrutiny of federal or state law enforcement.

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# APPENDICES



# Appendix I: Relevant statutes and penalties for elephant ivory trafficking

Penalty Provisions: US statutes that may apply to ivory trafficking cases

ACT	PENALTY PROVISIONS	CRIMINAL CASES <sup>1</sup>						CIVIL CASES <sup>2</sup>
		FELONY			MISDEMEANOR			FINE (USD)
		CLASS <sup>3</sup>	JAIL	FINE (USD) <sup>4</sup>	CLASS <sup>4</sup>	JAIL	FINE (USD) <sup>4</sup>	
Lacey Act	16 USC 3373	D	5 years	250,000 (I) 500,000 (O)	A	1 year	100,00 (I) 200,000 (O)	635 ( <i>marking</i> ) 25,409 or max of predicate law
Lacey Act Injurious	18 USC 42(C)				B	6 months	5,00 (I) 10,000 (O)	
Endangered Species Act	16 USC 1540				A Endangered	1 year	100,00 (I) 200,000 (O)	1,270/ 24,132/ 50,276
					B Threatened	6 months	25,000	
African Elephant Conservation Act	16 USC 4224				A	1 year	100,00 (I) 200,000 (O)	10,055

I = Individual; B= Organization

Source: USFWS OLE

<sup>1</sup> In the US legal system, non-petty criminal cases are classified in one of two categories: felonies and misdemeanors. Felonies are generally considered more serious offenses. Criminal convictions may result in fines, jail time, and other sentences. Sentencing Guidelines apply to all criminal violations except for Class B misdemeanors (SGM §1B1.9).

<sup>2</sup> In the US legal system, civil cases are generally disputes between individuals, and are adjudicated through civil court to determine whether the defendant is financially liable for plaintiff injuries.

<sup>3</sup> See 18 USC 3559 for sentence classification.

<sup>4</sup> See 18 USC 3571 for fine maximums.

<sup>5</sup> See 18 USC 3559 for sentence classification.

<sup>6</sup> See 18 USC 3571 for fine maximums.

**Notable Prosecutions:** A sample of penalties issued in US courts in 2016 for elephant ivory trafficking (among other illegal wildlife products, in certain cases).

SENTENCING	DISTRICT/CIRCUIT	CASE DETAILS	PENALTIES	SOURCE
November 2016	Central District of California	High-end pool cues inlaid with African elephant ivory valued at 75,000–80,000 USD were sold to individuals who pled guilty to attempting to smuggle them to Taiwan.	<ul style="list-style-type: none"> <li>• 10,000 USD fine;</li> <li>• 2 years' probation (to include 4 months' home confinement)</li> </ul>	USDOJ (2016a)
November 2016	Northern District of California	Elephant ivory and other wildlife items were sold via an online marketplace and the seller's website. Elephant ivory carvings were exported and attempted to be exported using falsified documents in three different transactions, to buyers in New Zealand and Australia. <sup>7</sup>	<ul style="list-style-type: none"> <li>• 40,000 USD fine;</li> <li>• 3 months' incarceration;</li> <li>• 3 months' home confinement;</li> <li>• 2 years' supervised release</li> </ul>	USDOJ (2016b)
September 2016	District of Minnesota	More than 200,000 USD in elephant ivory was sold domestically and abroad. Online advertising was used to target buyers located in Asia and third-party shippers were used so as not to personally ship the ivory internationally. The defendant was convicted of smuggling and violation of the Lacey Act.	<ul style="list-style-type: none"> <li>• 100,000 USD fine;</li> <li>• 2 years' probation;</li> <li>• Forfeiture of elephant ivory totaling 85,000 USD;</li> <li>• 200 hours' community service</li> </ul>	USDOJ (2016c)
September 2016	District of Hawaii	Conspiracy to smuggle and sell illegally acquired ivory, bone and coral carvings and jewelry made from whale, walrus, black coral, and other wildlife. As part of the scheme, individuals purchased ivory and bone products from various states and brought them to Hawaii. These were smuggled to the Philippines to be carved, and smuggled back to Hawaii to be sold to tourists and residents as Hawaiian-made products. The indictment included 21 charges including violations of the Lacey Act, the Marine Mammal Protection Act, and the Endangered Species Act.	<p><i>Entity:</i></p> <ul style="list-style-type: none"> <li>• 50,000 USD fine;</li> <li>• 5 years' probation;</li> <li>• 100,000 USD in ivory and black coral products surrendered</li> </ul> <p><i>Individual 1:</i></p> <ul style="list-style-type: none"> <li>• 1,000 USD fine;</li> <li>• 2-year term of probation (to include 6 months' home confinement)</li> </ul> <p><i>Individual 2:</i></p> <ul style="list-style-type: none"> <li>• 2,000 USD fine;</li> <li>• 2 year term of probation (plus 6 months' home confinement)</li> </ul> <p><i>Individual 3:</i></p> <ul style="list-style-type: none"> <li>• 2,500 USD fine;</li> <li>• 2 year term of probation. (with 4 months' home confinement);</li> <li>• 100 hours of community service</li> </ul> <p><i>Individual 4:</i></p> <ul style="list-style-type: none"> <li>• 5,000 USD fine;</li> <li>• 2-year term of probation (with 6 months' home detention).</li> </ul> <p><i>Individual 5:</i></p> <ul style="list-style-type: none"> <li>• 40,000 USD fine;</li> <li>• 6 months' incarceration;</li> <li>• 3 years' supervised release</li> </ul>	USDOJ (2016d)

June 2016	Southern District of New York	Conspiracy to smuggle wildlife products made from rhinoceros horn, elephant ivory and coral with a market value of at least 1 million USD.	<ul style="list-style-type: none"> <li>• 10,000 USD fine;</li> <li>• 1 year and 1 day in prison;</li> <li>• 3 years' supervised release</li> </ul>	USDOJ (2016e)
May 2016	District of Minnesota	Elephant ivory and rhinoceros horns were smuggled and illegally exported from the US, and sold in China and elsewhere. The elephant ivory, rhinoceros horn and other products had a market value over 1 million USD. Pled guilty to smuggling and a Lacey Act violation. <sup>8</sup>	<ul style="list-style-type: none"> <li>• 500,000 USD fine;</li> <li>• 3 year term of probation (to include a six-week period of intermittent confinement);</li> <li>• 150 hours of community service</li> </ul>	USDOJ (2016f)
February 2016	Southern District of Florida	Involvement in an illegal ivory trafficking operation. (One package destined for Guangdong, China had accompanying documentation that described elephant ivory contents as "resin carving".) Pled guilty to a Lacey Act false labeling violation <sup>9</sup> .	<ul style="list-style-type: none"> <li>• 3 year term of probation, with a special condition of 12 months' home detention;</li> <li>• 100 hours of community service</li> </ul>	USDOJ (2016g)
February 2016	Western District of New York	Trafficking in elephant ivory and other wildlife <sup>10</sup> with a total value of 141,877 USD. Pled guilty to a Lacey Act violation <sup>11</sup> .	<ul style="list-style-type: none"> <li>• 30,000 USD fine;</li> <li>• Forfeit 100 elephant ivory carvings</li> </ul>	USDOJ (2016h)
November 2015	Southern District of New York	Purchased and smuggled 16 libation cups carved from rhinoceros horns from the US to China (valued at more than 1 million USD), with co-conspirators who sold the items for a profit at an antique business in China. Ordered to forfeit 304 pieces of carved ivory found during a search of a New Jersey location.	<ul style="list-style-type: none"> <li>• Forfeit 1 million USD;</li> <li>• Forfeit 304 pieces carved ivory;</li> <li>• 2 years in prison;</li> <li>• 2 years of supervised release</li> </ul>	USDOJ (2016i)

<sup>7</sup> Other protected wildlife were illegally sold, including leopards, helmeted hornbills, and red coral, in violation of the Lacey Act (16 U.S.C. §§ 3372(d), 3373(d)(3)(A)).

<sup>8</sup> 16 U.S.C. §§ 3372(a)(1), 3373(d)(1)(A); 18 U.S.C. § 554

<sup>9</sup> 16 U.S.C. §§ 3372(d)(2), 3373(d)(3)(A)(i)

<sup>10</sup> Admitted to either buying or selling numerous wildlife items, including elephant tusks, ivory figurine, narwhal tusk, hippo ivory and coral figurine.

<sup>11</sup> 16 U.S.C. §§ 3372(1)(1), 3373(d)(1)(B)

## Appendix II: Detailed market observations for physical survey locations with state-level ivory trade legislation in place

New York City, NY: Itemized list of quantities and prices for elephant ivory items observed in trade.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET <sup>12</sup>
<b>FIGURES</b>				
Figurine (medium)	38	40–100	100–2,500	17
Netsuke (small)	26	100	300–350	12
Figurine (small)	23	100	28–500	10
Figurine (large)	3	100	10,000 (pair)–25,000	1
Figurine (large, multi-figure scene)	2	100	10,000–20,000	< 1
Carved tusk (large)	1	100	15,000	< 1
<b>HOUSEHOLD GOODS</b>				
Portrait on ivory	16	70		7
Pen holder	5	100	100	2
Letter opener	2	50	3,500	1
Picture frame	2	60		1
Box (carved ivory)	1	100		< 1
Box (ivory inlay)	1	35		< 1
Cribbage board	1	10	600	< 1
Napkin ring	1	100	100	< 1
Scale (ivory ruler)	1	15	650	< 1
<b>JEWELRY</b>				
Bracelet	31	50–100	45–850	14
Necklace	25	100	225–1,500	11
Pendant	14	100		6
Ring	8	70–100	70–425	4
Earrings (pair)	7	50–100	100–200	3
Brooch	6	100		3
<b>MUSICAL INSTRUMENTS</b>				
Wind instrument (ivory rings)	2	10	1,700–3,500	1
Piano (ivory keys)	1	5	220,000	< 1
<b>PERSONAL ITEMS</b>				
Button Hook	1	70		< 1
Opera Glasses	1	70	850	< 1
Perfume bottle (stopper)	1	100		< 1
Surgeon's tool set (civil war era)	1	55	125	< 1
<b>UNCARVED IVORY</b>				
Uncarved tusk (mounted)	2	100	15,000 (pair)	1
Tusk cross-section	1	100		< 1
<b>TOTAL</b>	<b>224</b>	<b>5–100</b>	<b>28–220,000</b>	<b>100</b>

<sup>12</sup> Rounded to nearest %. Values less than 0.5% listed as < 1.



Online classifieds for the New York City metropolitan area: Itemized list of quantities and prices for elephant ivory items posted in New York City and surrounding suburbs.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (all sizes)	1	25–75	25	2
<b>HOUSEHOLD GOODS</b>				
Ivory chess set	1	>75	5,000	2
Mahjong set	1	>75	240	2
Chandelier (ivory and bronze)	1	25–75	1,499	2
Ivory and gold toothpick set	1	>75	175	2
<b>JEWELRY</b>				
Earrings	1	>75	30	2
<b>MUSICAL INSTRUMENTS</b>				
Piano	54	<25	0–125,000	89
<b>FURNITURE</b>				
Furniture with ivory inlays	1	<25	500	2
<b>TOTAL</b>	<b>61</b>		<b>0–125,000</b>	<b>100</b>

Greater Los Angeles, CA: Itemized list of quantities and prices for elephant ivory items observed in trade.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (small)	46	100	10–n/a	26
Figurine (medium)	9	15–100	2,000–2,500	5
Figurine (large)	5	100	300–n/a	1
Netsuke	5	100	35	3
<b>HOUSEHOLD GOODS</b>				
Box (ivory inlay)	24	15–50	100–n/a	14
Box (carved ivory)	8	70–100	200–10,500	5
Magnifying glass (handle)	3	45	490	1
Napkin ring	3	100	20–350	1
Art-deco clock with ivory piece	1	5	4,900	<1
Furniture (ivory inlay)	1	15–30	9,750	<1
Letter opener	1	100		<1
Tea set (silver and ivory antique)	1	20		<1
Silverware (ivory handles and sterling silver)	1	20	60	<1
Tiles (carved set of 9)	1	100		<1
<b>JEWELRY</b>				
Bracelet	22	70–100	60–250	12
Earrings (pair)	11	70–100	35	6
Pendant	10	70–100	10–100	6
Ring	4	90–100	50–70	2
Necklace	3	60–140	140–740	1
Brooch	2	60–100	70	1
Cuff links	2	70–100	75	1
Barrette	1	100		<1
<b>MUSICAL INSTRUMENTS</b>				
<b>PERSONAL ITEMS</b>				
Toothpicks	4	100		2
Page turner	2	100		1
Sword (ivory handle)	2	10	100	1
Cigarette holder	1	100	60	<1
Fan (elephant “bone”)	1	90	20	<1
Perfume bottle (stopper)	1	100		<1
Knife (ivory handle)	1	60	2,000	<1
<b>UNCARVED IVORY</b>				
Tusk tip (polished)	1	100	400	<1
<b>TOTAL</b>	<b>177</b>	<b>5–100</b>	<b>10–10,500</b>	<b>100</b>

Online classifieds for greater Los Angeles, CA: Itemized list of quantities and prices for elephant ivory items posted in the greater Los Angeles area.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (all sizes)	4	25–100	80–5,500	6
Netsuke	2	>75	595–695	3
<b>HOUSEHOLD GOODS</b>				
Portrait on ivory	1	25–75	100	2
Miscellaneous	1	<25	50	2
<b>JEWELRY</b>				
Jewelry lot	11	>75	900	18
Bracelet	3	<25-50	300–13,500	5
Necklace	2	25–75	25–35	3
Pendant	2	25–100	20–75	3
Brooch	1	25–50	300	2
<b>MUSICAL INSTRUMENTS</b>				
Piano with ivory keys	32	<25	149–23,500	52
String Japanese Koto instrument	1	25-75	500	2
<b>FURNITURE</b>				
Furniture (ivory inlay)	2	<25	500–1,500	3
<b>TOTAL</b>	<b>62</b>		<b>20–23,500</b>	<b>100</b>

San Francisco, CA: Itemized list of quantities and prices for elephant ivory items observed in trade.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (small)	25	100		28
Figurine (large)	15	5–15	2,000–12,000	17
Figurine (medium)	6	100		7
Netsuke	3	100		3
Scrimshaw	1	100		1
<b>HOUSEHOLD GOODS</b>				
Candlestick holder	6	100		7
Jars with lids (small)	6	100		7
Furniture (ivory inlay)	2	<1–20	4,000	2
Portrait on ivory	2	15		2
Box (ivory inlay)	1	15	1,295	1
Snuff Box	1	20	50	1
Spice Box (ivory inlay)	1	15–25	6,500	1
<b>JEWELRY</b>				
Bracelet	3	30–100	275	3
Cameo	2	90		2
Brooch	1	95		1
<b>MUSICAL INSTRUMENTS</b>				
<b>PERSONAL ITEMS</b>				
Knife (folding)	5	60	800	6
Knife (ivory handle)	4	30		5
Purse clasp	2	100		2
Brush	1	65		1
Cane	1	100		1
<b>UNCARVED IVORY</b>				
<b>TOTAL</b>	<b>88</b>	<b>&lt;1–100</b>	<b>50–12,000</b>	<b>100</b>

Online classifieds for San Francisco, CA: Itemized list of quantities and prices for elephant ivory items listed.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>HOUSEHOLD GOODS</b>				
Magnifying glass	1	25–50	150	1
<b>JEWELRY</b>				
Jewelry lot	3	>75	275	4
Necklace	1	>75	90	1
<b>MUSICAL INSTRUMENTS</b>				
Piano with ivory keys	55	<25	0–68,000	82
Guitar	2	<25	525–2,000	3
Viola	1	<25	11,500	1
Recorder	1	<25	675	1
<b>PERSONAL ITEMS</b>				
Fashion-related product	2	25–50	125–400	3
<b>FURNITURE</b>				
Furniture (ivory inlay)	1	<25	3,600	1
<b>TOTAL</b>	<b>67</b>		<b>0–68,000</b>	<b>100</b>

## Appendix III: Detailed market observations for physical survey locations without state-level ivory trade legislation in place<sup>13</sup>

Greater Washington, DC: Quantities and prices by category for ivory items observed in trade in greater Washington, DC, including Kensington, MD and Chantilly, VA.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (small)	196	80–100	10–1,000	30
Netsuke	132	100	40–350	20
Figurine (large)	14	100	375–2,495	2
Figurine (medium)	9	20–100	80–300	1
Tusk tip (carved)	4	100	95–1,400	1
<b>HOUSEHOLD GOODS</b>				
Picture frame	28	100	75–595	4
Silverware (ivory handles)	19	30–50	100–2,000	3
Letter opener	8	80–100	40–695	1
Napkin ring	8	100	60–65	1
Box (carved ivory)	5	100	50–600	1
Cribbage board	5	20–100	500–600	1
Furniture (ivory inlay)	3	30		< 1
Salt & pepper shaker (antique)	3	100	165	< 1
Box (painted ivory)	2	100	275–375	< 1
Cork screw	2	50	50–250	< 1
Knife rest	2	100	35	< 1
Magnifying glass handle	2	50	425	< 1
Measuring stick	2	90		< 1
Needle holder	2	100	195	< 1
Perfume bottle	2	90	110	< 1
Chess set (board inlay & 36 pieces)	1	75	250	< 1
Chopsticks	1	100	35	< 1
Cup	1	100	49	< 1
Mirror	1	70	195	< 1
Portrait on ivory	1	100	165	< 1
Stamp (handle)	1	90		< 1
<b>JEWELRY</b>				
Bracelet	91	100	57–595	14
Necklace	41	100	30–225	6
Earrings (pair)	16	90	50–395	2
Pendant	6	60	50–405	1
Brooch	5	80		1
Cameo	1	100	68	< 1

<sup>13</sup> At the time of this rapid assessment.

<b>MUSICAL INSTRUMENTS</b>				
<b>PERSONAL ITEMS</b>				
Toothpick	12	100	17	2
Handgun (ivory grip pair)	9	100	465–525	1
Cigarette holder	6	100	115–150	1
Notepad	3	100	400–495	< 1
Shoe horn	2	100	59–200	< 1
Belt buckle (scrimshaw)	1	100	95	< 1
Comb	1	100	22	< 1
Fan	1	100	350	< 1
Glove stretcher	1	100		< 1
Hygiene set	1	50	195	< 1
Snuff bottle	1	100	800	< 1
<b>UNCARVED IVORY</b>				
Tusk cross-section	6	100		1
<b>TOTAL</b>	<b>658</b>	<b>20–100</b>	<b>10–2,495</b>	<b>100</b>

Online classifieds for Greater Washington, DC: Quantities and prices by category for ivory items listed in the greater Washington, DC area, including Virginia and Maryland suburbs.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurines (all sizes)	13		1,000–11,000	24
<b>HOUSEHOLD GOODS</b>				
Sewing box	2	<25	34–99	4
Card holder	1	>75	500	2
Ivory notepad	1	25–75	100	2
Drafting tool set	1	<25	295	2
Mahjong set	1	>75	500	2
<b>JEWELRY</b>				
Pendant	10	>75	600	18
Jewelry lot	2	25–75	160	4
Necklace	1	>75	20	2
<b>MUSICAL INSTRUMENTS</b>				
Piano	17	<25	0–38,000	31
Cello bow	2	<25	100	4
Guitar	1	<25	50	2
<b>PERSONAL ITEMS</b>				
Hand mirror	1	<25	150	2
Tobacco case	1	>75	250	2
Cigarette holder	1	>75	200	2
<b>TOTAL</b>	<b>55</b>		<b>0–38,000</b>	<b>100</b>

Portland, OR: Quantities and prices by category for ivory items observed in trade.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (small)	51	100	35–300	20
Netsuke	38	100	60–75	15
Figurine (medium)	24	100	200–495	9
Scrimshaw	5	100	55	2
Tusk (carved, large)	1	100	1,800	< 1
Figurine (large)	1	100	1,400	< 1
<b>HOUSEHOLD GOODS</b>				
Utensil (misc.)	20	50–100		8
Letter opener	6	100	55	2
Napkin ring	3	100		1
Box (carved)	2	100		1
Silverware (ivory handle)	2	40		1
Cup (small)	1	100		< 1
Pen holder	1	100		< 1
Scissors (ivory handle)	1	30		< 1
Spoon	1	50		< 1
Stamp roller	1	100		< 1
<b>JEWELRY</b>				
Bracelet	19	100	50–160	7
Necklace (beaded)	17	100		7
Brooch	14	90	50–450	6
Rings	14	100		6
Earrings (pair)	6	60–100		2
Pendant	4	100	200	2
Cameo	1	90	60	< 1
<b>MUSICAL INSTRUMENTS</b>				
<b>PERSONAL ITEMS</b>				
Cane (ivory handle)	5	15	200	2
Glove stretcher	3	100		1
Pen Knife (ivory handle)	2	60		1
Snuff Box	2	100		1
Cigarette holder	1	100		< 1
Dagger (ivory scabbard)	1	60	1,000	< 1
Pistol (ivory grip)	1	35	500	< 1
Sword (ivory grip)	1	20		< 1
Knife grip	1	30	1,200	< 1
Toy (rattle)	1	20		< 1
<b>UNCARVED IVORY</b>				
Tusk cross-section	3	100	299–350	1
<b>TOTAL</b>	<b>254</b>	<b>15–100</b>	<b>35–1,800</b>	<b>100</b>



Online classifieds for Portland, OR: Quantities and prices by category for ivory items listed.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurines (all sizes)	22	25–100	20–150	13
Netsuke	4	>75	300–350	2
Carved tusk	3	>75	2,400	2
<b>HOUSEHOLD GOODS</b>				
Ivory toothpicks	40	25–75	25–150	24
Mahjong set	2	25–75	495	1
Ivory lamp bases	2	25–75	25–40	1
<b>JEWELRY</b>				
Jewelry lot	68	>75	150	40
<b>MUSICAL INSTRUMENTS</b>				
Piano	28	<25	0–79,000	16
<b>FURNITURE</b>				
Furniture (ivory inlay)	1	<25	795	1
<b>TOTAL</b>	<b>170</b>		<b>0–79,000</b>	<b>100</b>

Greater Boston, MA: Quantities and prices by category for ivory items observed in trade in the Boston area, including Cambridge and Concord.

ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Netsuke	83	100	85–350	44
Figurine (small)	9	100	45–300	5
Figurine (medium)	5	100	300–3,500	3
<b>HOUSEHOLD GOODS</b>				
Utensils (misc.)	10	100		5
Letter opener	4	100	120	2
Spoon	4	100		2
Box (carved ivory)	3	100	145	2
Silverware (ivory handle)	3	50	345	2
Napkin ring	2	100		1
Page Turner	1	100	550	1
Picks (with stand)	1	100	85	1
Picture frame	1	50		1
Portrait on ivory	1	70		1
Snuff Box	1	100		1
<b>JEWELRY</b>				
Necklace	14	100	65–875	7
Pendant	11	100	95–160	6
Bracelet	5	80–100	164–400	3
<b>MUSICAL INSTRUMENTS</b>				
Misc. musical instruments (ivory parts)	20	10–20	1,700–3,500	11
<b>PERSONAL ITEMS</b>				
Cigarette holder	3	100		2
Dagger (ivory scabbard)	2	60		1
Brush	1	60		1
Button Hook	1	100		1
Pen knife (ivory handle)	1	50	25	1
Sword (ivory handle)	1	60		1
Toy (spinner)	1	100	475	1
<b>UNCARVED IVORY</b>				
<b>TOTAL</b>	<b>188</b>	<b>10–100</b>	<b>25–3,500</b>	<b>100</b>







Online classifieds for Greater Boston, MA: Quantities and prices by category for ivory items listed.

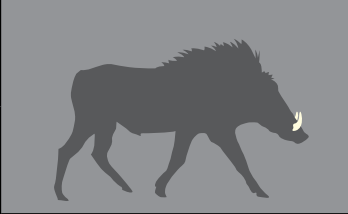
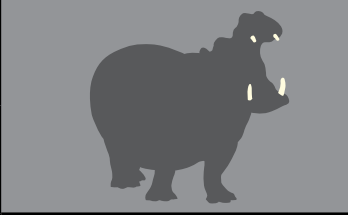

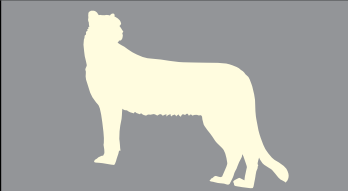
ITEM	QUANTITY	PROPORTION ELEPHANT IVORY (%)	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (all sizes)	2	>75	65	6
<b>HOUSEHOLD GOODS</b>				
Pool cue	1	<25	1,700	3
Box (ivory inlay)	1	25–50	90	3
Vase	1	>75	300	3
<b>JEWELRY</b>				
Earrings	2	>75	55	6
<b>MUSICAL INSTRUMENTS</b>				
Piano	19	<25	0–28,000	61
Ivory keys (from a piano)*	1	>75	1	3
Guitar (with ivory binding)	1	<25	12,500	3
<b>PERSONAL ITEMS</b>				
Fighting knife (ivory handle)	1	25–75	160	3
Cane/walking stick	1	25–75	175	3
<b>FURNITURE</b>				
Furniture (ivory inlay)	1	<25	3,900	3
<b>TOTAL</b>	<b>31</b>		<b>0–28,000</b>	<b>100</b>

\* Advertisement did not specify how many keys were available for sale.

## Appendix IV: Washington, DC case study: Non-elephant ivory wildlife products in the physical market

Washington, DC case study: Wildlife origin, quantities and prices of other (non-elephant ivory) wildlife products observed in trade in the Washington, DC metropolitan area.

WILDLIFE ORIGIN	ITEM	PRICE RANGE (USD)	QUANTITY
<b>MAMMOTH</b>			<b>40</b>
	Earrings (pair)	50	10
	Figurine (small)	100	1
	Figurine (medium)	500–1,000	12
	Pendant	50	7
	Ring		10
<b>WALRUS</b>			<b>21</b>
	Bracelet (scrimshaw)	225	1
	Figurine (small)	25–300	5
	Figurine (medium)	150	2
	Knife	600	3
	Letter opener	400	1
	Sewing items	45	4
	Tie clip (scrimshaw)	29	3
	Totem	151	2
<b>SHARK/RAY (SHAGREEN)</b>			<b>17</b>
	Mirror		1
	Picture frame		1
	Purse		1
	Sword (grip)		14
<b>SEA TURTLE</b>			<b>11</b>
	Bracelet	45	3
	Mirror		1
	Pendant	15	3
	Box	195	4
<b>WHALE</b>			<b>8</b>
	Tooth (uncarved)	825	4
	Tooth (carved)		1
	Box (scrimshaw)	95	1
	Pendant	45	1
	Figurine (medium)		1
<b>CORAL</b>			<b>5</b>
	Brooch (with gold)	1,295	
	Necklace		4

<b>WARTHOG</b>		<b>4</b>	
	Bottle opener	150	1
	Tusk (carved)	100–350	3
<b>HIPPOPOTAMUS</b>		<b>2</b>	
	Tusk (uncarved)	100	1
	Tusk (carved)	1,200	1
<b>CAIMAN</b>		<b>1</b>	
	Whole animal (stuffed souvenir)		1
<b>SPOTTED CAT (UNIDENTIFIED)</b>		<b>1</b>	
	Purse		1

## Appendix V: Detailed findings for online markets

Online Marketplaces: Inventory of elephant ivory items and prices offered by US-based sellers.

ITEM	QUANTITY	PRICE RANGE (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>			
Figurine (all sizes)	156	7–95,000	20
Netsuke	46	15–1,000	6
Carved tusks	9	100–3,999	1
<b>HOUSEHOLD GOODS</b>			
Miscellaneous	137	5–38,000	17
Games	22	19–1,800	3
Box (carved ivory)	20	11–9,600	3
Portrait on ivory	12	90–6,900	2
Snuff Box/Bottle	7	13–799	<1
Knife	6	10–500	<1
Picture frame	5	8–65,000	<1
Vase	4	299–1,400	<1
<b>JEWELRY</b>			
Necklace	67	1–1,600	8
Jewelry lot	40	8–249	5
Pendant	38	12–8,500	5
Bracelet	32	5–7,500	4
Earrings	27	4–250	3
Brooch	15	10–3,360	2
Ring	7	10–400	<1
<b>MUSICAL INSTRUMENTS</b>			
Piano with ivory keys	5	4,850–125,000	<1
<b>PERSONAL ITEMS</b>			
Fashion-related product	30	1–1,099	4
Cane/Walking Stick	5	75–2,500	<1
Tobacco-related product	4	95–175	<1
Gun Grip	1	55	<1
<b>FURNITURE</b>			
Furniture with ivory inlays	101	500–285,000	13
<b>TOTAL</b>	<b>796</b>	<b>1–285,000</b>	<b>100</b>

Online Auction Sites: Inventory of elephant ivory items and prices offered by US-based sellers.

ITEM	QUANTITY	STARTING PRICE RANGE (USD)	FINAL PRICE RANGE* (USD)	% OF TOTAL IN MARKET
<b>FIGURES</b>				
Figurine (all sizes)	464	1–35,000	12–4,000	37
Netsuke	61	20–1,666	50–3,878	5
Carved tusks	18	50–4,000	170–4,000	1
<b>HOUSEHOLD GOODS</b>				
Miscellaneous	150	5–40,000	10–17,000	12
Portrait on ivory	140	25–2,500	45–2,100	11
Snuff Box/Bottle	70	25–250	50–900	6
Vase	19	18–2,000	70–8,000	2
Games	14	15–2,770	40–250	1
Box (carved ivory)	10	10–1,800	15–2,500	<1
Picture frame	8	100		<1
Knife	3	200–440	200–400	<1
<b>JEWELRY</b>				
Jewelry lot	37	5–75	10–110	3
Pendant	34	5–50	10–80	3
Bracelet	27	5–800	40–400	2
Necklace	9	50–150	40–45	<1
Brooch	8	1–200	4–190	<1
Earrings	7	1–30	30–130	<1
Ring	7	5–35	15–35	<1
<b>MUSICAL INSTRUMENTS</b>				
Piano with ivory keys	5	50–250	475–500	<1
<b>PERSONAL ITEMS</b>				
Sword	89	20–850	90–3,355	7
Cane/Walking Stick	25	25–500	35–1,098	2
Gun Grip	15	20–6,000	225–4,575	1
Fashion-related product	14	5–800	20–280	1
Tobacco-related product	7	20–1,108	35–70	<1
<b>FURNITURE</b>				
Furniture with ivory inlays	19	40–5,000	75–5,900	2
<b>TOTAL</b>	<b>1260</b>	<b>1–40,000</b>	<b>10–17,000</b>	<b>100</b>

\*when available

## Appendix VI: Notable examples of online auction vendor shipping language

**Ambiguous Terms:** A sample of shipping language provided on online auction sites illustrates broad interpretation of the law by sellers.

LOCATION OF SELLER	LANGUAGE
Florida	“NOTE: DOMESTIC AND INTERNATIONAL SHIPPING IS NOT AVAILABLE FOR THIS ITEM. This item can only be picked up from [name redacted] by the buyer and/or the buyer’s assigned agent. As a condition of the sale, all buyers agree to comply with all rules (CITES) and any and all additional requirements regarding the purchase of, and/or sale of all endangered species. It is the purchaser’s sole responsibility to obtain any and all licenses and/or certificates, as well as any other requirements prior to shipping. [name redacted] does not provide a Fish & Wildlife Export Certificate for the following materials: ivory, horn, hornbill, tortoise shell and coral.”
Florida	“We Will Not Ship This Item Out of State of Florida. Anyone Having This Item Shipped Must Have a Florida Address or the Item will not be Shipped. We will Not Knowingly Sell Endangered Species outside of Legal Channels.”
Delaware	“We do not ship any Ivory out of USA.”
Virginia	“Please note that some property that is sold at auction can be subject to laws governing export form the U.S., such as items that include material from some endangered species. Import restrictions from foreign countries are subject to these same governing laws. Granting of licensing for import or export of goods from local authorities is the sole responsibility of the buyer. Denial or delay of licensing will not constitute cancellation or delay in payment for the total purchase price of these lots. / Shipping is the responsibility of the purchaser. Upon request, our staff will provide the list of shippers who deliver to destinations within the United States and overseas. Some property that is sold at auction can be subject to laws governing export from the U.S., such as items that include material from some endangered species. Import restrictions from foreign countries are subject to these same governing laws. Granting of licensing for import or export of goods from local authorities is the sole responsibility of the buyer. Denial or delay of licensing will not constitute cancellation or delay in payment for the total purchase price of these lots.”
Florida	“This item will only be shipped domestically and was legally imported into the United States. Shipping to California, Connecticut, New Jersey and New York is Not Available for this Lot.”
Connecticut	“ENDANGERED SPECIES. SALE OF PROTECTED ANIMALS AND PLANTS. Please note that the sale and shipping of endangered species is strictly regulated by international, national, and state laws. Much of this policy can be found at these sites: <a href="http://www.fwsgov/international">www.fwsgov/international</a> , <a href="http://www.dec.ny.gov/animals/7181.html">http://www.dec.ny.gov/animals/7181.html</a> , and <a href="http://www.cga.ct.gov/current/pub/chap_495.htm">www.cga.ct.gov/current/pub/chap_495.htm</a> . The laws are complex and often change. In addition, state laws may differ. It is the purchaser’s responsibility to be aware of relevant regulations. In the case of denial of any export or import license or of delay in the obtaining of such licenses, the purchaser is still responsible for making on-time payment of the total purchase price for the lot. [name redacted] is not able to assist the purchaser in attempting to obtain the appropriate licenses and/or certificates.”
Tennessee	“Please note that lots containing ivory or any other plant or animal material may be subject to regulations imposed by the Endangered Species Act and by the United States Fish and Wildlife Department as well as other restrictions under federal, state and/or local law. Some countries prohibit the importation of property containing materials from endangered plant or animal species and prospective purchasers should familiarize themselves with relevant customs regulations prior to bidding if they intend to import these item(s) into another country. We also suggest that buyers in the United States check with their state’s wildlife protection agency for any restrictions on the purchase, possession or sale of ivory or any other animal material. Please note that bidders in New York and New Jersey may not bid on any lots containing elephant ivory, mammoth ivory, or rhinoceros horn. Items containing ivory can only be shipped to an address in the United States. Bidders should check all applicable government wildlife restrictions prior to placing a bid. The buyer will be solely responsible for obtaining any necessary license or permits applicable to the sale or transport of the item(s) including any export or import license and/or certificates as well as any other required documentation.”



Nevada	“GOODS MADE FROM OR CONTAINING MATERIALS FROM PROTECTED SPECIES – [name redacted] does not accept any responsibility or liability for the sale of items containing materials from protected species or for any omission in marking or labeling goods as containing materials from protected species. Such material includes, but is not limited to, ivory from elephants and walruses, tortoise shell, crocodile skin, whalebone, rhinoceros horn, some species of coral and certain woods...”
Massachusetts	“NOTE: This lot contains antique ivory. [name redacted] is not able to assist buyers with the shipment of this lot into the US, as The United States Government has banned the import of ivory into the US. This lot may also require a licence or certificate prior to exportation from the UK and may require additional licences or certificates to be imported into other countries. Export and/or import licences and/or certificates are solely the responsibility of the buyer, and a buyer’s inability to obtain them is not reason for a delay in payment or a lot’s sale cancellation.”
Florida	“Ivory and/or Tortoise shell can only be shipped outside the United States with a “CITES” certificate.”
Connecticut	“ENDANGERED SPECIES. SALE OF PROTECTED ANIMALS AND PLANTS. Please note that the sale and shipping of endangered species is strictly regulated by international, national, and state laws. Much of this policy can be found at these sites: <a href="http://www.fws.gov/international">www.fws.gov/international</a> , <a href="http://www.dec.ny.gov/animals/7181.html">http://www.dec.ny.gov/animals/7181.html</a> , and <a href="http://www.cga.ct.gov/current/pub/chap_495.htm">www.cga.ct.gov/current/pub/chap_495.htm</a> . The laws are complex and often change. In addition, state laws may differ. It is the purchaser’s responsibility to be aware of relevant regulations. In the case of denial of any export or import license or of delay in the obtaining of such licenses, the purchaser is still responsible for making on-time payment of the total purchase price for the lot. [Name redacted] is not able to assist the purchaser in attempting to obtain the appropriate licenses and/or certificates.”
Florida	“No International Shipping. [name redacted] DOES NOT ASSUME ANY responsibility for International shipping of items that contain any amount of ELEPHANT Ivory, Please be sure that you understand our shipping policies prior to bidding. If you are unclear, please contact us at [redacted] for clarification.”
Tennessee	“Note: This lot contains animal or plant material that may be restricted under Federal, State, or Local law. Bidders should check all applicable government wildlife restrictions prior to placing a bid. The buyer will be solely responsible for obtaining necessary licenses or permits applicable to the sale or transport of the object. Please note bidders in New Jersey, New York, and International bidders may not bid on any lots containing elephant ivory.”
Florida	PLEASE NOTE THESE INSTRUCTIONS BELOW ONLY PERTAIN TO IVORY PURCHASES!) WITH THE PURCHASE OF IVORY THERE IS ABSOLUTELY NO SHIPPING TO CALIFORNIA, NEW YORK, NEW JERSERY, CONNECTICUT OR INTERNATIONAL! BY PURCHASING IVORY, YOU AGREE WITH THESE TERMS.
Colorado	“African Ivory. Bidders should be aware of the changing laws regarding commercialization of ivory and other product containing endangered species both on the Federal and State levels. This lot will be accompanied by a signed affidavit from the client that this object was in the United States prior to January 18, 1990, and is to the best of their knowledge and ability made prior to February 26, 1976 in accordance with Federal law. Ivory cannot be shipped out of the United States or to New York or New Jersey, and will not be shipped to California after June 30, 2016.”
Washington	“IVORY ITEMS CANNOT BE SHIPPED OUT OF THE COUNTRY OR NEW JERSEY, NEW YORK, or CALIFORNIA Buyer Pays All Actual Shipping Costs.”





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

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