

# CONNECTING TO COLLECTIONS CARE: THE CARE & DOCUMENTATION OF IVORY OBJECTS



STEPHANIE HORNBECK

# Northwest Coast, North America



exhibition gallery, The Field Museum



# Decorative Arts (European)



Walters L: 71.450, R: 38.102



# Natural Science Specimens



exhibition galleries, The Field Museum



# Overview

I. Types & Diagnostic Features

II. Cultural Uses

III. Damage

IV. Interventions

V. Legal Acquisition & Regulatory Measures

VI. Documentation

VII. References & Resources

# I. Types & Diagnostic Features

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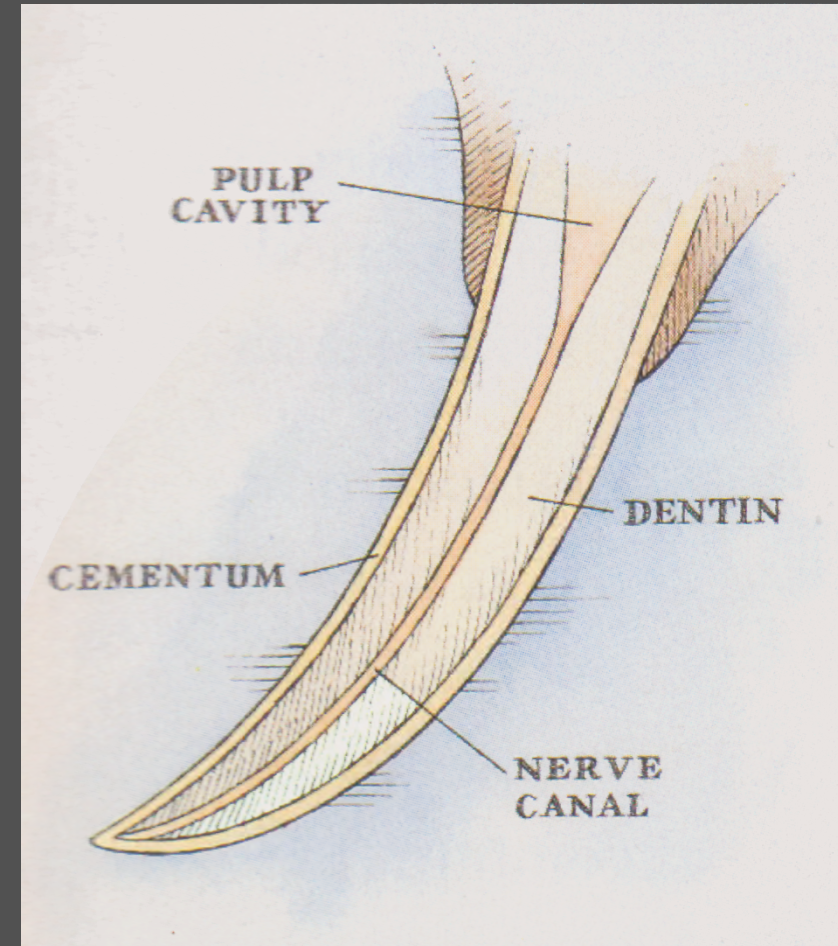
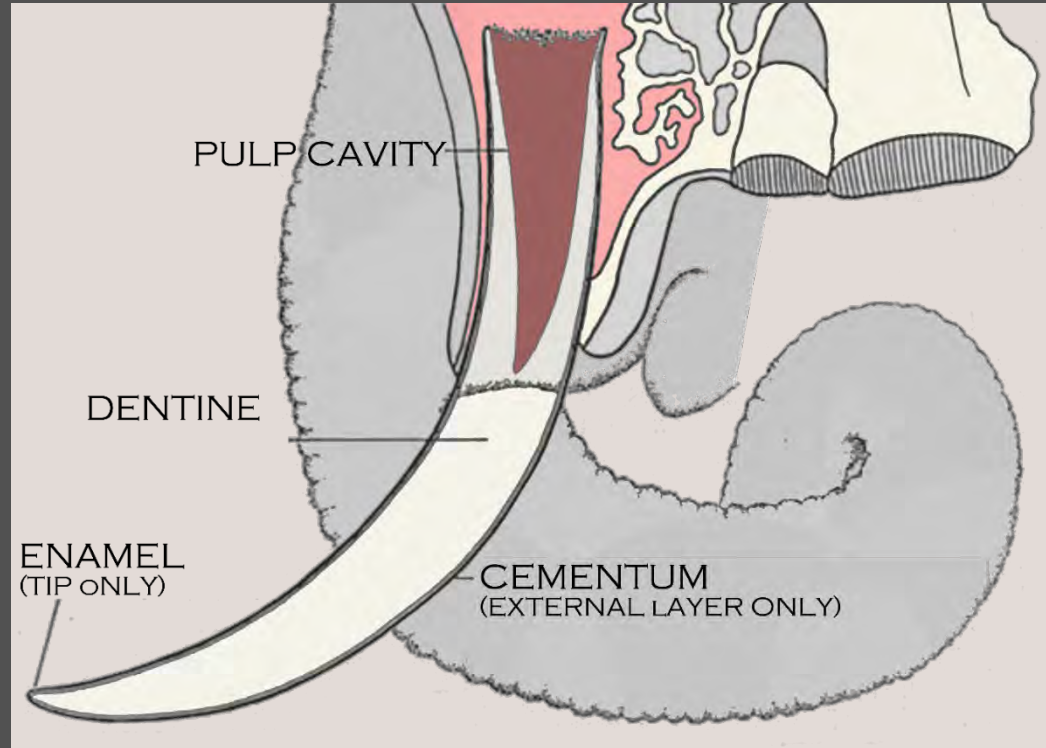


# Mammal Ivories

- A. Elephant (African and Asian species: tusks)
- B. Hippopotamus (teeth)
- C. Narwhal (tusk)
- D. Walrus (tusk)
- E. Wart Hog (tusk)
- F. Whale (teeth)
- G. *Mammoth - extinct (tusk)*
- H. *Mastodon - extinct (tusk)*

# Anatomy

Diagram of tusk morphology





# Visual examination



# Ivory Reference Images

Lauffenburger, J. and T. Drayman-Weisser. 2018. "Teaching Ivory 101: Building on a Legacy at the Walters Art Museum," *Curator: The Museum Journal*, vol. 61, issue 1: 111-132.

Mann, W. R. and C. M. Marts. 2013. *Ivory identification: A photographic reference guide*. Seattle: CreateSpace Independent Publishing Platform.

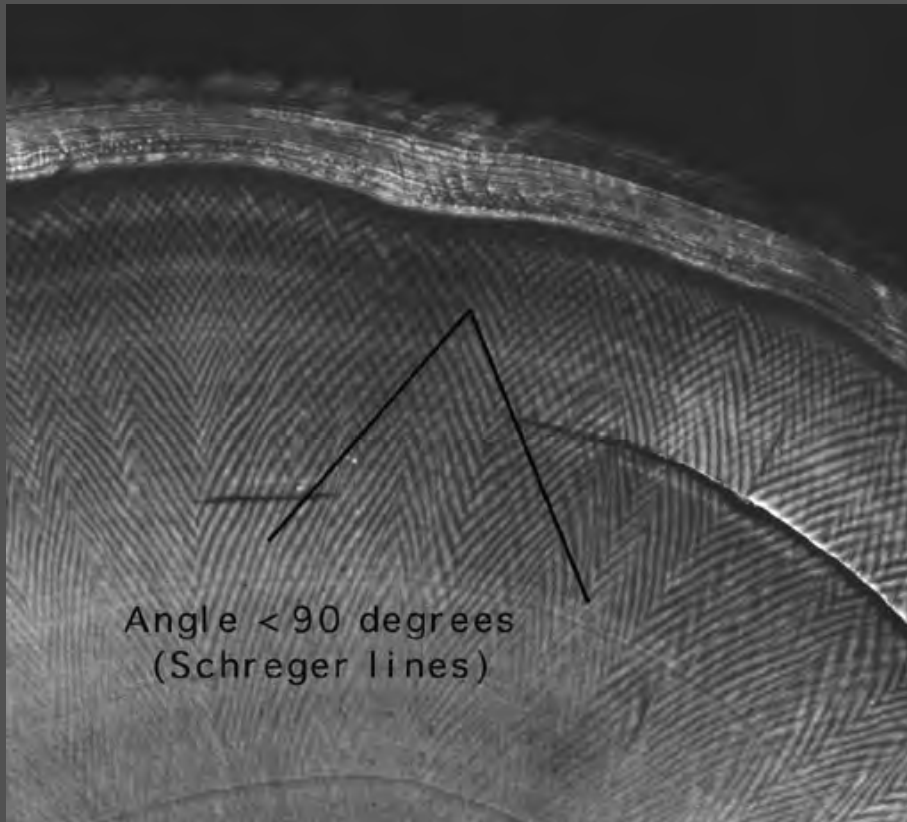
US Fish and Wildlife Service. 2010. *Introduction to the ivory identification guide*. <http://www.fws.gov/lab/ivory.php>

*searchable on-line museum collections*

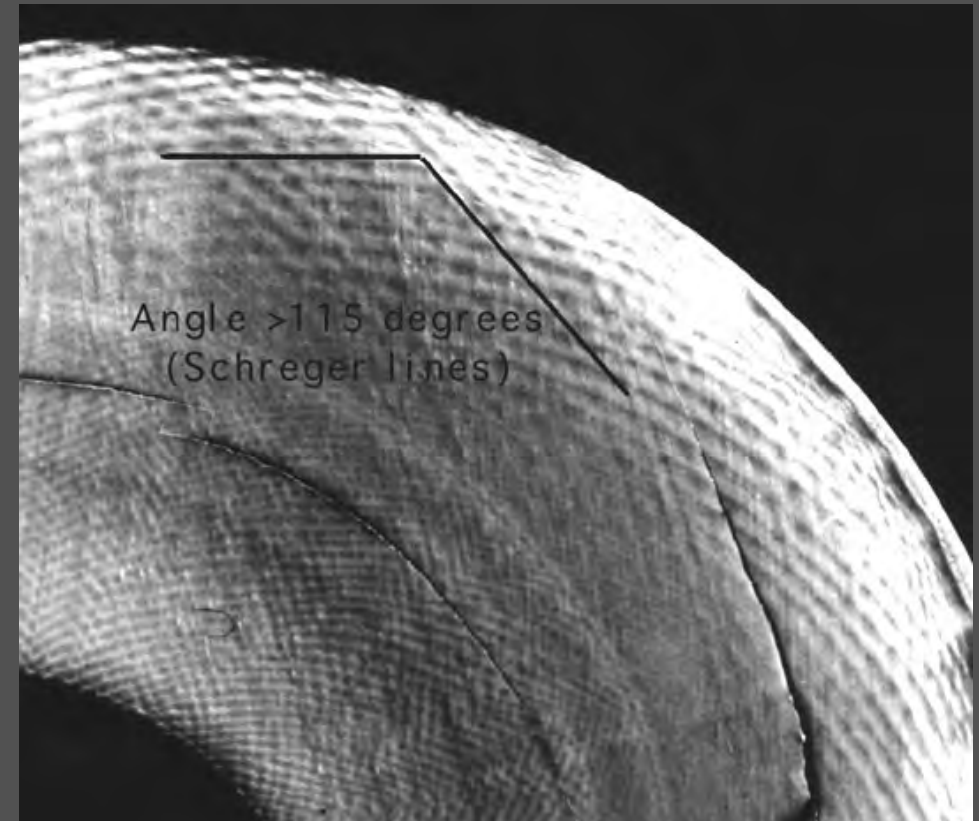


# Identification of Ivory

mammoth & elephant Ivory: exhibit characteristic pattern of intersecting arcs/  
Schreger lines in cross-section

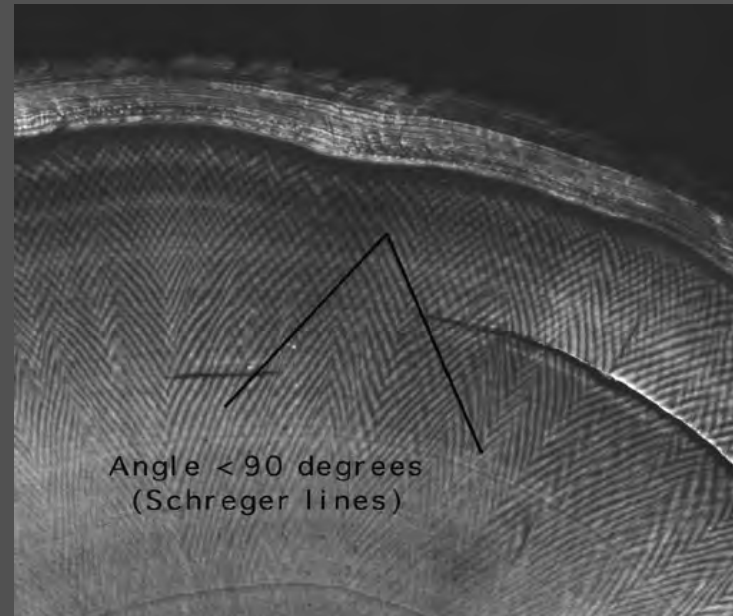
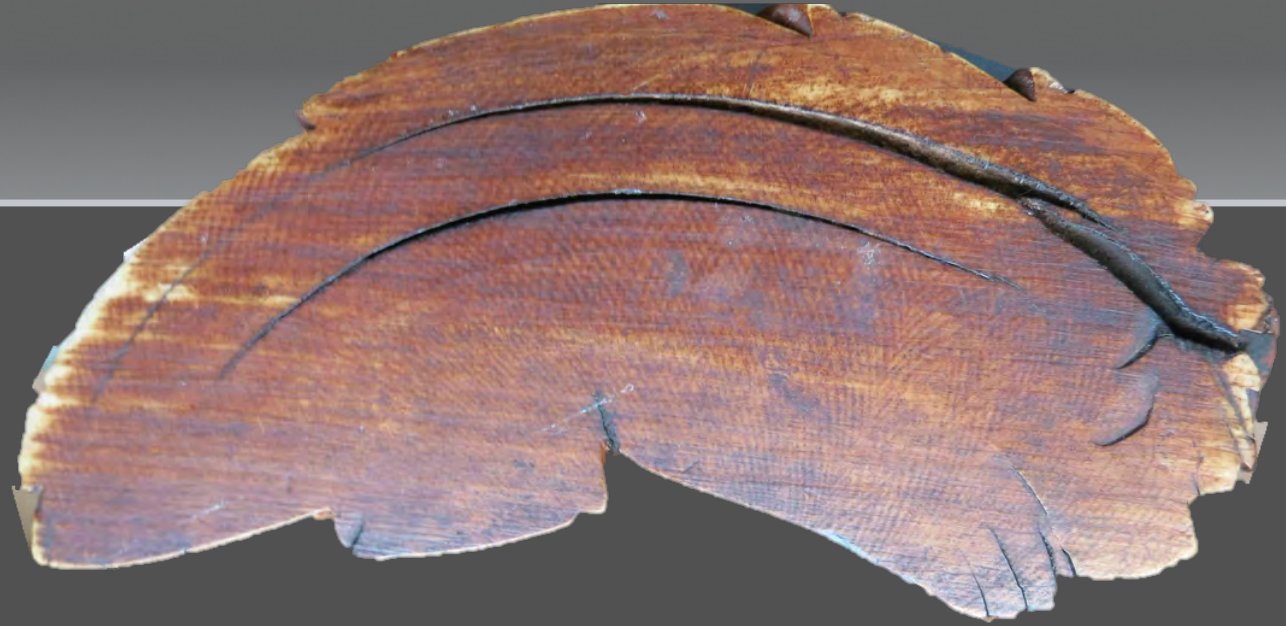


*mammoth*



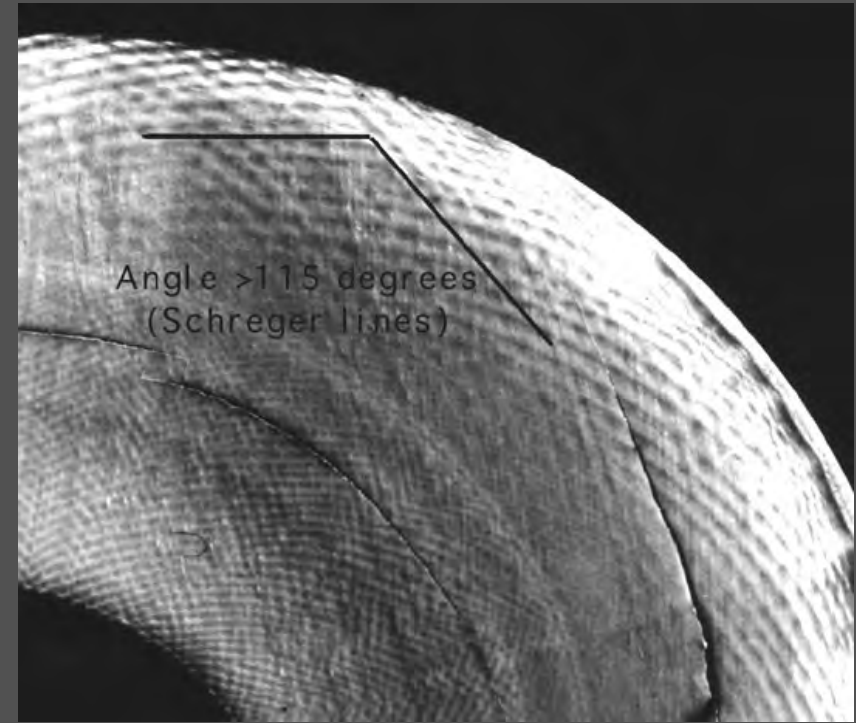
*elephant*

# Mammoth ivory





# Elephant ivory

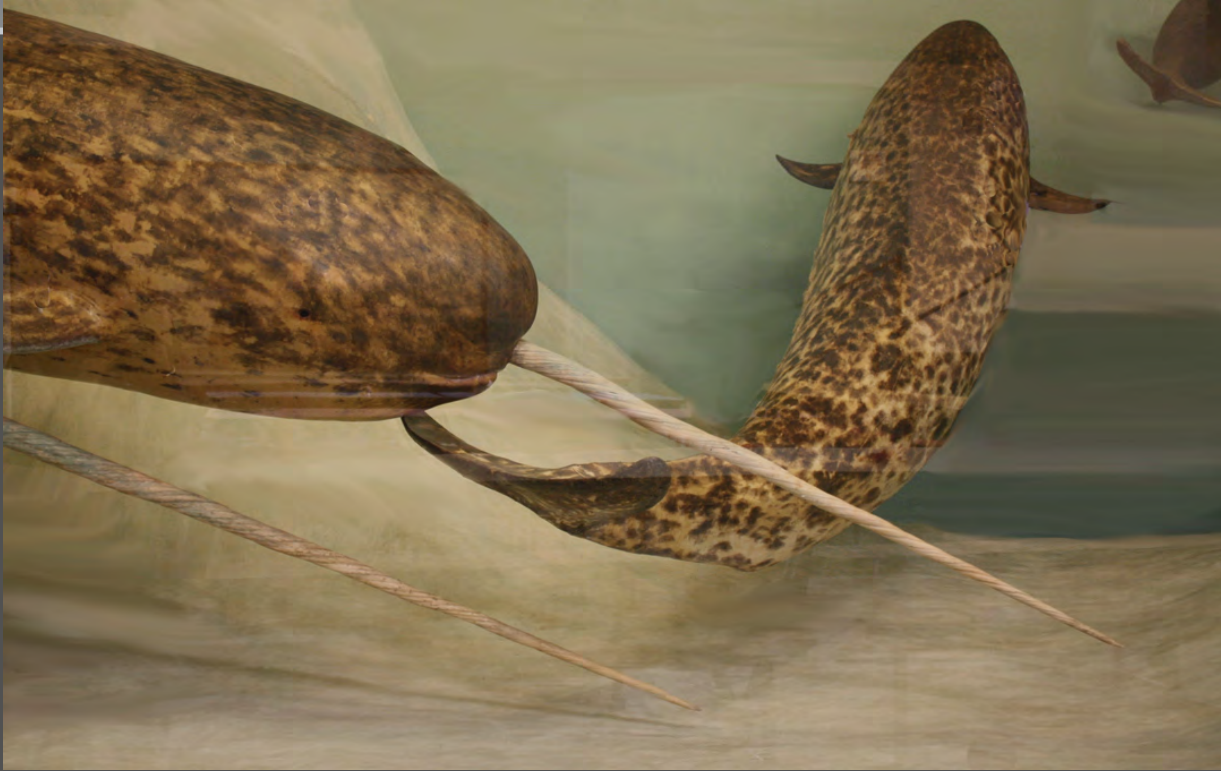




# Hippopotamus ivory



# Narwhal ivory



exhibition gallery, The Field Museum





# Walrus Ivory



exhibition galleries, The Field Museum



# Whale Ivory



TFM 274464

# Wart Hog Ivory



exhibition gallery, The Field Museum





# Ivory Substitutes: Bone



Walters, 51.441





# Ivory Substitutes: *natural materials*



L to R: antler, horn, shell, vegetable ivory

# Ivory Substitutes: *synthetic materials*

- synthetic: composite mixtures & plastics, esp. Celluloid (1870)



# II. Cultural Uses

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# Archaeological Contexts



Image credits L to R: OI A22258B; Bolton 1964.2.3; Upenn 61-3-3 and 65-3-5

# Historical Cultural Usage: Ecclesiastical Objects in Medieval Europe



Walters 71.264

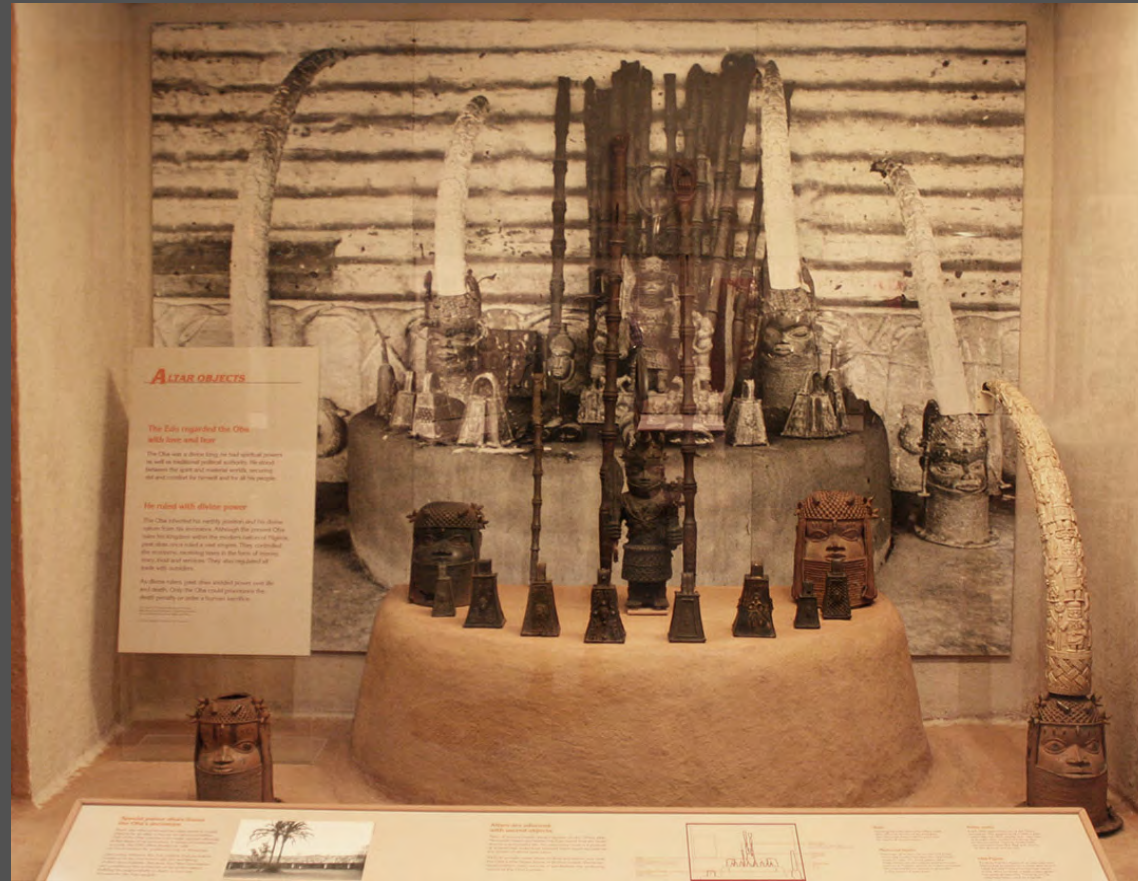


# Asian & Southeast Asian works



TFM 233357

# Historical Cultural Usage: Benin royal ancestral altar to the oba (Nigeria)



reproduction in exhibition gallery, The Field Museum



# Map of 13<sup>th</sup> c. Swahili coast ivory trade network: East Africa, Europe, Asia



# The Ivory Market



Ivory warehouse in London, 1890s



Comb machine



# Ivory carvings for sale, Hong Kong



# Raw vs. Worked Ivory

- Raw ivory - describes whole or partial ivory tusk sections, that have not been carved into a secondary object
- Worked ivory – describes whole or partial tusk sections that have been carved into a secondary object. Examples include instruments, figures, boxes, plaques, game pieces. Worked ivory also describes a whole tusk form with surface carving or applied decoration.

*NOTE: The differentiation between the large categories of “raw” and “worked” ivory is important for regulations and permitting. So, it is important to understand which category your object falls into.*

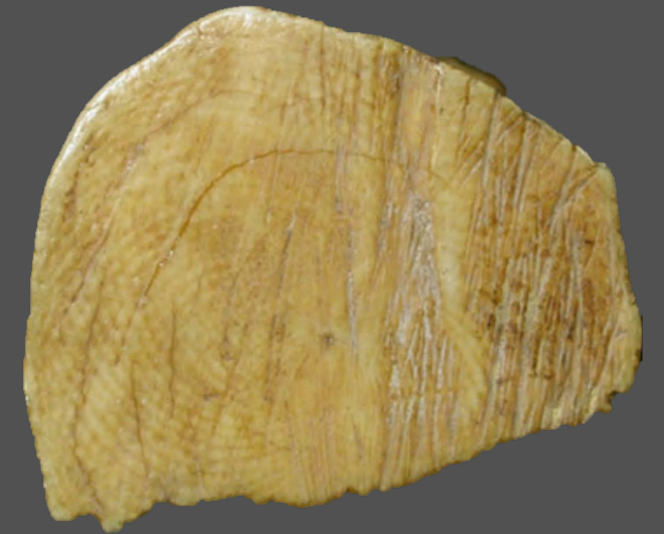


# Carving



Carver David Omoregie explains that his guild has its own special god. Just as a driver has power over a car, the carvers' god is believed to control their tools. Omoregie also takes guidance from his ancestors, whose inspiration comes to him in dreams.

© 1981 Barbara W. Richardson



OI E6192.2



# Openwork, Piercing, Etching



fan with pierced ivory sticks

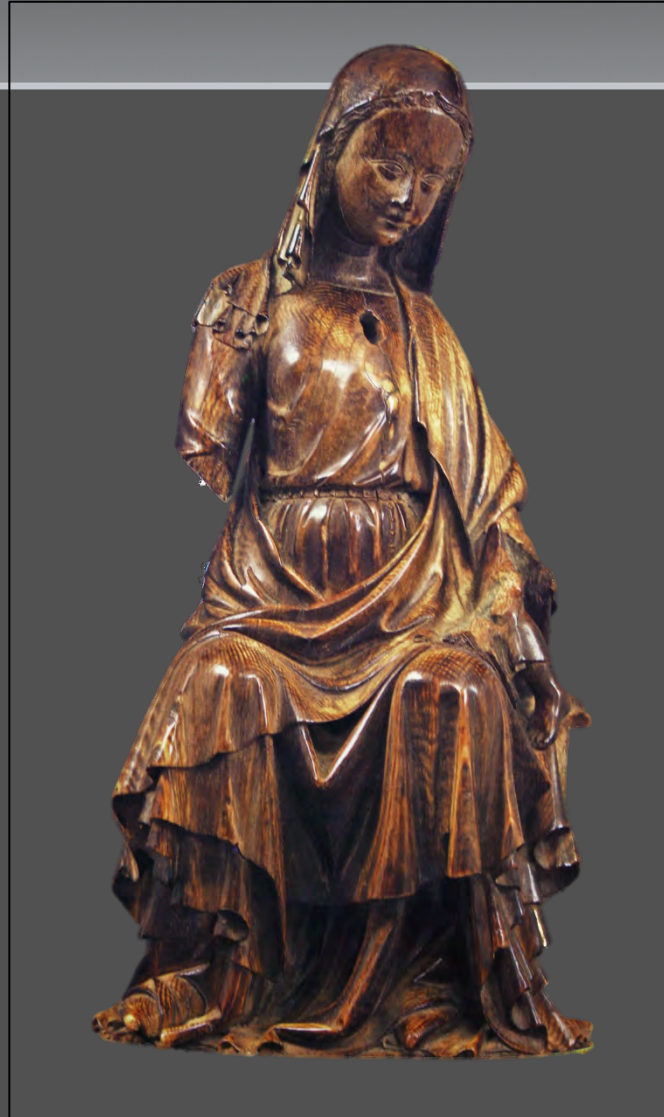
Walters



etched walrus ivory, Northwest Coast,  
The Field Museum



# Dyes, colorants, gilding





# Surface colors: from burial conditions, applied substances



collections storage at The Field Museum

# Decorative Inlays



Images: L: UPenn NEP 38; R: MMA



# III. Causes & Manifestations of Damage

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# Damage related to morphology: concentric rings





# Damage related to morphology: cone-in-cone



courtesy of Walters



courtesy of TFM

# Aged Ivory: long cracks, checks, delamination





# Breakage and Loss



TFM 210296



W 71.506



OI 22251

# Water-logged Ivory: Java Sea Wreck 12<sup>th</sup>/13<sup>th</sup> century



TFM T2007.25.3735





# Fire/burial: blackening



UP 65-31-335



OI A 22164

# IV. Interventions

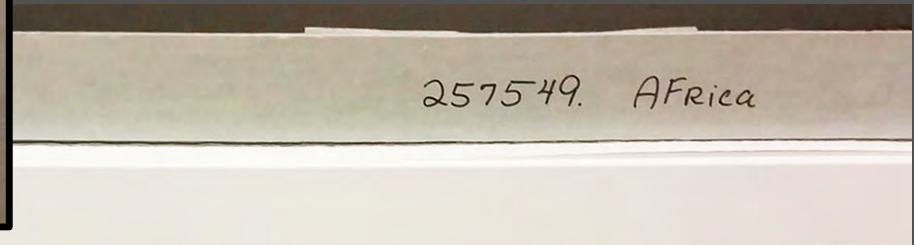
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# The Field Museum's Fossil Vertebrate Storage



# Housing



collections storage at The Field Museum



# Housing



OI A22573

UP 65-31-341



65-31-341



TFM 155544

# Housing



collections storage at The Field Museum





# Mounting for display



exhibition galleries, The Field Museum



# What not to do: DIY repairs





# Use of Housecleaning Products: window cleaner





# What not to do: use irreversible materials



examples of older *in situ* lifting/ restorations





# Do not remove ivory parts



W 44.810



# Safe Methods to do Yourself



# Resources: Basic Ivory Care

Canadian Conservation Institute (CCI). “Care of Ivory, Bone, Horn and Antler,” CCI Notes 6/1.

<https://www.canada.ca/en/conservation-institute/services/conservation-preservation-publications/canadian-conservation-institute-notes/care-ivory-bone-horn-antler.html>

Museum Conservation Institute (MCI), Smithsonian Institution. “The Care and Handling of Ivory Objects”

[https://www.si.edu/mci/english/learn\\_more/taking\\_care/ivory.html](https://www.si.edu/mci/english/learn_more/taking_care/ivory.html)



# When to Contact a Conservator

- For all treatments:
  - *To repair breaks*
  - *to consolidate active cracking or flaking*
  - *to reverse prior restoration*
  - *to clean the surface*
  - *to remove mold*
- For ivory identification
- For any sampling for destructive analyses

AIC “Find a Conservator”:

<https://www.conservation-us.org/membership/find-a-conservator>

# Treatment: composite materials



L: W. 38.102 and R: W 71.193



# Treatment: repair



W 71.1170



W 71.193

*NOTE: it is no longer acceptable for ivory repairs to be done with ivory replacement parts, if in the future the owner wants the object to qualify as an antique under the ESA.*

# Ivory Identification



Conservator Terry Drayman-Weisser and ivory reference materials, Walters Art Museum



# Natural Ivory Examples



W 71.1090



# Worn appearance of ancient ivory



OI A22270



OI 22310



wood figure



# Destructive Analysis – for dating or sourcing material

- first determine whether non-destructive methods will answer the research question
- If not, research benefits of sampling vs. disfigurement of the object need to be carefully weighed
- conservator to advise on which testing method to use and to undertake any actual sampling

*NOTE: guidelines for the new 2016 implementation of the Rule 4d to the ESA note specifically that forensic testing is not necessarily required to prove species or age*

# Recommended Ethical Approaches for Conservators Treating Ivory

What are the current responsibilities and obligations of the conservator treating ivory artifacts?

- *The most obvious is that repairs should never be made from ivory, regardless of its age, since, as noted above, this will negate any possible ESA antique exemption for the ivory artifact in the future.*



# Recommended Ethical Approaches for Conservators Treating Ivory

The “AIC Guidelines for Practice” (as revised 1994) states:

*The conservation professional should be cognizant of laws and regulations that may have a bearing on professional activity. Among these laws and regulations are those concerning...endangered species.*

“Recommended Practice in the Commentaries to the Guidelines for Practice of AIC” states:

*It is recommended that conservation professionals report suspected violations of applicable laws to the proper authorities.*

*NOTE: for ivory & other regulated animal parts and products, the proper authorities would be the US Fish and Wildlife Service (USFWS).*

# V. Legal Acquisition & Regulatory Measures





# International Regulation: to increase elephant conservation

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) – agreement first instituted in 1975 among 173 nations to eliminate illegal trade in animals & plants, their parts, & associated products. Now 183 nations are signatories. Regulates international travel of animal parts (i.e. worked elephant objects), including for exhibition.
- The CITES Ivory Control System focuses on the ivory trade.

# U.S. Federal Laws Applying to Ivory

- The Lacey Act (1900 and later amendments)

prohibits trade of wildlife taken in violation of any state or foreign wildlife law or regulation; affects interstate commerce.

- The Marine Mammal Protection Act (MMPA, 1972) applies to narwhal and whale ivory

- The Endangered Species Act (ESA, 1973; Rule 4d updated 2016)

designed to prevent the extinction of native and foreign species of wild fauna and flora; lists **Asian** elephants as “endangered” (in danger of extinction) and **African** elephants as “threatened” (in danger of becoming endangered). This act prohibits elephant parts and products from being imported into the US except under certain conditions.

- The African Elephant Conservation Act (AfECA, 1989)

prohibits the import of raw or worked ivory into the U.S. with certain exceptions. This act also established a grant program to fund elephant conservation efforts.



# Brief Overview: *Milestone Dates*

- Circa 1900 (older than 100 years): qualifies as antique
- 1972 The Marine Mammal Protection Act (MMPA)
- 1973 Endangered Species Act (ESA, 1973; Rule 4d updated 2016)
- Before 1975 (Asian) or before 1976 (African) ivories: “pre-Convention” ivories.
- 1989 international ivory ban; the African Elephant Conservation Act (AfECA).
- 2014-2016 period of phased changes to implement a near complete federal ban on commercial trade in African elephant ivory

# 1989 Kenya burns ivory stockpile; 2013 WWF poster





# 2014-2016: Strengthened US Federal Laws

*According to the Wildlife Conservation Society, in 2012, an estimated 35,000 African elephants—were killed for their ivory tusks.*

- beginning in 2014 international and US national laws were strengthened to combat the rise in trafficking of ivory, including trade of ivory artworks and artifacts.
- In 2015, the USFWS proposed a rule change to Rule 4d of the Endangered Species Act to increase protections of African elephants. This rule change became law in July 2016.

# Confiscation & sanctioned ivory destruction events



June 2015, Time Square USFWS Crush



April 2016, Kenya burns 105 tons, 11 pyres



# Rule Change: Rule 4d, ESA

- Rule 4d of the Endangered Species Act to increase protections of African elephants.
- This rule change became law in July 2016.
- US Fish and Wildlife Service. 2016a. Revisions to the Endangered Species Act (ESA) special rule for the African elephant: Questions and Answers.

<https://www.fws.gov/international/pdf/african-elephant-4d-proposed-changes.pdf>

# Uncertainty

- Period of phased changes to the African elephant regulations from 2014 to 2016 was a time of uncertainty for museum professionals, including conservators, concerned that previous exemptions for legally acquired, pre-Convention worked ivories might be eliminated.
- The goal of regulatory changes was to increase protections for African elephants in response to a surge in poaching to supply a global demand for ivory.
- A corollary impact affects the transportation of worked ivory art and artifacts.



# AIC Position Paper

American Institute for Conservation of Historic & Artistic Works (AIC)

*“The Preservation of Cultural Property with Respect to US Government Regulation of African Elephant Ivory” (Nov. 2015)*

*Working group: Conservators N.Owczarek, S. Hornbeck, T. Drayman-Weisser, J. Portell*

# AIC Position Paper

## Objectives:

- advocate for recognition of appropriately trained conservators to carry out “qualified appraisals”, as noted in USFWS documentation guidelines for documentation
- recommend a pre-screening process by cultural heritage experts of confiscated worked ivory before destruction events
- support elephant conservation efforts and respect laws that halt illegal trafficking of new raw and worked ivory,
- advocate for protecting permitted (pre-Convention, CITES, and ESA documented) worked ivories of documented provenance from unnecessary destruction, destructive testing, and possible confiscation.

[http://www.conservation-us.org/docs/default-source/governance/position-paper-on-government-regulation-of-ivory-\(november-2015\).pdf?sfvrsn=4.](http://www.conservation-us.org/docs/default-source/governance/position-paper-on-government-regulation-of-ivory-(november-2015).pdf?sfvrsn=4)

Drayman-Weisser, T. and S.E. Hornbeck. 2018. "An Art Conservation Perspective: Saving the African Elephant and Ivory Cultural Heritage," *Curator: The Museum Journal*, vol. 61, issue 1: 161-185.



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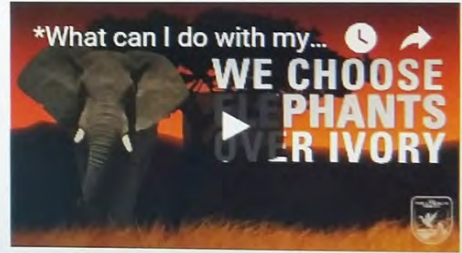


[Home](#) >> [Travel & Trade](#) >> Ivory Ban Q&As

On July 6, 2016, a near-total ban on commercial trade in African elephant ivory went into effect in the United States. The information on this webpage is intended to provide guidance for those who wish to buy, sell, or otherwise trade in elephant ivory. It's important to note that the new regulations do not restrict personal possession of ivory. If you already own ivory – an heirloom carving that's been passed down in your family, or a vintage musical instrument with ivory components, those pieces are yours. We know those items created long ago aren't threatening today's wild elephants.

For more detailed information on trade in African elephant ivory see the Endangered Species Act [final 4\(d\) rule for the African elephant](#) and associated [FAQs](#), our CITES implementing regulations ([50 CFR part 23](#)), [Director's Order 210](#), and the [African Elephant Conservation Act](#). In addition to the information provided on this webpage, you must also comply with any relevant state laws and all imports and exports must be accompanied by appropriate CITES documents and meet other U.S. Fish & Wildlife Service (Service) import/export requirements.

African elephants are being poached at unprecedented levels to supply the illegal ivory trade, and the United States is among the largest markets for illegal ivory. We've implemented this near-total ban to ensure that U.S. domestic markets do not contribute to the decline of elephants in the wild. [Learn more](#)



I own elephant ivory. What can I do with it? [+](#)



## African Elephant Ivory

What activities are allowed/ prohibited with African elephant ivory under statute, regulation, or law enforcement discretion? [+](#)

# USFWS, *What Can I Do with My Ivory?*

This resource aims to assist owners and stewards of ivory objects to understand legal ownership, travel, and trade restrictions.

Addresses both **African** elephant ivory and **Asian** elephant ivory, and explains the different international, national and state regulations and dates of enforcement that apply to each species.



# USFWS, *What Can I Do with My Ivory?*

- Is it legal for me to keep my elephant ivory?
- Can I donate or give away elephant ivory?
- How can I tell the difference between elephant ivory and other types of ivory?
- How can I travel internationally with my musical instrument that contains ivory?
- How can I import or export ivory items as part of a traveling exhibition?

# VI. Documentation

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# Documentation

## A. Internal to Institution

1. Date of acquisition – related documents (i.e. receipts)
2. Provenance
3. Loan history, loan documents
4. Condition & Treatment Reports
5. Ivory Identification
6. Destructive Analysis
7. Photographs – record and condition

## B. For Travel

1. CITES permits
2. Affidavits of Support



# Documentation: Ivory Identification

- examiner name
- date of examination
- method of identification

# Documentation: Destructive Analysis

- (1) the initial request
- (2) rationale for approval or denial
- (3) description of sampling method:
  - including number of samples
  - sample sizes
  - sample locations
- (4) note sample sites
- (5) take pre-sample photos

# Photo Documentation





# Travel Requirements & Documentation

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# Declaration to Species Level

- All wildlife (including parts and products) imported into or exported from the United States for any purpose must be declared to the U.S. Fish & Wildlife Service (USFWS).
- All wildlife imported to or exported from the United States must be declared at the species level.
- To determine the appropriate legal framework for your elephant ivory, you first need to determine whether your items are made of [African](#) or [Asian](#) elephant ivory.

# Import for Traveling Exhibition

- Import of **African** elephant ivory as part of a traveling exhibition is allowed provided the worked ivory was legally acquired and taken from the wild prior to February 26, 1976.
- Import of **Asian** elephant ivory as part of a traveling exhibition is allowed provided it qualifies as an ESA antique, or, if the item does not meet the antique criteria, it must meet pre-Act requirements.



# USFWS Proof of determination of species

can be in the form of:

- a “qualified appraisal” or
- other documentation that demonstrates the identification of the species through a detailed provenance
- forensic testing is not mandatory

*NOTE: Without species identification, the Service may be unable to issue any permits. Specimens may be refused clearance and detained at the port.*

# Importation

- Application Preparation: *to be completed by country where object is owned*

Object list document :

- Note any materials from animal species
- scientific name of animal species (i.e. *Elephantidae, Loxodonta africana*)
- date of museum acquisition of object
- country of last re-export
- quality photo(s) of object, showing relevant materials

# Supporting Documentation for CITES:

## Affidavits

- affidavit 1: classification of material by species and rationale for classification
- affidavit 2: stating (circa) date of the item, to testify its antiquity (if an antiques exemption is being used) and to advise on its pre-Act or pre-Amendment status;
- affidavit 3: stating species and origin, with supporting arguments/rationale (i.e. historical precedent, knowledge of trade routes, or other verifiable means to the best of the issuer's awareness.)



# Authorizing Incoming Shipment

- If the item is an antique made of an ESA-listed species, it must enter the US through one of the 13 designated “antique ports”
- USFWS will not sign off on a CITES permit until the cargo is in the warehouse, which permits inspections

# Exportation: *USFWS will issue the CITES certificate*

Application Preparation: *to be completed owner and submitted to USFWS*

As for Importation (same):

Object list document :

- Note any materials from animal species
- scientific name of animal species (i.e. *Elephantidae, Loxodonta africana*)
- date of museum acquisition of object
- country of last re-export
- quality photo(s) of object, showing relevant materials

# Supporting Documentation for CITES:

## Affidavits (as for Importation)

- affidavit 1: classification of material by species and rationale for classification
- affidavit 2: stating (circa) date of the item, to testify its antiquity (if an antiques exemption is being used) and to advise on its pre-Act or pre-Amendment status;
- affidavit 3: stating species and origin, with supporting arguments/rationale (i.e. historical precedent, knowledge of trade routes, or other verifiable means, to the best of the issuer's awareness.)



# Authorizing Outgoing Shipment

- If the item is an antique made of an ESA-listed species, it must depart the US through one of the 13 designated “antique ports”
- USFWS will sign off on the CITES certificates the day of travel

*NOTE: some countries do not recognize the travel CITES certificate. The country of destination may have their own requirements and permits to file for the importation.*

# CITES pre-Convention Certificate:

Issued for specimens that were taken from the wild before the species was listed under CITES.

To authorize export or re-export, provided certain criteria are met.

For the **Asian** elephant, the pre-Convention date is **July 1, 1975**.

For the **African** elephant, the pre-Convention date is **February 26, 1976**.

It is not necessary to apply for a CITES pre-Convention certificate unless you are seeking authorization to export or re-export an item.

# Exemptions to ESA: for elephant ivory

- Pre-Act Specimen exemption (**African** and **Asian** elephant ivory)
- ESA Antiques exemption (**African** and **Asian** elephant ivory)
- *de minimis* exemption (only **African** elephant ivory)



# 1. Pre-Act Exemption under the ESA

- Exempt from standard prohibitions on import or export.

To qualify as pre-Act, a specimen (including worked ivory) must:

Have been held in captivity or in a controlled environment prior to December 28, 1973, or prior to the date of first listing under the ESA:

June 14, 1976 for the Asian elephant

May 12, 1978 for the African elephant

and such holding or use and any subsequent holding or use was not in the course of a commercial activity.

## 2. ESA Antiques Exemption: African & Asian

Antiques that meet these criteria (ESA antiques) are exempt from ESA prohibitions and the provisions in the African elephant final 4(d) rule.

- *To qualify for the ESA antiques exemption, must meet all criteria:*
  - A: 100 years or older.
  - B: Composed in whole or in part of an ESA-listed species;
  - C: Not repaired or modified with any such species after  
December 27, 1973; and
  - D: Importation through an endangered species “antique port.”

*NOTE: CITES and other import/export requirements must still be met.*

# Proof of Qualification

- Forensic testing is not necessarily required.
- Provenance and age may be determined through a detailed history of the item (i.e., family photos, ethnographic fieldwork, art history publications, or other information that authenticates the article)
- A qualified appraisal or another method (i.e. information in catalogs, price lists, and other similar materials that document age by establishing origin)

*NOTE: USFWS provides guidance in Appendix 1 of Director's Order 210 on ways to demonstrate that an item qualifies as an ESA antique.*



### 3. *De Minimis* Exemption: **African** only

- The African elephant 4(d) rule to the ESA provides an exemption from prohibitions on selling or offering for sale in interstate and foreign commerce for certain manufactured or handcrafted items that contain a small (*de minimis*) amount of African elephant ivory.

*NOTE: Applies only to items made from **African** elephant ivory ; this exemption does not apply to **Asian** elephant ivory.*

# Criteria

To qualify for the *de minimis* exception, manufactured or handcrafted items must meet criteria, including:

- (i) The ivory was removed from the wild prior to February 26, 1976;
- (ii) The ivory is not raw;
- (iii) The item is not made primarily of ivory; the ivory components do not account for >50 % of the item by volume;
- (iv) The total weight of the ivory component(s) is less than 200g;
- (v) The item was manufactured or handcrafted before July 6, 2016.

# Qualifications

- USFWS provides guidance in on ways to demonstrate that an item qualifies in *What Can I Do with My Ivory?* document

Though not required, a “qualified appraisal” or another method of documenting the value of the item and the relative value of the ivory component (i.e. information in catalogs, price lists, and other similar materials)

*NOTE: USFWS will not require ivory components to be removed from an item to be weighed.*



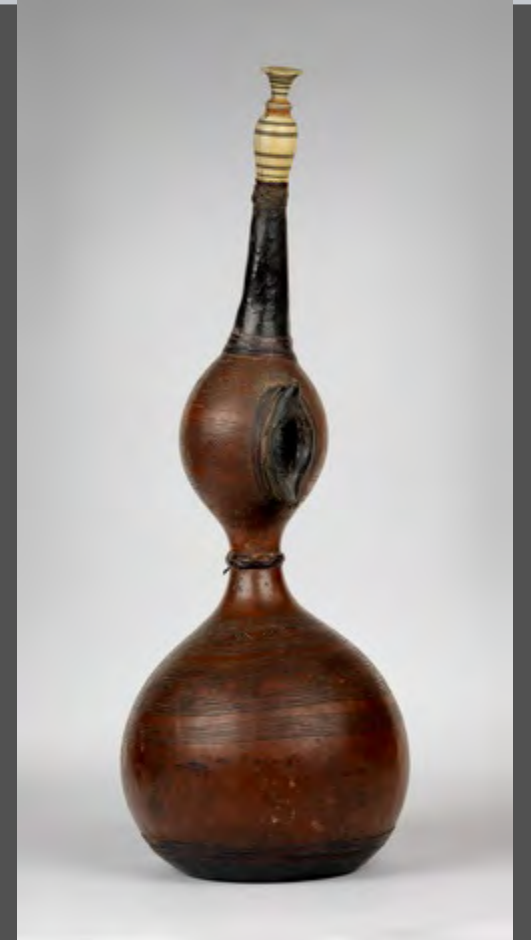
# *De minimis ivory components*



TFM 233395



W 57.1911



UP 2014-13-7



# Conclusions



L to R, all TFM: 210296, Africa exhibition gallery, 210260, 210173

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## Conservators:

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*Photo Credit Key: The Field Museum (TFM), Bolton Museum, Oriental Institute (OI), Walters Art Museum (W), UPenn (UP)*



# THANK YOU.

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