

World Wildlife Crime Report

Pre-publication DRAFT REPORT

Confidential – not for not for quotation

Introduction to the pre-publication draft

Illicit trafficking of protected species of flora and fauna is a widespread organized criminal activity, involving transnational networks. There is a growing mobilization of the international community to respond to this threat and UNODC has been asked by Member States to play an active role in multilateral efforts to counter it. In 2013, the Economic and Social Council (ECOSOC) adopted a resolution (E/RES/2013/40) requesting UNODC, in consultation with Member States and in cooperation with other competent intergovernmental organizations, such as the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the World Customs Organization (WCO), INTERPOL, the World Bank and the United Nations Environment Programme (UNEP), to undertake case studies that focus on organized crime networks involved in the illicit trafficking of specific protected species of wild fauna and flora, their parts and derivatives. Subsequently, the General Assembly called upon UNODC, in line with the aforementioned resolution, to continue to collect information on patterns and flows of illicit trafficking in wildlife and to report thereon (A/RES/69/314).

UNODC Executive Director Yury Fedotov announced at the 23rd Session of Commission on Crime Prevention and Criminal Justice (May 2014) that UNODC would initiate a “vigorous and dedicated research and analysis effort on wildlife and forest crime, with the aim to help generate the systematic assessments that the international community needs to inform responses.” This research would take stock of the present wildlife crime situation and conduct a broad assessment of the nature and extent of the problem at the global level.

The *World Wildlife Crime Report* presents the findings of the global research effort to empirically assess illicit trafficking of specific protected species of wild fauna and flora, their parts and derivatives at the global level. It is based on a World Wildlife Seizures Database compiled by UNODC with the support of the International Consortium on Combating Wildlife Crime (ICWC), comprised of the CITES Secretariat, INTERPOL, the World Bank, WCO, and UNODC. The *Report* gives a global overview of wildlife seizures in the context of the global trade in protected species. It includes case studies of seven key wildlife product markets: ivory, rosewood, oud (agarwood), live parrots, caviar, pangolin, and reptile skins. The detailed descriptions of each of these markets comprise the bulk of the report. The report gives insight into the way illegally sourced wildlife is introduced into legal wildlife product markets worldwide.

The prepublication draft of the *World Wildlife Crime Report* contains the statistical material, including tables, maps and graphs, that could be assembled up to 31 October 2015. The document is to be used exclusively for review by Member States and is not for quotation or dissemination. The final report is scheduled for publication in May 2016.

The document can be downloaded from the UNODC website at:

www.unodc.org/unodc/wwcr/index.html

User id: wildlife

Password: 2015wwcr

The information in the prepublication draft will also be made available for circulation to CITES Management Authorities.

Governments wishing to comment on the statistics are requested to send in their observations to the United Nations Office on Drugs and Crime, Research and Trend Analysis Branch, **by 20 January 2016 cob**. Only comments received before the above mentioned deadline in writing will be considered.

Please send comments to:

UNODC Research and Trend Analysis Branch (RAB)
Vienna International Centre
PO Box 500, 1400 Vienna, Austria
Fax: (43 1) 26060 5827
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Explanatory Notes

This report has not been formally edited.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The names of territories and administrative areas are in italics. Countries and areas are referred to by the names that were in official use at the time the relevant data were collected.

The assignment of countries or areas to specific groupings is for statistical convenience and does not imply any assumption regarding political or other affiliation of countries or territories by the United Nations. The designations used in this study are based on the United Nations M.49 geographical regions for statistical use, which have been developed, used and maintained by the United Nations Statistical Division.

Maps are in line with the United Nations Secretariat standards. A dotted line represents approximately the line of control in Jammu and Kashmir agreed upon by India and Pakistan. The parties have not yet agreed upon the final status of Jammu and Kashmir. Disputed boundaries (China/India) are represented by cross hatch due to the impossibility of detail. Final boundary between the Republic of Sudan the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The following abbreviations have been used in this report:

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CITES ETIS	CITES Elephant Trade Information System
EIA	Environmental Investigation Agency
FAO	Food and Agriculture Organization of the United Nations
FAO FIGIS	FAO Fisheries Global Information System
INTERPOL	International Criminal Police Organization
IUCN/SSC	International Union for Conservation of Nature Species Survival Commission
IUCN/SSC/AFESG	IUCN/SSC/African Elephant Specialist Group
TAWIRI	Tanzania Wildlife Research Institute
TEFAF	The European Fine Art Foundation
UN COMTRADE	United Nations Comtrade Database, International Trade Statistics,- Import/Export Data
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization

Weights and measurements:

u	Unit
lt	Litre
kg	Kilogram
ha	Hectare
mt	Metric ton

Sources of Information

The prepublication draft of the World Wildlife Crime Report is based primarily on the World Wildlife Seizures Database compiled by UNODC with the support of ICCWC.

UNODC has been able to assemble seizure data from the CITES annual, biennial and special reports, as well as the WCO's Customs Enforcement Network Database (CEN). This was supplemented by other sources, such as the regional Wildlife Enforcement Networks (WENs), when necessary and where available. Data from all the mentioned sources have been cleaned and standardised to produce a global wildlife database which currently contains some 160,000 seizures from 114 countries.

The following data sources are used in the World Wildlife Seizures Database (see Annex 1 for a summary table of wildlife seizures and sources by country):

- ASEAN WEN – The Association of Southeast Asian Nations' Wildlife Enforcement Network is a wildlife law enforcement network that involves police, customs and environment agencies of all 10 ASEAN countries - Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Vietnam and Thailand.
- Australian Permits Administration Database
- Brazil National Data - National wildlife seizure data provided by the 'Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis' (Ibama).
- CITES Annual Reports - Under Article VIII, paragraph 7, CITES requires each Party to submit an annual report on its CITES trade, containing a summary of information on, inter alia, the number and type of permits and certificates granted, the States with which such trade occurred, the quantities and types of specimens, and the names of species as included in Appendices I, II and III.
- CITES Biennial Reports - Under Article VIII paragraph 7, CITES also requires each Party to submit a biennial report on legislative, regulatory and administrative measures taken to enforce the Convention. Among the data gathered are seizures of illicit wildlife products.
- CITES SRR and other reports – This includes information extracted from CITES reports resulting from Special Reporting Requirements, as well as reports of the Standing Committee, Plants Committee and Animals Committee.
- COBRA3 - Operation COBRA III was the biggest ever coordinated international law enforcement operation targeting the illegal trade in endangered species. Conducted in two phases between mid-March and the end of May 2015, saw the participation of law enforcement teams and agencies from 62 countries in Europe, Africa, Asia and America.
- EAGLE - Eco Activists for Governance and Law Enforcement is comprised of several NGO's operating in Western Africa aimed at detecting, combating, and regulating corruption and wildlife crime. EAGLE is currently active in Cameroon, Congo, Gabon, Guinea, Togo, Benin, Senegal, and Uganda.
- Environment ZA - The Department of Environmental Affairs of the Republic of South Africa.
- EU-TWIX - A database that has been constructed to provide an overview of wildlife seizures in the EU, and aid law enforcement agencies in their efforts to detect, analyse and regulate illegal activities related to trade in flora and fauna.

- Lusaka Agreement Taskforce Secretariat - The Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora.
- Mexican National Data - National wildlife seizure data from Mexico provided by the 'Procuraduría Federal de Protección al Ambiente'.
- NECER - National Environmental Compliance & Enforcement Report is an annual report prepared by the Department of Environmental Affairs of South Africa which provides an overview of enforcement efforts, progress, and notable seizures.
- Peru National Data - National wildlife seizure data provided by the Servicio Nacional Forestal y de Fauna Silvestre through the Permanent Mission, Vienna.
- Philippines National Data - National wildlife seizure data provided by the Department of Environment and National Resources, Biodiversity Management Bureau.
- USFWS-LEMIS - United States Fish and Wildlife Service Law Enforcement Management Information System.
- WAPPRIITA – Environment Canada, Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act.
- WCCB - Wildlife Crime Control Bureau, Ministry of Environment and Forests, India.
- WCO-CEN - World Customs Organization, Customs Enforcement Network.
- Pangolin Working Group - Intersessional working group on pangolins established at the CITES Standing Committee 65.
- WPSI - Wildlife Protection Society of India.

Data limitations and methodological considerations

Wildlife seizure data, like any other seizure data, are complicated to interpret. Each incident is like a single pixel in a large and complex hidden picture, a brief glimpse into a clandestine world. Any crime analysis of wildlife seizure data must overcome four main challenges: estimating the true prevalence of wildlife trafficking; the issue of uneven sampling; the difficulty of comparing unlike products; and the fact that not all seizures result from criminal intent.

Use of triangulation methods and qualitative information to overcome prevalence and sampling problems

Raw seizure data are not an adequate indication of the size of the underlying illicit contraband flow. Conscientious and well-resourced law enforcement agencies may seize a large share of a small flow, while much larger contraband movement can be missed entirely by those without the means to detect it. Some countries do not have the mechanisms in place to collection wildlife seizure data at a national level, or collect only aggregated information. As a result, the current global wildlife seizures database is somewhat incomplete in its coverage. Despite substantial data from most key destination markets, some regions are underrepresented, and efforts are underway to gather these data.

Taking the seizure information that does exist and triangulating it with other sources of data can help to paint a more complete picture. For example, surveys have been conducted on the extent of demand for illicit products. Data on the illegal trade can be triangulated with data on legal trade and scientific information about the number and location of protected species. Known unregulated wildlife markets, both real and virtual, can be monitored for data such as price trends. Finally, qualitative work can greatly enhance the analysis. Those who make their

living from legal and illegal wildlife markets can often give an estimate of scale and trend to complement the recorded statistics.

Comparing unlike products and eliminating noise

A more profound complication comes with the extreme heterogeneity of illegal wildlife products. To compare illegal wildlife flows, to aggregate multiple seizures, and to track trends over time requires some sort of amalgamation. But how does one compare a box of 10,000 seahorses, a shipping container of rosewood, and a suitcase with three rhino horns? Does each seizure count as “one”? Should the logs be counted and the comparison done by the number of detachable items? Or should each item be weighed on a scale and compared on the basis of kilograms of product?

The weight and number of seizures cannot be used as an indicator of poaching, because it is meaningless to compare or add the different wildlife products. Although it represents an oversimplification of the issues, the simplest means of comparison is some form of standardised valuation. Transnational organized crime is crime committed for material gain. To understand the criminal incentive structure, it is important to know the rough monetary values involved. With sufficiently detailed study, the monetary value of any wildlife contraband flow can be estimated. But even more importantly, monetary values provide an index by which unlike commodities can be compared and tracked across time. Moreover, valuation can be used to filter data noise. Many seizures result from ignorance of the law, not smuggling. To use the seizure records as a tool for crime analysis, this data noise must be filtered. Since, as noted above, organized crime is profit driven, it is highly unlikely that low value shipments were made with criminal intent.

Wildlife Seizure Index

As noted above, in order to be able to speak about “wildlife trafficking” as a category, it is necessary to combine seizures of very unlike commodities through valuation. Since legal trade does occur among all species products, including those listed on CITES Appendix I, it is possible to derive standard prices from import records in a common market. Based on the valuations thus derived, it is possible to determine an index value for global wildlife seizures, and to track this value across time. It is also possible to determine which species and species products are most implicated in illicit trade. It was on the basis of initial valuation of World WISE that the case study species products were identified. Although subsequent data and analysis have changed the picture, these seven species still make up a significant share of the value of the entire database (69% - see graph on page 3).

The methodology used to derive the value index is as follows:

- Let commodity x have n number of reported declared values; $\{v_1, v_2, \dots, v_n\}$
- Assuming that each report involves several units of the commodity $\{x_1, x_2, \dots, x_n\}$,
- the value assigned to each report is: $\{x_1 * v_1, x_2 * v_2, \dots, x_n * v_n\}$
- Thus, the value of all the reported amounts of the commodity x is: $\sum_{i=1}^n x_i * v_i$
- The value index for commodity x used for this report is the weighted average

$$vx = \frac{\sum_{i=1}^n x_i * v_i}{\sum_{i=1}^n x_i}$$

This method takes into account each reported value and assigns weight to the valuation according to the amount of the commodity associated with each report.

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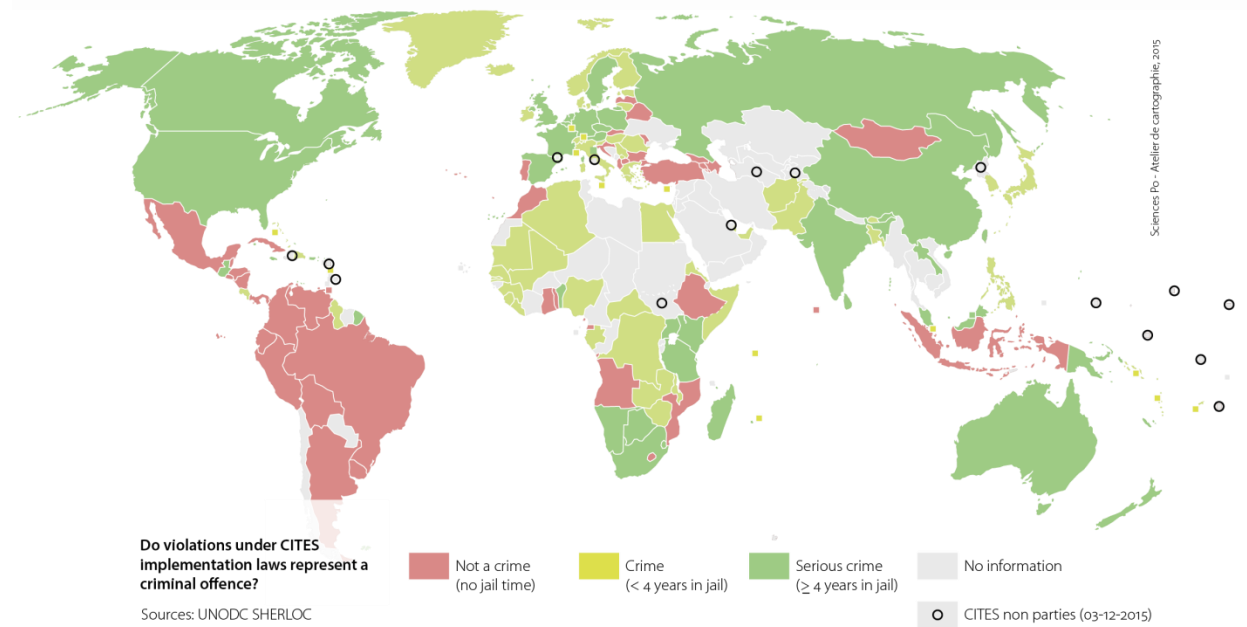
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Chapter 1: Defining Wildlife Crime

Wildlife Crime Map

Figure. Penalties for CITES violations



Chapter 2: The World Wildlife Seizure Database (World WISE)

I: World WISE General Maps

Below maps are based on the data included in the current global wildlife seizures database (World WISE) which is not complete in its coverage. Despite substantial data from most key destination markets, some regions are underrepresented

Figure. Total number of seizures reported by country, 2004-2015

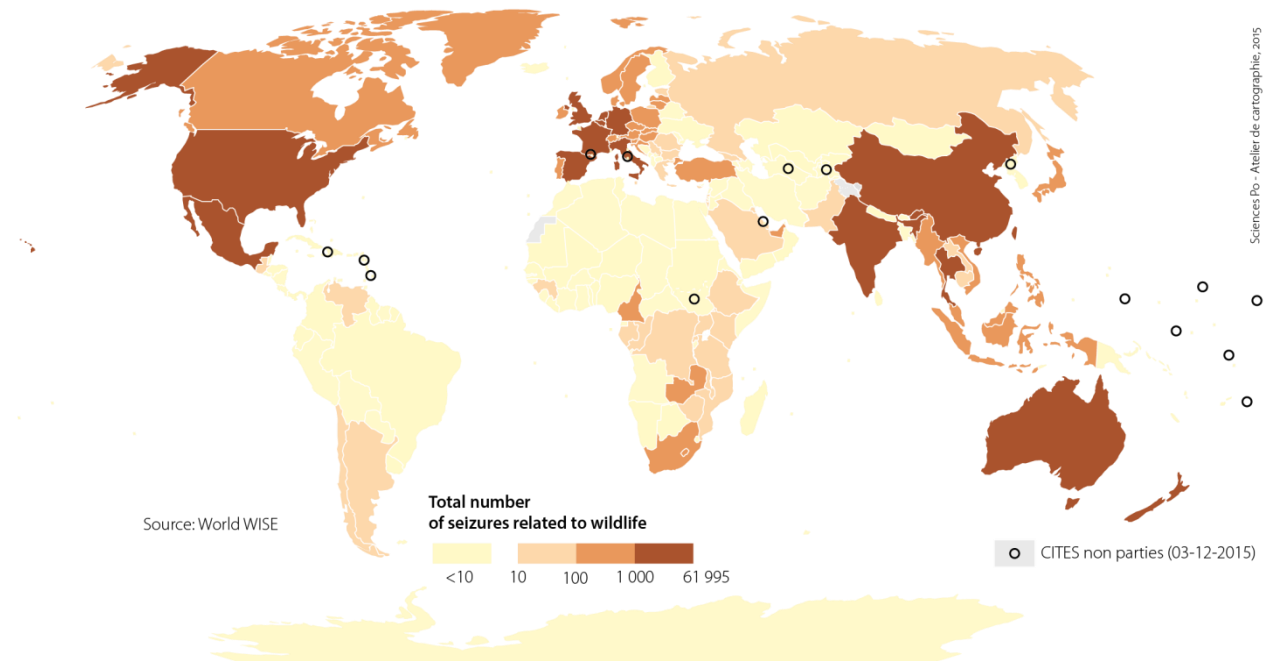
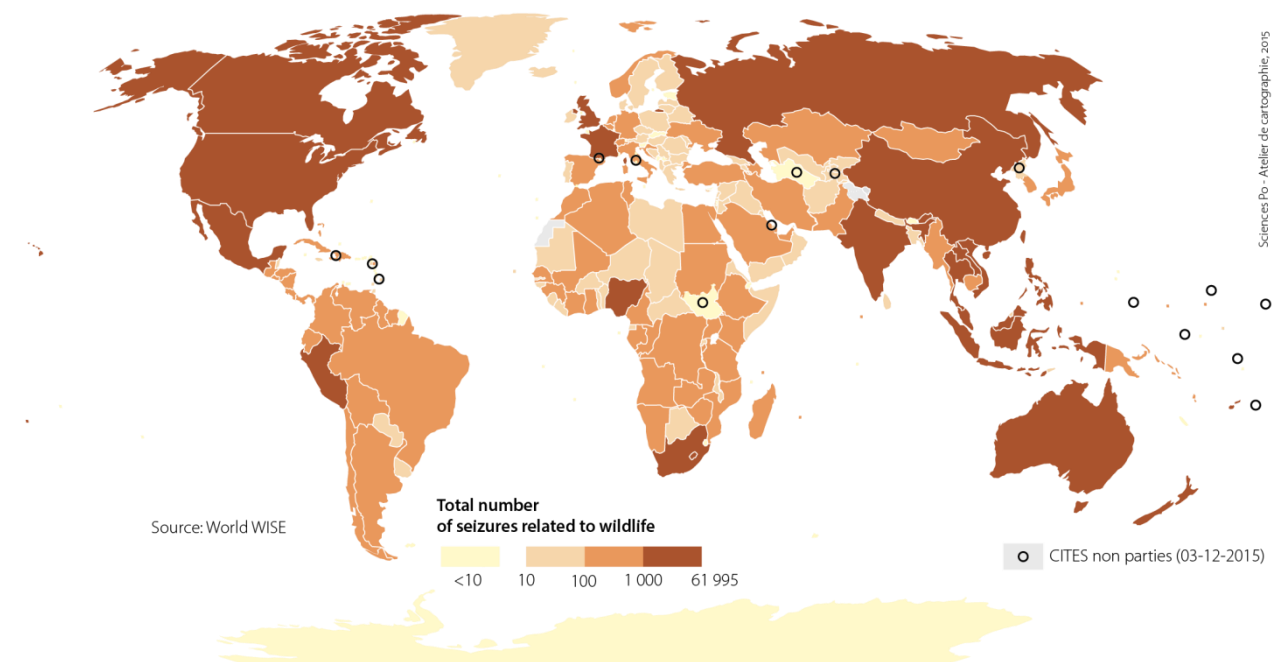


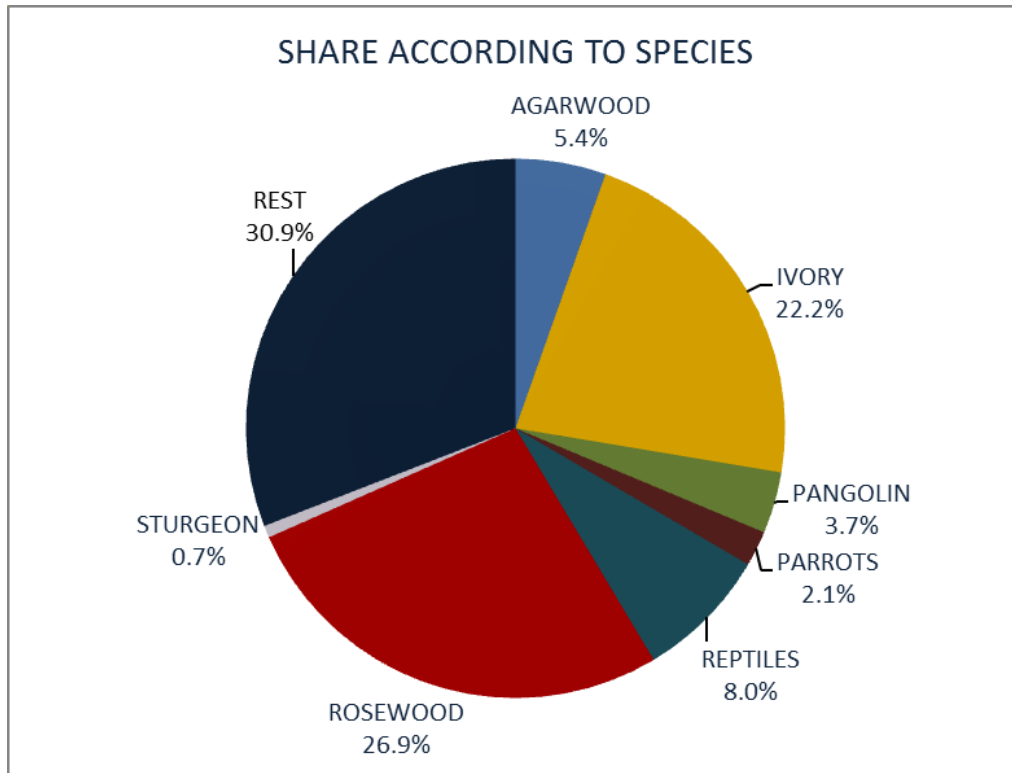
Figure. Source countries of seized shipments, 2004-2015



II: Wildlife Seizure Index

The figures below present an analysis of the data in the World Wildlife Seizure Database using the Wildlife Seizure Index to aggregate species specific information (see page vi for a description of the Wildlife Seizure Index).

Figure. Share of indexed species specific seizures as part of the total indexed seizures



Chapter 3-9 Case Studies

Agarwood (Oud) Case study

I: Agarwood (Oud) World WISE data

Analysis of illegal agarwood (oud)(kg) data was based on seizure records in World WISE, 2007 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country. Chips, bark, oil, and powder by weight were used in the analysis and conversions were applied for oil. See table for details on conversions.

Figure. Seized Agarwood (kg), 2007 to 2014. Conversions applied.

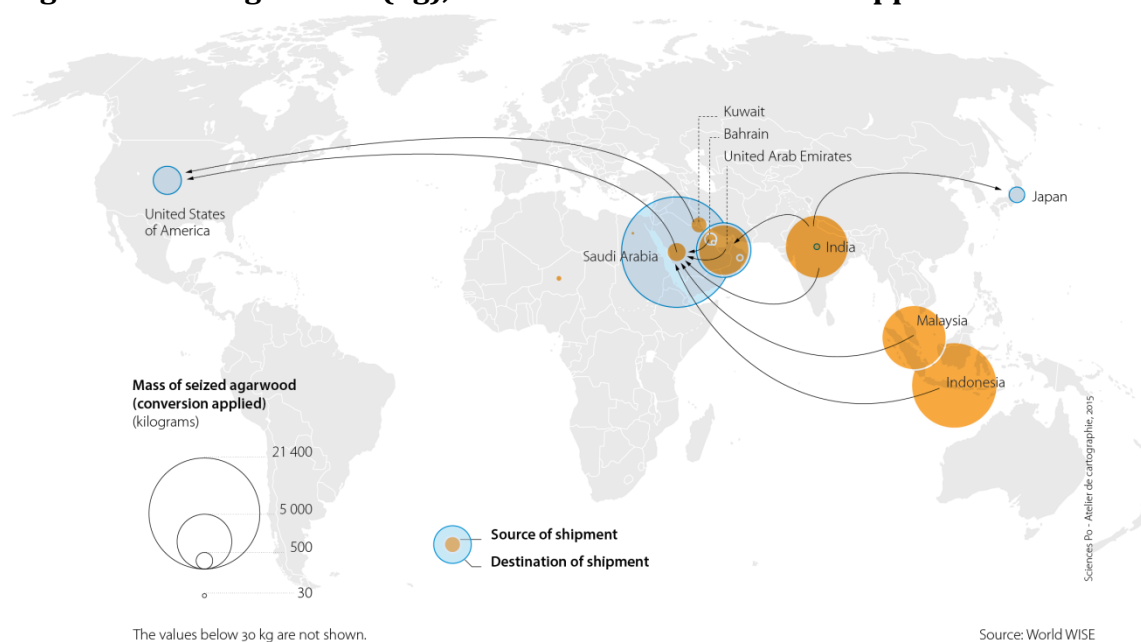


Table. Summary of Seized Agarwood (kg) in World WISE, 2007 to 2014.

Commodity types	Weight/volume	Units (no. of items)	Comments
Final Wood conversions	49,730.70 kg	-	Includes wood chips, bark, oil and powder all converted to wood. See conversion factors below
Original chip/bark	12,217.97 kg	358	Original values of chips by weight were used.
Original powder	12,513.16 kg	42	Powder in KG was converted to wood (1:1 ratio).
Original oil	57.36 kg and 17.215 LT	381	Oil in LT/KG was converted to wood (1 LT or KG oil from 143.6kg of wood).
Original derivatives	4821.59 kg and 233.88 LT	30724	Not included in analysis
Original extracts	8,526.21 kg and 2.382 LT	168	Not included in analysis
Original medicine	408.17 kg and 10 LT	5401	Not included in analysis
Original unspecified	3,223.22 kg		Not included in analysis

Sources: World WISE

Summary tables for weight of agarwood (oud) (kg) seized, according to seizure records in World WISE, 2007 to 2014. Conversions applied.

Table. Weight of agarwood (kg) seized with information on source of shipment or destination of shipment, 2007 to 2014. Conversions applied.

Summary of Source	Converted to Wood (kg)	% of total seized
Source of shipment	33,854	96%
Unknown	1,587	4%
Total seized	35,441	100%

Sources: World WISE

Summary of Destination	Converted to Wood (kg)	% of total seized
Destination of shipment	28,700	81%
Unknown	6,741	19%
Total seized	35,441	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, weight of agarwood (kg) seized from 2007 to 2014. Conversions applied.

Top 10 source countries and territories	Converted to Wood (kg)	% of total seized
Indonesia	12,906	36%
Malaysia	7,449	21%
India	7,170	20%
United Arab Emirates	4,647	13%
Saudi Arabia	680	2%
Kuwait	483	1%
Bahrain	238	1%
Niger	72	0%
Oman	65	0%
Qatar	33	0%
Other 10 countries and territories	110	0%
Unknown	1,587	4%
Total	35,441	100%

Sources: World WISE

Top 10 destination countries and territories	Converted to Wood (kg)	% of total seized
Saudi Arabia	21,476	61%
United Arab Emirates	5,279	15%
United States of America	1,403	4%
Japan	431	1%
India	60	0%
Qatar	17	0%
Kuwait	89	0%
Thailand	8.00	0%
Canada	6.00	0%
Romania	5.00	0%
Other 5 countries and territories	6	0%
Unknown	6,741	19%
Total	35,441	100%

Sources: World WISE

II: Agarwood (Oud) CITES Legal Trade Data

Summary tables for the weight of Agarwood (kg) exports, according export data in the CITES Wildlife trade database, 2005 to 2013. Chips, bark, oil, and powder by weight were used in the analysis. Conversions were used for oil. See table below for details.

Table. Conversions for legal Agarwood (kg) exported, 2005 to 2013.

Commodity types	Weight/volume	Comments
Final Wood conversions	13,271,382 kg	Includes wood chips, bark, oil and powder converted to kg of wood.
Original chip	5,895,489 kg	Original values of chips by weight were used.
Original powder	4,112,158 kg	Powder in KG was converted to kg of wood (1:1 ratio)
Original oil	22,728 kg	Oil in LT/KG was converted to kg of wood (1 LT oil from 143.6kg wood)

Sources: Export data from CITES Trade Database

Table. Weight of agarwood (kg) reported in export data, with information on import or export country, 2005 to 2013. Conversion applied.

Source of shipment summary	Converted to Wood (kg)	% of total trade
Source of shipment	13,271,382	100%
Unknown	0	0%
Total	13,271,382	100%

Sources: Export data from CITES Trade Database

Destination of shipment summary	Converted to Wood (kg)	% of total trade
Destination of shipment	13,271,282	99%
Unknown	100	>1%
Total	13,271,382	100%

Sources: Export data from CITES Trade Database

Table. The top 10 importing and exporting countries and territories trading in agarwood (kg), 2005 to 2013. Conversions applied.

Top 10 source countries and territories	Converted to Wood (kg)	% of total trade
Indonesia	7,048,293	53%
Thailand	3,280,825	25%
Malaysia	2,107,579	16%
Bangladesh	505,064	4%
Viet Nam	260,702	2%
United Arab Emirates	18,543	0%
Kuwait	17,800	0%
Lao People's Democratic Republic	16,659	0%
Papua New Guinea	7,963	0%
Saudi Arabia	7,864	0%
Other 3 countries and territories	90	0%
Unknown	0	0%
Total	13,271,382	100%

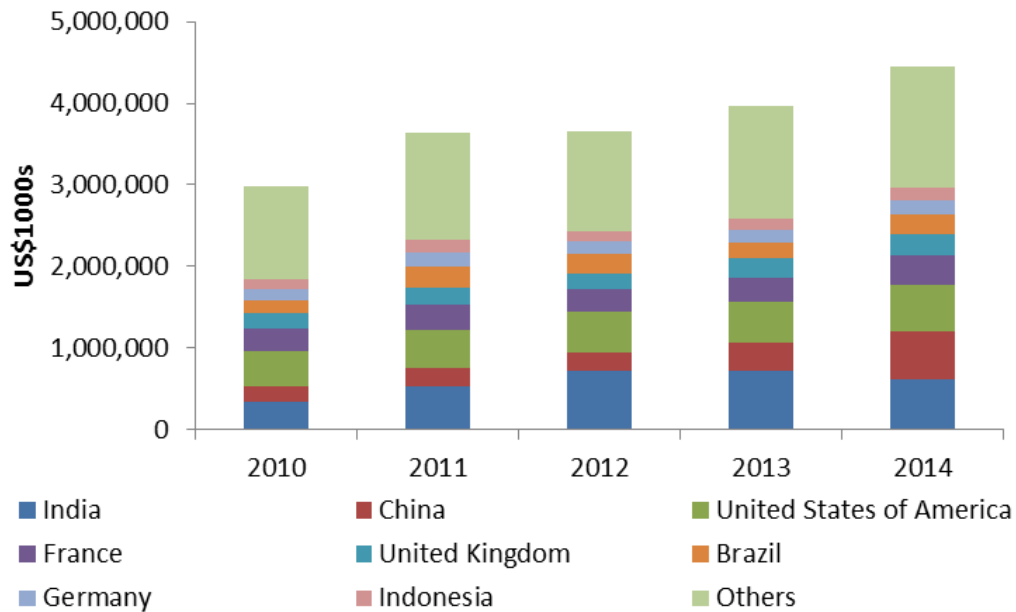
Sources: Export data from CITES Trade Database

Top 10 destination countries and territories	Converted to Wood (kg)	% of total trade
Saudi Arabia	3,984,463	30%
China	3,140,596	24%
China	91,965	
China, Hong Kong SAR	57,900	
China, Macao SAR	39,395	
Taiwan Province of China	2,951,335	
Singapore	2,481,115	19%
United Arab Emirates	1,752,260	13%
Japan	469,718	4%
Viet Nam	456,098	3%
Bahrain	294,426	2%
Malaysia	203,211	2%
India	170,782	1%
Kuwait	134,183	1%
Other 39 countries and territories	184,430	1%
Unknown	100	0%
Total	13,271,382	100%

Sources: Export data from CITES Trade Database

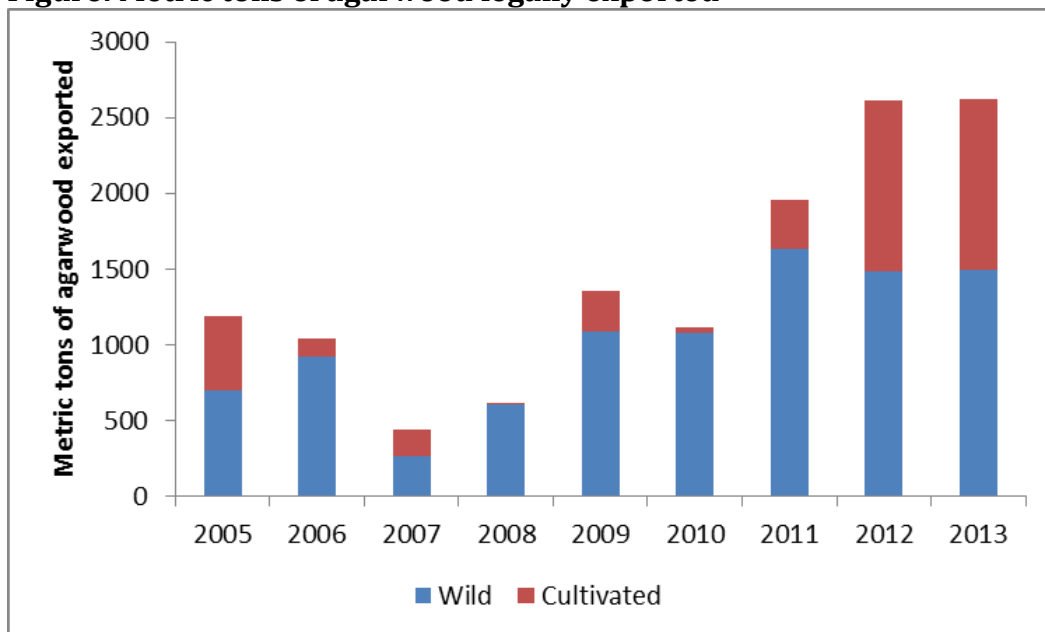
III: Draft Tables and Figures in the Agarwood (Oud) Chapter

Figure: World exports of essential oils, resinoids, and terpenic by-products



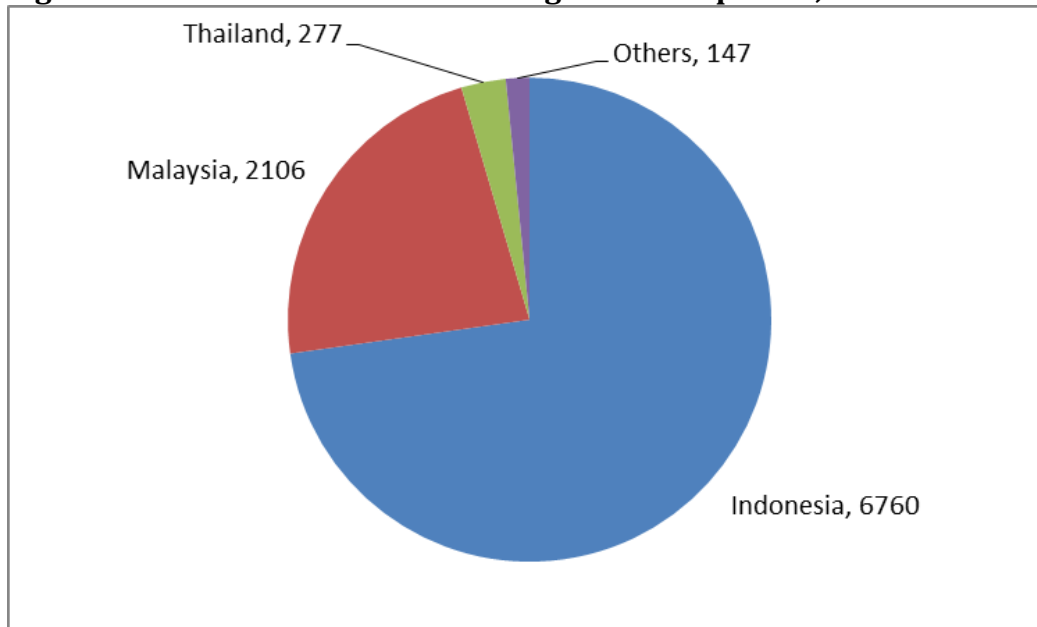
Source: ITC Trade Map

Figure: Metric tons of agarwood legally exported



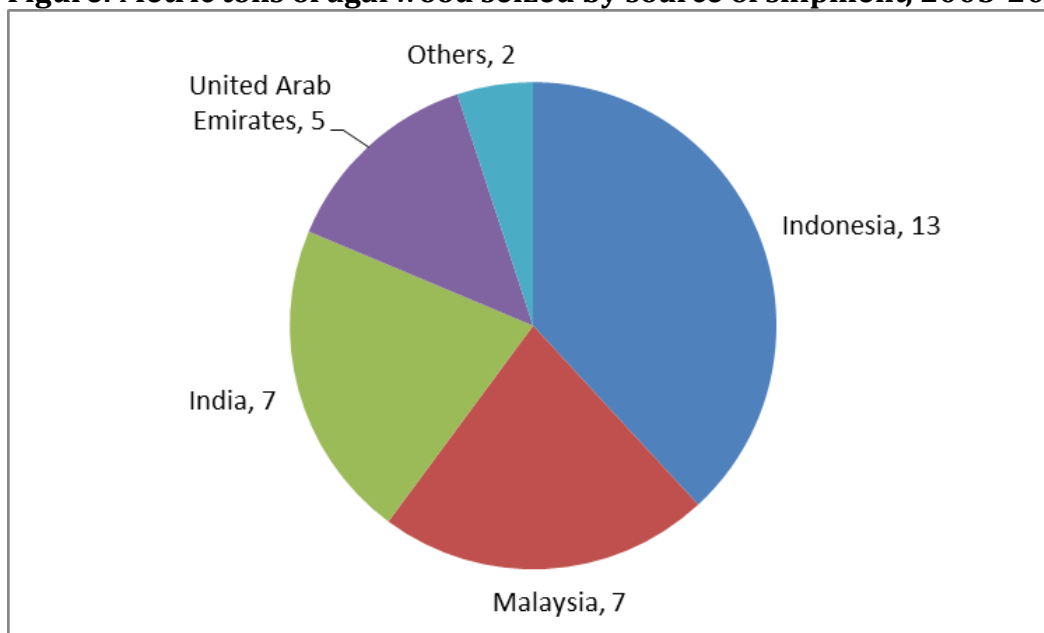
Source: CITES Trade Database

Figure: Metric tons of wild-sourced agarwood exported, 2005-2014¹



Source: CITES Trade Database

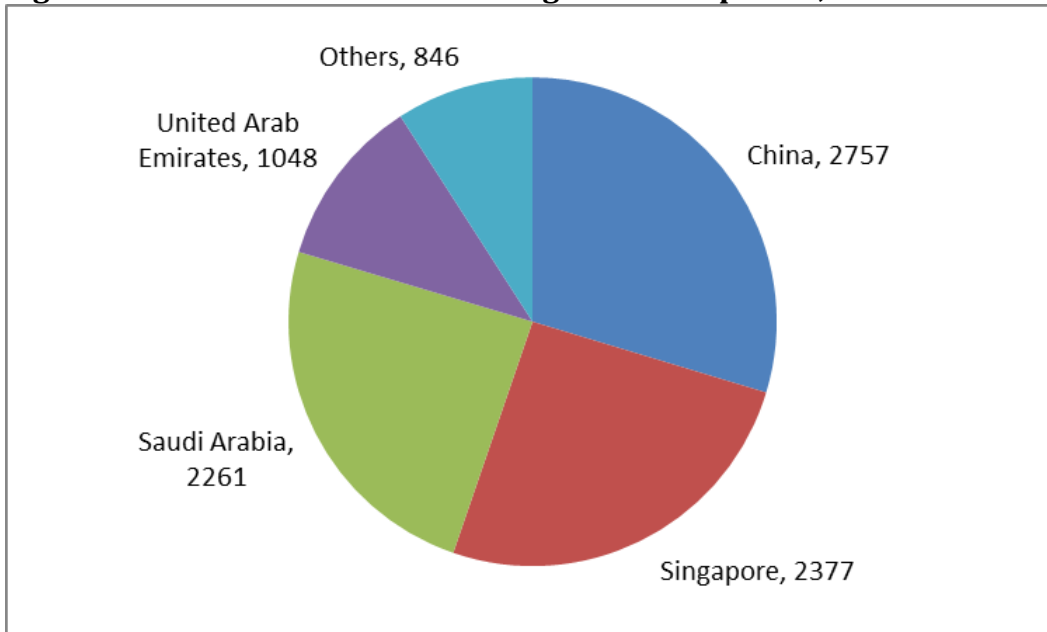
Figure: Metric tons of agarwood seized by source of shipment, 2005-2013²



¹ Oil exports converted to agarwood equivalents at a ratio of 1:146. Powder exports are assumed to be resin-infused and so are deemed equivalent to chip or timber exports. See:

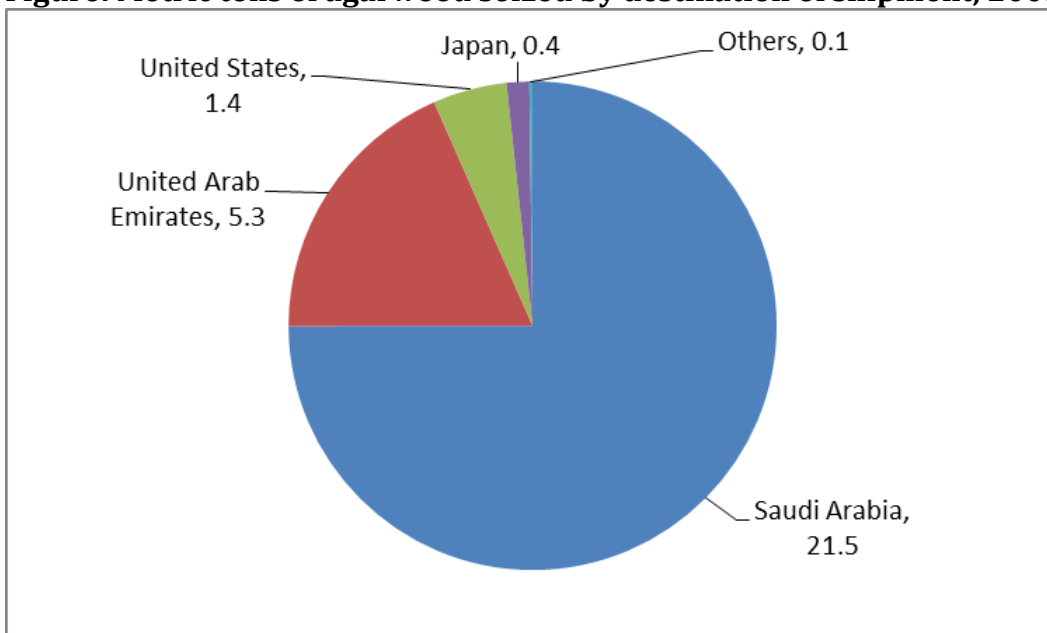
² Oil exports converted to agarwood equivalents at a ratio of 1:146. Powder exports are assumed to be resin-infused and so are deemed equivalent to chip or timber exports. See:

Figure: Metric tons of wild-sourced agarwood imported, 2005-2014³



Source: CITES Trade Database

Figure: Metric tons of agarwood seized by destination of shipment, 2005-2014⁴



Source: World WISE

³ Oil exports converted to agarwood equivalents at a ratio of 1:146. Powder exports are assumed to be resin-infused and so are deemed equivalent to chip or timber exports. See:

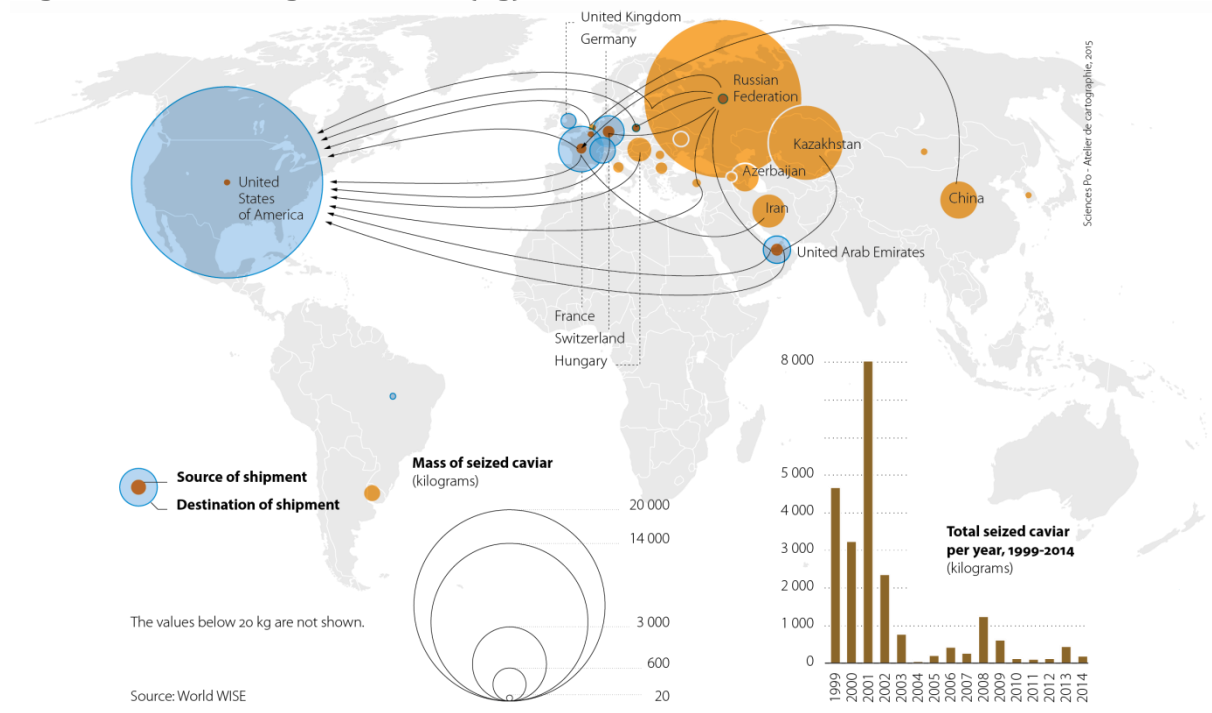
⁴ Oil exports converted to agarwood equivalents at a ratio of 1:146. Powder exports are assumed to be resin-infused and so are deemed equivalent to chip or timber exports. See:

Caviar Case Study

I: Caviar (Sturgeon) World WISE data

Analysis of illegal caviar (kg) data was based on seizure records in World WISE from 1999 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country.

Figure. Seized Sturgeon Caviar (kg), 1999 to 2014.



Summary tables for weight of sturgeon caviar (kg) seized, according to seizure records in World WISE, 1999 to 2014.

Table. Weight of sturgeon caviar (kg) seized with information on source of shipment or destination of shipment, 1999 to 2014.

Source of shipment summary	Weight of caviar/eggs (kg)	% of total seized
Source of shipment	20,332	86%
Unknown	3312	14%
Total seized	23,644	100%

Sources: World WISE

Destination of shipment summary	Weight of caviar/eggs (kg)	% of total seized
Destination of shipment	23,516	99%
Unknown	128	1%
Total seized	23,644	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, weight of sturgeon caviar (kg) seized from 1999 to 2014.

Top 10 source countries and territories	Weight of caviar/eggs (kg)	% of total seized
Russian Federation	13,943	59%
Kazakhstan	3,097	13%
China <i>China</i> <i>China, Hong Kong SAR</i> <i>Taiwan Province of China</i>	801 781 20 <1	3%
Iran (Islamic Republic of)	620	3%
Azerbaijan	425	2%
Hungary	328	1%
Uruguay	145	1%
Ukraine	107	0%
United Arab Emirates	85	0%
Germany	77	0%
Other 51 countries and territories	705	3%
Unknown	3312	14%
Total	23,644	100%

Sources: World WISE

Top 10 destination countries and territories	Weight of caviar/eggs (kg)	% of total seized
United States of America	20,613	87%
France	1,160	5%
Germany	563	2%
Switzerland	371	2%
United Arab Emirates	369	2%
United Kingdom	127	1%
Turkey	55	0%
Russian Federation	47	0%
Poland	33	0%
Australia	26	0%
Other 21 countries and territories	151	1%
Unknown	128	1%
Total	23,644	100%

Sources: World WISE

Table. Weight of sturgeon caviar (kg) seized by year, 1999 to 2014.

Time series	Weight of caviar/eggs (kg)	% of total seized
1999	4,683	20%
2000	3,248	14%
2001	8,048	34%
2002	2,377	10%
2003	784	3%
2004	66	0%
2005	214	1%
2006	431	2%
2007	284	1%
2008	1,257	5%
2009	694	3%
2010	243	1%
2011	331	1%
2012	257	1%
2013	530	2%
2014	196	1%
Total	23,644	100%

Sources: World WISE

II: Caviar (Sturgeon) CITES Legal Trade Data

Summary tables for the weight of sturgeon caviar (kg) exported, according export data in the CITES Wildlife trade database, 1999 to 2013.

Table. Weight of sturgeon caviar (kg) reported in export data, by source and year 1999 to 2013.

Time series	Weight of captive-sourced caviar (kg)	Weight of wild/unknown sourced caviar (kg)	Weight of all sources of caviar (kg)
2000	1,089	279,345	280,434
2001	1,787	285,917	287,704
2002	4,432	172,718	177,150
2003	6,137	148,834	154,971
2004	17,546	103,042	120,589
2005	39,077	69,088	108,165
2006	50,167	10,611	60,778
2007	67,064	21,038	88,102
2008	49,511	14,435	63,946
2009	56,248	7,066	63,314
2010	81,548	6,619	88,167
2011	111,452	3,147	114,600
2012	177,641	2,325	179,966
2013	174,050	2,839	176,889
Total	837,750	1,127,022	1,964,773

Sources: Export data from CITES Trade Database

Table. Weight of sturgeon caviar (kg) reported in export data, with information on importing or exporting country, 1999 to 2013.

Source of shipment summary	Weight of caviar/eggs (kg)	% of total trade
Source of shipment	1,963,537	99%
Unknown	1,235	<1%
Total seized	1,964,773	100%

Sources: Export data from CITES Trade Database

Destination of shipment summary	Weight of caviar/eggs (kg)	% of total trade
Destination of shipment	1,962,751	99%
Unknown	2,022	<1%
Total seized	1,964,773	100%

Sources: Export data from CITES Trade Database

Table. Top 10 importing and exporting countries and territories trading in sturgeon caviar (kg), 1999 to 2013.

Top 10 source countries and territories	Weight of caviar/eggs (kg)	% of total trade
Iran (Islamic Republic of)	556,741	28%
China <i>China</i> <i>China, Hong Kong SAR</i>	231,415 231,307 1108	12%
Kazakhstan	208,596	11%
Italy	201,007	10%
Russian Federation	171,165	9%
France	118,098	6%
United States of America	89,875	5%
Germany	89,749	5%
Azerbaijan	83,964	4%
Uruguay	59,652	3%
Other 32 countries and territories	153,276	8%
Unknown	1,235	0%
Total	1,964,773	100%

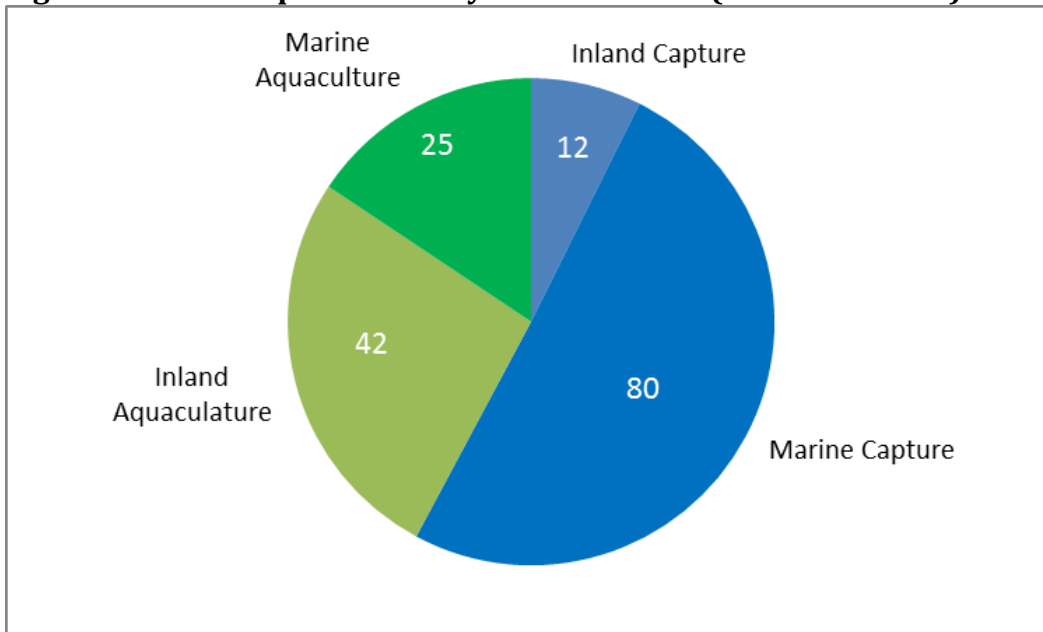
Sources: Export data from CITES Trade Database

Top 10 destination countries and territories	Weight of caviar/eggs (kg)	% of total trade
United States of America	430,794	22%
Germany	316,064	16%
France	302,192	15%
Japan	167,139	9%
Switzerland	118,437	6%
China <i>China</i> <i>China, Hong Kong SAR</i> <i>China, Macao SAR</i> <i>Taiwan Province of China</i>	127,344 23,380 103,474 325 164	6%
United Arab Emirates	98,267	5%
Belgium	66,153	3%
Australia	53,253	3%
Luxembourg	52,830	3%
Other 109 countries and territories	230,279	12%
Unknown	2,022	0%
Total	1,964,773	100%

Sources: Export data from CITES Trade Database

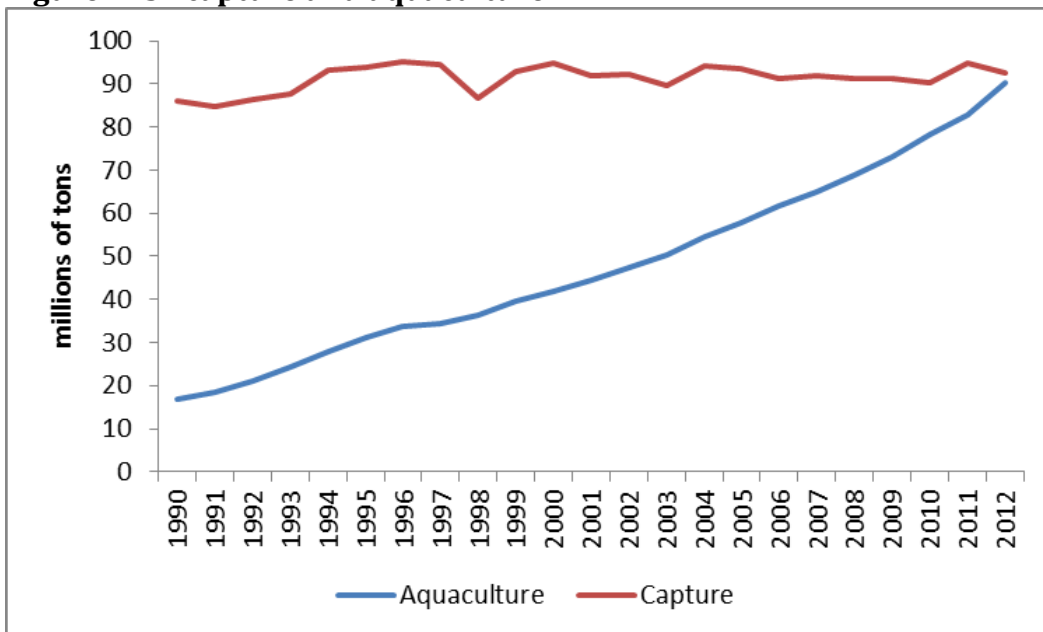
III: Draft Tables and Figures in the Sturgeon (Caviar) Chapter

Figure: World fish production by sector in 2012 (millions of tons)



Source: Elaborated from FAO data⁵

Figure: Fish capture and aquaculture

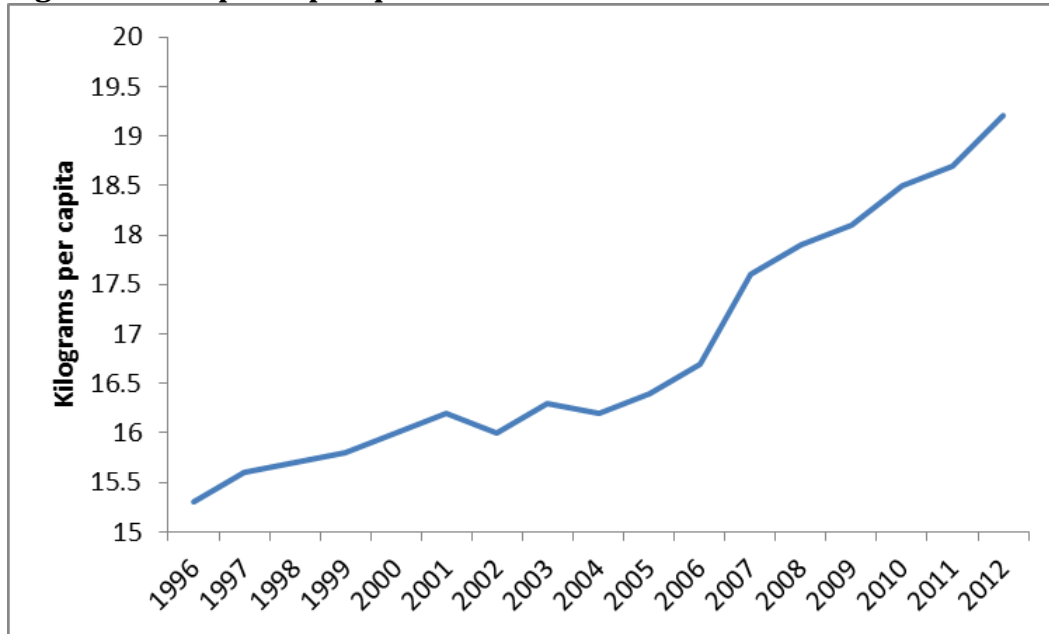


Source: Elaborated from FAO FIGIS⁶

⁵ FAO, The state of the world fisheries and aquaculture. Rome: FAO, 2012.

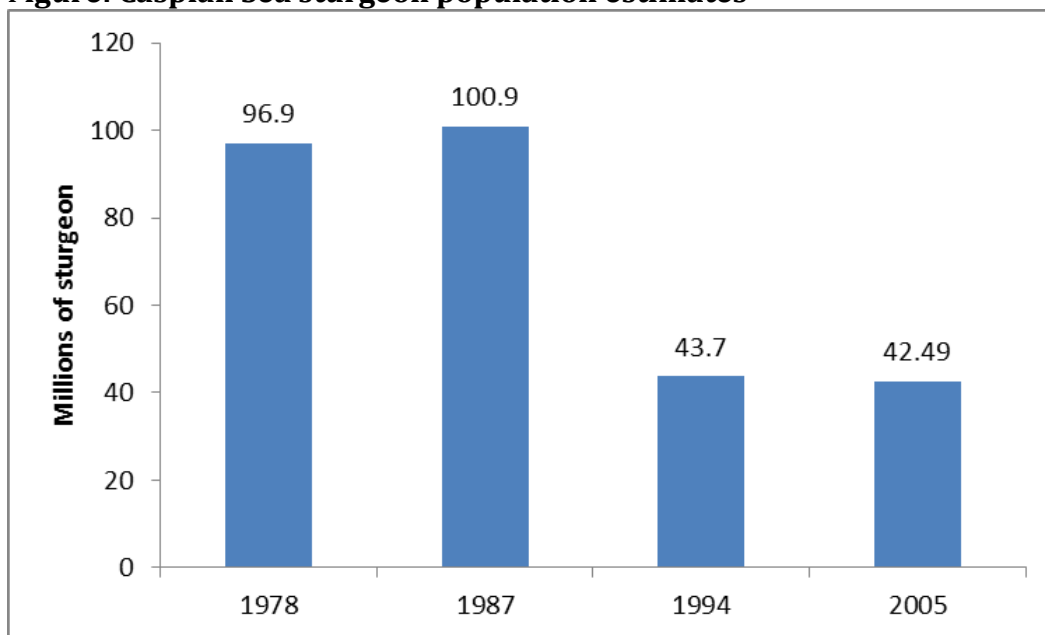
⁶ <http://www.fao.org/fishery/statistics/global-aquaculture-production/query/en>;
<http://www.fao.org/fishery/statistics/global-capture-production/query/en>

Figure: World per capita production of fish as food



Source: FAO⁷

Figure: Caspian Sea sturgeon population estimates

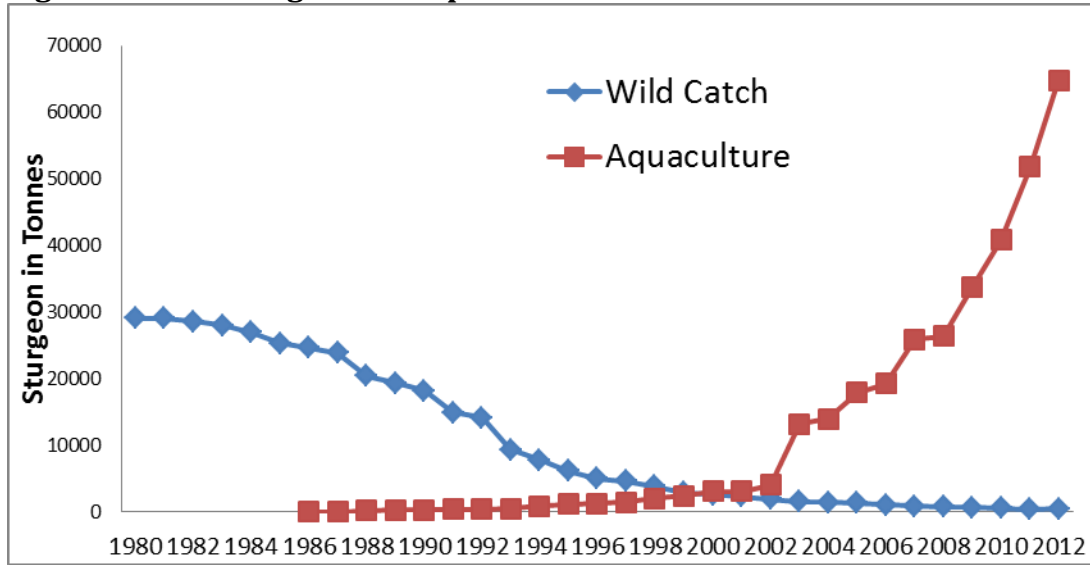


Source: Khodorevskaya, Ruban and Pavlov, 2009⁸

⁷ FAO, The state of the world fisheries and aquaculture, 2002, 2008, and 2014 editions.

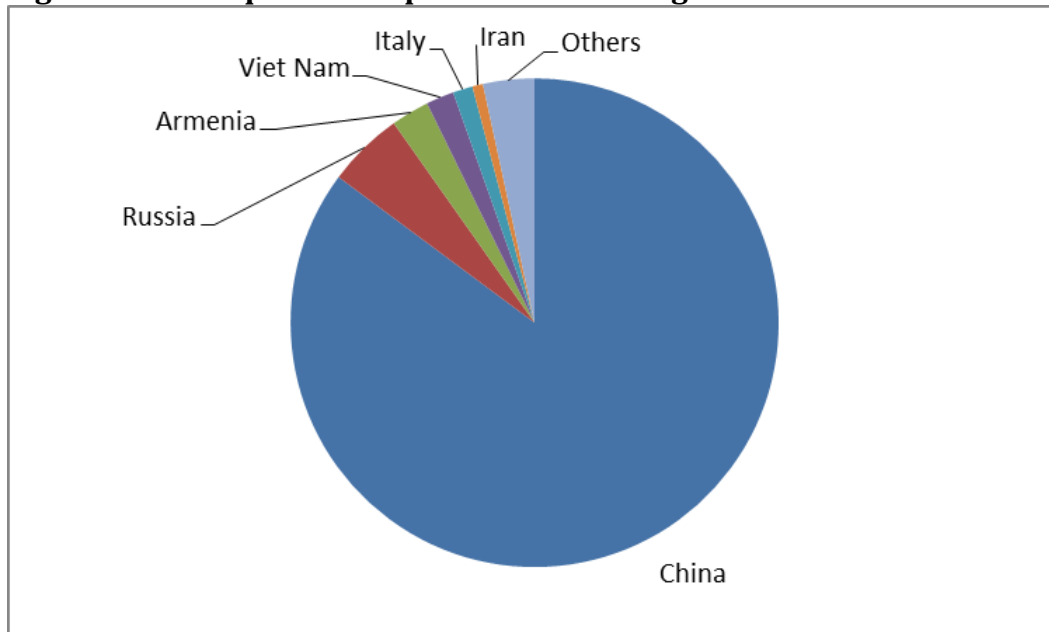
⁸ R. P. Khodorevskaya, G. I. Ruban and D. S. Pavlov, *Behaviour, Migrations, Distribution and Stocks of Sturgeons in the Volga-Caspian Basin*. Neu Wulmstorf; World Sturgeon Conservation Society Special Publication, No. 3, 2009.

Figure: Global sturgeon meat production



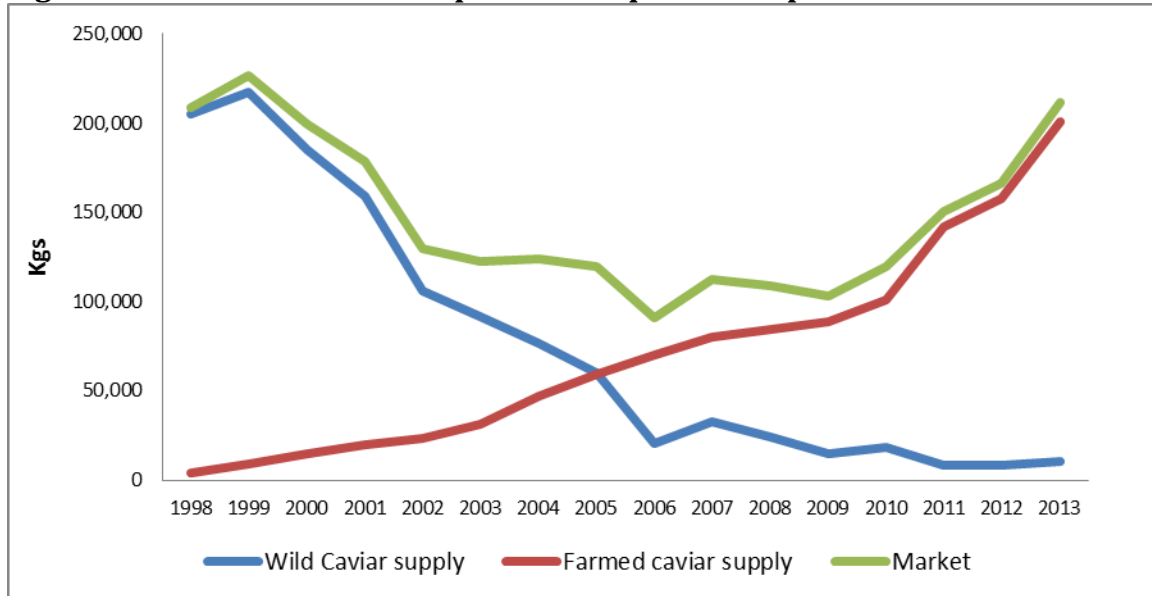
Source: Elaborated from FAO data

Figure: World aquaculture production of sturgeon meat in 2012



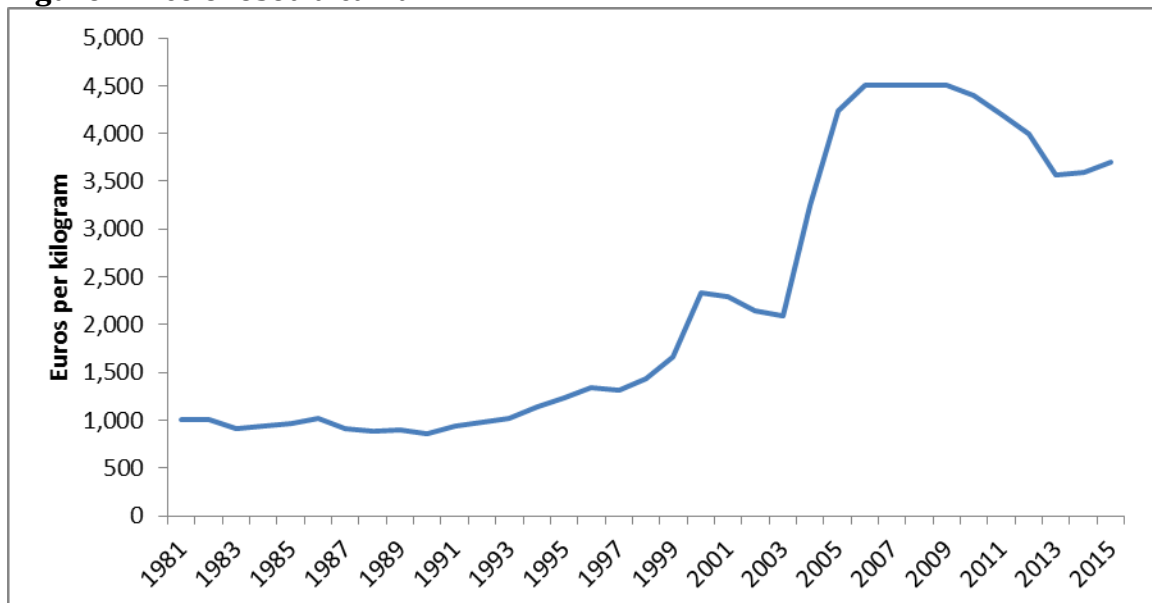
Source: Elaborated from FAO data

Figure: Caviar wild-sourced exports and aquaculture production



Source : De Meulenaer 1996, Williamson 2003, and CITES Trade database⁹

Figure: Price of osetra caviar

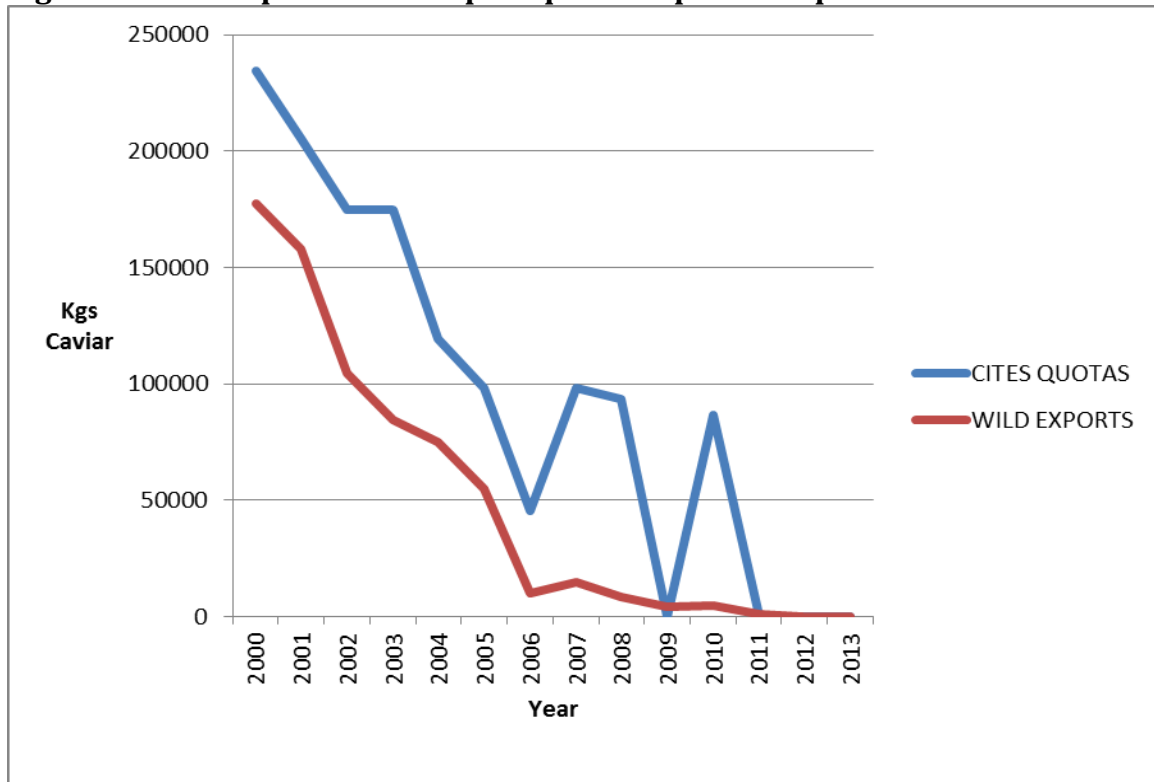


Source: Petrossian, A. 2006, and Jones, A. from private sources¹⁰

⁹ Exports represent those of Russia and Iran. See Tom De Meulenaer and Caroline Raymakers, *Sturgeons of the Caspian Sea and the international trade in caviar*. Cambridge: Traffic International, 1996. Williamson, D. F. 2003. *Caviar and Conservation: Status, Management and Trade of North American Sturgeon and Paddlefish*. TRAFFIC North America. Washington D.C.: World Wildlife Fund.

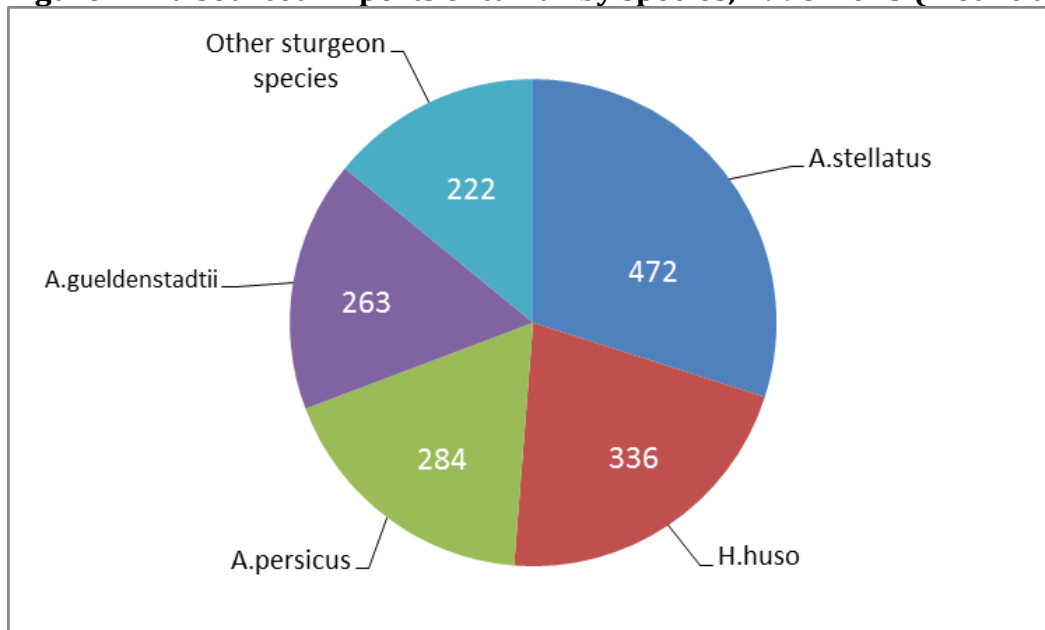
¹⁰ Armand Petrossian, *The Traders Perspective. Proceedings of the International Sturgeon Enforcement Workshop to Combat Illegal Trade in Caviar*. Prepared by TRAFFIC Europe for the European Commission, 2006. Brussels, Belgium.

Figure: CITES Caspian caviar export quotas reported exports



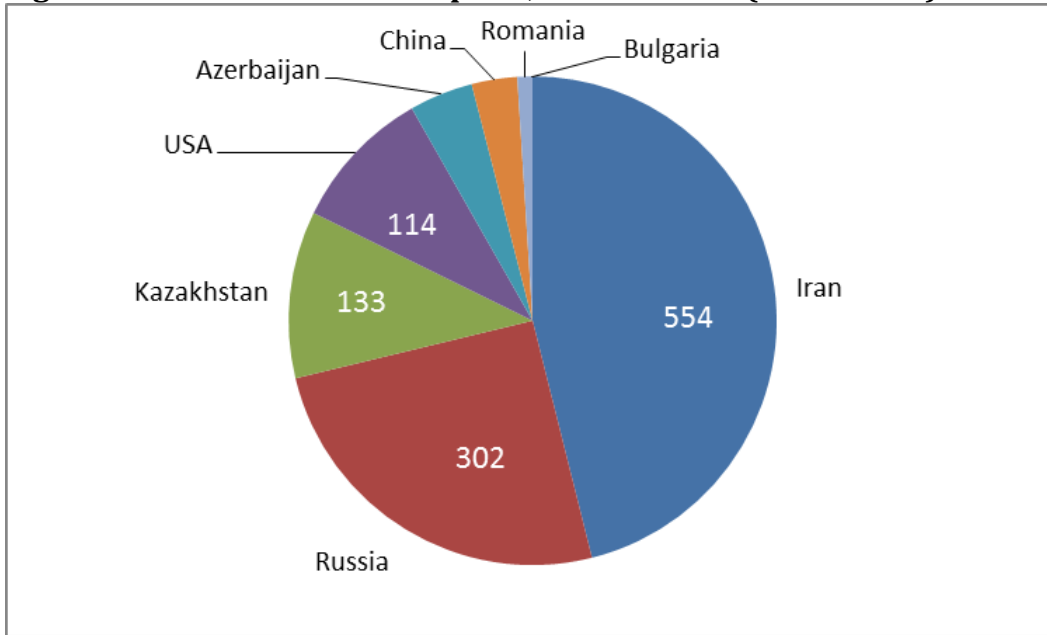
Source: CITES trade database

Figure: Wild sourced imports of caviar by species, 1998-2013 (metric tons)



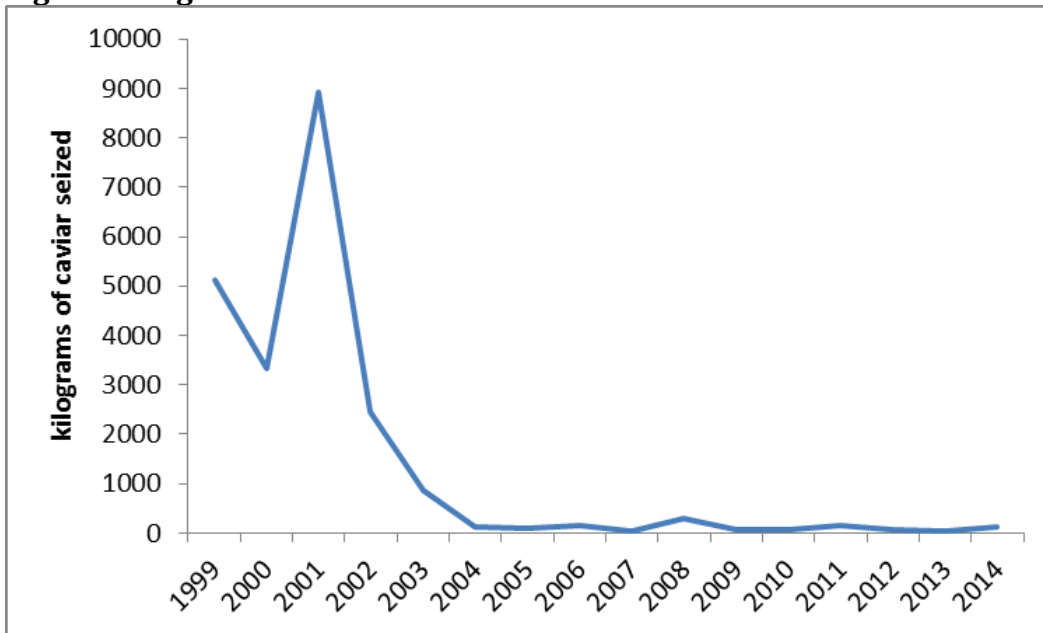
Source: CITES Trade Database

Figure: Wild sourced caviar exports, 1998 to 2013 (metric tons)



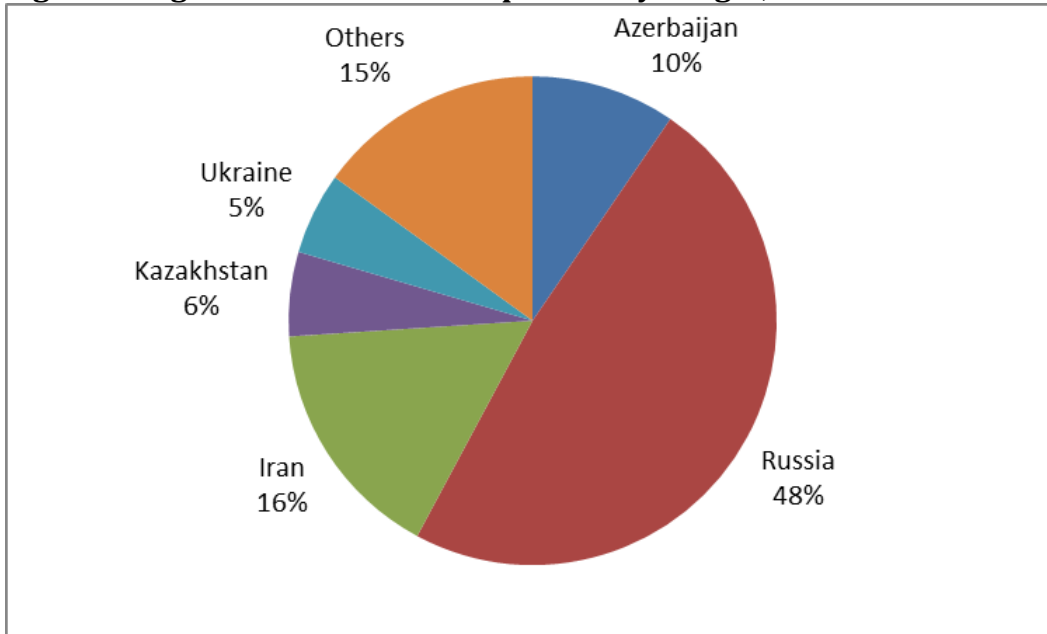
Source: CITES Trade Database

Figure: Kilograms of caviar seized in the United States



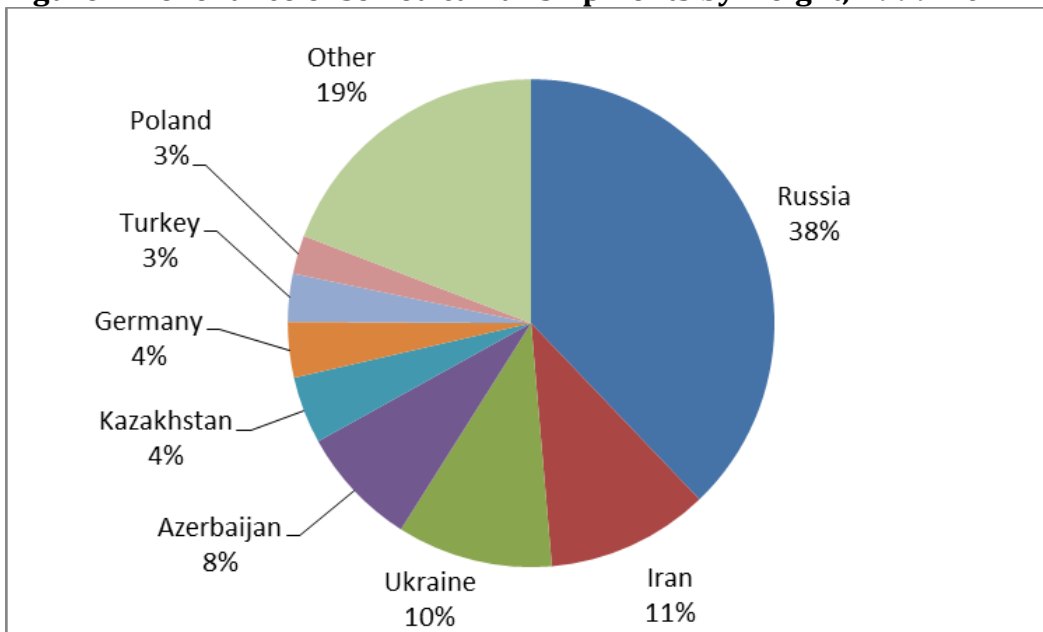
Source: US Fish and Wildlife, LEMIS data

Figure: Origin of seized caviar shipments by weight, 1999-2014



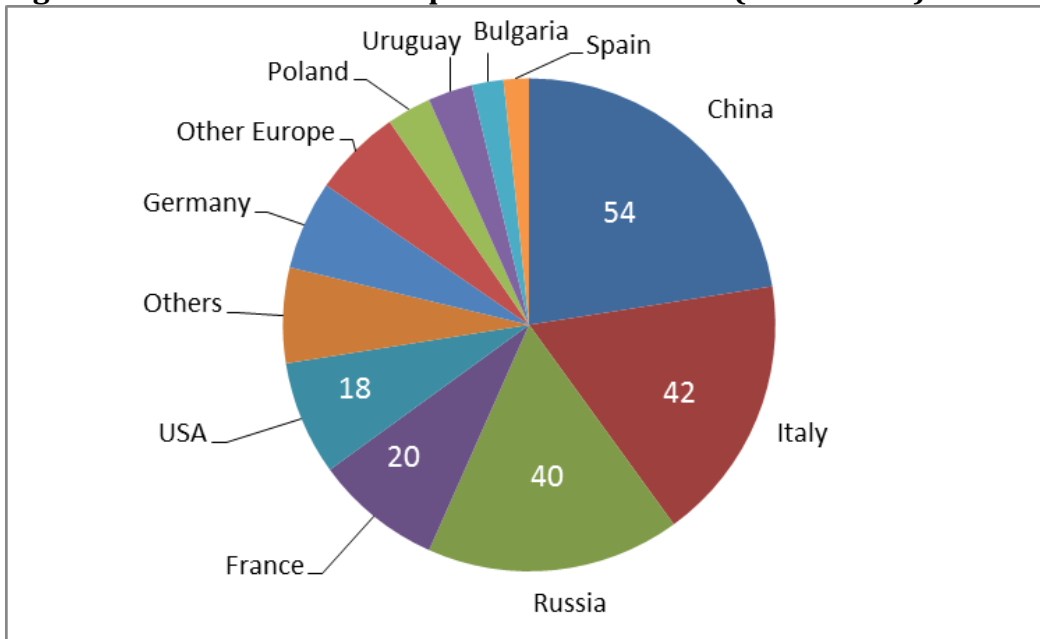
Source: World WISE

Figure: Provenance of seized caviar shipments by weight, 1999-2014



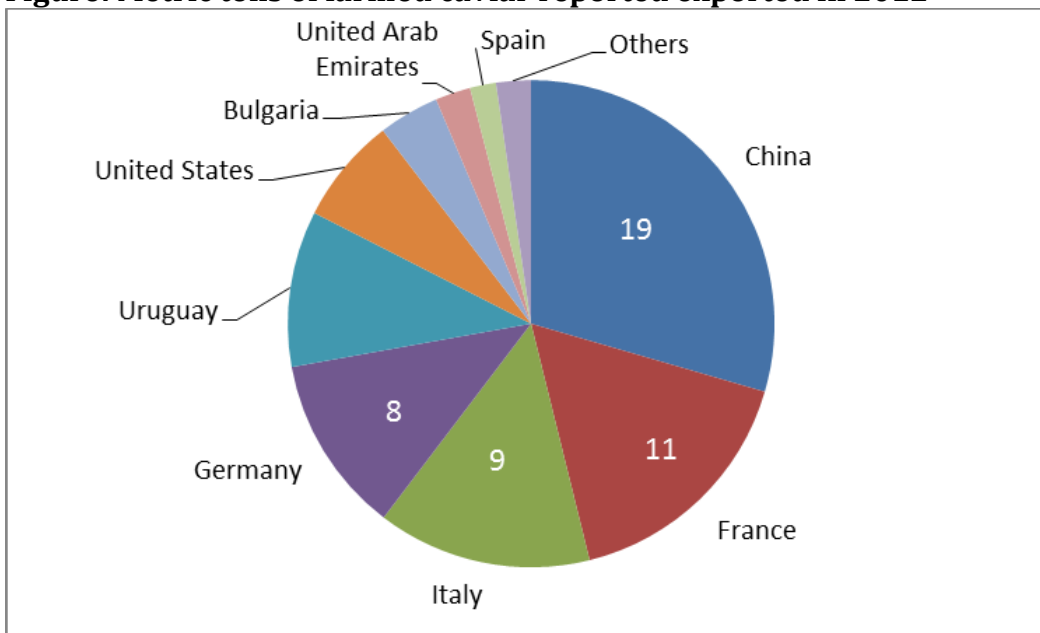
Source: World WISE

Figure: World farmed caviar production for 2014 (metric tons)



Source: Survey of caviar producers¹¹

Figure: Metric tons of farmed caviar reported exported in 2012



Source: CITES Trade Database

¹¹ Performed by Dr. Alan Jones in 2015. For a slightly different assessment, see P. Bronzi and H. Rosenthal, 'Present and future sturgeon and caviar production and marketing: A global market overview'. *Journal of Applied Ichthyology*, No 30, 2014, pp 1536-1546.

Ivory Case Study

I: Ivory World WISE Seizure Data

Analysis of illegal ivory (kg) data was based on seizure records in World WISE from 2005 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country. Ivory and ivory pieces were used in the analysis and conversions were applied to convert number of items to kg. See table for details on conversions.

Figure. Seized Ivory (kg), 2005 to 2014. Conversions applied.

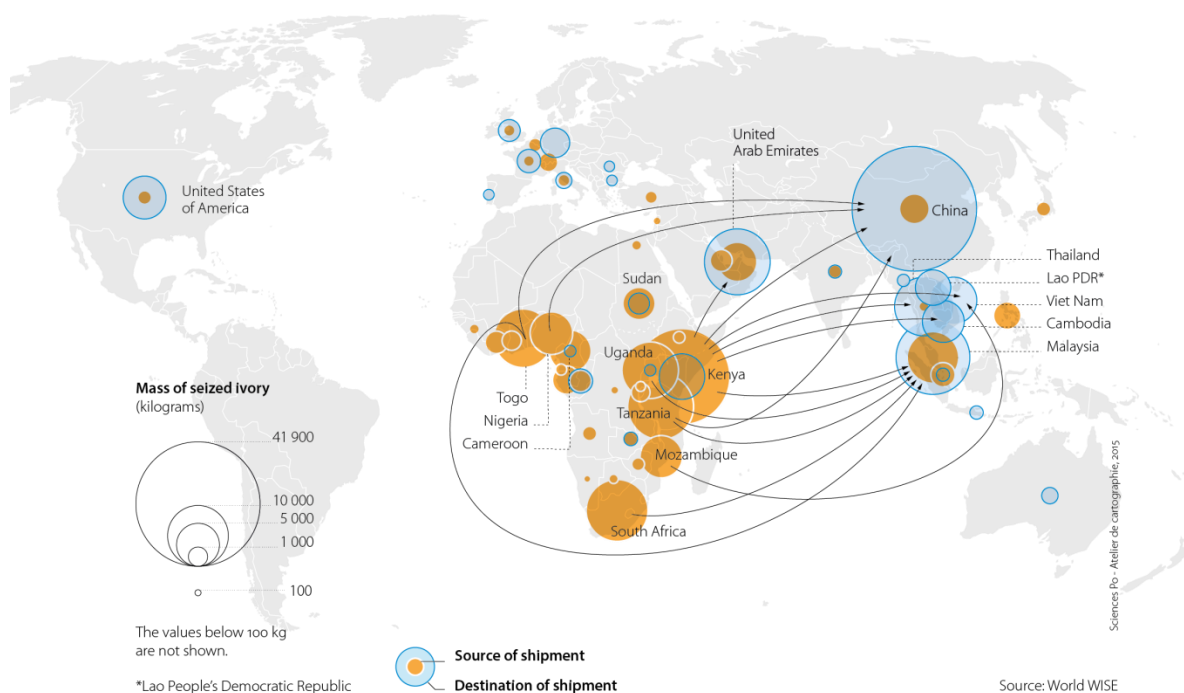


Table. Conversions for seized ivory in World WISE, 2005 to 2014.

Commodity types	Weight	Units (no. of items)	Comments
Final Ivory conversions	124130kg	0	Includes Ivory pieces and tusks all converted to kilograms.
Ivory Pieces	24920 kg	5640	A conversion ratio of 1 ivory piece to 3.66 kg of ivory was used.
Tusks	99209 kg	9296	A conversion ratio of 1 tusk to 5.45 kg of ivory was used.

Summary tables for weight of ivory (kg) seized, according to seizure records in World WISE, 2005 to 2014. Conversion applied.

Table. Weight of ivory (kg) seized with information on source of shipment or destination of shipment, 2005 to 2014. Conversion applied.

Source of shipment	Weight of Ivory (kg)	% of total seized
Source of shipment	103,121	83%
Unknown source	21,009	17%
Total seized	124,130	100%

Sources: World WISE

Destination of shipment	Weight of Ivory (kg)	% of total seized
Destination of shipment	95,636	77%
Unknown destination	28,494	23%
Total seized	124,130	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, weight of ivory (kg) seized from 2005 to 2014. Conversion applied.

Top 10 source countries/territories of shipment	Weight of Ivory (kg)	% of total seized
Kenya	24,289	20%
United Republic of Tanzania	10,986	9%
South Africa	9,562	8%
Togo	8,525	7%
Uganda	7,856	6%
Malaysia	6,430	5%
Nigeria	4,324	3%
Mozambique	4,195	3%
Cameroon	4,089	3%
United Arab Emirates	3,526	3%
Other 79 countries and territories	19,338	16%
Unknown	21,009	17%
Total	124,130	100%

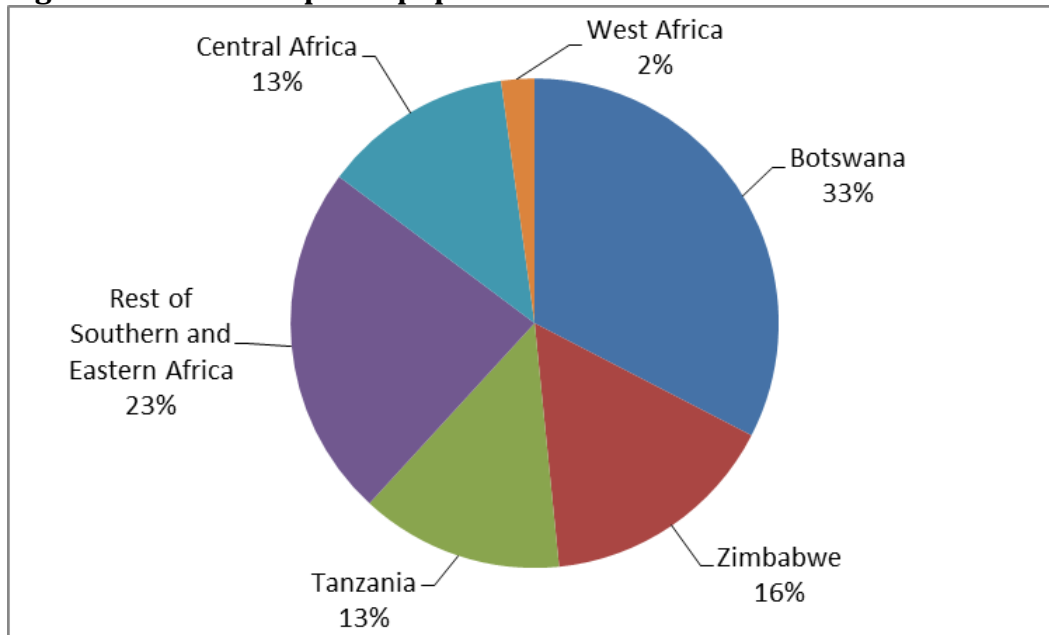
Source: World Wise

Top 10 destination countries/territories for shipment	Weight of Ivory (kg)	% of total seized
China	41,844	34%
China	26,831	
China, Hong Kong SAR	14,960	
Taiwan province of China	53	
Malaysia	11,905	10%
Thailand	10,615	9%
Viet Nam	5,140	4%
Kenya	4,926	4%
United States of America	4,296	3%
Cambodia	4,080	3%
Lao People's Democratic Republic	2,810	2%
United Arab Emirates	1,979	2%
Germany	1,835	1%
Other 44 countries and territories	6,207	5%
Unknown	28,494	23%
Total	124130	100%

Source: World Wise

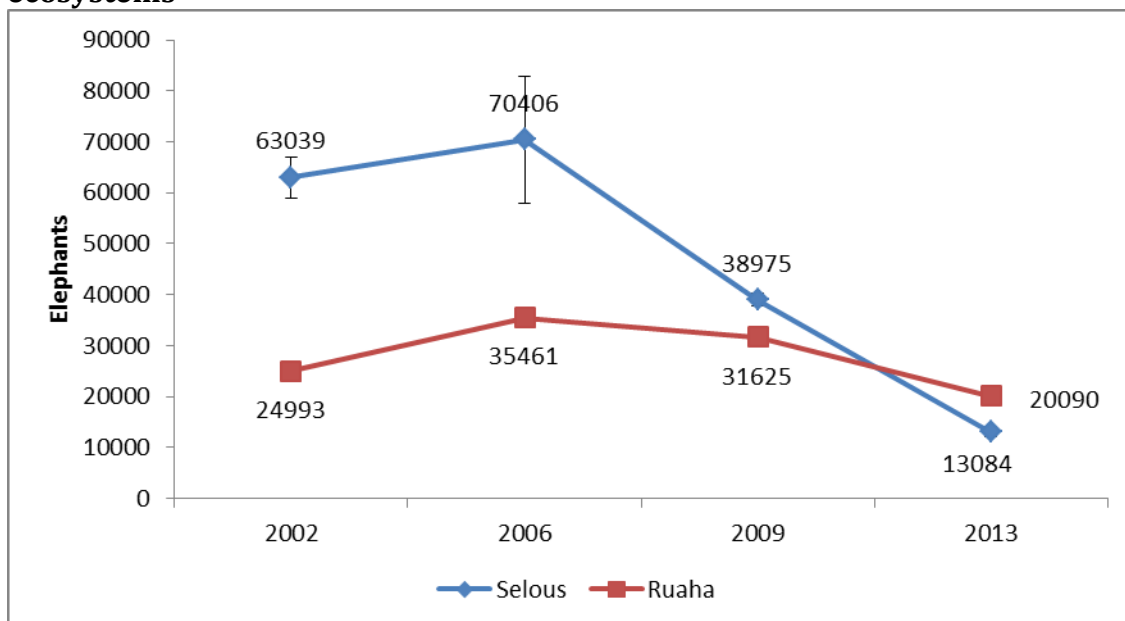
II: Draft Tables and Figures in the Ivory Chapter (including rhino horn)

Figure: Probable elephant populations in Africa in 2013



Source: IUCN/SSC/AFESG African Elephant Specialist Group

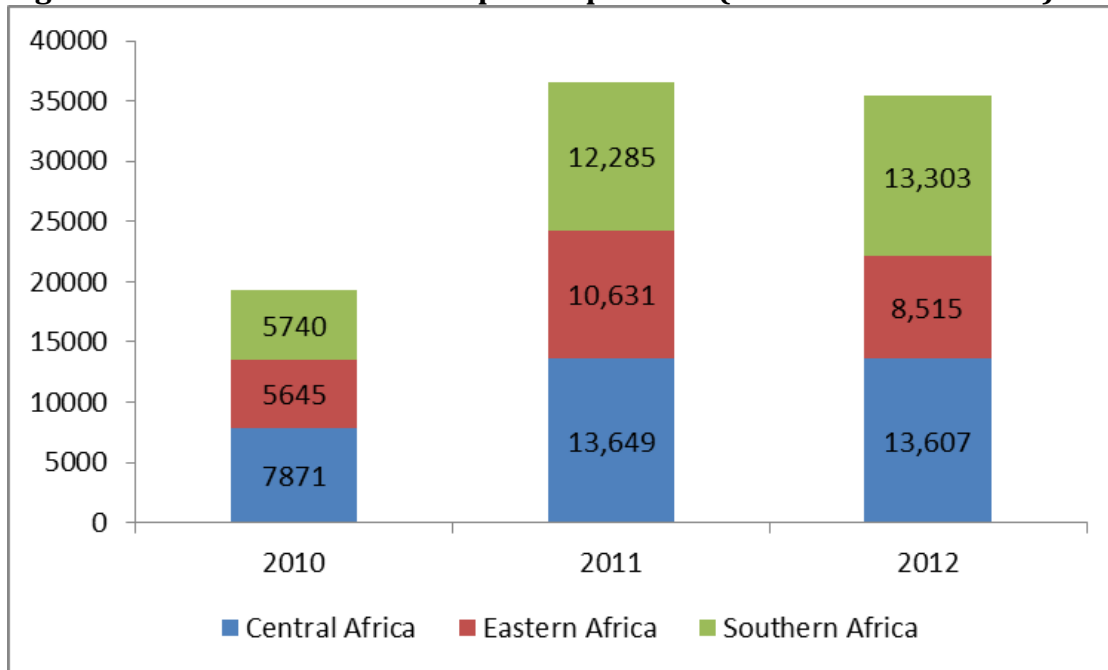
Figure: Elephant population estimates in the Selous-Mikumi and Ruaha Rungwa ecosystems



Source: TAWIRI 2013¹² (vertical lines represent 95% confidence intervals)

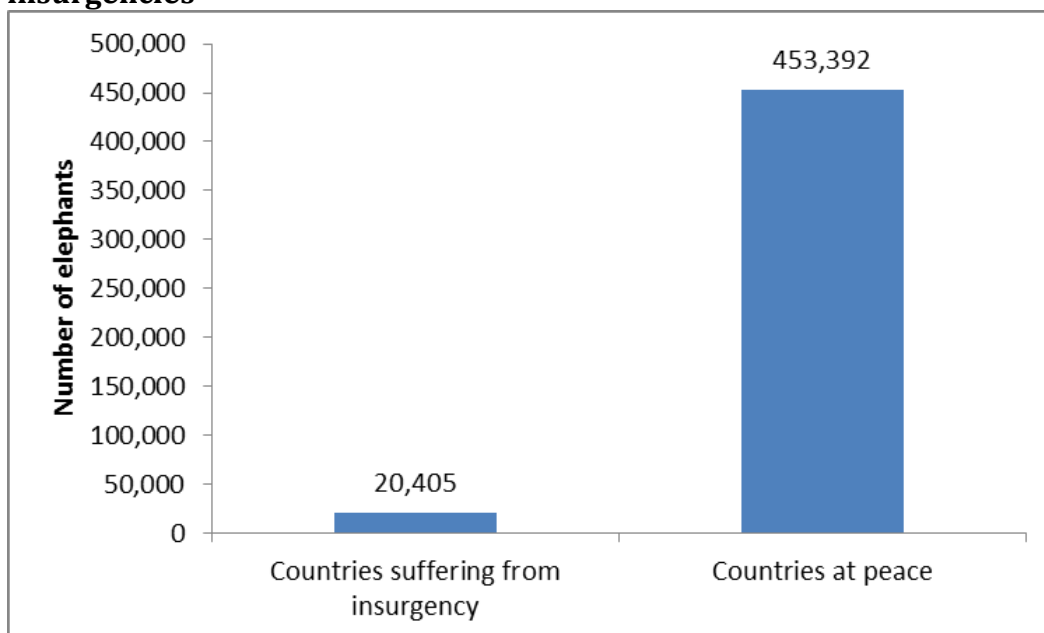
¹² Tanzania Wildlife Research Institute

Figure: Estimated number of elephants poached (model-based method)



Source: Elaborated from Wittemyer et al 2014¹³

Figure: Probable elephant populations in the 11 African countries with insurgencies¹⁴

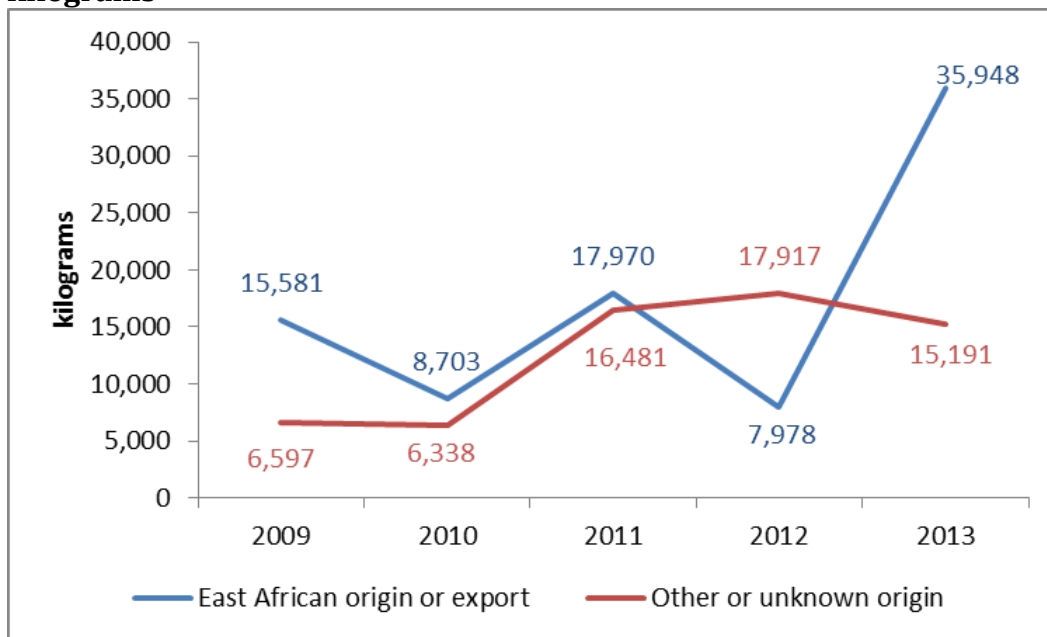


Source: IUCN/SSC/AFESG African Elephant Specialist Group

¹³ George Wittemyer, Joseph M. Northrup, Julian Blanc, Iain Douglas-Hamilton, Patrick Omondi, and Kenneth P. Burnham, 'Illegal killing for ivory drives global decline in African elephants'. *PNAS*, vol. 111 no. 36, 2014.

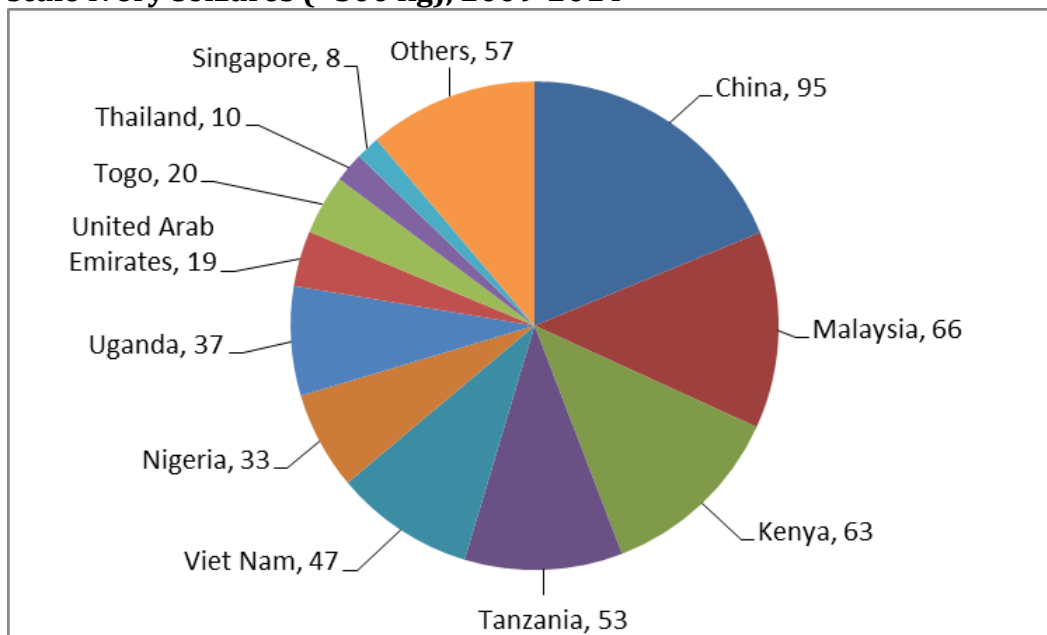
¹⁴ Countries with insurgencies include those affected by Boko Haram (Nigeria, Cameroon, Niger, and Chad), the Lord's Resistance Army (Central African Republic, Democratic Republic of the Congo, and Sudan), the South Sudanese civil war, the CAR civil war, the Somali civil war, and the various insurgent groups active in the DRC, Ethiopia, and Burundi. While it has been alleged that Al Shabaab is deriving income from poaching in Kenya, very little evidence has been marshalled to defend this claim. See RUSI 2015.

Figure: Exporting region of global large-scale (>500 kg) ivory seizures in kilograms



Source: CITES ETIS

Figure: Weight of ivory (metric tons) by country identified in trade chains of large-scale ivory seizures (>500 kg), 2009-2014



Source: CITES ETIS¹⁵

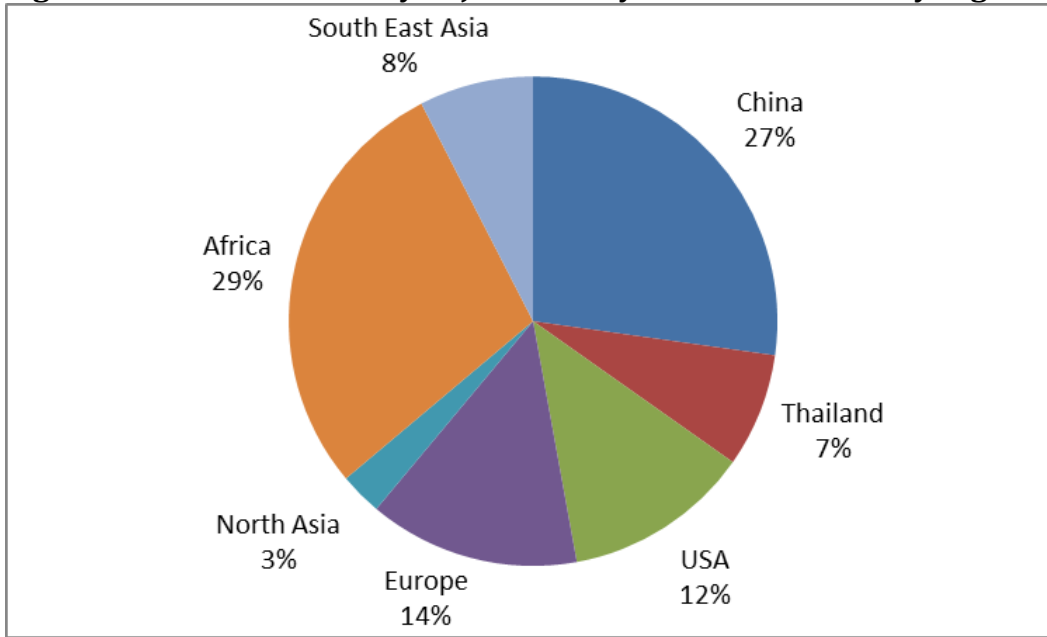
¹⁵ "China" includes Hong Kong Province of China.

Table: Most recent assessments of the number of ivory objects for sale by geographic area

<i>Year</i>	<i>Location</i>	<i>Objects/weight documented</i>	<i>Source</i>
2014	Luanda	10,888	Martin and Vigne
2014	Beijing	6,272	Vigne and Martin
2014	Shanghai	2,172	Vigne and Martin
2013	Lao PDR	1,929	Vigne
2013	Thailand	14,512	Doak
2011	Cairo	918	Martin and Stiles
2011	Fuzhou	282	Vigne and Martin
2011	Guangzhou	6,437	Vigne and Martin
2010/2011	Manila	264	Martin, Martin, and Vigne
2008	Vietnam	2,444	Stiles
2006	Myanmar	8,244	Nijman and Shepherd
2006	USA ¹⁶	23,825	Martin and Stiles
2005	Mozambique	3,254	TRAFFIC
2004	Germany	16,444	Martin and Stiles
2004	London	8,325	Martin and Stiles
2004	Paris	1,123	Martin and Stiles
2004	Barcelona	381	Martin and Stiles
2004	Madrid	240	Martin and Stiles
2004	Milan	240	Martin and Stiles
2004	Rome	126	Martin and Stiles
2003	Nigeria	4,988	TRAFFIC
2003	Ivory Coast	1,553.80 kg	TRAFFIC
2003	Senegal	353.4 kg	TRAFFIC
2002	Japan	5,358	Martin and Stiles
2002	Hong Kong SAR	35,884	Martin and Stiles
2002	Taiwan POC	1,382	Martin and Stiles
2002	South Korea	36	Martin and Stiles
2001	Cambodia	1,683	Martin and Stiles
2000	DRC	3,324	Martin and Stiles
2000	Gabon	462	Martin and Stiles
2000	CAR	2,021	Martin and Stiles
2000	Cameroon	3,231	Martin and Stiles
2000	Chad	459	Martin and Stiles
2000	Ethiopia	9,996	Martin and Stiles
2000	Zimbabwe	20,475	Martin and Stiles
2000	South Africa	6,512	Martin and Stiles

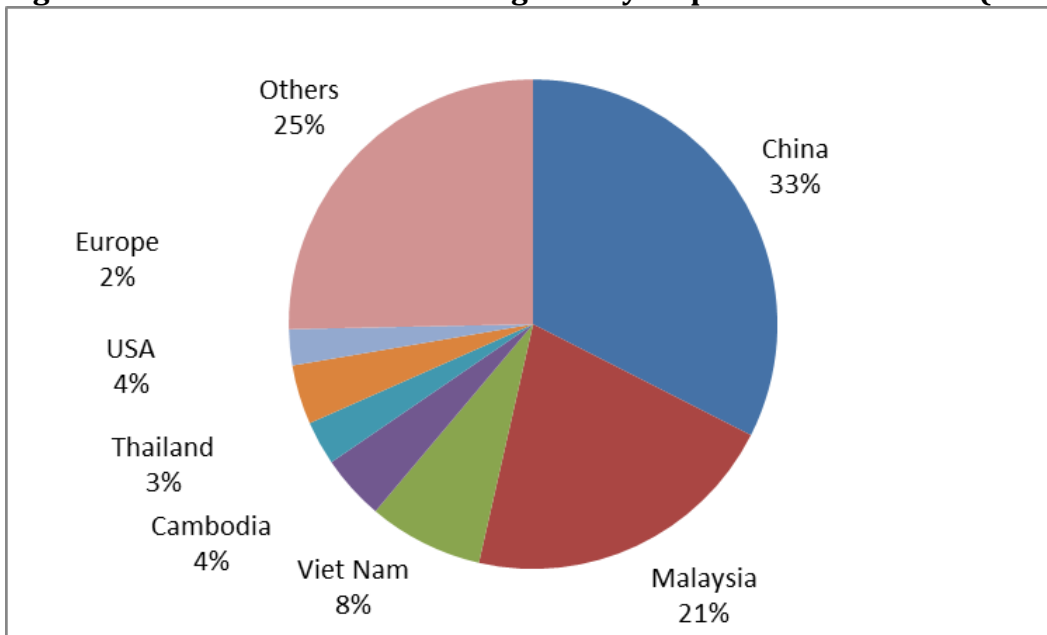
¹⁶ This includes surveys in Boston, New York City, Washington D.C., Palm Beach, Miami, Atlanta, Chicago, Dallas, Houston, Phoenix, Las Vegas, San Francisco, Los Angeles, San Diego, and Honolulu.

Figure: Distribution of ivory objects surveyed retail markets by region



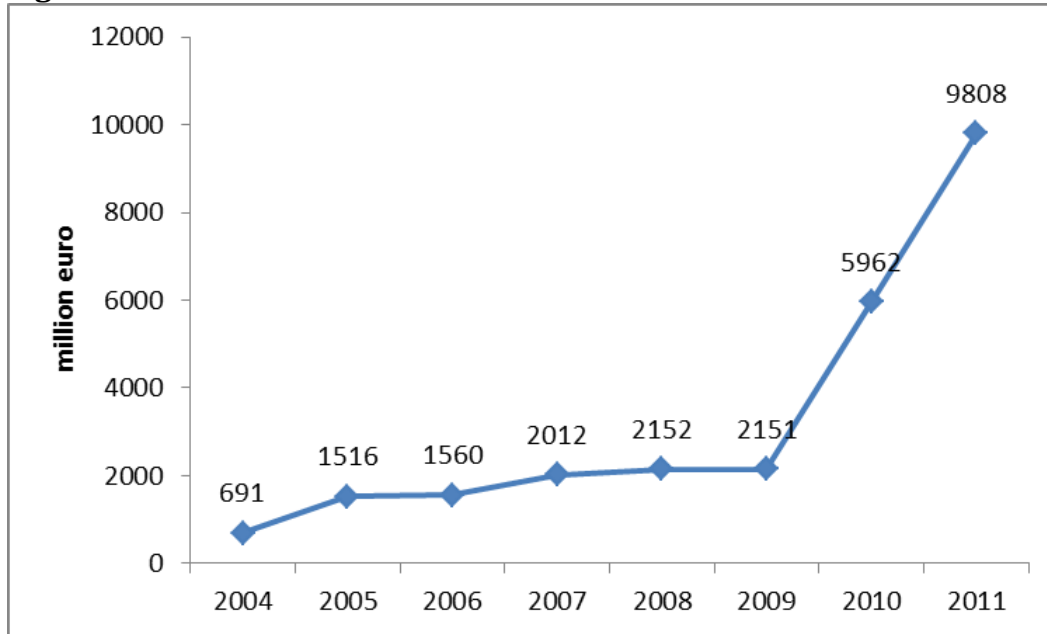
Source: Table

Figure: Destination of detected illegal ivory shipments 1999-2015 (n=87MT)



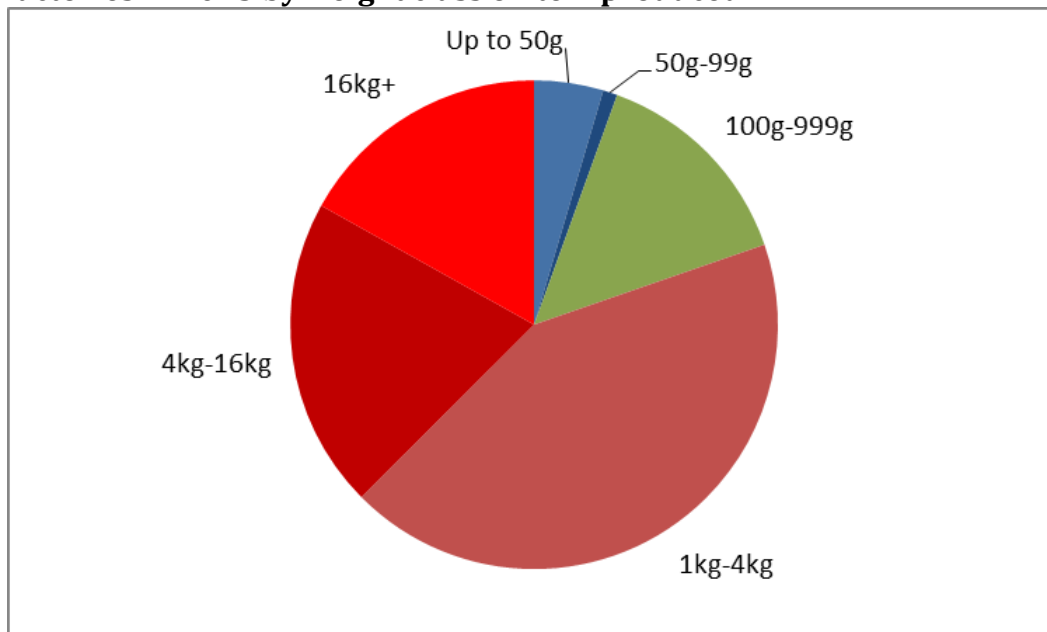
Source: World WISE

Figure: Sales of art at auction in China



Source: TEFAF 2011¹⁷

Figure: Share of total weight of ivory items produced by legal Chinese carving factories in 2013 by weight class of item produced

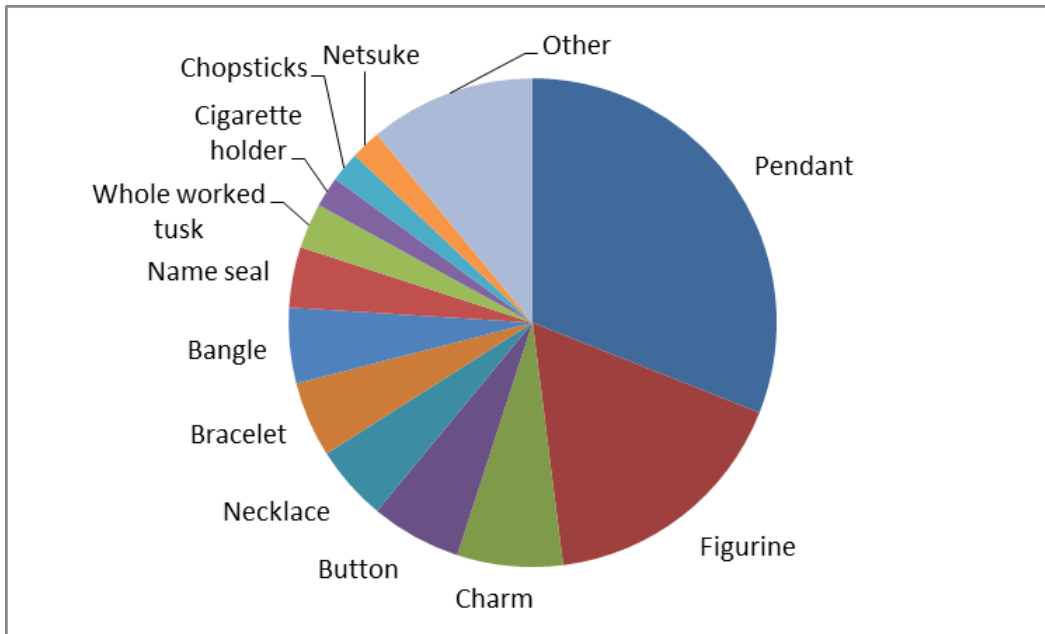


Source: Detecting Centre for Wildlife, Harbin, as quoted in Moyle and Conrad 2014¹⁸

¹⁷ Claire McAndrew, *The international art market in 2011*. Helvoirt, The European Fine Art Foundation, 2011, p. 23.

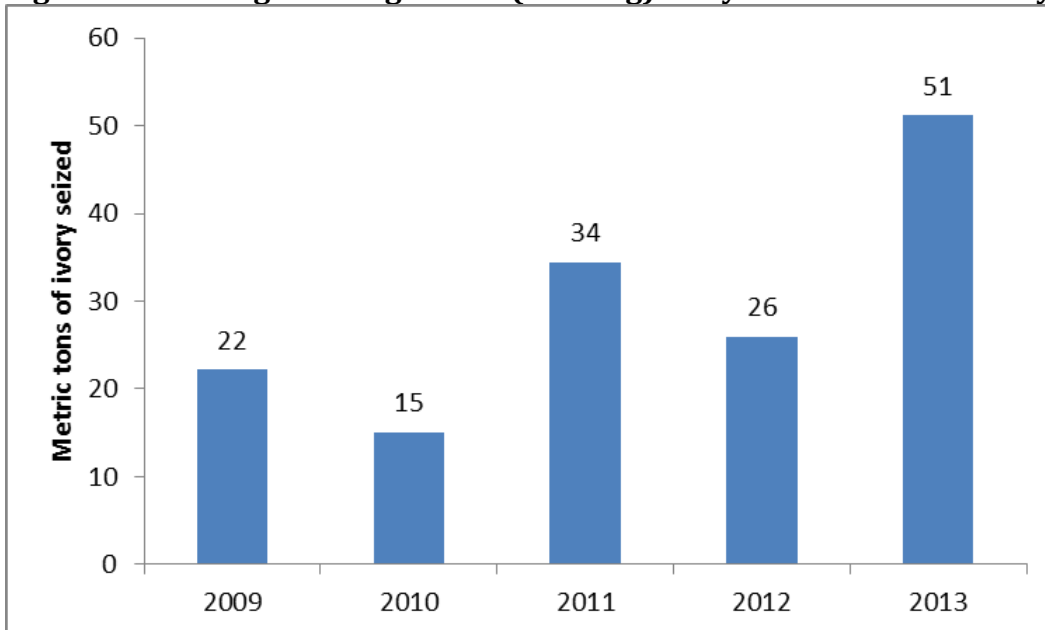
¹⁸ Brendan Moyle and Kirsten Conrad, *Dirty Laundry: Are Chinese Legal Ivory Factories Using Poached Ivory as an Input?* 29 October 2014. Available at SSRN: <http://ssrn.com/abstract=2516504> or <http://dx.doi.org/10.2139/ssrn.2516504>

Figure: Breakdown of elephant ivory items for retail sale seen in Beijing in May 2014



Source: Vigne and Martin 2015¹⁹

Figure: Total weight of large-scale (>500 kg) ivory seizures recorded by ETIS

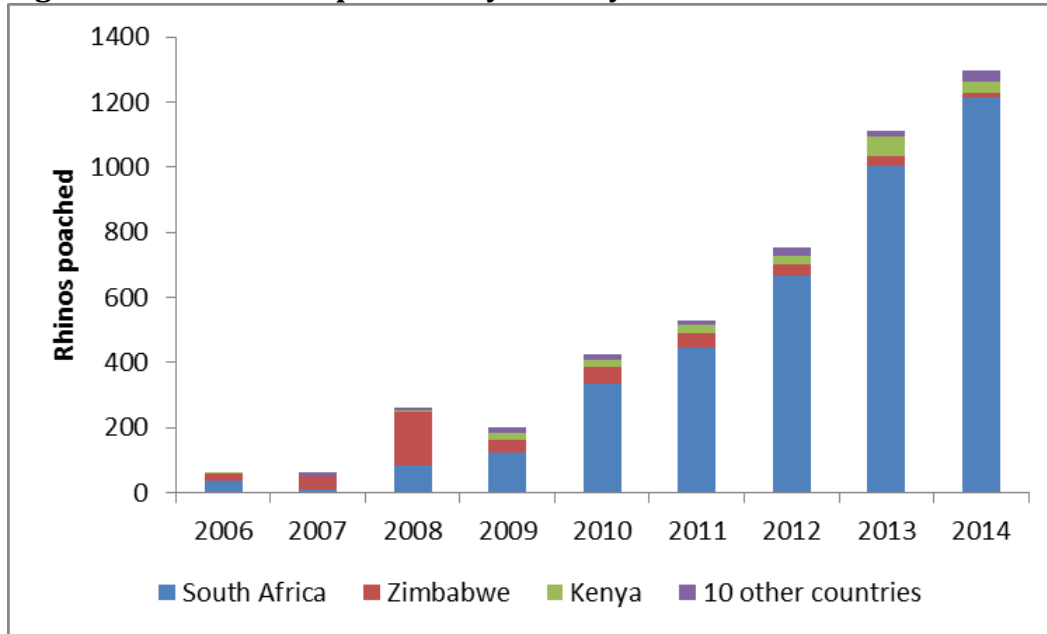


Source: CITES ETIS²⁰

¹⁹ Vigne and Martin 2015. Lucy Vigne and Esmond Martin, *China faces a conservation challenge: the expanding elephant and mammoth ivory trade in Beijing and Shanghai*. Nairobi: Save the Elephants, 2015

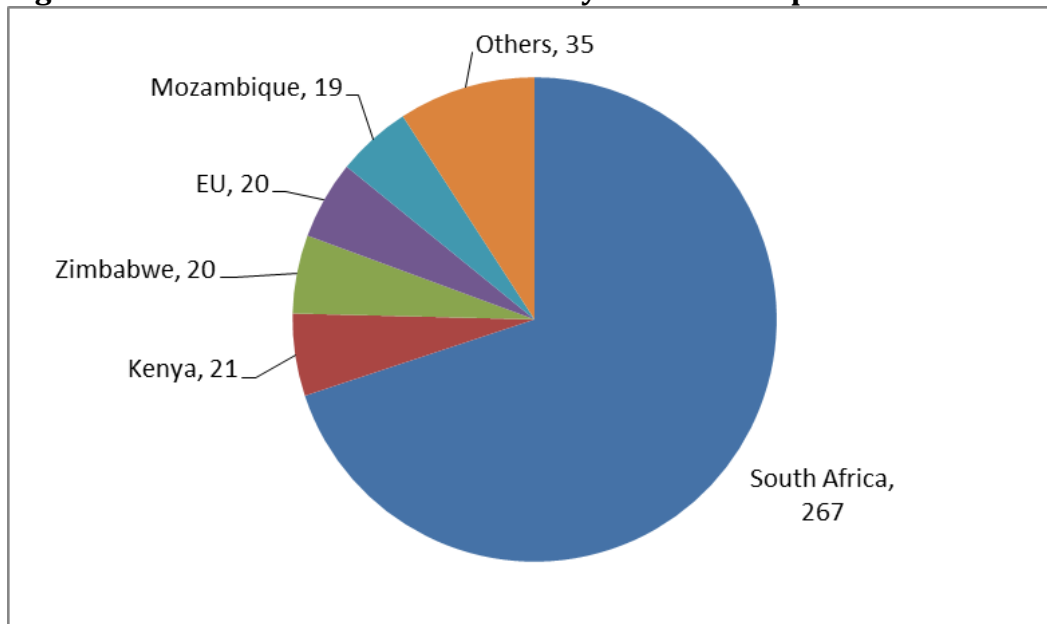
²⁰ "China" includes Hong Kong Province of China.

Figure: African rhinos poached by country



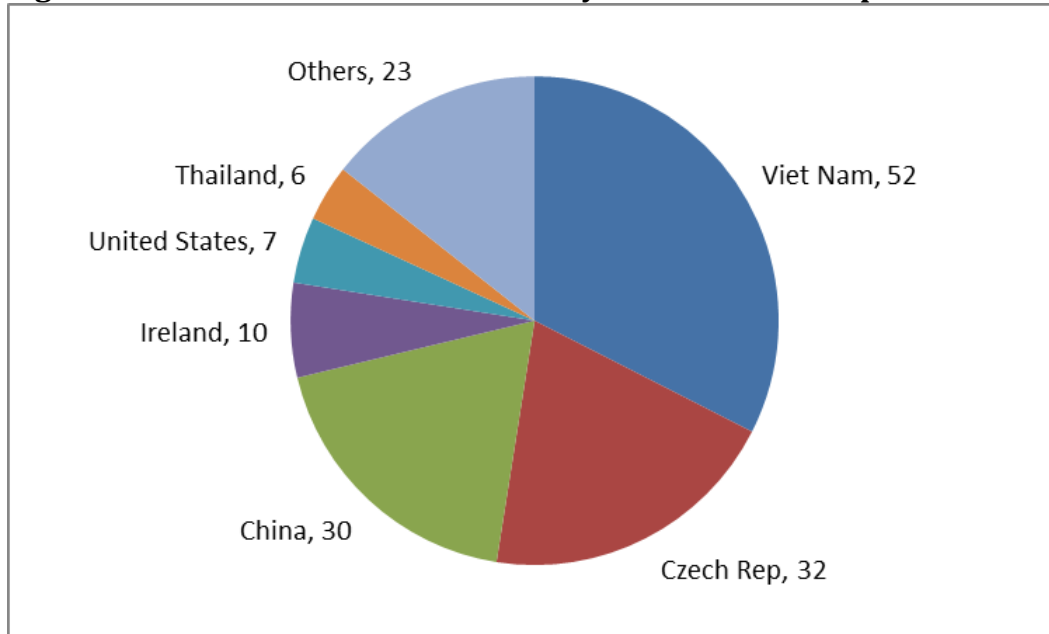
Source: Emslie 2015. Personal communication from Dr. Richard Emslie, Scientific Officer, IUCN African Rhino Specialist Group.

Figure: Number of rhino horns seized by source of shipment



Source: World WISE

Figure: Number of rhino horns seized by destination of shipment



Source: World WISE

Pangolin Case Study

I: Pangolin World WISE Data

Analysis of pangolin data was based on seizure records in World WISE, 2005 to 2015. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country. Scales and live/bodies of pangolins were used in the analysis and conversions were applied for scales and weight of pangolins. See table for details on conversions.

Figure. Number of Seized Pangolins, 2005 to 2015. Conversions applied

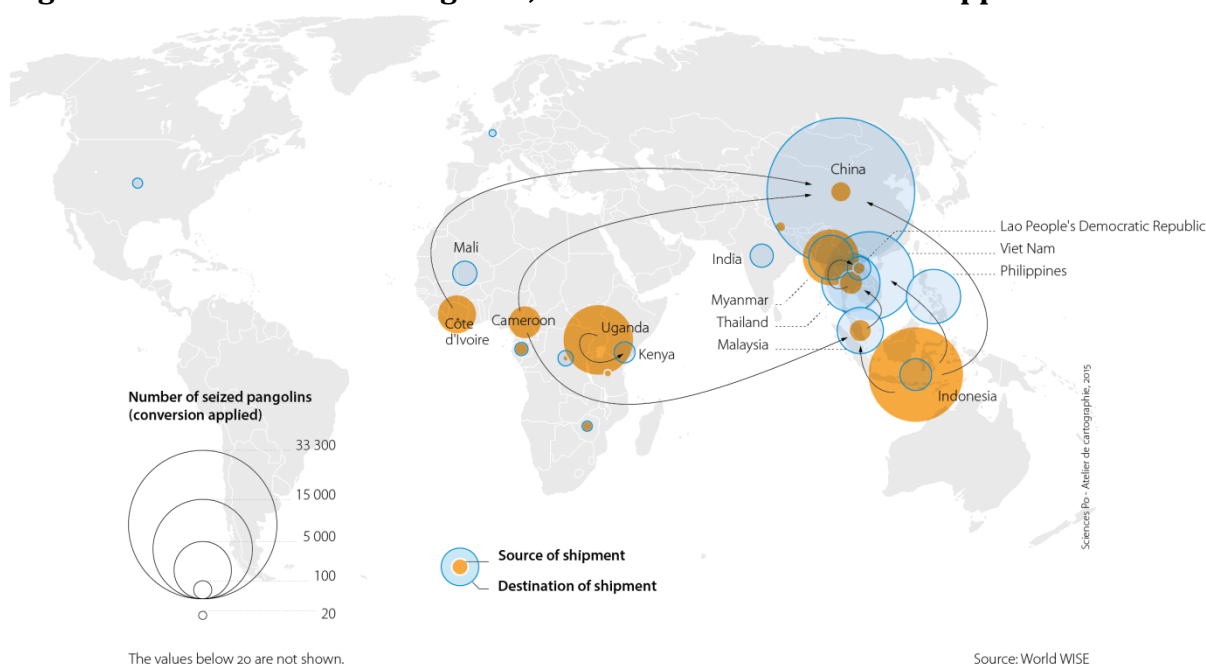


Table. Conversion for seized pangolins in World WISE, 2005 to 2015.

Commodity types	Weight	Units (no. of items)	Comments
Final Pangolin conversions	0 kg	84,677	Includes kg of live and dead pangolin, and pangolin scales, all converted to whole pangolins
Kg of Live/dead pangolins	54392.22 kg	42,552	Conversion ratios: 4.33 kg : 1 <i>Manis pentadactyla</i> . 4.96 kg : 1 <i>Manis javanica</i> , 4.96 kg : 1 <i>Manis culionensis</i>
scales	25870.3123 kg	42,214	Conversion ratios: 573.47 g scales : 1 <i>Manis pentadactyla</i> , 360.51 g scales : 1 <i>Manis javanica</i> , 360.51 g scales : 1 <i>Manis culionensis</i>

Summary tables for the number of pangolins seized according to seizure records in World WISE, 2005 to 2015. Conversions applied.

Table. The number of pangolins seized with information on source of shipment or destination of shipment, 2005 to 2015. Conversions Applied.

Source of shipment	Number of Pangolins	% of total seized
Source of shipment	29,011	34%
Unknown	55,755	66%
Total seized	84,766	100%

Sources: World WISE

Destination of shipment	Number of Pangolins	% of total seized
Destination of shipment	61,431	33%
Unknown	23,335	67%
Total seized	84,766	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, by number of pangolins seized from 2005 to 2015. Conversion Applied.

Top 10 source countries/territories of shipment	Number of Pangolins	% of total seized
Indonesia	13,462	16%
Uganda	7,022	8%
Myanmar	4,413	5%
Côte d'Ivoire	1,883	2%
Cameroon	588	1%
Thailand	524	1%
Malaysia	462	1%
China	334	0%
Gabon	89	0%
Lao People's Democratic Republic	67	0%
Other 23 countries and territories	169	0%
Unknown	55,755	66%
Total	84,766	100%

Sources: World WISE

Top 10 destination countries/territories for shipment	Number of Pangolins	% of total seized
China <i>China China, Hong Kong SAR Taiwan Province of China</i>	33,284 31,914 1,290 80	39%
Viet Nam	10,390	12%
Thailand	4,528	5%
Philippines	3,874	5%
Malaysia	2,692	3%
Myanmar	2,461	3%
Indonesia	1,905	2%
Mali	555	1%
Lao People's Democratic Republic	512	1%
India	493	1%
Other 16 countries and territories	736	1%
Unknown	23,335	28%
Total	84,766	100%

Sources: World WISE

II: Pangolin CITES Legal Trade Data

Summary tables for pangolin exports, according export data in the CITES Wildlife trade database, 2005 to 2013. Scales and live/bodies of pangolins were used in the analysis and conversions were applied. See table below for details.

Table. Conversions for legal pangolins exported, 2005 to 2013.

Commodity types	Weight	Units (no. of items)	Comments
Final Pangolin conversions	0 kg	9168	Includes kg of live and dead pangolin, and pangolin scales, all converted to whole pangolins
Kg of Live/dead pangolins	0 kg	618	Conversion ratios: 4.33 kg : 1 <i>Manis pentadactyla</i> , 4.96 kg : 1 <i>Manis javanica</i> , 4.96 kg : 1 <i>Manis culionensis</i>
scales	3055 kg	8550	Conversion ratios: 573.47 g scales : 1 <i>Manis pentadactyla</i> , 360.51 g scales : 1 <i>Manis javanica</i> , 360.51 g scales : 1 <i>Manis culionensis</i>

Table. Number of pangolins reported in export data, with information on import or export country, 2005 to 2013. Conversion applied.

Source of shipment	Number of pangolins	% of total trade
Source of shipment	9,168	100%
Unknown source	0.00	0%
Total	9,168	100%

Sources: Export data from CITES Trade Database

Destination of shipment	Number of pangolins	% of total trade
Destination of shipment	9,168	100%
Unknown destination	0.00	0%
Total	9,168	100%

Sources: Export data from CITES Trade Database

Table. The top 10 importing and exporting countries and territories trading in pangolins, 2005 to 2013. Conversions applied.

Top 10 source countries/territories of shipment	Number of pangolins	% of total trade
Singapore	7767	85%
Togo	1157	13%
Uganda	194	2%
Gabon	19	0%
Cameroon	14	0%
Cambodia	6	0%
United Kingdom	3	0%
Malaysia	2	0%
Benin	2	0%
South Africa	1	0%
other 3 countries and territories	3	0%
Unknown	0	0%
Total	9168	100%

Sources: Export data from CITES Trade Database

Top 10 destination countries/territories for shipment	Number of pangolins	% of total trade
China	7767	85%
Thailand	569	6%
Viet Nam	394	4%
Lao People's Democratic Republic	300	3%
Japan	35	0%
United Kingdom	25	0%
Italy	20	0%
Togo	20	0%
Spain	15	0%
Czech Republic	10	0%
Other 8 countries and territories	13	0%
Unknown	0	0%
Total	9168	100%

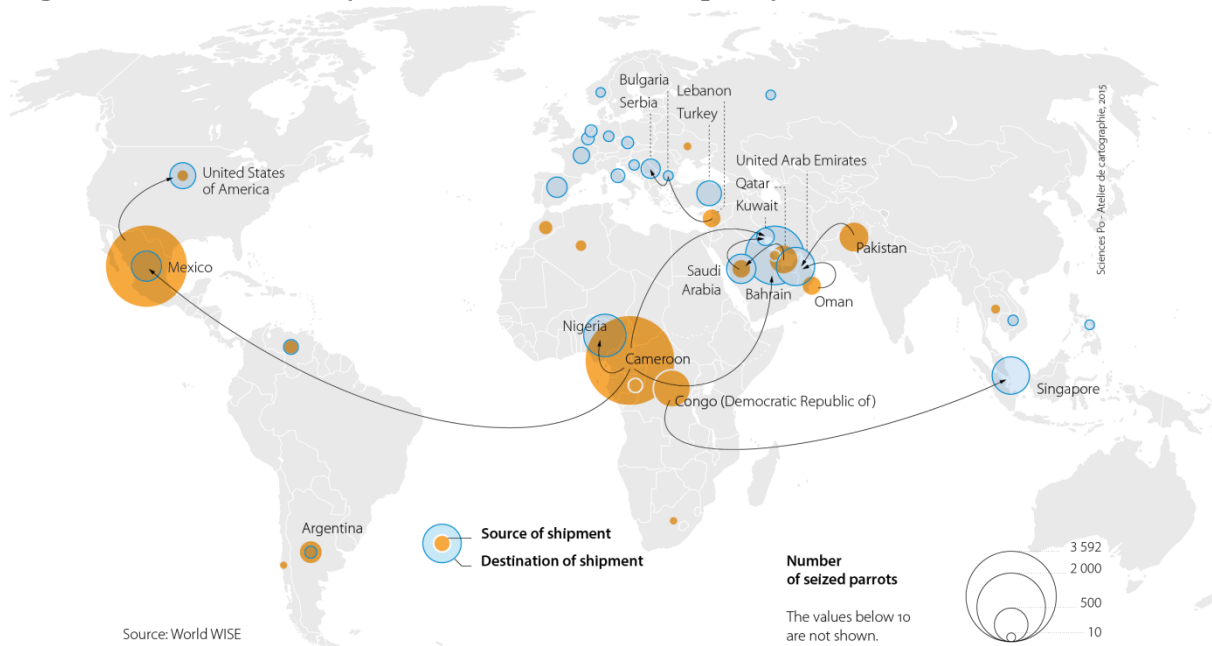
Source: Export data from CITES Trade Database

Parrot Case Study (New World and Afro-tropical Parrots)

I: Parrot (New world and Afro-tropical) World WISE Data

Analysis of illegal parrot data was based on seizure records in World WISE from 2007 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country. Only New World and Afro-tropical parrots were assessed.

Figure. Seized Parrots (New world and Afro-tropical), 2007 to 2014.



Summary tables for the number of parrots seized (New World and Afro-tropical parrots) according to seizure records in World WISE, 2007 to 2014.

Table. The number of parrots seized with information on source of shipment or destination of shipment, 2007 to 2014.

Source of shipment	Number of parrots	% of total seized
Source of shipment	8616	92%
Unknown	799	8%
Total seized	9415	100%

Sources: World WISE

Destination of shipment	Number of parrots	% of total seized
Destination of shipment	4997	53%
Unknown	4418	47%
Total seized	9415	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, by number of parrots seized from 2007 to 2014.

Top 10 source countries/territories of shipment	Number of parrots	% of total seized
Cameroon	3592	38%
Mexico	2989	32%
Democratic Republic of the Congo	523	6%
Pakistan	330	4%
Qatar	301	3%
Argentina	175	2%
Oman	115	1%
Lebanon	109	1%
Saudi Arabia	104	1%
Morocco	53	1%
Other 44 countries and territories	325	3%
Unknown	799	8%
Total	9415	100%

Sources: World WISE

Top 10 destination countries/territories for shipment	Number of parrots	% of total seized
Bahrain	1420	15%
Nigeria	700	7%
United Arab Emirates	557	6%
Singapore	523	6%
Mexico	322	3%
Saudi Arabia	300	3%
United States of America	225	2%
Turkey	200	2%
Spain	123	1%
Serbia	108	1%
Other 34 countries and territories	519	6%
Unknown	4418	47%
Total	9415	100%

Sources: World WISE

II: Parrot (New world and Afro-tropical parrots) CITES Legal Trade Data

Summary tables for the number of parrots exported (New World and Afro-tropical parrots), according export data in the CITES Wildlife trade database, 2007 to 2014.

Table. The number of parrots reported in export data, by source and year 2007 to 2014.

Time series	Number of captive-sourced parrots	Number of wild/Unknown sourced parrots	Number of all sources of parrots
2007	23,060	60,173	83,233
2008	45,631	65,622	111,253
2009	59,844	83,563	143,407
2010	92,072	88,933	181,005
2011	104,268	103,141	207,409
2012	159,365	98,085	257,450
2013	28,527	116,208	144,735
2014	2,485	5,309	7,794
Total	515,252	621,034	1,136,286

Sources: Export data from CITES Trade Database

Table. The number of parrots reported in export data, with information on import or export country, 2007 to 2014.

Source of shipment	Number of parrots	% of total trade
Source of shipment	1,136,286	100%
Unknown	0	0%
Total	1,136,286	100%

Sources: Export data from CITES Trade Database

Destination of shipment	Number of parrots	% of total trade
Destination of shipment	1,135,184	99%
Unknown	1,102	<1%
Total	1,136,286	100%

Sources: Export data from CITES Trade Database

Table. Top 10 importing and exporting countries and territories trading in live parrots, 2007 to 2014.

Top 10 source countries and territories	Number of parrots	% of total trade
Uruguay	518,875	46%
South Africa	362,002	32%
Congo	37,966	3%
Argentina	37,714	3%
Guyana	34,369	3%
Suriname	25,039	2%
Singapore	17,363	2%
United States of America	14,422	1%
Peru	13,725	1%
Mali	13,476	1%
Other 110 countries and territories	61,335	5%
Total	1,136,286	100%

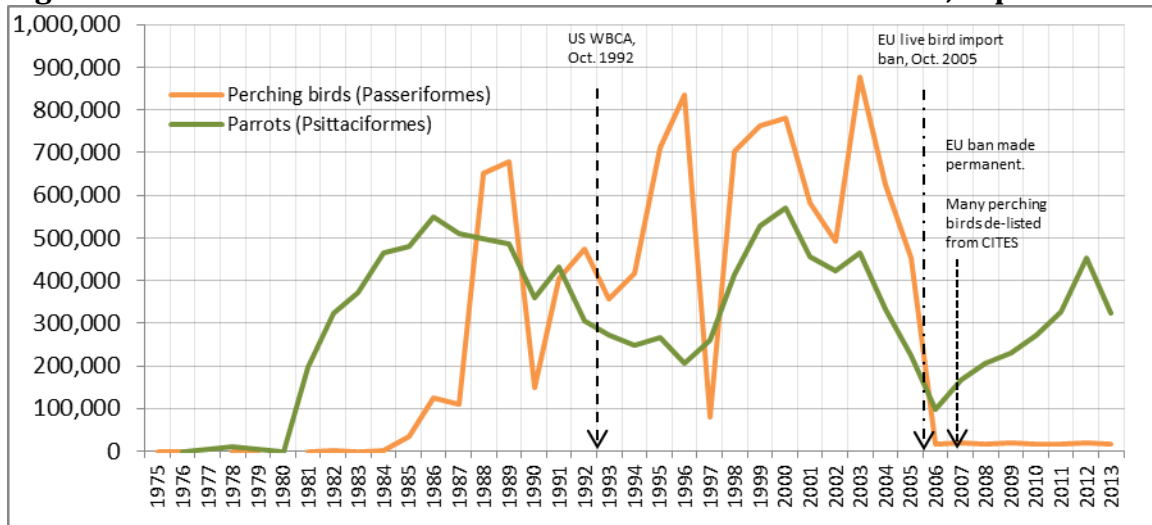
Sources: Export data from CITES Trade Database

Top 10 destination countries and territories	Number of parrots	% of total trade
Mexico	558,373	49%
United Arab Emirates	64,390	6%
Bahrain	55,867	5%
Singapore	55,574	5%
Oman	35,559	3%
Israel	34,523	3%
Pakistan	34,517	3%
Malaysia	25,829	2%
China	67,918 China China, Hong Kong SAR Taiwan, Province of China	6%
Thailand	20,729	2%
Other 103 countries and territories	181,905	16%
Unknown	1,102	0%
Total	1,136,286	100%

Sources: Export data from CITES Trade Database

III: Draft Tables and Figures in the Parrot Chapter

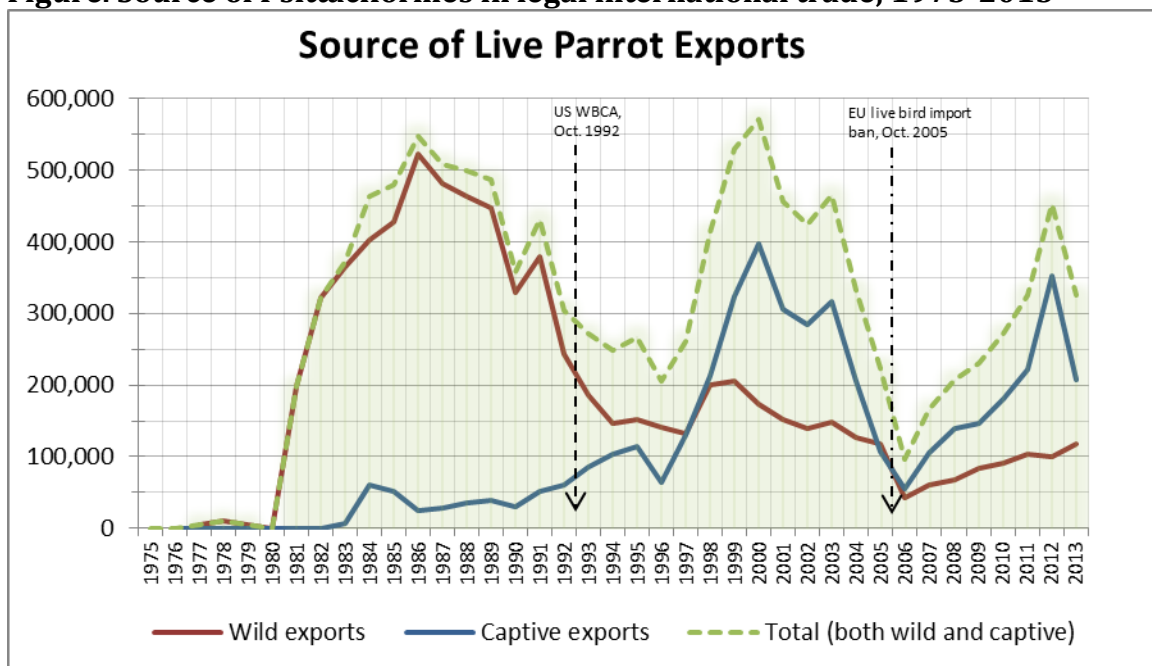
Figure. CITES-listed bird orders dominant in international trade, export data.



Source. Export data from CITES Trade Database.

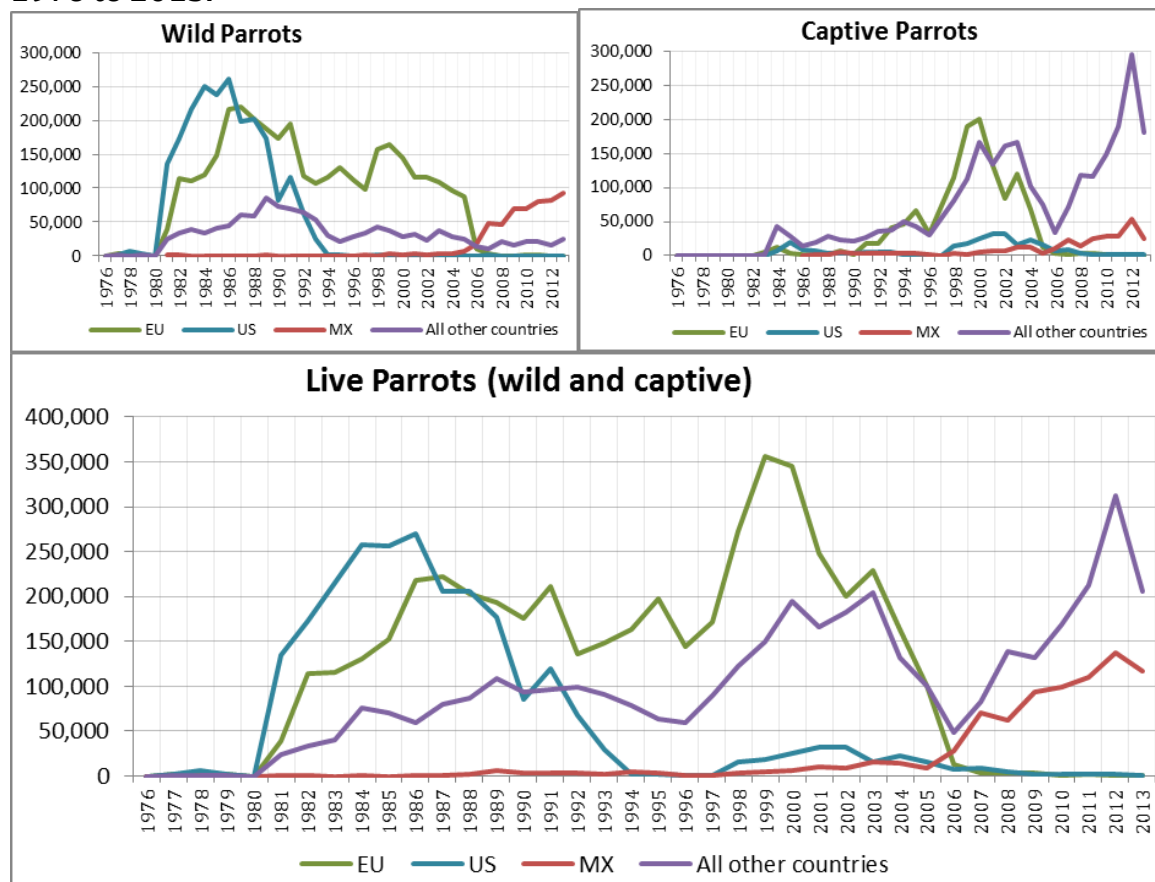
Note: Passeriformes decline in 1990 was due to no export data reported by some of the prominent exporting countries (but imports were reported by receiving countries). A similar event occurred in 1997 to a lesser extent, but also in 1998 imports were much higher than exports suggesting that some 1998 imports were from 1997 exports.

Figure. Source of Psittaciformes in legal international trade, 1975-2013



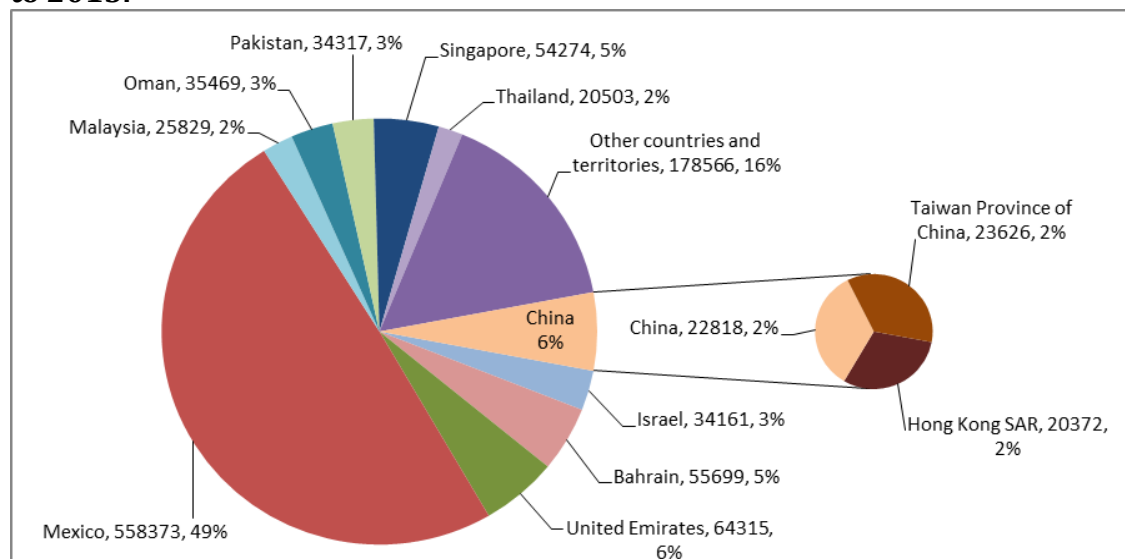
Source: Export data from CITES Trade Database

Figure. Importing countries for live parrots (Psittaciformes), CITES export data 1976 to 2013.



Source: CITES Trade Database Export data.

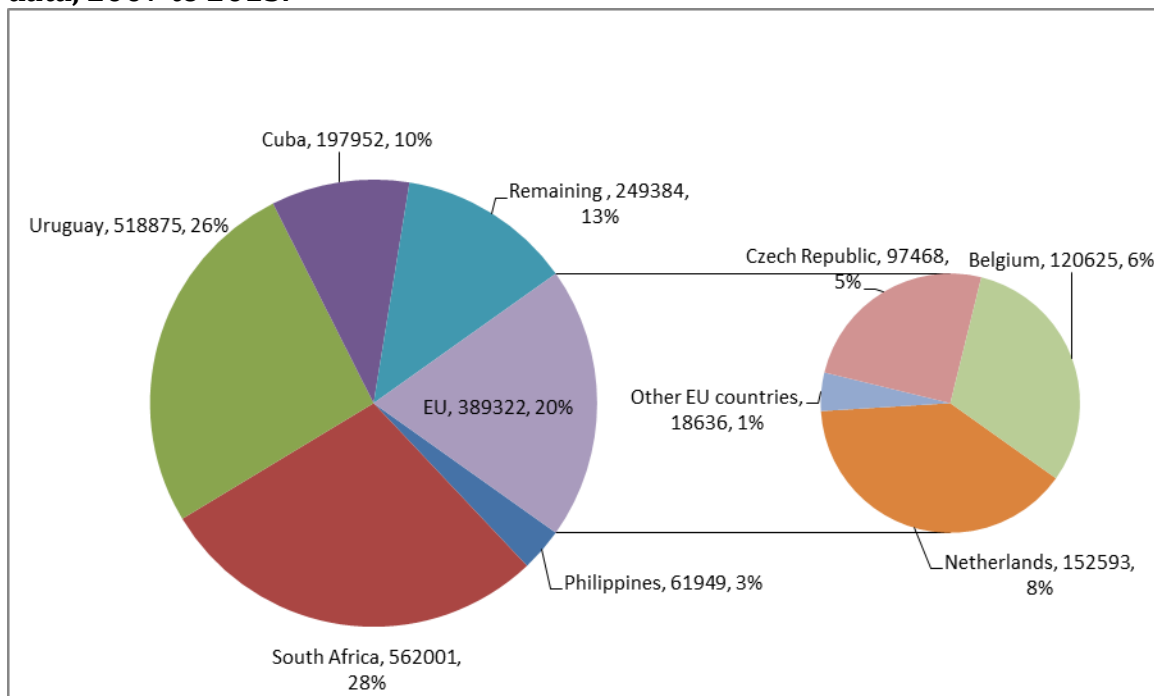
Figure. Top destinations of live parrots (Psittaciformes), CITES export data, 2007 to 2013.²¹



Source: CITES Trade Database export data.

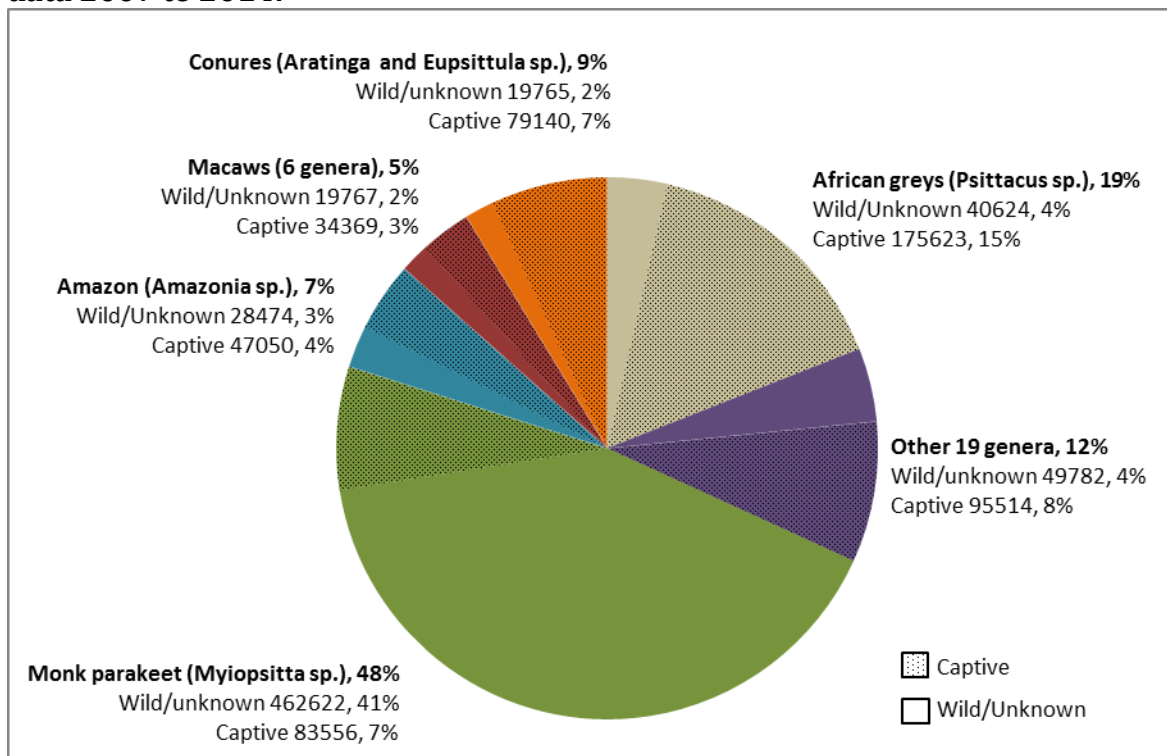
²¹ Import data was sometimes reported in lower or higher amounts than export data. Import data from Mexico was 584,100 live parrots, United Emirates was 108,293 live parrots, Singapore was 80,506 live parrots, China was 25,152 live parrots (Hong Kong SAR 22,462 and China 2,690), Bahrain had nothing (joined CITES in 2012), Malaysia was 20,568 live parrots, Israel was 17,532 live parrots, Thailand was 9,427 live parrots, Oman was 281 live parrots, Pakistan was 6 live parrots, and all remaining countries and territories was 116,421 live birds).

Figure. Top exporting countries of live parrots (Psittaciformes), CITES export data, 2007 to 2013.



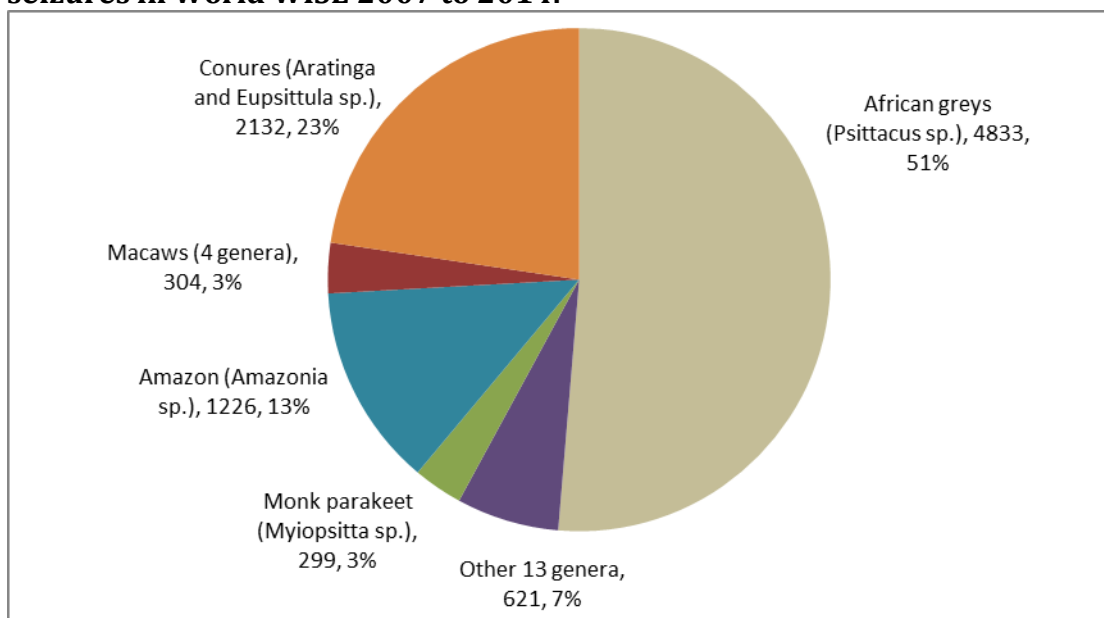
Source: CITES Trade Database export data.

Figure. International trade of new world and Afro-tropical parrots, CITES export data 2007 to 2014.



Source: CITES Trade database

Figure. Number of new world and Afro-tropical parrots seized, according to seizures in World WISE 2007 to 2014.



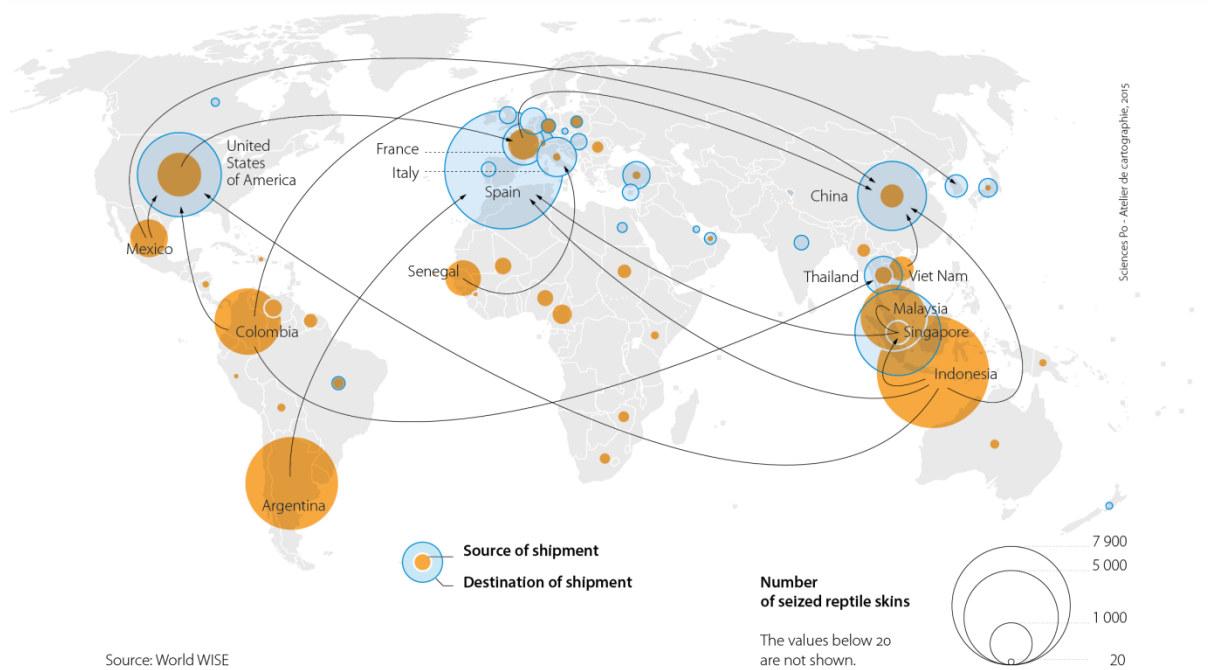
Source: World WISE

Reptile Skin Case Study

I: Reptile Skin World WISE data

Analysis of illegal reptile skin data was based on seizure records in World WISE from 2005 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country.

Figure. Seized Reptile Skins, 2005 to 2014.



Summary tables for the number of reptile skins, according to seizure records in World WISE, 2005 to 2014.

Table. Summary of the number of reptile skins seized with information on source of shipment or destination of shipment, 2005 to 2014.

Source of shipment	Number of reptile skins	% of total seized
Source of shipment	24,699	95%
Unknown	1,217	5%
Total seized	25,916	100%

Sources: World WISE

Destination of shipment	Number of reptile skins	% of total seized
Destination of shipment	24,069	93%
Unknown	1,847	7%
Total seized	25,916	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, number of reptile skins seized from 2005 to 2014.

Top 10 source countries and territories	Number of reptile skins	% of total seized
Indonesia	7,311	28%
Argentina	5,011	19%
Colombia	2,607	10%
Malaysia	2,533	10%
United State of America	1,156	4%
Mexico	875	3%
Senegal	780	3%
France	596	2%
Viet Nam	383	1%
China <i>China</i> <i>China, Hong Kong SAR</i> <i>Taiwan, Province of China</i>	345 37 282 26	1%
Other 82 countries and territories	3,102	12%
Unknown	1,217	5%
Total	25,916	100%

Sources: World WISE

Top 10 destination countries and territories	Number of reptile skins	% of total seized
Spain	7,890	30%
Singapore	4,189	16%
United States of America	3,988	15%
China <i>China</i> <i>China, Hong Kong SAR</i>	2,688 1,498 1,190	10%
France	979	4%
Italy	875	3%
Thailand	815	3%
Turkey	422	2%
Netherlands	390	2%
Republic of Korea	281	1%
Other 40 countries and territories	1,552	6%
Unknown	1,847	7%
Total	25,916	100%

Sources: World WISE

II: Reptile Skin CITES Legal Trade Data

Summary tables for the number of reptile skins exported, according export data in the CITES Wildlife trade database, 2005 to 2013.

Table. The number of reptile skins reported in export data, by source and year 2005 to 2013.

Time series	Number of Captive-sourced reptile skins	Number of Wild/Unknown sourced reptile skins	Number of all sources of reptile skins
2005	1,041,663	2,355,418	3,397,081
2006	1,571,070	2,654,060	4,225,130
2007	1,234,160	1,852,255	3,086,415
2008	1,121,272	1,469,305	2,590,577
2009	741,512	1,305,440	2,046,952
2010	1,073,074	1,368,011	2,441,085
2011	1,198,878	1,254,078	2,452,956
2012	1,183,913	1,318,289	2,502,202
2013	1,241,142	651,298	1,892,440
Total	10,406,684	14,228,154	24,634,838

Sources: Export data from CITES Trade Database

Note: Skins from in meters were converted to number of skins using an average length of *Python molurus* (5 m) and *Python reticulatus* (4m).

Table. The number of reptile skins reported in export data, with information on importing or exporting country, 2005 to 2013.

Source of shipment summary	Number of reptile skins	% of total trade
Source of shipment	24,634,838	100%
Unknown	0	0%
Total	24,634,838	100%

Sources: Export data from CITES Trade Database

Destination of shipment summary	Number of reptile skins	% of total trade
Destination of shipment	24,626,429	99%
Unknown	8,409	<1%
Total	24,634,838	100%

Sources: Export data from CITES Trade Database

Table Top 10 importing and exporting countries and territories trading in reptile skins, 2005 to 2013.

Top 10 source countries and territories	Number of reptile skins	% of total trade
Colombia	6,056,679	25%
Indonesia	5,658,990	23%
United States of America	3,022,603	12%
Malaysia	2,304,963	9%
Viet Nam	1,979,160	8%
Argentina	1,842,558	7%
Zimbabwe	628,623	3%
South Africa	353,795	1%
Venezuela (Bolivarian Republic of)	339,438	1%
Thailand	334,080	1%
Other 45 countries and territories	1,012,337	4%
Total	24,634,838	100%

Sources: Export data from CITES Trade Database

Top 10 destination countries and territories	Number of reptile skins	% of total trade
Singapore	9,366,694	38%
Mexico	2,870,601	12%
Italy	2,808,236	11%
France	1,849,640	8%
Japan	1,355,062	6%
Germany	1,220,371	5%
United States of America	1,215,408	5%
Thailand	940,655	4%
Republic of Korea	609,248	2%
Spain	602,998	2%
Other 103 countries and territories	1,787,516	7%
Unknown	8,409	0%
Total	24,634,838	100%

Sources: Export data from CITES Trade Database

III: Draft Tables and Figures in the Reptile Skin Chapter

Table. Species in the reptile skins trade in Indonesia.

Species	English common name	Local names	Known to be important in trade	Protected under Indonesian law	CITES listing	Harvested in Java	Harvested in north Sumatra
<i>Eretmochelys imbricata</i>	Hawksbill Turtle	<i>Penyu sisik</i>		✓	I	✓	
<i>Python reticulatus</i>	Reticulated Python	<i>Python kembang; Ular sanca</i>	✓	a	II	✓	✓
<i>Python brongersmai</i>	Short-tailed Python	<i>Ular sawah gendang (gendong)</i>	✓		II		✓
<i>Python curtus</i>							
<i>Varanus salvator</i>	Water Monitor	<i>Biawak</i>	✓		II	✓	✓
<i>Boiga dendrophila</i>	Gold-ringed Cat Snake	<i>Cincin emas; cincin kuning</i>				✓	✓
<i>Naja sputatrix</i>	Javan Spitting Cobra	<i>Kobra; Kobra jawa; Ular sendok; Ular</i>	✓		II	✓	
<i>Homalopsis buccata</i>	Puff-faced Water Snake	<i>Ular air; Ular air belang</i>	✓			✓	
<i>Ptyas mucosus</i>	Oriental Rat Snake	<i>Ular jali</i>	✓		II	✓	
<i>Ophiophagus hannah</i>	King Cobra	<i>King kobra</i>			II	✓	
<i>Python bivittatus</i>	Burmese Python; Rock Python	<i>Python bodoh; python batu; Ular sanca</i>		✓	II	✓	
(Protected as <i>P. molurus</i>)							
<i>Ptyas korros</i>	Indo-Chinese Rat Snake	<i>Ular jali (often confused with Ptyas Ular lanang)</i>				✓	
<i>Coelognathus radiatus</i>	Radiated Rat Snake	<i>Ular lanang</i>				✓	
<i>Acrochordus javanicus</i>	Elephant Trunk Snake	<i>Ular karung</i>	✓			✓	✓
<i>Enhydris enhydris</i> *	Rainbow Water Snake	<i>Ular air; Ular air pelangi</i>				✓	
<i>Xenochropis piscator</i> *	Checkered Keelback	<i>Ular Macan</i>				✓	
<i>Coelognathus flavolineatus</i>	Black Copper Rat Snake	unknown				✓	
<i>Crocodylus porosus</i>	Estuarine Crocodile	<i>Buaya muara</i>		✓	II		✓
<i>Naja sumatrana</i> ^	Equatorial Spitting Cobra	<i>Ular sendok; ular kobra</i>			II		✓
<i>Ophiophagus hannah</i> ^	King Cobra	<i>Ular sendok; king kobra</i>			II		✓

(Source: interviews; Auliya, 2010a). Protected species are not permitted to be hunted or traded.

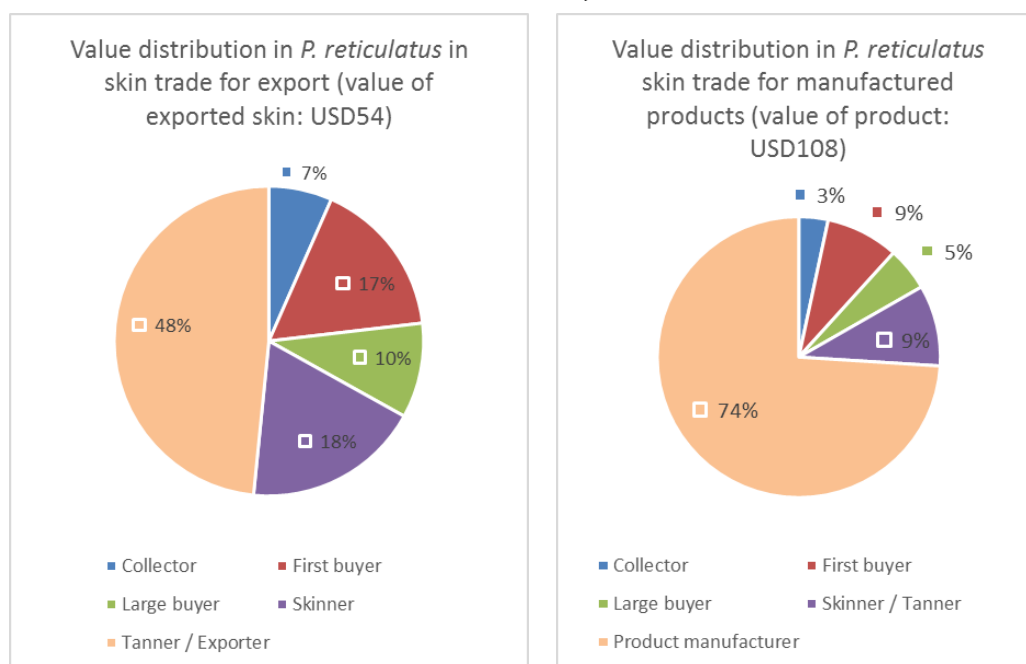
a. Not protected, but no harvest allowed on Java; * Reported from Auliya, 2010a; ^ Primarily for consumption rather than skin

Table. Species in the reptile skins trade in Malaysia.

Species	English common name	Known to be important in trade	Protected listing under Malaysian legislation	CITES listing	Harvested in Peninsular Malaysia	Harvested in Sabah	Harvested in Sarawak
<i>Python reticulatus</i>	Reticulated Python	✓	Protected	II	✓	✓	✓
<i>Varanus salvator</i>	Water Monitor	✓	Protected	II	✓	✓	✓
<i>Coelognathus radiatus</i>	Radiated Rat Snake		Protected		✓		
<i>Homalopsis buccata</i>	Puff-faced Water Snake		Protected		✓		
<i>Ptyas mucosus</i>	Oriental Rat Snake		Protected	II	✓		
<i>Python breitensteini</i> (Listed as <i>Python curtus</i>)	Bornean Short-tailed Python		Protected	II		✓	
<i>Python brongersmai</i>	Brongersma's Short-tailed Python		Totally Protected	II	✓		
<i>Naja naja</i> *^	Asiatic Cobra		Protected	II	✓		
<i>Crocodylus porosus</i>	Estuarine Crocodile		Totally Protected (Peninsular Malaysia)		✓	✓	✓
			Protected (Sabah and Sarawak)				
Varanidae*		✓	Protected	II	✓	✓	✓
Pythonidae*		✓	Protected	II	✓	✓	✓
<i>Sea snake sp</i>			Not protected		✓		

(Source: interviews, CITES Trade Data, Auliya, 2010b)

Figure. Value distributions for hypothetical trade chains for a 3 metre export grade *P. reticulatus* skin. Both charts show the total revenue for two hypothetical value chains and show the percentage of revenue returned to each actor. Figures are based on reported prices paid by actors located in Jember, Bali, and Jakarta, drawn from Table below. In the graph on the left, “tanner / exporter” is based on figures from Jakarta, while in the right, both the skinner / tanner and the “product manufacturer” are located in Bali. All other actors are located in East Java.



Source: Interviews by TRAFFIC

Table. Value chain of a *Python reticulatus* skin.

Actor	Value of whole skin	Product
Collector	USD30 - 40 up to USD60	Live wild-caught <i>Python reticulatus</i>
Skinner/ Exporter	USD50 - 70 up to USD100	Raw skin
Product manufacturer and retailer	USD200 – 500 USD3,000 - 5,000 up to USD10,000	Locally produced bag Bag produced by high-end European fashion house

Source: Interviews by TRAFFIC

Rosewood Case Study

I: Rosewood World WISE Data

Analysis of rosewood (kg) data was based on seizure records in World WISE from 2005 to 2015. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country.

Figure. Seized Rosewood (kg), 2005 to 2015. Conversions applied.

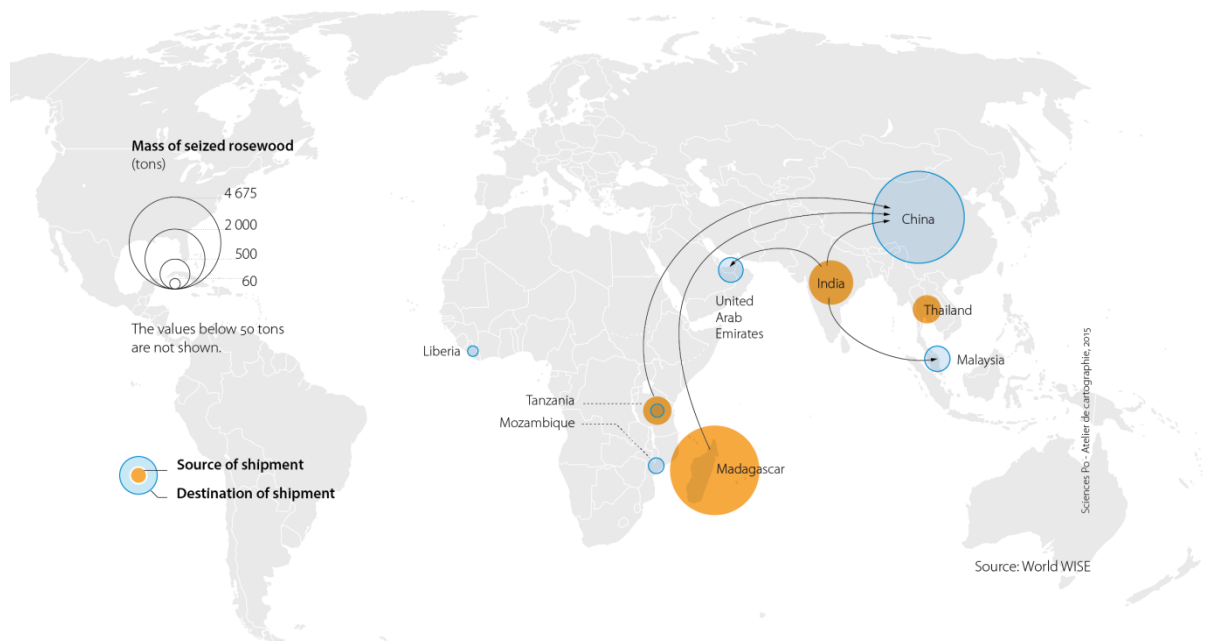


Table. Conversions for seized rosewood in World WISE, 2005 to 2015.

Commodity types	Weight	Units (no. of items)	Comments
Final Rosewood conversions	8373245 kg	0	Includes logs and timber of <i>Dalbergia</i> and <i>Pterocarpus santalinus</i>, all converted to kilograms.
<i>Dalbergia</i>	6210149 kg	21075	Conversion Ratio of 1 log : 125 kg
<i>Pterocarpus santalinus</i>	2163096 kg	4858	Conversion Ratio of 1 log : 15kg

Summary tables for weight of rosewood (kg) seized, according to seizure records in World WISE, 2005 to 2015.

Table. Weight of rosewood (kg) seized with information on source of shipment or destination of shipment, 2005 to 2015.

Source of shipment	Kilograms of Rosewood	% of total seized
Source of shipment	6,798,911	83%
Unknown source	1,574,334	17%
Total seized	8,373,245	100%

Sources: World WISE

Destination of shipment	Kilograms of Rosewood	% of total seized
Destination of shipment	6,014,407	72%
Unknown destination	2,358,838	28%
Total seized	8,373,245	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, weight of rosewood (kg) seized from 2005 to 2015.

Top 10 source countries/territories of shipment	Kilograms of Rosewood	% of total seized
Madagascar	4,491,875	54%
India	1,177,545	14%
Thailand	618,375	7%
Tanzania	500,000	6%
Cambodia	9,000	0%
Burkina Faso	2,116	0%
Other countries and territories	0	0%
Unknown	1,574,334	19%
Total	8,373,245	100%

Sources: World WISE

Top 10 destination countries/territories for shipment	Kilograms of Rosewood	% of total seized
China <i>China China, Hong Kong SAR Taiwan province of China</i>	5232318 718543 4460129 53646	62%
United Arab Emirates	338,421	4%
Malaysia	231,149	3%
Mozambique	135,875	2%
Liberia	61,789	1%
Viet Nam	8,705	0%
Indonesia	4,023	0%
United States of America	886	0%
Ukraine	751	0%
Thailand	176	0%
Other 5 countries and territories	314	0%
Unknown	2,358,838	28%
Total	8,373,245	100%

Sources: World WISE

II: Rosewood CITES Legal Trade Data

Summary tables for the weight of rosewood (kg) exported, according to import data in the CITES Wildlife trade database, 2006 to 2013.

Table. Conversions for rosewood in CITES import data, 2006 to 2013.

Commodity types	Weight	Units (no. of items)	Comments
Final Rosewood conversions	8239387 kg	0.00	Includes logs of <i>Dalbergia</i> and <i>Pterocarpus santalinus</i> , all converted to kilograms.
<i>Dalbergia</i>	5276895 kg	143351.11	Conversion Ratio of 1 log : 125 kg
<i>Pterocarpus santalinus</i>	2962492 kg	2933.16	Conversion Ratio of 1 log : 15 kg

Table. Weight of rosewood (kg) reported in import data, with information on import or export country, 2006 to 2013.

Source of shipment	Kilograms of Rosewood	% of trade
Source of shipment	7,823,717	95%
Unknown source	415,670	5%
Total	8,239,387	100%

Sources: Import data from CITES Trade Database

Destination of shipment	Kilograms of Rosewood	% of trade
Destination of shipment	8,239,387	100%
Unknown destination	0	0%
Total	8,239,387	100%

Sources: Import data from CITES Trade Database

Table. Weight of rosewood (kg) reported in import data, with information on import or export country, 2006 to 2013.

Top 10 source countries/territories of shipment	Kilograms of Rosewood	% of trade
India	2,962,492	36%
Lao People's democratic Republic	1,682,974	20%
Cambodia	998,105	12%
Panama	879,833	11%
Viet Nam	475,055	6%
Belize	440,617	5%
Nicaragua	217,593	3%
El Salvador	74,712	1%
Costa Rica	72,431	1%
Mexico	19,074	0%
Other 2 countries and territories	832	0%
Unknown	415,670	5%
Total	8,239,387	100%

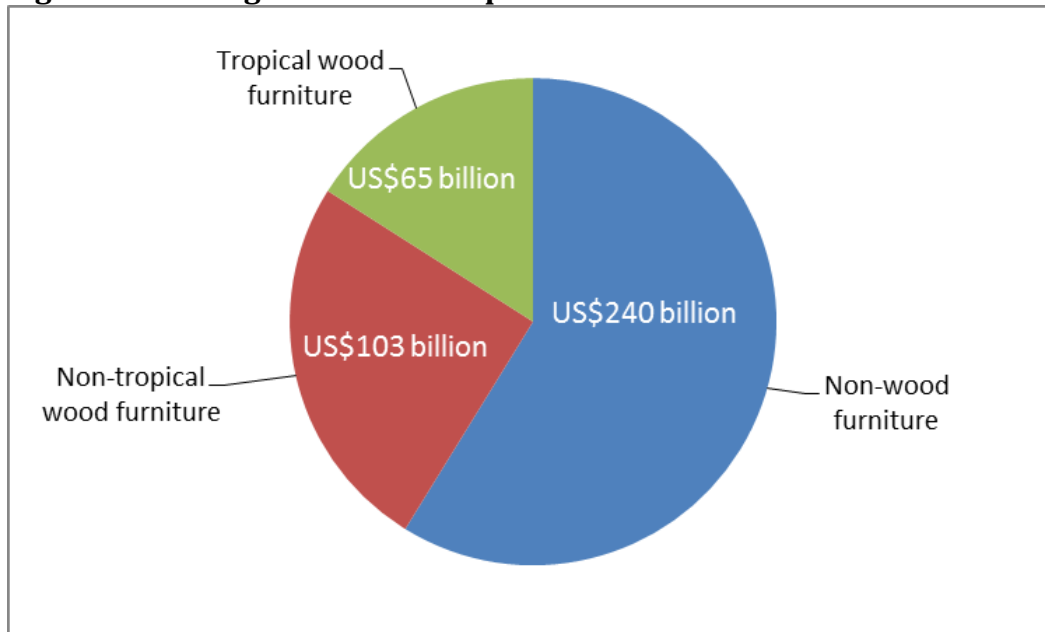
Sources: Import data from CITES Trade Database

Top 10 destination countries/territories for shipment	Kilograms of Rosewood	% of trade
China	4,276,288	52%
Singapore	2,962,492	36%
Viet Nam	998,105	12%
Switzerland	1,670	0%
Spain	759	0%
Japan	73	0%
Other countries and territories	0	0%
Unknown	0	0%
Total	8,239,387	100%

Sources: Import data from CITES Trade Database

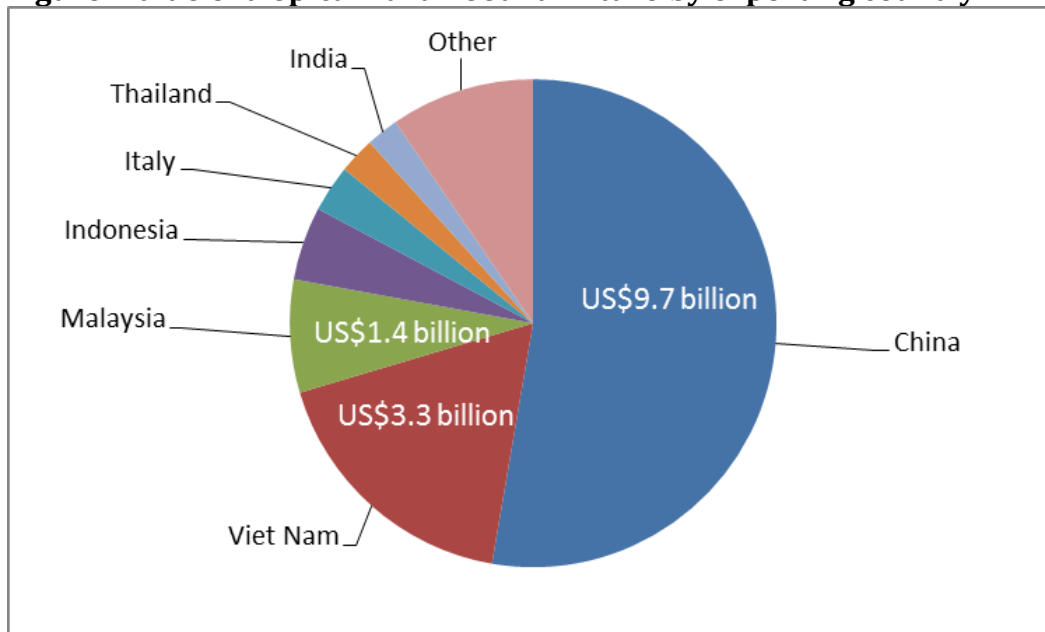
III: Draft Tables and Figures in the Rosewood Chapter

Figure: Value of global furniture production in 2012



Source: Elaborated from EC 2015²²

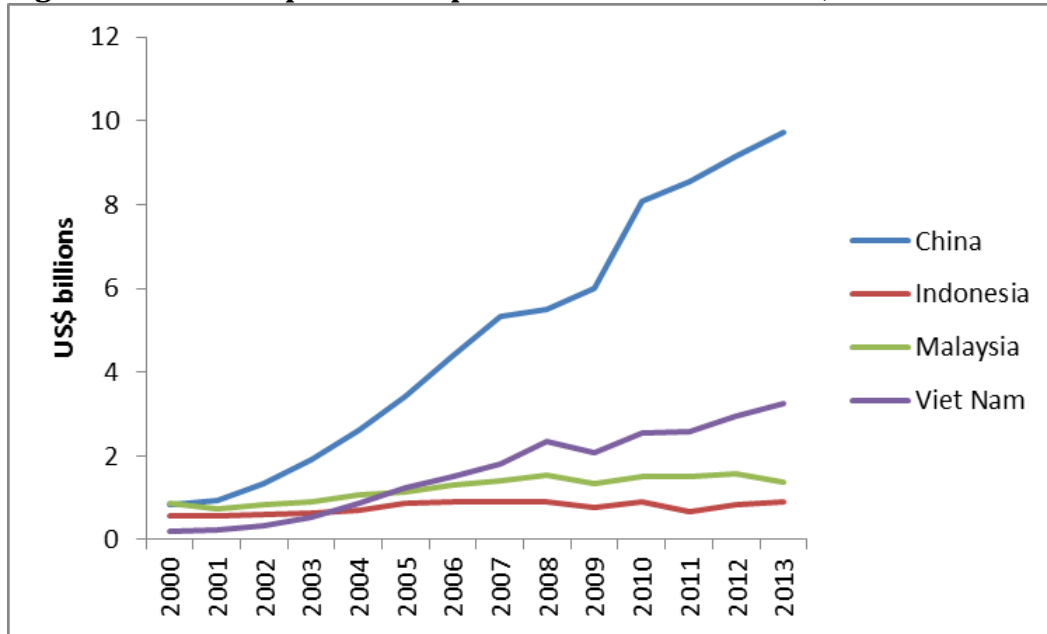
Figure: Value of tropical hardwood furniture by exporting country in 2013



Source: Elaborated from COMTRADE

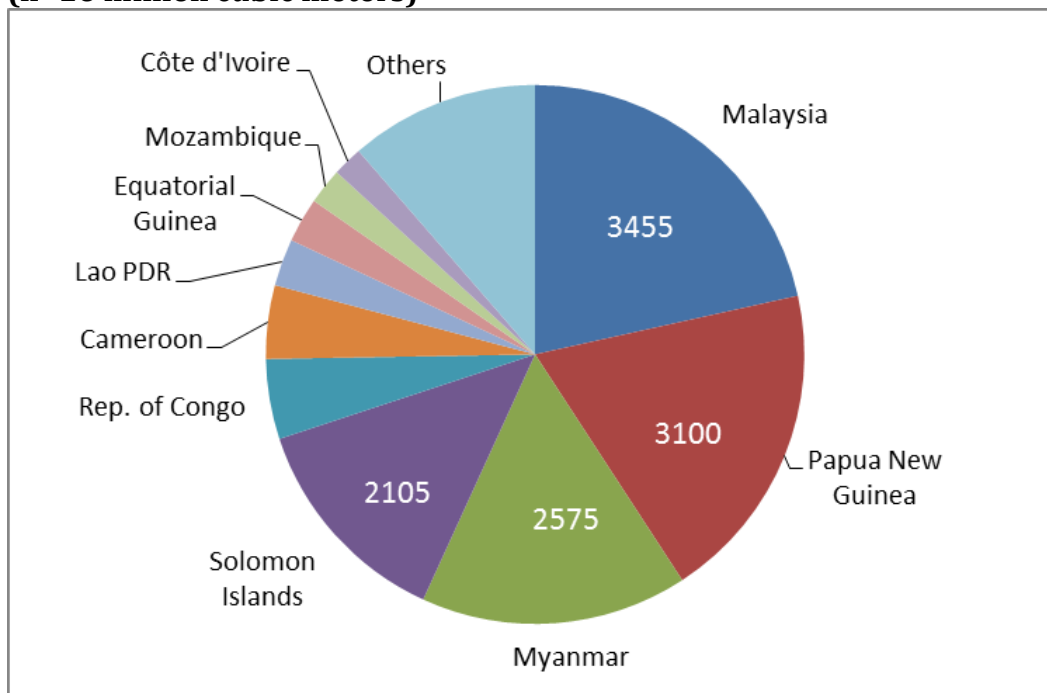
²² *The EU furniture market situation and a possible furniture products initiative*. CEPS, Economisti Associati, CSIL and Demetra for DG Enterprise and Industry (authors). European Commission, Brussels. Available at: http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item_id=7918&lang=en&title=Study-on-the-EU-furniture-market-situation-and-a-possible-furniture-products-initiative. Accessed 30 January 2015.

Figure: Value of exports of tropical hardwood furniture, 2000-2013



Source: Elaborated from COMTRADE

Figure: Recorded exports of tropical logs in 1000s of cubic meters, 2013 (n=16 million cubic meters)



Source: ITTO Statistics Database, preliminary data; COMTRADE

Table 1: Fourteen *hong mu* species most commonly traded in China

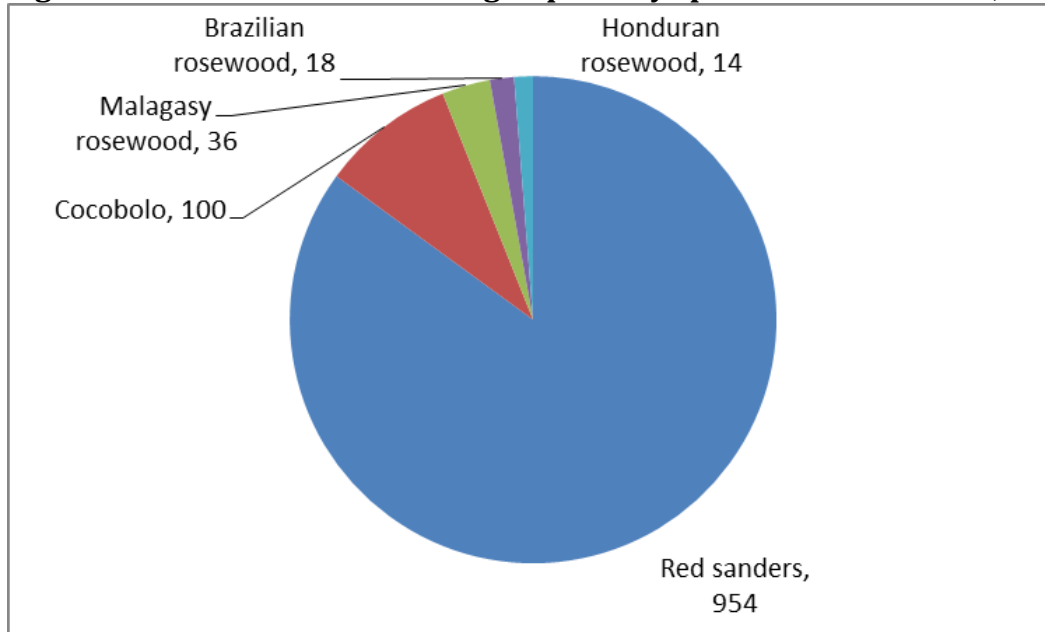
Hongmu 'Class'		Scientific Name	Common Name(s)	Chinese classification	Source	CITES Appendix	Price per cubic metre ²³
Collectable	Class I	Dalbergia odorifera	Chinese Rosewood / Huanghuali	Xiangzhi	China		\$1,500,000
		Dalbergia tonkinensis	Sua		Vietnam		\$2,000,000
	Class II	Pterocarpus santalinus	Red sandalwood, Red sanders	Zitan	India	II (2007)	\$358,000
Ordinary Class	High End	Dalbergia louvelii	Bois de rose / Malagasy rosewood	Hei suanzhi	Madagascar	II (2013)	\$45,000
		Dalbergia cochinchinensis	Siamese rosewood / Thai rosewood	Hong suanzhi	Mekong Basin	II (2013)	\$93,000
		Dalbergia retusa	Black rosewood / Cocobolo	Hong suanzhi	Central America	II (2013)	\$32,000
	Mid-end	Pterocarpus macarocarpus / cambodianus	Burmese padauk	Huali	Mekong Basin		\$6,300
		Dalbergia cearensis	Kingwood	Hong suanzhi	Brazil		
		Dalbergia oliveri/ bariensis	Burmese rosewood / Tamalan	Hong suanzhi	Mekong Basin		\$9,200
	Low-end	Dalbergia stevensonii	Honduran rosewood	Hei suanzhi	Central America	II (2013)	
		Millettia laurentii	Wenge	Jichi	Congo Basin		\$850
		Millettia leucantha	Sathon	Jichi	Mekong Basin		
		Dalbergia melanoxylon	African blackwood	Hei suanzhi	East Africa		\$2,400
		Pterocarpus erinaceus	Kosso / Vene / African rosewood	Huali	West Africa		\$1,100

Source: Adapted from Wenbin and Xiufang 2013.²⁴

²³ Price in China, best quality, latest available (Source: ITTO MIS Nov 2014, except D.odorifera/ tonkinensis, Wenbin and Xiufang, 2013. H. Wenbin. and S. Xiufang, Tropical Hardwood Flows in China: Case Studies of Rosewood and Okoumé. Forest Trends, 2013. Available at: http://www.forest-trends.org/documents/files/doc_4138.pdf, op cit, p. 4.

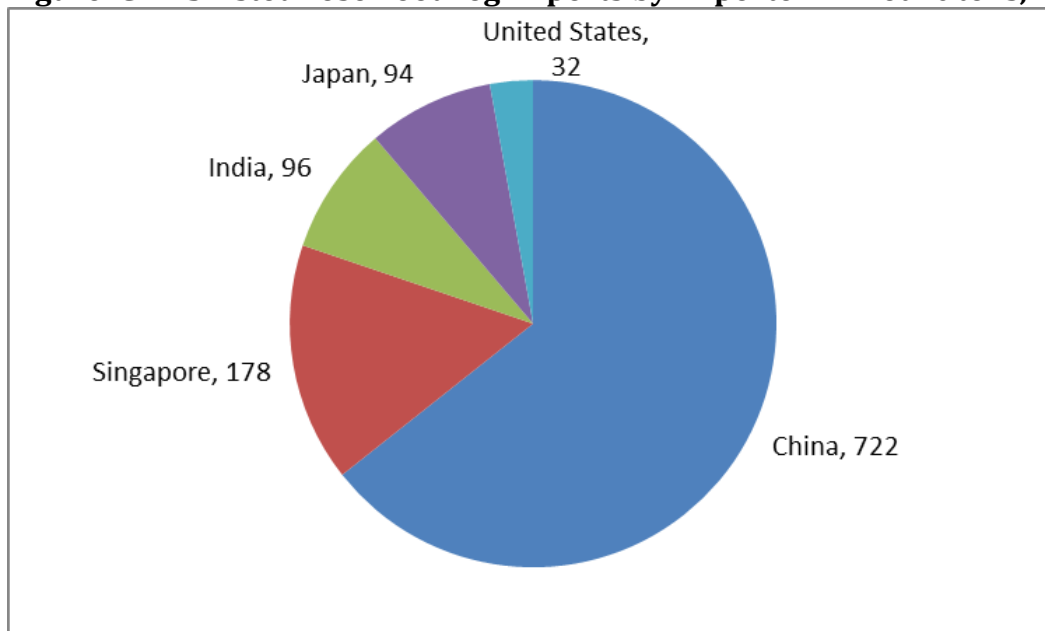
²⁴ Wenbin and Xiufang 2013 (op cit) include Dalbergia cearensis and Millettia leucantha as being among the 16 most commonly traded rosewood species in China, but this study found little evidence of harvesting and trade.

Figure: CITES-listed rosewood log imports by species in metric tons, 2007-2014



Source: CITES Trade Database

Figure: CITES-listed rosewood log imports by importer in metric tons, 2005-2014



Source: CITES Trade Database

Table: Logging protections for kosso in some West African states

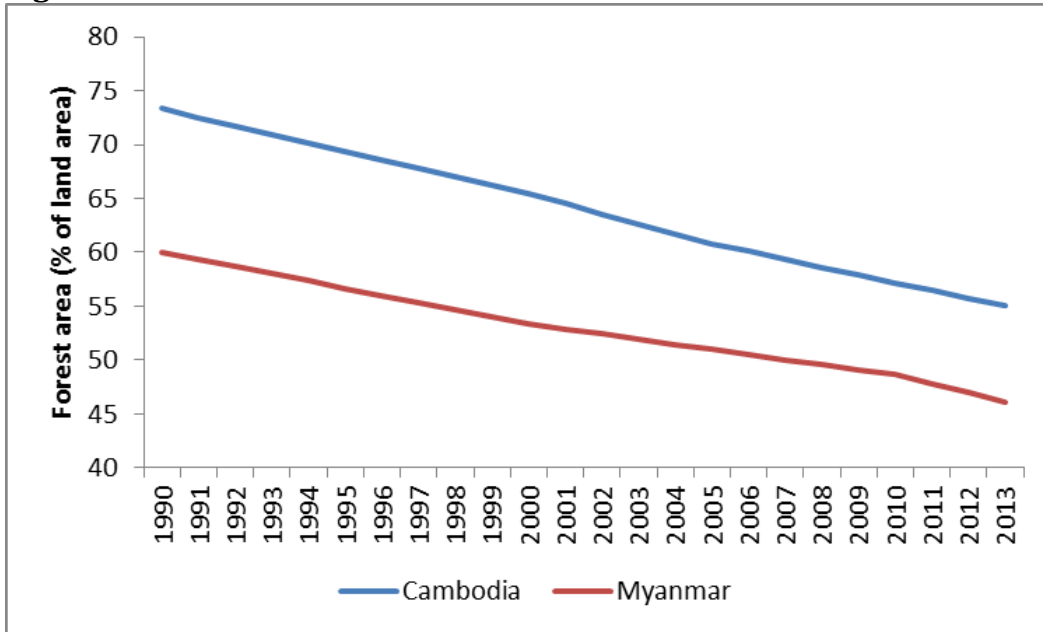
Source country	Protection	Law
Mali	Felling prohibited	Loi No 95-004 <i>Fixant les conditions de gestion des ressources forestières</i> (Article 17) (1995)
Burkina Faso	Felling prohibited	Arrêté 'No 2004-019/MECV (Article 44) (2004)
Benin	Felling prohibited	Décret No 96-271 <i>Portant modalités d'application de la Loi N093-009 du 2 Juillet 1993</i> (Article 25) (1996)
Togo	Transport of kosso prohibited	Note de Service No. 0251 MERF/SG/DRF, issued 21 May 2015
Nigeria	Determined by state	Varies
Ghana	Species export moratorium	
Guinea-Bissau	Logging moratorium	Ministerial declaration, 1 April 2015
The Gambia	Kosso protected under Schedule 2	Forest Regulations 1998

Table: Log export bans in top rosewood source countries

Country	Year of log export ban	Rosewood species involved
Lao PDR	1999	<i>Dalbergia oliveri</i> <i>Pterocarpus macrocarpus</i> <i>Dalbergia cochinchinensis</i> <i>Millettia leucantha</i>
Myanmar	2014	<i>Dalbergia oliveri</i> <i>Pterocarpus macarocarpus</i> <i>Dalbergia cochinchinensis</i> <i>Millettia leucantha</i>
Cambodia	1992, 2006 ²⁵	<i>Dalbergia oliveri</i> <i>Pterocarpus macarocarpus</i>
Viet Nam	1992	<i>Dalbergia oliveri</i> <i>Pterocarpus macarocarpus</i> <i>Dalbergia cochinchinensis</i> <i>Dalbergia tonkinensis</i>
Nigeria	1976	<i>Pterocarpus erinaceus</i>
Ghana	1994	<i>Pterocarpus erinaceus</i>

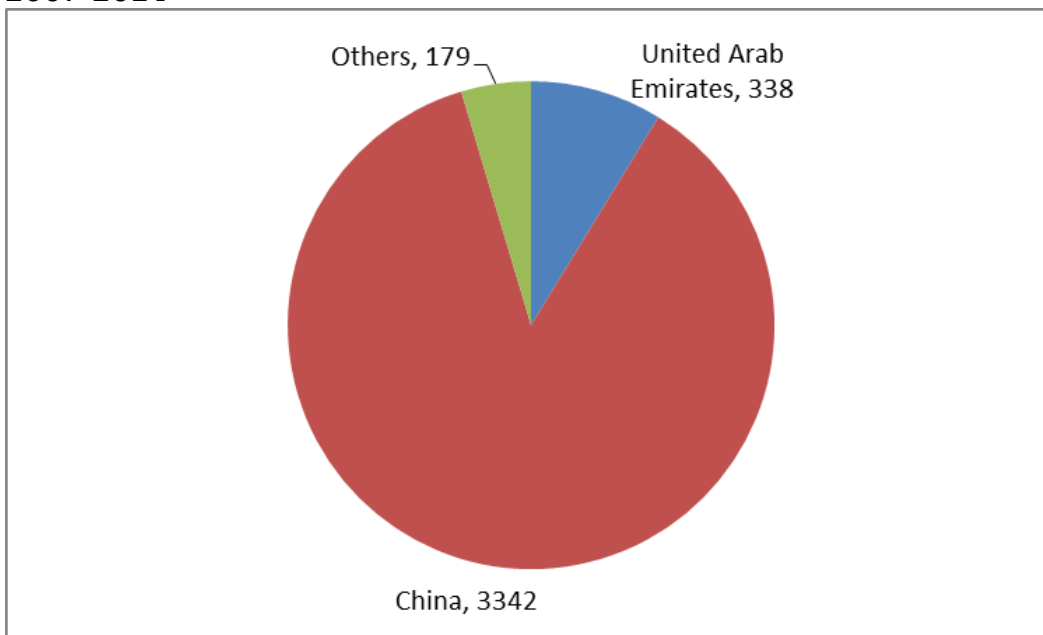
²⁵ Royal Government of Cambodia (2006) Sub-Decree No. 131 on Specific Forest Products-By-products or NTFPs, Article 3, http://www.cambodiainvestment.gov.kh/content/uploads/2012/03/Sub-Decree-131-on-Forest-and-Non-Timber-Forest-Products-Allow-For-Export-andImport_061128.pdf

Figure: Share of land area under forest cover



Source: Elaborated from World Bank²⁶

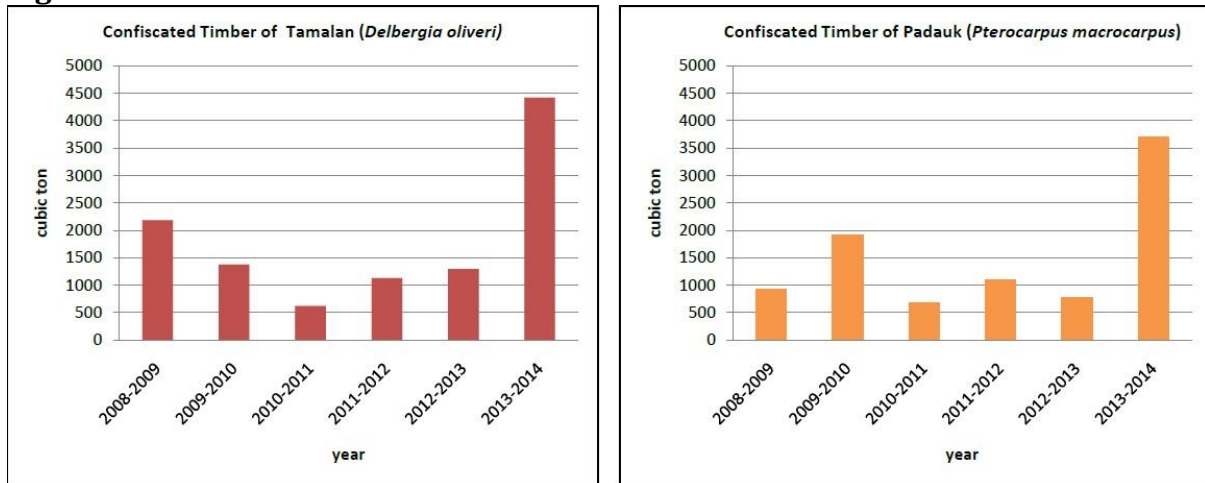
Figure: Destination of red sanders seizures made in India (metric tons) 2007-2014



Source: World WISE

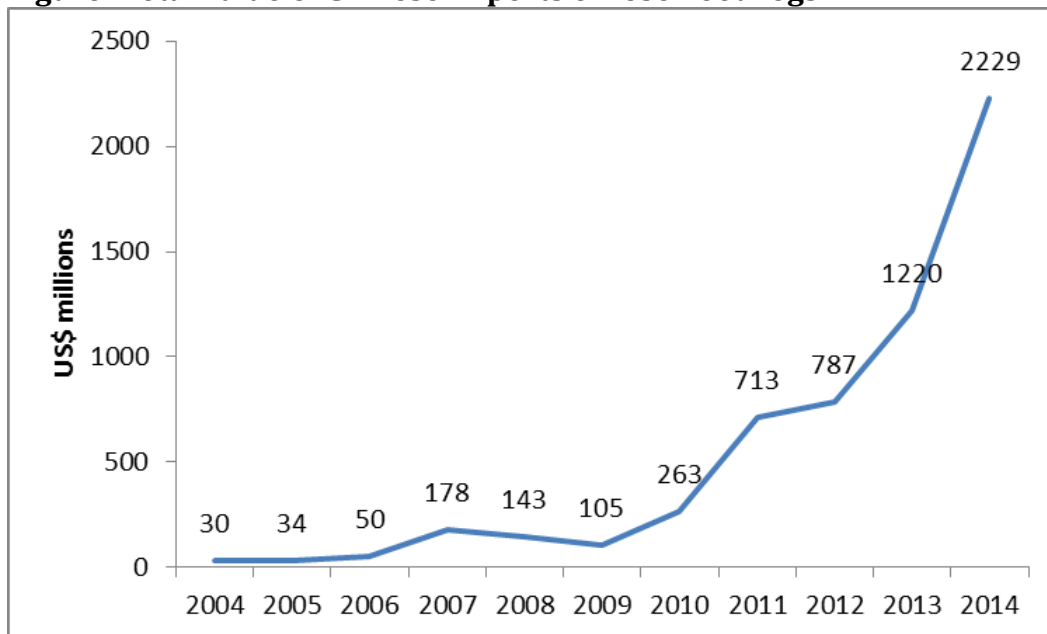
²⁶ <http://data.worldbank.org/indicator/AG.LND.FRST.ZS>

Figure: Confiscated Timber



Source: Myanmar Forest Department²⁷

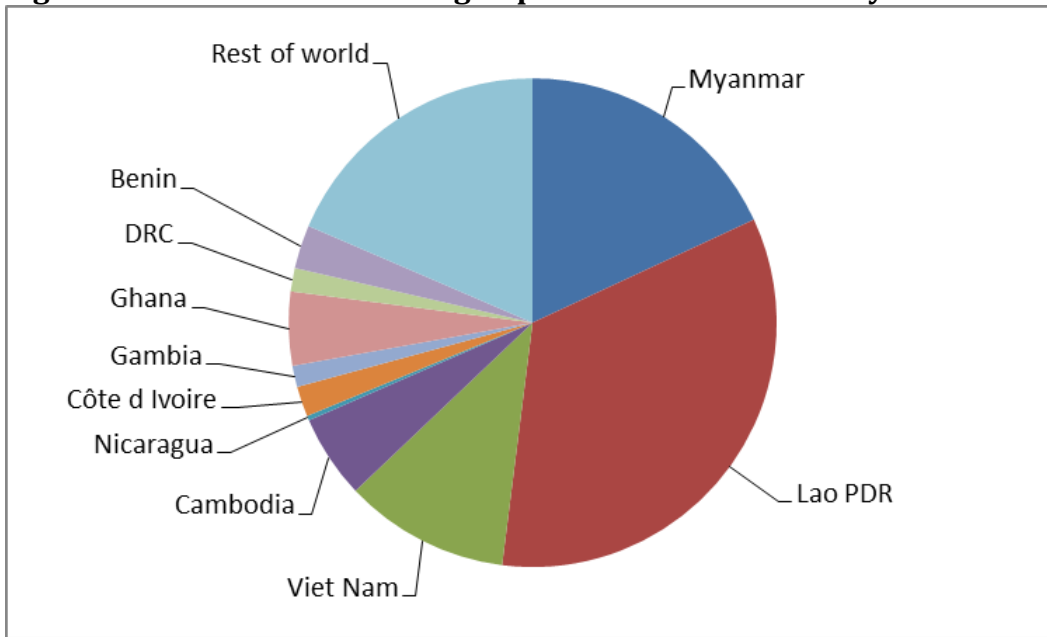
Figure: Total value of Chinese imports of rosewood logs



Source: World Trade Atlas, citing Chinese Customs

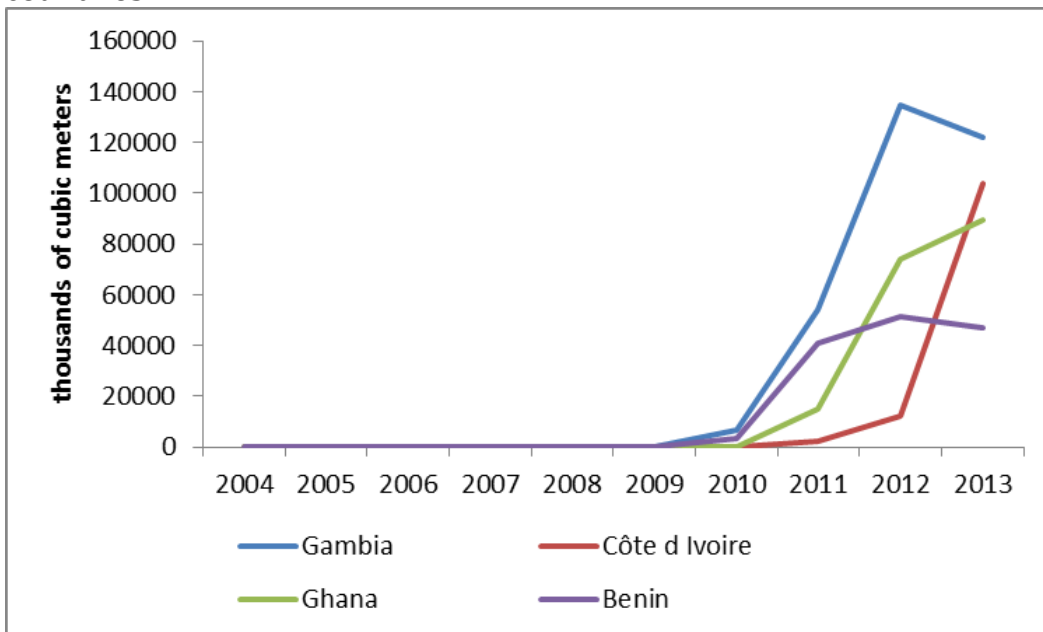
²⁷ Nyi Nyi Kyaw, Director General, Myanmar Forest Department, 'Myanmar Timber Trade and Rosewood Policies', presentation to the International Workshop on Promoting Legal and Sustainable Trade and Investment of Forest Products, 26 March 2014, Shanghai.

Figure: Sources of rosewood log imports to China in 2014 by value



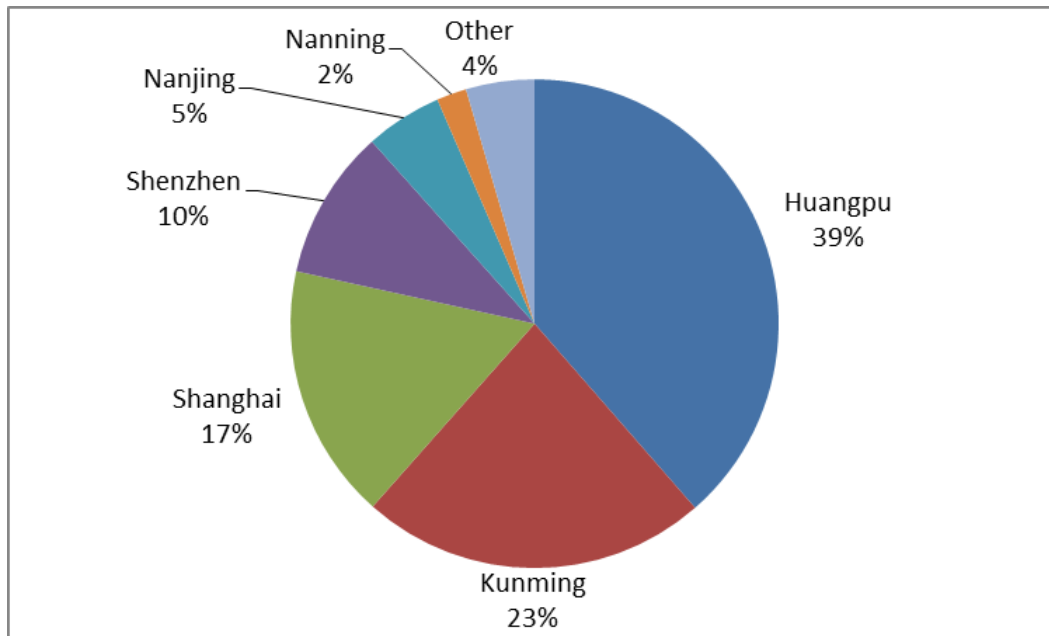
Source: World Trade Atlas, citing Chinese Customs

Figure: Volume of China imports of rosewood logs from selected West African countries



Source: World Trade Atlas, citing Chinese Customs

Figure: China imports of rosewood logs by volume through major customs district in 2013



Source: World Trade Atlas, cites China Customs

Chapter 10: Cross-sectoral analysis and implications

ANNEX 1
Summary table of wildlife seizures included in World WISE

AFRICA
Eastern Africa

Country	Source	Year												Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Burundi															No data available
Comoros															No data available
Djibouti															No data available
Eritrea															No data available
Ethiopia	CITES Annual reports COBRA3	2		6	1									5	
Kenya	CITES Annual reports COBRA3	2	4		1		2		1						
	Lusaka Agreement WCO-CEN							1	6	8	8	4			
	CITES Annual reports WCO-CEN				4			5	1	15					
Madagascar															
Malawi	CITES Annual reports WCO-CEN	1	4	10	5	3	4								
Mauritius															No data available
Mayotte	CITES Annual reports	1													
Mozambique	COBRA3								9	6	22	2			3
	WCO-CEN														
Reunion	CITES Annual reports WCO-CEN		2												
	CITES Annual reports WCO-CEN										2				
Rwanda			7	3	13	2		1							
Seychelles	CITES Annual reports														
Somalia															No data available
South Sudan															No data available
Uganda	COBRA3														13
	Lusaka Agreement									2	6				
	WCO-CEN									1	5	3			
	EC Pangolin Working Group									2	1	5	1		
United Republic of Tanzania	COBRA3														4
	Lusaka Agreement										2				
	EC Pangolin Working Group							1			3	6			
Zambia	CITES biennial report COBRA3		108												6
	WCO-CEN														
Zimbabwe	EC Pangolin Working Group														
	EC Pangolin Working Group									1	7	11	11		

AFRICA
Middle Africa

Country	Source	Year												Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Angola															No data available
Cameroon	CITES Annual reports				1										
	EAGLE				7	2	10	15	15	11	24	53	18		
	WCO-CEN							8	4	37	16				
Central African Republic															No data available
Chad															No data available
Congo	EAGLE					1							42		
	Lusaka Agreement					2	1	1	3	2	3				
	WCO-CEN										1				
Democratic Republic of the Congo	WCO-CEN									4	6	2			
	Centre de Recherche en Science Naturelles (CRSN), Lwiro, DRC							1							
Equatorial Guinea															No data available
Gabon	CITES Annual reports							3							
	EAGLE							1	6	3	6	10	6		
	EC Pangolin Working Group								1	4	3	10	7		
Sao Tome and Principe															No data available

AFRICA
Northern Africa

Country	Source	Year												Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Algeria																No data available
Egypt																No data available
Libya																No data available
Morocco																No data available
Sudan	WCO-CEN										7	1				No data available
Tunisia	CITES Annual reports											1				

AFRICA
Southern Africa

Country	Source	Year												Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Botswana																
Lesotho	COBRA3														1	
Namibia	COBRA3															No data available
	CITES Annual reports	4	6	13	7	1	4	2		1						

ANNEX 1
Summary table of wildlife seizures included in World WISE

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
South Africa	COBRA3													8	No data available
	Environment ZA							7	16	19	38	11			
	NECER							11	115	73	126	79	83	30	
Swaziland															

AFRICA
Western Africa

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Benin	EAGLE												1		
Burkina Faso	CITES SRR Species Specific Seizures											1			
	WPSI										1				
Cabo Verde															No data available
Côte d'Ivoire															No data available
Gambia															No data available
Ghana															No data available
Guinea	EAGLE									3		1		3	
	WCO-CEN											18			
Guinea-Bissau															No data available
Liberia															No data available
Mali	WCO-CEN										1		2		
Mauritania	CITES Annual reports										1		1		
Niger	WCO-CEN												1		
Nigeria	WCO-CEN									2			1		
Senegal	CITES Annual reports									1					
Sierra Leone															No data available
Togo	EAGLE											1			

AMERICAS
Caribbean

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Antigua and Barbuda															No data available
Bahamas															No data available
Barbados															No data available
Cuba	WCO-CEN										1		2		
Dominica															No data available
Dominican Republic	CITES Annual reports							1		2					
Grenada															No data available
Haiti															No data available
Jamaica															No data available
<i>Martinique</i>	CITES Annual reports							1							
Saint Kitts and Nevis															No data available

ANNEX 1
Summary table of wildlife seizures included in World WISE

Saint Lucia																		No data available
Saint Vincent and the Grenadines																		No data available
Trinidad and Tobago																		No data available

AMERICAS
Central America

Country	Source	Year														Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015					
Belize																		No data available
Costa Rica																		No data available
El Salvador																		No data available
Guatemala	CITES Annual reports				2													
	CITES biennial report	24																
Honduras	CITES Annual reports		4	2	23	27	1											
	CITES Annual reports	3					8	3	9									
	CITES biennial report	15																
Mexico	Mexican national data	955	1135	780	604	735	1182	1318	1392	958	671	517						
Nicaragua																		No data available
Panama	WCO-CEN										3							

AMERICAS
Northern America

Country	Source	Year														Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015					
Canada	CITES Annual reports	4		2				1	1									
	WAPPRIITA										149							
Greenland	CITES Annual reports			1														
United States of America	USFWS-LEMIS	4655	5008	5811	5248	5481	6172	6366	6617	6655	5530	4419						Received data from 1999 - 2015

AMERICAS
South America

Country	Source	Year														Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015					
Argentina	CITES Annual reports		1		1													
	CITES biennial report		28		40													
Bolivia (plurinational state of)																		No data available
Brazil	CITES Annual reports		1															
	Brazil national Data	6	23	22	24	23	17		21	7	11	2						Data received but not analyzed
Chile	CITES Annual reports		17	5	3		1											

ANNEX 1
Summary table of wildlife seizures included in World WISE

Country	Source	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Comments
Colombia	CITES Annual reports											6		
Ecuador	CITES Annual reports												1	
<i>French Guiana</i>	WCO-CEN									1	1	2		
Guyana														No data available
Paraguay														No data available
Peru	Peru National Data											107		Data received but not analyzed
Suriname														No data available
Uruguay	CITES Annual reports	8	1											
Venezuela (Bolivarian Republic of)	CITES biennial report				64									

ASIA
Central Asia

Country	Source	Year														Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Kazakhstan	WCO-CEN								2							
Kyrgyzstan	WCO-CEN										1	1				
Tajikistan														No data available		
Turkmenistan														No data available		
Uzbekistan	CITES Annual reports								2	1	2					

ASIA
Eastern Asia

Country	Source	Year														Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
China	CITES Annual reports							1	2	3	2					
	CITES biennial report	24	71	86			65	1029								
	COBRA3													19		
	EAGLE			1												
	WCO-CEN								55							
	CITES SRK Species Specific Seizures															
	EC Pangolin Working Group							28	47	60	48	8				
	CITES Annual reports	1	1	1	1	1	2	2	1	1	1					
China, Hong Kong SAR	COBRA3													12		
	WCO-CEN								57	117	225	196				
China, Macao SAR	CITES Annual reports		1													
	CITES biennial report		3		10											
Democratic People's Republic of Korea														No data available		
Japan	CITES Annual reports	7	16	34	4	29	8	13		3	1					
	WCO-CEN									1						
Mongolia	WCO-CEN										5	1				
Republic of Korea	CITES Annual reports		2	1	2	1		2								

ASIA
South-Eastern Asia

Country	Source	Year												Comments			
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015				
Brunei Darussalam	ASEAN WEN											1					
	ASEAN WEN					3		4	2	13							
Cambodia	CITES Annual reports							3		2							
	WCO-CEN									2		3					
Indonesia	ASEAN WEN					7		14	25	38							
	CITES Annual reports			1	1												
	CITES biennial report	80	108	73	14	28	12	18	30	6							
	COBRA3																9
	ASEAN WEN					2			19								4
Lao People's Democratic Republic	COBRA3																
	ASEAN WEN					39	25	26	35	26							
Malaysia	CITES Annual reports	13	15	11	2	3	2										
	CITES biennial report	61	107	6	228	1	33	4	1			1					1
	CITES SRR Species Specific Seizures																4
	COBRA3																2
	WCO-CEN																
	ASEAN WEN																
Myanmar	EC Pangolin Working Group						25	78	65	27							6
	ASEAN WEN					7	4	40	50	51							
Philippines	CITES Annual reports																
	CITES SRR Species Specific Seizures																1
	Philippines national data							42	8	8	14	59					
	WCO-CEN																
	ASEAN WEN																
	CITES Annual reports							15	8	4	8						
Singapore	CITES Annual reports	17	23	28	4			4	1	3	3						
	CITES biennial report		4	3													
	CITES SRR Species Specific Seizures																5
	COBRA3																1
	ASEAN WEN																3
Thailand	ASEAN WEN					15	18	28	161	181							
	CITES Annual reports	14		3	5			24									
	CITES biennial report				18			181	126								
	CITES SRR Species Specific Seizures																50
	COBRA3																17
	WCO-CEN																
Timor-Leste	EC Pangolin Working Group							14	19	25	15	13	1				
	ASEAN WEN																
Viet Nam	ASEAN WEN					16	58	39	138	31							
	CITES Annual reports		1	1													
	CITES SRR Species Specific Seizures																3
	COBRA3																3
	WCO-CEN																

ASIA
Southern Asia

Country	Source	Year												Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Afghanistan															No data available
Bangladesh															No data available
Bhutan									8						No data available
India	ASEAN WEN														
	CITES Annual reports				1										
	COBRA3												6		
	WCCB				141	207	221	207	218	266	265				
	WCO-CEN									5	5	13			
	WPSI										1043				
Iran (Islamic Republic of)															No data available
Maldives															No data available
Nepal	COBRA3												1		
	WCO-CEN										1				
Pakistan	CITES Annual reports			2											
	CITES biennial report										6	4			
Sri Lanka	CITES Annual reports			3											
	WCO-CEN								1						
	EIA											1			

ASIA
Western Asia

Country	Source	Year												Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Armenia															No data available
Azerbaijan															No data available
Bahrain															No data available
Cyprus	EU-TWIX		4	3	1		3	4		1					
	CITES Annual reports						2	6							
Georgia	CITES biennial report										4	2			
	WCO-CEN											4	2		
Iraq	CITES Annual reports														No data available
	WCO-CEN	14	7	1	1	3			1	5					
Israel	CITES Annual reports														
	WCO-CEN											1			
Jordan	CITES Annual reports						3		3						
	WCO-CEN								4						
Kuwait	CITES Annual reports							14	2						
	CITES biennial report		3		4										
Lebanon	CITES Annual reports														
	WCO-CEN								1	2					No data available
Oman	WCO-CEN											7			

ANNEX 1
Summary table of wildlife seizures included in World WISE

Country	Source	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Comments
Qatar	CITES Annual reports	1			1			3	2					
	CITES biennial report	2	11											
	WCO-CEN									1			1	
Saudi Arabia	CITES Annual reports				1	29	26			27	11			
	WCO-CEN								2				1	
Syrian Arab Republic	CITES Annual reports													No data available
	CITES biennial report	1	1		2				2	2	1			
	WCO-CEN								26	36	62	132	224	28
Turkey	CITES Annual reports													
	CITES biennial report	81	2	2	2		64	38	6		5			
	WCO-CEN	49	106	175	73	61	64	35	46	106				
United Arab Emirates	CITES Annual reports									7	6	4	2	
	WCO-CEN										5	1	1	
Yemen	WCO-CEN													

EUROPE
Eastern Europe

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Belarus														No data available	
Bulgaria	COBRA3													3	
	EU-TWIX			1		4	3	2	6	9	1				
	WCO-CEN		41	42	61	63	47	11		3	3				
Czech Republic	EU-TWIX												6		
	WCO-CEN														
			62	172	124	26	29	34		12	35				
Hungary	CITES Annual reports							1							
	COBRA3												13		
	EU-TWIX		110	154	73	84	118	61	2	114	54				
Poland	WCO-CEN											35			
														No data available	
Republic of Moldova	COBRA3													2	
	EU-TWIX			2	1	2		5	2	1	6				
	WCO-CEN											1			
Romania	CITES Annual reports														
	COBRA3														
	WCO-CEN														
Russian Federation	CITES Annual reports	2	3		2	1	2								
	COBRA3													3	
	WCO-CEN								9	4	20				
Slovakia	COBRA3													1	
	EU-TWIX		56	28	12	11	1	6		19	10				
	WCO-CEN														
Ukraine	CITES Annual reports	2	3	2											
	COBRA3													2	
	WCO-CEN														

EUROPE
Northern Europe

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Denmark	COBRA3													1	
	EU-TWIX	123	87	62	99	80	79	105	99	107					
	WCO-CEN										89				
Estonia	CITES SRR Species Specific Seizures														
	EU-TWIX	6	2	8	9	3	1		7	13					
	WCO-CEN										4				
Finland	EU-TWIX				2	3	1	1	1						
Iceland															No data available
Ireland	EU-TWIX	5	9	12	76	41	7	30	24	11					
Latvia	EU-TWIX	23	9	11	36	13	13	34	9	16					
Lithuania	EU-TWIX	3	35	42	24	15	24	13	14						
Norway	CITES Annual reports	52	36	17	35	34	78	139	138	2					
Sweden	EU-TWIX	38	33	14	21	52	7	38	33						
United Kingdom	CITES Annual reports				1										
	COBRA3														91
	EU-TWIX	138	226	201	191	179	206	125	397	249					

EUROPE
Southern Europe

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Albania															No data available
Andorra															No data available
Bosnia and Herzegovina															No data available
Croatia	CITES Annual reports			1	4										
	CITES biennial report				17		31	29							
	CITES SRR Species Specific Seizures									28					
	COBRA3														1
Greece	CITES SRR Species Specific Seizures									8					
	COBRA3														1
	EU-TWIX	8	6	4	4	9	3	4	5	2					
Italy	CITES Annual reports														
	COBRA3														7
	EU-TWIX	66	76	62	44	46	1	185	224	297					
Kosovo (in compliance with UN security Council Resolution 1244/99)															No data available
Malta	EU-TWIX		2	3	5	3	5	4		7	10				
	WCO-CEN											4			
Montenegro	WCO-CEN														
	CITES Annual reports	1													

ANNEX 1
Summary table of wildlife seizures included in World WISE

Country	Source	Year												Comments		
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Portugal	COBRA3														7	
	EU-TWIX	17	85	79	84	32	4		6	1.5						
	WCO-CEN											4				
Serbia	CITES Annual reports															
	CITES biennial report	2	1	5												
	WCO-CEN											3				
Slovenia	CITES Annual reports	4	10	7												
	CITES SRR Species Specific Seizures															
	EU-TWIX	73	31	19	22	18	33	35	14	2						
Spain	CITES Annual reports	2														
	CITES SRR Species Specific Seizures												221			
	COBRA3															21
	EU-TWIX	164	155	147	268	142	141	88	114	140						
	WCO-CEN								1	137	80					
The former Yugoslav Republic of																No data available

EUROPE
Western Europe

Country	Source	Year												Comments			
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015				
Austria	COBRA3															4	
	EU-TWIX	49	81	74	60	104	3	70	143								
	COBRA3																5
Belgium	EU-TWIX	74	109	47	66	193	190	169	210	135							
	COBRA3																6
	EU-TWIX	124	83	123	214	167	190	36	74	498							
France	CITES biennial report					1	1	1	1	1							
	WCO-CEN											2					
	COBRA3																32
Germany	EU-TWIX	1002	1197	772	712	853	890	912	804	737							
	WCO-CEN											365					
	Liechtenstein																No data Available
Luxembourg	EU-TWIX			11	9												
Monaco	CITES Annual reports		1					1									
Netherlands	COBRA3																7
	EU-TWIX	107	558	319	357	706	407	25	477	408							
	WCO-CEN											326					
Switzerland	CITES Annual reports	3	8	5	15	4	4	6	4	4							
	CITES biennial report																39

OCEANIA
Australia and New Zealand

Country	Source	Year													Comments
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Australia	Australian Permits Administration Database							3456	1214	1011					
	CITES Annual reports			1	1		5								
	WCO-CEN								8	5					
New Zealand	CITES Annual reports	4411	2737	1	1439	3857	2253	3278							
	CITES biennial report		6												
	CITES Annual reports								2138	3102	3683				
	WCO-CEN									2					

OCEANIA
Melanesia

Country	Source	Year													Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Fiji																
Papua New Guinea	CITES Annual reports			1												No data available
Solomon Islands																No data available
Vanuatu																No data available

OCEANIA
Micronesia

Country	Source	Year													Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Kiribati																No data available
Marshall Islands																No data available
Micronesia (Federated States of)																No data available
Nauru																No data available
Palau																No data available

OCEANIA
Polynesia

Country	Source	Year													Comments	
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
Samoa																No data available
Tonga																No data available
Tuvalu																No data available