



**JNCC Report
No. 626 (Rev1)**

**UK wildlife trade report:
an analysis of trade in CITES specimens (2012-16)**

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**January 2019
(revised June 2019)**

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ISSN 0963-8091

UNEP-WCMC

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This report should be cited as:

Pavitt, A., Britton-Williams, N., Chadwick, W., Banks, S.E., McLardy, C., Malsch, K., Littlewood, A.H.L. & Fleming, L.V. 2019. UK wildlife report: an analysis of trade in CITES specimens (2012-16). *JNCC Report No. 626 (Rev1)*, JNCC, Peterborough, ISSN 0963-8091.

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Acknowledgements

We are grateful for constructive comments and input from Sonia Dhanda and Valentina Vaglica (Royal Botanic Gardens Kew) and Jules McAlpine (JNCC).

Revisions

This report was originally published in January 2019 and then re-published in June 2019 following revisions to correct the estimated value of coral imports into the UK which were, originally, over-estimated. Details of, and an explanation for, the changes made are available from JNCC.

Contents

1	Overview	1
1.1	Imports.....	1
1.1.1	Imports by number of items.....	3
1.1.2	Imports by weight.....	7
1.1.3	Imports by volume	8
1.1.4	Case Study 1: mammal trophy imports	8
1.2	Exports	9
1.2.1	Exports by number of items	12
1.2.2	Exports by weight	15
1.2.3	UK re-exports of commodities originating in the EU	15
1.2.4	Case Study 2: trade in pre-Convention worked elephant ivory	16
1.3	Overseas Territories & Crown Dependencies	17
1.3.1	Imports into OTs	18
1.3.2	Exports from OTs to RoW	19
1.3.3	Trade between OTs and the rest of the UK.....	19
2	Analysis of EU internal trade certificates	20
2.1	Number of certificates issued.....	20
2.2	Total taxonomic breakdown of certificates issued by the UK.....	21
2.3	Certificates issued by the UK for specimens from the EU27	24
2.4	Quantity of trade in specimens from the EU27	24
3	Value of UK trade	26
3.1	Imports.....	26
3.1.1	Animals.....	26
3.1.2	Plants	29
3.2	Exports	32
3.2.1	Animals.....	32
3.2.2	Plants	34
4	Reflections.....	37
4.1	Limitations	37
4.2	Recommendations.....	38
	Appendix 1: Glossary	39
	Appendix 2: Supplementary information	40
	Appendix 3: Number of transactions by taxonomic group	41
	Appendix 4: Methodology for case study 1 (trophy analysis)	42
	Appendix 5: Methodology for chapter 3 (valuation)	44

Executive summary

This report provides a detailed analysis of trade in CITES-listed taxa to and from the United Kingdom (UK) undertaken, in part, to inform the UK's preparations for leaving the European Union (EU). It includes an analysis of imports into, and exports from, the UK and includes an estimate of the value of this trade. It is anticipated that this report will set a baseline against which future patterns of trade to and from the UK can be assessed.

Analysis of international trade

An analysis of key international (i.e. extra-EU) imports into and (re-)exports from the UK is provided in chapter 1, with an estimated minimum value of this trade detailed in chapter 3. Based on an analysis of CITES data for the period 2012-2016:

- The UK was the **11th highest global importer** (2% of global transactions) and the **14th highest global (re-)exporter** (1% of global transactions) of CITES-listed taxa; this position may well change following the UK's exit from the EU.
- The UK reported approximately **34,800 import transactions** (23,000 direct imports, 11,800 indirect imports) and approximately **42,500 (re-)export transactions** (9,700 direct exports, 33,000 re-exports) for CITES-listed taxa during 2012-2016.
- The minimum value of UK imports (direct and indirect combined) was estimated at **£127 million for animals, and £1.18 million for plants**. The minimum estimated value of UK (re-)exports was higher at **£272 million for animals and £390,000 for plants**. The value for plants is likely to be a significant under-estimate due to the absence of price data for some high-value taxa such as timber species.
- Both import and (re-)export transactions were dominated by commercial trade, however the taxonomic groups and key trade routes involved differed greatly (Figure S1). **Wild-sourced corals comprised approximately three quarters of UK direct import transactions** and accounted for the dominance of the Indo-Pacific region as key exporters to the UK. When assessed by numbers of transactions, **exports and re-exports from the UK were dominated by captive-sourced reptiles (59% of transactions) and birds (23% of transactions)**. The key trade routes for CITES-listed taxa (re-)exported from the UK include captive-bred grey junglefowl (*Gallus sonneratii*) feathers to the United States for fly fishing and live captive-bred falcons to the Middle East.

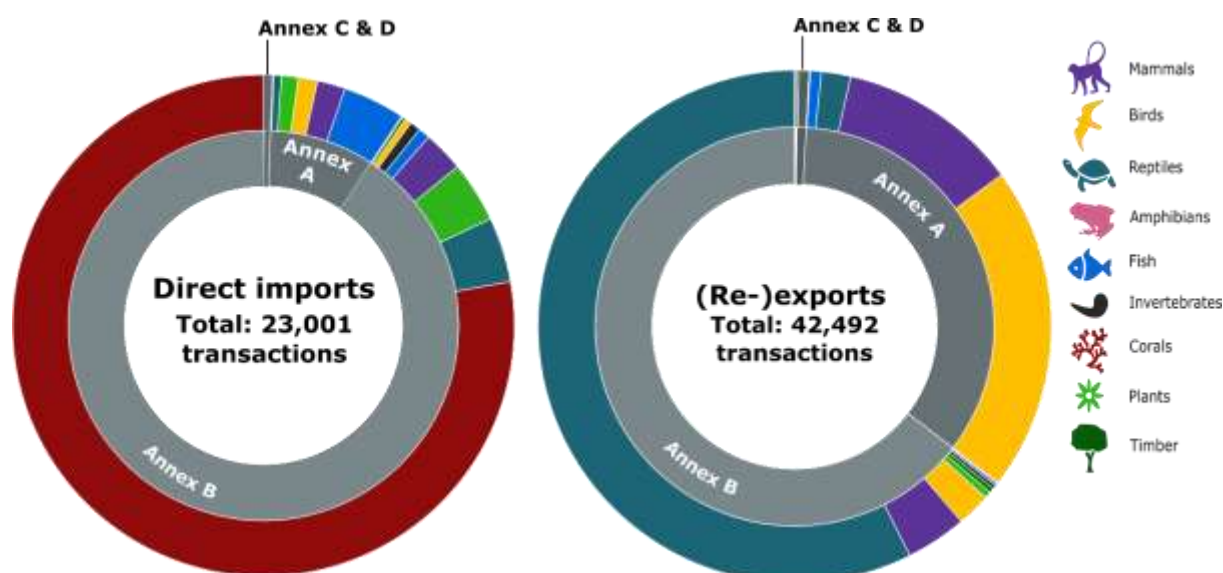


Figure S1. Proportion of all (a) direct imports and (b) (re-)exports, when assessed by numbers of transactions, reported by the UK during 2012-2016 and grouped by EU Annex and, within that, by taxonomic group. Source: CITES Trade Database, UNEP-WCMC.

Analysis of intra-EU trade

Once the UK leaves the EU, under some scenarios, the internal trade that currently takes place between the UK and the other 27 EU Member States (referred to as the 'EU27') will be subject to CITES controls. Import and export permits will be required for the movement of CITES specimens between the UK and the EU27, as with the rest of the world. As a result, the number of permits issued by the UK is likely to increase, perhaps significantly so.

To provide an indication of the domestic trade between the UK and the rest of the EU, this report also analyses the EU certificates issued for Annex A taxa for commercial use ('Article 10' certificates; see chapter 2).

- Nearly **83,000 Article 10 certificates** were issued by the UK during 2012-2017. Approximately 10% were for taxa originating from the EU27. Following the UK's exit from the EU, trade in these specimens originating in the EU27 would require accompanying CITES import/export permits.
- **Approximately 92% of the Article 10 trade certificates issued for trade in specimens originating in the EU27 were issued for live, captive-bred tortoises.** Key amongst this was the Herman's tortoise (*Testudo hermanni*) from Slovenia and Croatia, which accounted for over 86% of all UK issued Article 10 certificates from the EU27.

1 Overview

This chapter presents an overview of the United Kingdom's international trade in CITES-listed species for the five-year period, 2012-2016. Data on imports and exports are presented separately, with the initial focus on UK imports. Trade data were downloaded on 16th January 2018 from the CITES-Trade Database¹. Intra-EU trade (i.e. trade between EU Member States) is not recorded in the CITES Trade Database due to the free movement of goods within the EU. Data from the CITES Trade Database included in this report will, therefore, only include trade between the UK and countries other than those in the EU, termed the 'rest of the world'. Unless otherwise noted, trade in seized specimens (reported as source 'I') were excluded². See Appendix 2 for details of purpose and source codes.

1.1 Imports

As the eleventh highest global importer from the rest of the world of CITES-listed species during 2012-2016³ (based on direct and indirect import transactions⁴), the **UK is a key global consumer of plants and animals controlled by the Convention**. The UK reported approximately 34,800 import transactions during 2012-2016 (23,000 direct import transactions and approximately 11,800 indirect import transactions) for species included in the CITES Appendices (representing approximately 2% of all global import transactions). See Table 1 for the top taxonomic groups in trade and Appendix 3 for a full list of taxa. For 2016 alone, this included over 3,600 direct import transactions and almost 2,500 indirect (i.e. via another country) transactions.

Table 1. Top taxonomic groups listed in Annexes A and B of the EU Wildlife Trade Regulations (EU WTR) by number of direct import transactions, as reported by the UK 2012-2016. See Appendix 3 for full dataset. Source: CITES Trade Database, UNEP-WCMC.

Taxon	Term	Transactions
Annex A		
Arowana (<i>Scleropages formosus</i>)	Live	876
Elephants (<i>Elephantidae</i> spp.)	Ivory carvings	260
Slipper orchids (<i>Paphiopedilum</i> spp.)	Live	198
Falcons (<i>Falco</i> spp.)	Live	137
Falcons (<i>Falco</i> spp.)	Specimens	67
Annex B		
Corals	Live	17,526
Pitcher plants (<i>Nepenthes</i> spp.)	Live	509
Corals	Raw corals	367
Orchids (<i>Orchidaceae</i> spp.)	Live	243
Pythons (<i>Pythonidae</i> spp.)	Live	239

The **majority of direct import transactions during the five-year period were for commercial purposes (>94%)**. A total of **837 taxa were reportedly imported** during the five-year period, including 331 plant, 160 coral, 121 reptile and 103 mammal taxa. Of these taxa in trade, 18% are listed in the EU Wildlife Trade Regulations Annex A, 80% in Annex B, 2% in Annex C and less than 1% in Annex D (16% CITES Appendix I, 81% Appendix II and 3% Appendix III) (Figure 1). Over 75% of direct transactions involved trade in live or raw

¹ <https://trade.cites.org/>

² The number of transactions in seized specimens was negligible (26 import transactions and 12 export/re-export transactions).

³ Based on number of transactions, following the United States, Switzerland, Japan, France, Germany, China, Republic of Korea, the United Arab Emirates, Italy, and Hong Kong, SAR.

⁴ 'Transaction' was defined as the number of shipment records based on the unique combination of the following factors: taxon, importer, exporter, origin country, term, unit, source, purpose, importer permit, exporter permit, origin permit, and year.

coral. Other highly traded taxa included live reptiles (e.g. *Testudo horsfieldii* and *Python regius*), wax and extract of succulent plants (*Euphorbia antisyphilitica* and *Aloe ferox*, respectively) and live tropical pitcher plants (*Nepenthes* spp.).

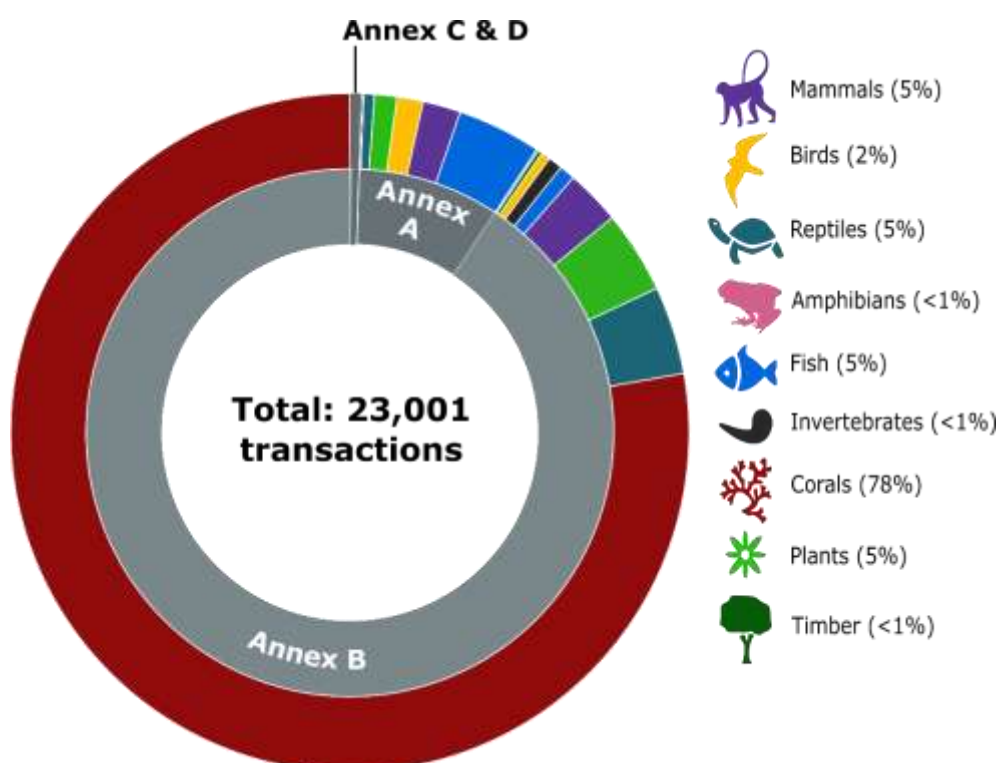


Figure 1. Proportion of all direct import transactions reported by the UK during 2012-2016 (approximately 23,000) grouped by EU Annex, and, within that, by taxonomic group. Source: CITES Trade Database, UNEP-WCMC.

Approximately **82% of all direct import transactions into the UK were from the Indo-Pacific**, with 50% (over 11,000) from Indonesia, 17% from Australia and 13% from Fiji. The next largest trading partner was the United States, which accounted for less than 4% of all direct import transactions.

When considering the quantities of commodities in trade, there were several main trade routes into the UK, illustrating demand within the UK for specific wildlife products. Of particular note are **live and raw corals imported into the UK from the Indo-Pacific**. The main direct trade routes into the UK are summarised in Figure 2, with more specific details of imports (by number and weight) provided in the section below.

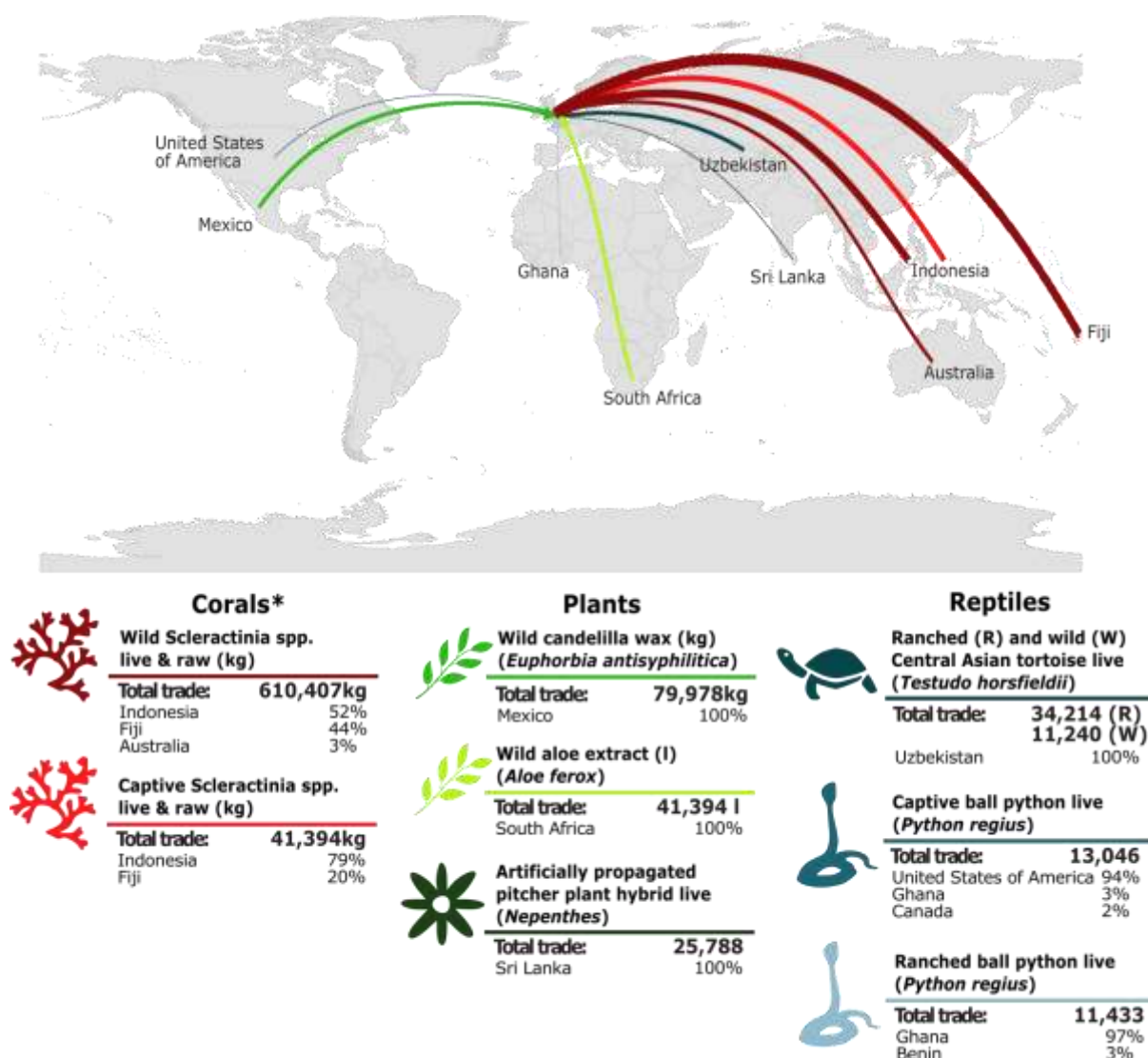


Figure 2. Main trade routes of key commodities imported by the UK, 2012-2016 (all sources excluding source 'I'). All of these main direct trade routes were in Appendix II / Annex B taxa. Arrows weighted by volumes of trade. Source: CITES Trade Database, UNEP-WCMC.

* For the purposes of this figure, live and raw corals have been converted to kilograms (based on conversion factors published by Green and Shirley (1999)⁵) and combined in this figure, but are presented separately in the rest of the report.

1.1.1 Imports by number of items

As UK wildlife trade represents a diverse range of commodities that are traded in different units of measure, it can be challenging to summarise overall trade patterns. To facilitate this, this analysis provides an overview of:

- items traded by number that were considered as equating to an individual specimen;
- other items traded by number that cannot be easily equated to individuals;
- items traded by weight;
- items traded by volume.

⁵ Green, E.P. & Shirley, F. 1999. The global trade in corals. WCMC Biodiversity Series No. 10, Cambridge, UK.

Items that can be equated to one individual

Of the items imported (both directly and indirectly) into the UK from countries outside of the EU, over 695,000 were items that can be **equated to one individual** (trade reported as live, skins, skulls, shells, bodies, skeletons, trophies, raw coral, carapaces, or dried plants) (Figure 3). Of this, over 96% were direct imports.

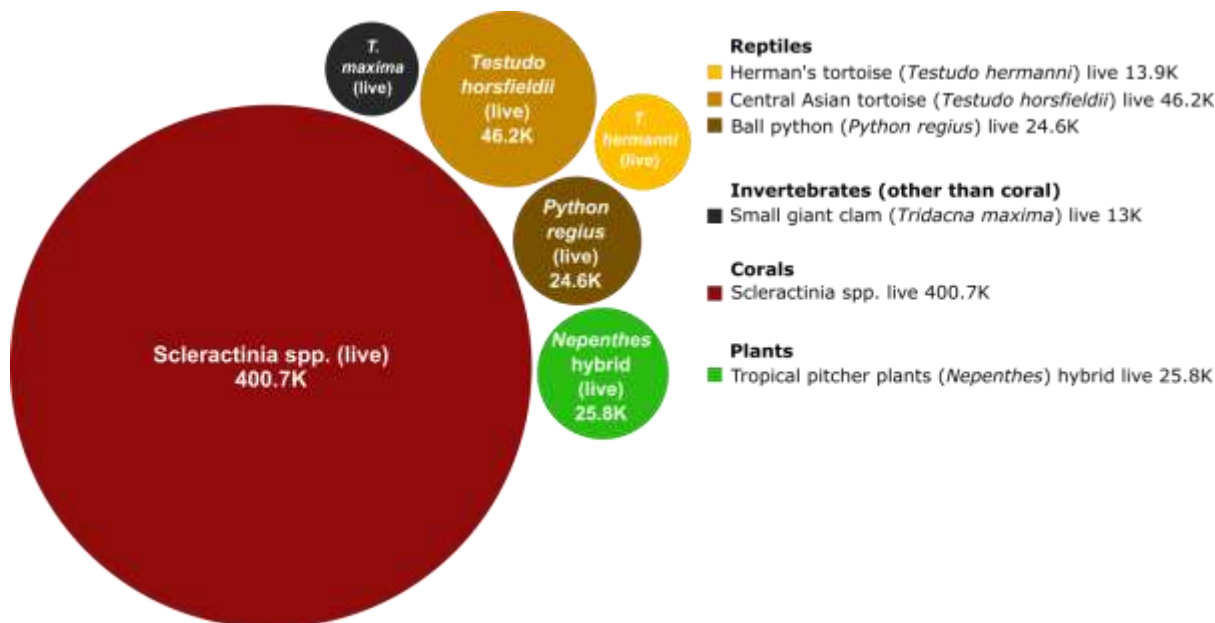


Figure 3. Main commodities imported by the UK as **number of individuals***, 2012-2016 (direct and indirect trade combined). Plotted data represents >50% of trade reported as individuals. Source: CITES Trade Database, UNEP-WCMC.

* Trade reported as the following terms was considered to equate to one individual: live, skins, skulls, shells, bodies, skeletons, trophies, raw coral, carapaces, dried plants.

During 2012-2016 the UK reported the **direct import** of approximately **670,000 items** that can be equated to one individual from countries outside of the EU. The key taxonomic groups are detailed below:

- Over 60% (over 400,700) of these imports were in **live corals** (all Appendix II / Annex B); 61% from wild and 39% from captive (source 'F') sources. All live coral trade was for commercial purposes, with 66% imported from Indonesia. The highest traded coral taxa were *Acropora* spp. (19% of live coral imports), *Euphyllia glabrescens* (7%), *Euphyllia ancora* (6%) and *Montipora* spp. (6%). Imports of live corals remained consistently high throughout the five-year period.
- **Live reptiles** accounted for 20% of direct imports that can be equated to one individual (134,716 live reptiles). This was dominated by imports of the central Asian tortoise (*Testudo horsfieldii*) (46,205 live) (Appendix II / Annex B), predominantly as ranched individuals from Uzbekistan. Live ball pythons (*Python regius*) (Appendix II / Annex B) were also imported in high quantities (24,582), 50% from captive sources in the United States and 45% ranched from Ghana.
- 25,788 live **artificially propagated tropical pitcher plant (*Nepenthes*) hybrids** (Appendix II / Annex B) were imported from Sri Lanka 2012-2016 for commercial purposes, making up around 4% of the UK's direct imports in items that can be equated to one individual. Imports increased four and half times between 2015 and 2016.

Approximately 23,500 of the UK's direct imports of items that can be equated to one individual are species **currently listed in EU Annex A**. Of these Annex A taxa, 15% (almost 3,600) are currently listed in CITES Appendix I and 85% in Appendix II.

Of the Annex A species **currently listed in Appendix I**, over 95% were in live captive-sourced individuals (3,430).

- Over 64% (2,323) of direct imports in Appendix I species that can be equated to one individual was **live, artificially propagated plants**, almost all (99%) for commercial purposes. This was dominated by the import of orchid species of the genus *Paphiopedilum*, which accounted for over 59% of the UK imports in live, artificially propagated plants in Appendix I (1,377). These *Paphiopedilum* species were largely imported from Taiwan, Province of China (780) or Thailand (353).
- **Live arowana (*Scleropages formosus*)** accounted for a further 24% (876 individuals) of direct imports of items that can be equated to one individual. These were largely imported from Malaysia (520) and Singapore (301), almost all for commercial trade.

Of the Appendix II taxa listed in Annex A, almost all direct UK imports in items that can be equated to one individual were live, captive-sourced reptiles for commercial purposes (99%). This was dominated by imports of live captive-bred tortoises (over 99%), notably Herman's tortoise (*Testudo hermanni*), which accounted for over 70% (approximately 14,000) of the UK imports in live, captive-bred reptiles, and (*Testudo graeca*), which accounted for 29% (approximately 5,800).

Over 26,000 **indirect imports** of items that can be equated to one individual were also reported by the UK during 2012-2016. The major groups imported were invertebrates (39%) and reptiles (33%). Commodities imported in the highest quantities were all Appendix II / Annex B species, including live specimens of emperor scorpion (*Pandinus imperator*), small giant clam (*Tridacna maxima*) and *P. regius*, as well as bobcat (*Lynx rufus*) skins (Table 2).

Table 2. Main indirect import of items that can be **equated to one individual*** as reported by the UK 2012-2016. All imports were for commercial purposes. Source: CITES Trade Database, UNEP-WCMC.

Group	Taxon	Term	Quantity	Main origin countries	Re-exporter	Source
Mammals	<i>Lynx rufus</i>	Skins	4,746	United States (100%)	Canada (90%)	Wild**
Reptiles	<i>Python regius</i>	Live	4,247	Benin (40%) Ghana (48%)	Ghana (100%) United States (100%)	Ranched
Invertebrates	<i>Pandinus imperator</i>	Live	5,600	Togo (100%)	Ghana (100%)	Ranched
	<i>Tridacna maxima</i>	Live	3,449	French Polynesia (14%) Australia (86%)	United States (100%) Singapore (100%)	Wild Captive-born†

* Trade reported as the following terms was considered to equate to one individual: live, skins, skulls, shells, bodies, skeletons, trophies, raw coral, carapaces, dried plants.

** Wild: source reported as 'W' (wild), 'U' (unknown), or no source reported.

† Captive-born: source reported as 'F' ('Animals born in captivity (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof').

The indirect import of a total of 190 items of Annex A taxa that can be equated to one individual was reported by the UK during 2012-2016, almost all in live individuals from captive sources (93%), and largely for personal use (72), captive breeding (58) or commercial purposes (47). This total was comprised almost entirely (182; 96%) of Appendix

I species, including 97 live gyrfalcons (*Falco rusticolus*), 78 of which originated in the UK and were re-imported almost entirely from United Arab Emirates (hereafter referred to as UAE). Other species included *S. formosus* (33), and the African grey parrot (*Psittacus erithacus*)⁶ (23).

Items that cannot be equated to one individual

In addition, over 47,000 **direct imports** of commodities reported by number that **cannot be equated to one individual** (including manufactured goods made from bone, fur, ivory or leather, skin pieces, specimens and other derivatives) were reported by the UK from countries outside of the EU. The main imports of this type during 2012-2016 included the following.

- 4,985 wild-sourced American alligator (*Alligator mississippiensis*) (Appendix II / Annex B) scientific specimens for commercial and biomedical purposes imported from the United States during 2014-2016. These imports declined around 40% each year from 2014 onwards.
- 4,376 captive-bred brown spectacled caiman (*Caiman crocodilus fuscus*) (Appendix II / Annex B) small leather products for commercial purposes imported from Colombia during 2012-2016.
- 9,000 Siberian weasel (*Mustela sibirica*) (Appendix III / Annex D) tails from China imported without a source or purpose code specified in 2014 and 2015. *M. sibirica* hair is used in artists' paintbrushes.
- The direct imports of 6,077 items that cannot be equated to one individual were also reported for Annex A species. Of these, 91% (5,533) were Appendix I species: Approximately 36% (2,221) of these were seeds, notably from two species of wild-sourced conifers: *Pilgerodendron uviferum* (1,200) and *Fitzroya cupressoides* (864), imported from Chile for botanical gardens.
- A further 29% (1,766) were scientific specimens. These specimens were dominated by wild-sourced specimens of the Mauritius parakeet (*Psittacula echo*) from Mauritius (1,051), with smaller quantities from three species of falcon (190 specimens), nine mammals (365) and two reptiles (160).

The **indirect imports** of commodities that **cannot be equated to one individual** was dominated by large quantities (94,395) of *A. mississippiensis* small leather products for commercial purposes from the United States, 80% of which were from wild sources. Large quantities of captive-born (sources 'C' and 'F') *Macaca fascicularis* (Appendix II / Annex B) scientific specimens (34,524) were also imported for biomedical and scientific purposes. Over 50% of these specimens originated in Mauritius, with indirect imports declining 2012-2016.

There were also indirect imports of a small number of Annex A species (approximately 6,700), almost all of which were listed in Appendix I (over 99%). Of these, approximately 41% (2,780) were carvings, including 2,398 pre-Convention elephant ivory carvings (36% African elephant (*Loxodonta africana*) and 13% Asian elephant (*Elephas maximus*)) from unknown origins, and 184 pre-Convention *Dalbergia nigra* carvings. Pre-Convention feathers (2,340) of Psittaciformes from Taiwan, Province of China were also reported as imports from Appendix I species.

⁶ *Psittacus erithacus* was listed on Appendix II prior to up-listing to Appendix I in 2016 at CoP17. It was therefore still listed on Appendix II for the period covered by this report.

1.1.2 Imports by weight

The UK imported approximately 770,000kg of CITES-listed specimens from countries outside of the EU during 2012-2016, around 86% directly from the countries of origin, and 14% by indirect trade routes. This was dominated by the import of three commodities: both live and raw corals (*Scleractinia* spp.), and candelilla wax (*Euphorbia antisiphilitica*) (Appendix II / Annex B; Figure 4).

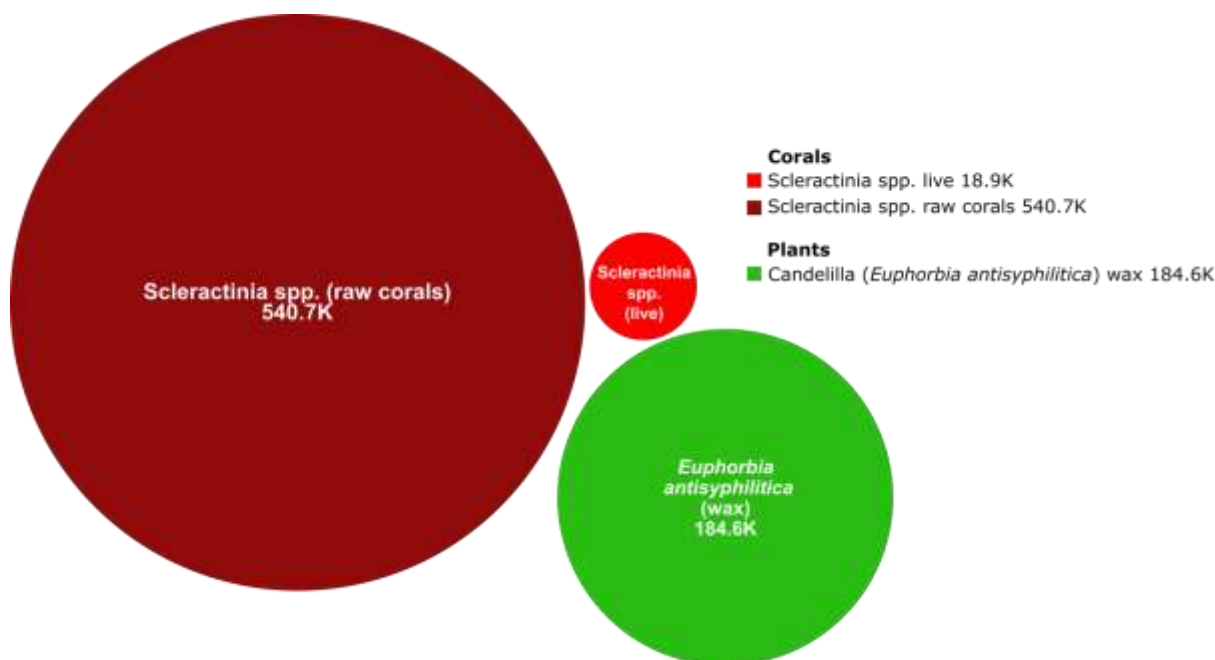


Figure 4. Main commodities imported by the UK reported **by weight (kg)**, 2012-2016 (direct and indirect trade combined). Plotted data represents >99% of trade reported by weight. Source: CITES Trade Database, UNEP-WCMC.

Direct imports by weight into the UK from countries outside of the EU totalled over 660,000kg during 2012-2016.

- Of this, over 80% consisted of raw corals (*Scleractinia* spp.) (all Appendix II / Annex B), almost entirely wild-sourced from Fiji and Indonesia, and traded for commercial purposes. Imports of raw *Scleractinia* showed considerable variation year-on-year, with 2016 levels around 20% of those in 2013.
- Almost 80,000kg of wild-sourced *E. antisiphilitica* (Appendix II/ Annex B) wax was imported from Mexico for commercial purposes. *E. antisiphilitica* wax is often used as a component of cosmetics such as lipstick. Imports of *E. antisiphilitica* wax peaked at approximately 21,000kg in 2015, declining to lowest reported levels in 2016 (9,000kg).

There was also a small amount of direct imports of Annex A species by weight (681kg), almost all of which (over 99%) are currently Appendix I species. Of this, approximately 248kg were in wild-sourced specimens, notably from two bird species from Mauritius: Mauritius parakeet (*Psittacula echo*) (260kg) and the Mauritius kestrel (*Falco punctatus*) (111kg). Smaller quantities of caviar from captive-sourced short-nosed sturgeon (*Acipenser brevirostrum*) were also reported (approximately 138kg).

Compared with direct imports, the UK reported lower levels of **indirect imports by weight** during 2012-2016. Indirect imports largely comprised wild-sourced *E. antisiphilitica* wax

(104,616kg) originating in Mexico and imported from the United States (81%, reported in 2015-2016 only) and Japan (19%) for commercial purposes. Imports of *E. antisiphilitica* increased by over 850% 2015-2016 (from around 10,000kg in 2015 to around 87,000kg in 2016), reaching the highest levels of this period.

1.1.3 Imports by volume

Direct import reported by volume (excluding 'specimens') solely consisted of plants, notably 44,343 litres of wild-sourced *Aloe ferox* (Appendix II / Annex B) extract imported from South Africa for commercial purposes in 2016.

1.1.4 Case Study 1: mammal trophy imports

Hunting trophies were selected as a case study as imports of this commodity type have a high profile within the UK, and the EU has stricter domestic measures under the Wildlife Trade Regulations (EU WTR) than those outlined under CITES. This case study highlights the main species imported as trophies by the UK and the country of origin of these trophy species.

Methodology: Within the CITES context, hunting trophies may be reported in annual reports as trophies or trophy parts (e.g. skins, skulls), for purposes 'H' (hunting trophies), 'P' (personal use), or 'T' (commercial). To produce an estimate of the number of individuals from trophy species in trade, trophy terms that could be equated to numbers of individuals (e.g. trophies, bodies, feet, skins) were combined, applying conversion factors where necessary (e.g. four feet = one trophy). Where multiple trophy items that could be equated to one individual were traded on the same permit (e.g. four feet and one skull), they were assumed to have originated from the same animal. Full details of the methodology are provided in Appendix 4.

Wild-sourced trophies

UK trophy imports during 2012-2016 comprised 23 species of mammals from 14 trading partners. Quantities of trophy imports increased by 81% over 2012-2015, reaching the highest levels of the five-year period (260 trophies). In total, 97 Appendix I, 846 Appendix II and three Appendix III trophies were imported between 2012 and 2016.

Imports of **Appendix I/ Annex A trophies** consisted solely of African elephant (*Loxodonta africana*) and leopard (*Panthera pardus*) trophies. In total, 64 *L. africana* trophies were imported (all from Mozambique); these were predominantly imported in 2013 (97%), with no imports in 2014 or 2016. During the 5-year period, 33 *P. pardus* trophies were imported, with over one third originating in Zimbabwe (Figure 4).

The majority of UK trophy imports were in species included in Appendix II / Annex B (846 trophies; 89%). Almost a third of **Appendix II / Annex B trophy imports** were American black bear (*Ursus americanus*) (274), all but one originating in Canada. North American river otter (*Lontra canadensis*) was the second most imported mammal trophy species (173), also imported from Canada (Figure 4). African elephant (*L. africana*) trophies were also imported at notable levels, with 133 Annex B / Appendix II elephant trophies imported, predominantly (88%) originating in Zimbabwe (Figure 4). Notable levels of the genus *Lycalopex* (64 Argentine grey fox (*L. griseus*), 44 pampas fox (*L. gymnocercus*) and 44 Andean wolf (*L. culpaeus*)) were imported from Argentina. Argentina was the second largest exporter of mammal trophies to the UK, accounting for 152 trophies (18%). The remainder of the trade in Appendix II / Annex B trophies (114 trophies; 13%) was accounted for by 14 species from ten different exporting countries including 40 collared peccaries (*Pecari tajacu*), 24 hippopotamuses (*Hippopotamus amphibius*), and two lions (*Panthera leo*).

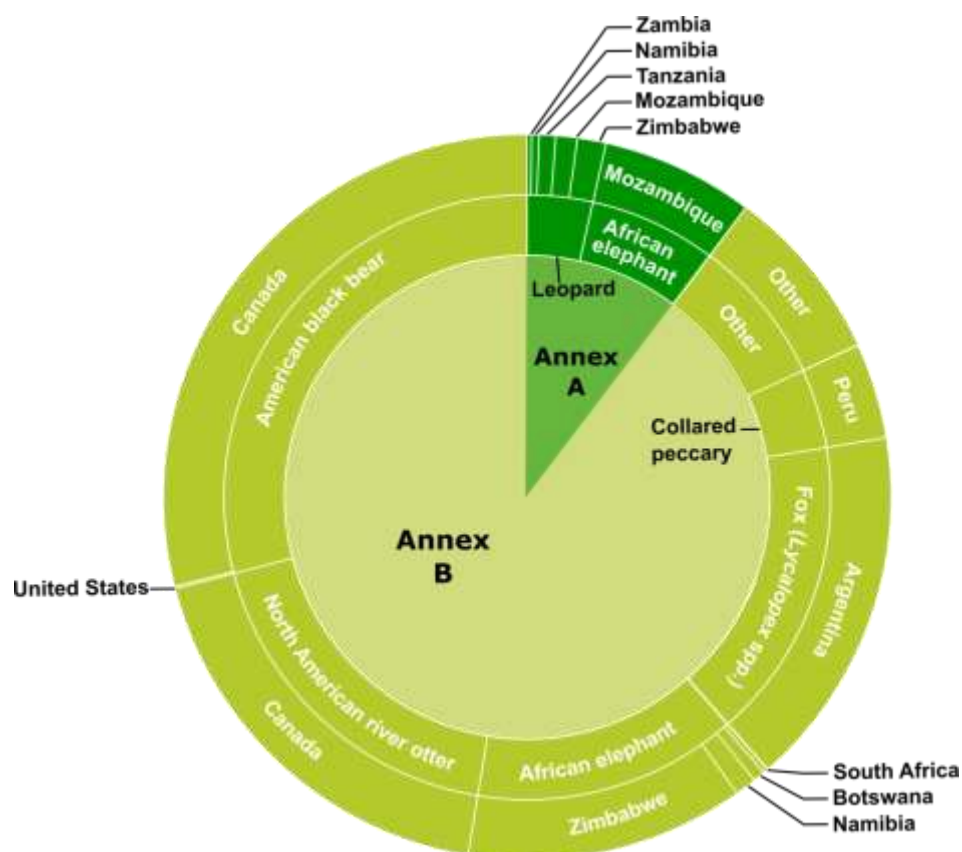


Figure 5. Estimated number of wild-sourced Annex A (Appendix I) and Annex B (Appendix II) mammal trophies imported into the UK from countries outside the EU by Appendix, species and country of export, 2012-2016 (total estimated trophies: 943). Source: CITES Trade Database, UNEP-WCMC.

Captive-bred trophies

Import of captive-bred trophies predominantly comprised **42 lion (*Panthera leo*) trophies** (Appendix II / Annex B) imported from South Africa in 2015 and 2016. In addition, six captive-bred *Oryx dammah* trophies (Appendix I / Annex A) were imported from South Africa in 2012 and 2013. Further captive-bred imports in 2016 include one lechwe (*Kobus lechwe*) (Appendix II / Annex B) from South Africa and one Eurasian lynx (*Lynx lynx*) (Appendix II / Annex A) from Switzerland.

1.2 Exports

The UK was the 14th highest global exporter of CITES-listed species during 2012-2016 (based on exports and re-exports). The UK reported approximately 42,500 (re-)export transactions during 2012-2016 (9,700 direct export and 33,000 re-exports) for species included in the CITES Appendices (representing around 1% of all global export and re-export transactions). This comprised 466 taxa in total (see Table 3 for top (re-)exported taxa and Appendix 3 for full list of taxa).

Table 3. Top taxonomic groups in EU Annexes A and B by number of (re-)export transactions as reported by the UK 2012-2016. See Appendix 3 for full dataset. Source: CITES Trade Database, UNEP-WCMC.

Taxon	Term	Transactions
Annex A		
Falcons (<i>Falco</i> spp.)	Live	7,516
Elephants (<i>Elephantidae</i> spp.)	Ivory carvings	4,438
Turtles (<i>Cheloniidae</i> spp.)	Carvings	531
Parrots (<i>Psittaciformes</i> spp.)	Live	371
Brazilian rosewood (<i>Dalbergia nigra</i>)	Carvings	296
Annex B		
Reptiles (<i>Reptilia</i> spp.)	Leather products (small)	23,667
Long-tailed macaque (<i>Macaca fascicularis</i>)	Specimens	904
Owls (<i>Strigiformes</i> spp.)	Live	422
Parrots (<i>Psittaciformes</i> spp.)	Live	255
Reptiles (<i>Reptilia</i> spp.)	Garments	323

Approximately 30% of the CITES-listed taxa (re-)exported by the UK are listed in Annex A of the EU Wildlife Trade Regulations, 67% in Annex B, 2% in Annex C and less than 1% in Annex D (22% CITES Appendix I, 74% Appendix II, and 4% Appendix III) (Figure 6). For 2016 alone, this included almost 1,000 direct export transactions and almost 3,700 re-export transactions. UK direct exports have been increasing year-on-year from 1,294 in 2012 to 2,565 in 2016, whilst re-exports decreased during the same time period (10,072 in 2012 compared to 3,751 in 2016).

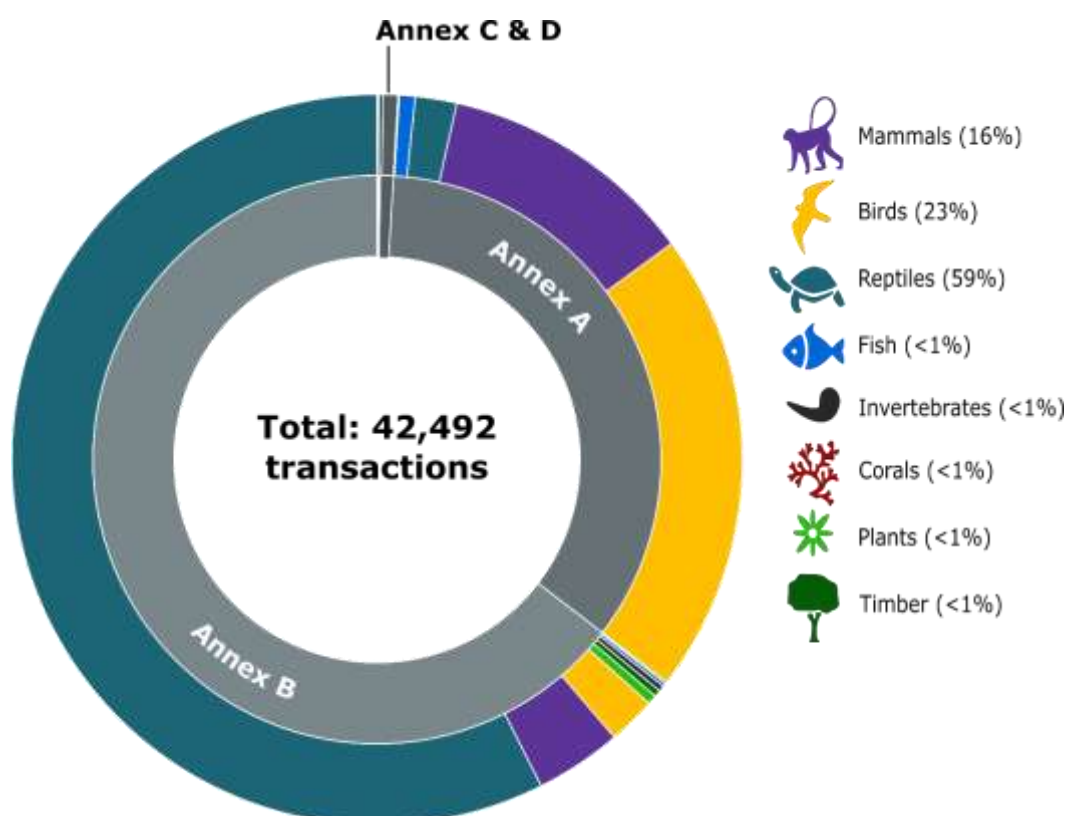


Figure 6. Proportion of all (re-)export transactions reported by the UK during 2012-2016 (approximately 42,500) grouped by EU Annex, and, within that, taxonomic group. Source: CITES Trade Database, UNEP-WCMC.

Direct exports

A total of 246 taxa were directly exported during this period primarily for commercial purposes (96%). Of these taxa, approximately 33% are listed in the EU Wildlife Trade Regulations Annex A, 65% in Annex B, and 2% in Annex C (21% CITES Appendix I, 77% Appendix II and 1% Appendix III). In total, 21 species were considered native to the UK (with a further three introduced species). An additional seven species native to UK Overseas Territories and Crown Dependencies were also represented in trade. Approximately half of all taxa exported directly from the UK were birds (127 taxa); birds accounted for 95% of all direct export transactions of CITES-listed taxa. Birds are no longer imported to the UK on the basis of the EU-wide import ban due to biosecurity controls. Bird exports were virtually all captive-sourced (over 99%).

Re-exports

Re-export transactions primarily consisted of reptiles (76%), followed by mammals (20%). Almost 50% of all re-export transactions were in American alligator (*Alligator mississippiensis*) (Appendix II / Annex B) leather products originating in the United States. The number of re-export transactions decreased between 2012 and 2016, although the number in 2016 (3,731) was still higher than for direct exports in the same year.

Direct export transactions from the UK were primarily to countries in the Middle East, notably the UAE (32% of direct exports) and Qatar (3%), as well as to Japan (7%). Re-export transactions from the UK were largely to China (19% of re-exports), the United States (8%), the UAE (4%) and Russia (3%).

When considering the quantities of commodities in trade, there were several main trade routes, illustrating specific markets for UK exports in certain commodities. Of particular note are live captive-bred birds exported to the Middle East (particularly the UAE) for commercial purposes. The main trade routes from the UK are summarised in Figure 7, with more specific details of exports (by number and weight) provided in the section below.

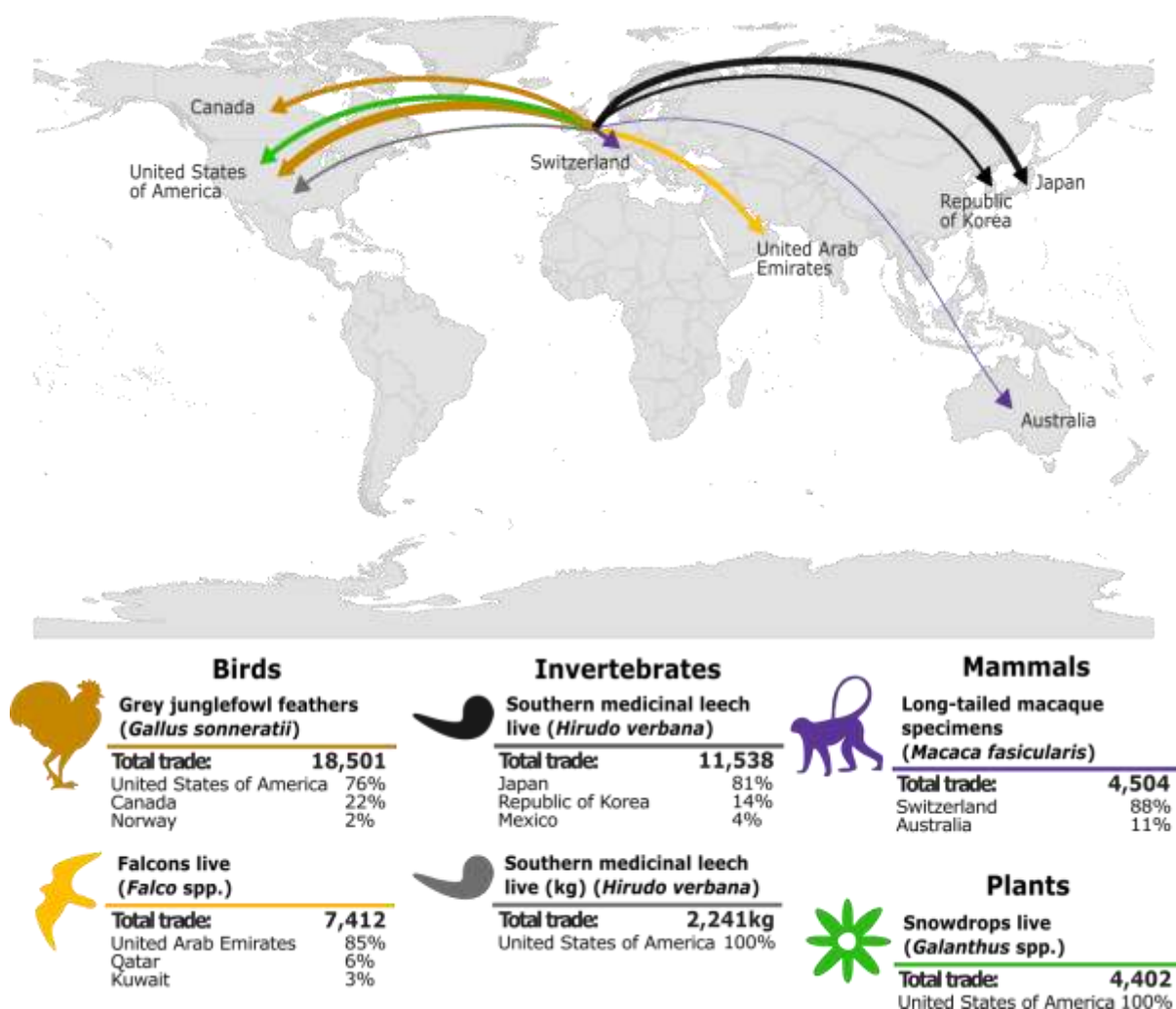


Figure 7. Main direct trade routes of key commodities exported by the UK, 2012-2016. All of these main direct trade routes were from captive or artificially propagated sources (sources 'A', 'C', 'D' and 'F'). Arrows weighted by volumes of trade. Source: CITES Trade Database, UNEP-WCMC.

1.2.1 Exports by number of items

Items that can be equated to one individual

During the five-year period 2012-2016, there were approximately **33,000 items** exported (both directly and as re-exports) by the UK to countries outside the EU that can be **equated to one individual**⁷. Of these exports, approximately 85% were direct exports. The trade was **dominated by three species exported as live**: southern medicinal leech (*Hirudo verbana*) (35%), gyrfalcon (*Falco rusticolus*) (14%); and the common snowdrop (*Galanthus nivalis*) (12%) (Figure 8). It is notable that, whilst corals and reptiles dominated the UK's imports, neither group was re-exported from the UK in large quantities.

⁷ Trade reported as the following terms was considered to equate to one individual: live, skins, skulls, shells, bodies, skeletons, trophies, raw coral, carapaces, dried plants.

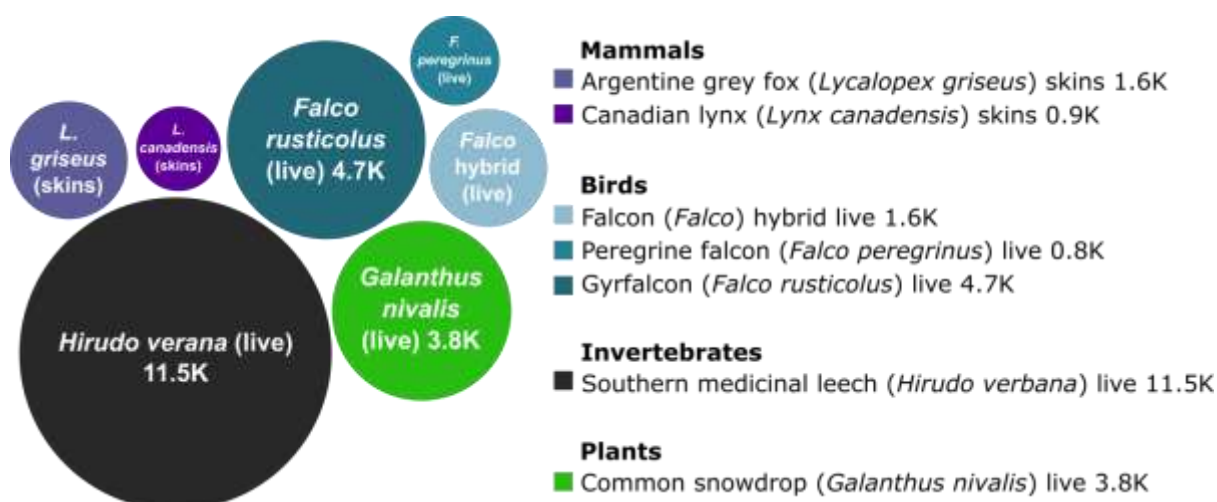


Figure 8. Main commodities exported by the UK as **number of individuals***, 2012-2016 (direct and indirect trade combined). Plotted data represents >50% of trade reported as individuals. Source: CITES Trade Database, UNEP-WCMC.

* Trade reported as the following terms was considered to equate to one individual: live, skins, skulls, shells, bodies, skeletons, trophies, raw coral, carapaces, dried plants

Direct exports

During 2012-2016 the UK reported the **direct export** of approximately 28,000 items that can be equated to one individual to countries outside of the EU. Almost all (>99%) of these items were captive-sourced (sources 'A', 'C', 'D' or 'F', see Appendix 2).

- **Live southern medicinal leech (*Hirudo verbana*)** (Appendix II / Annex B) made up approximately 40% (11,538) of all direct trade from the UK, although annual exports declined almost 60% during the five-year period. The majority (over 80%) of live *H. verbana* exported from the UK were exported to Japan.
- **Live birds** accounted for 35% of direct exports of items that could equate to individuals from the UK during 2012-2016 (9,820 live birds) and were dominated by the export of falcons (genus: *Falco*) (7,412; 75% of live birds), largely to the UAE. Of all live bird exports, 55% (5,429) were Appendix I / Annex A falcons, notably the gyrfalcon (*Falco rusticolus*), which accounted for 62% of live *Falco* exports (4,615), and the peregrine falcon (*Falco peregrinus*), which accounted for 11% of live *Falco* exports (793). *Falco* hybrids accounted for 22%. *Falco* exports increased annually between 2012 and 2016, with *Falco* hybrids showing an increase of 100% between 2015 and 2016.
- The United Kingdom directly exported approximately 4,400 **live snowdrops** (genus: *Galanthus*) (Appendix II / Annex B) to the United States, representing 16% of the UK's total exports of items that could be equated to individuals. The common snowdrop (*Galanthus nivalis*) accounted for 87% of these exports and the giant snowdrop (*Galanthus elwesii*) accounted for 12%. *Galanthus* exports were reported in 2012, 2013 and 2015, with the vast majority exported in 2013.

Re-exports

The UK reported **re-exports** of approximately 4,900 items that can be equated to one individual to countries outside of the EU during 2012-2016. Almost 72% of these items were wild-sourced and were almost entirely (92%) exported for commercial purposes:

- **Wild-sourced mammal skins** accounted for 60% of re-exports equating to one individual (2,951). The majority of this trade (70%) occurred in 2013, largely due to the re-export of a large number of Argentine grey fox (*Lycalopex griseus*) (Appendix II / Annex B) skins originating in Argentina and re-exported to China (1,638). Skins of this species were not traded in any other year during the five-year period. Other notable re-exports of mammal skins in 2012-2016 included two Appendix II / Annex B felids: Canada lynx (*Lynx canadensis*), originating in Canada and re-exported to Turkey (932), and bobcat (*Lynx rufus*) skins, originating in the United States and re-exported to China (269).
- The UK also re-exported approximately 800 **live reptiles** during 2012-2016. Over 50% of these were Appendix II / Annex A captive-bred spur-thighed tortoise (*Testudo graeca*) (originating in Turkey, re-exported to Taiwan, Province of China in 2015 and China in 2016) and a further 22% were wild-sourced American alligator *A. mississippiensis* originating in the United States.

Items that cannot be equated to one individual

Direct exports of 24,000 commodities that **cannot be equated to one individual** (e.g. feathers, hair, specimens, etc) were reported by the UK to countries outside of the EU. This was dominated by the export of two Appendix II / Annex B species: captive-bred grey junglefowl (*Gallus sonneratii*) feathers (18,500 feathers) for commercial purposes and scientific specimens from captive-sourced long-tailed macaque (*Macaca fascicularis*) for biomedical research (4,500 specimens). *G. sonneratii* feathers are often used in fly fishing, and were exported to the United States, Canada and Norway in 2012-2013, but no exports have been reported by the UK since. Exports of *M. fascicularis* specimens were primarily to Switzerland and had been increasing between 2012 and 2015, although none were reported in 2016.

Notable quantities of **re-exports** of commodities that cannot be equated to one individual were also reported by the UK. Over 45,000 captive-sourced (source 'C' and 'F') *M. fascicularis* (Appendix II / Annex B) scientific specimens were re-exported by the UK, the majority originating in Mauritius. The UK also re-exported over 41,000 *A. mississippiensis* (Appendix II / Annex B) small leather products, primarily wild-sourced and originating in the United States. In addition, large quantities (over 305,000) of wild-sourced Siberian weasel (*Mustela sibirica*) (Appendix III / Annex D) hair, originating in China, were re-exported during 2012-2016 for commercial purposes.

Whilst the direct exports of **Annex A (all Appendix I) species** was negligible (totalling 59 items over the five-year period), there were considerably more re-exports of Annex A taxa (over 99% Appendix I). This was dominated by the re-export of over 27,000 worked elephant ivory from the African elephant (*Loxodonta africana*) (79%) and the Asian elephant (*Elephas maximus*) (21%), which are discussed in more detail in Case Study 2 (page 16). Other taxa of note are:

- 934 Appendix I / Annex A tortoise carvings were re-exported from the UK, largely to the United States (33%) and China (28%), primarily for commercial purposes (87%). These were either pre-Convention (84%) or from source 'Unknown' (16%). Almost all of these carvings were reported to be from Annex A turtles (Cheloniidae spp.) (772) or hawksbill turtle (*Eretmochelys imbricata*) (152).
- A further 424 Brazilian rosewood (*Dalbergia nigra*) carvings were re-exported by the UK, almost all reported from unknown origins (96%) and largely for commercial

purposes (92%). *D. nigra* carvings were primarily exported to the United States (57%) and were either pre-Convention (72%) or reported to be from source 'Unknown' (28%).

1.2.2 Exports by weight

The UK exported over 18,500kg of CITES-listed species from countries outside of the EU during 2012-2016; the trade was dominated by three species / commodity combinations: *Mustela sibirica* hair (23%); *Hirudo verbana* (12%) and *E. antisiphilitica* wax (45%) (Figure 9). Around 12% of this trade originated in the UK, with the remaining 88% traded as re-exports.

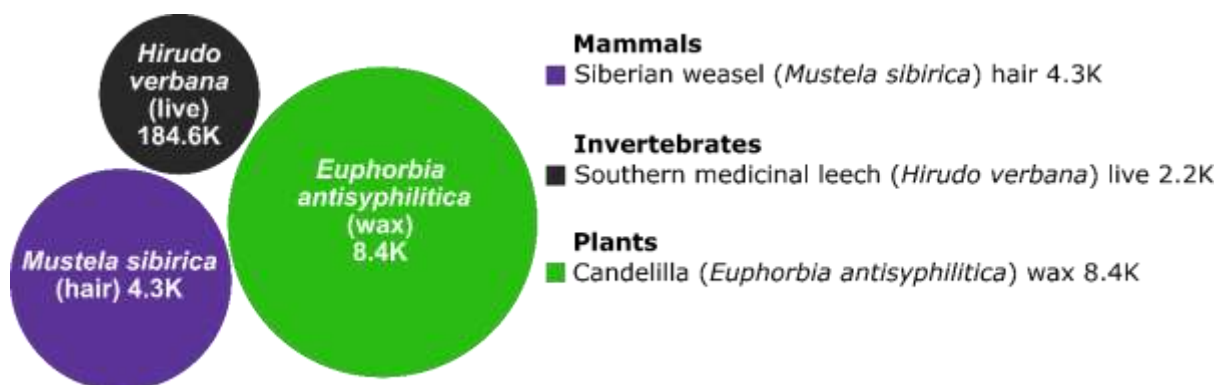


Figure 9. Main commodities exported by the UK reported **by weight (kg)**, 2012-2016 (direct and indirect trade combined). Plotted data represents >99% of trade reported by weight. Source: CITES Trade Database, UNEP-WCMC.

Of the 18,500kg exported between 2012 and 2016, 12% was direct trade and 88% was re-exported. The **direct exports** (2,245kg) almost entirely (>99%) consisted of live *H. verbana* (Appendix II / Annex B) from captive sources (source 'F') exported for commercial purposes. *H. verbana* exports by weight declined from 2,222kg in 2012 to zero in 2016 and were almost entirely exported to the United States. Direct exports of Annex A / Appendix I taxa were negligible (0.03kg specimens).

In comparison to direct exports, the UK reported seven times more **re-exports reported by weight** during 2012-2016, totalling 16,270kg. The re-exports were predominantly (95%) for commercial purposes. Wild-sourced *Euphorbia antisiphilitica* (Appendix II / Annex B) wax originating in Mexico accounted for over 50% of the trade (8,400kg). In addition, the UK re-exported over 4,000kg wild-sourced *M. sibirica* (Appendix III / Annex D) hair to the United States, originating in China.

1.2.3 UK re-exports of commodities originating in the EU

This section aims to give an insight into intra-EU trade involving the UK, however it does not provide an exhaustive overview. Only commodities which have been re-exported to countries outside of the EU28 are reported by Member States, therefore, it is expected that a large proportion of intra-EU trade involving the UK is excluded. A separate study is estimating the size of this trade.

Re-exports of commodities that originated in the EU28 were almost entirely captive-sourced, predominantly consisting of sturgeon (family: Acipenseridae) caviar and extract as well as live birds. Almost 60kg caviar were re-exported 2012-2016, all of which was captive-bred. Caviar was predominantly from *Acipenser baerii* (69%) almost entirely originated in Italy (93%). Caviar was mostly re-exported to Barbados (68%) and was entirely for commercial purposes. Almost 1000 items of extract, reported by number, from captive-bred *Acipenser*

baerii originating in France were re-exported to the Republic of Korea for commercial purposes. Live re-exports originating in the EU28 predominantly consisted of 230 birds, of which 49% were Falcons (genus: *Falco*) and 42% were parrots from the genus *Amazona*. These birds were all captive-sourced, with greatest numbers originating in Germany (25%). Re-export of birds was predominantly (88%) for commercial purposes with the UAE (41%) and Qatar (29%) being the greatest importers.

1.2.4 Case Study 2: trade in pre-Convention worked elephant ivory

Trade in ivory has a high profile within the EU and the UK, and both the EU and the UK are proposing bans on the sale of ivory⁸. The EU Wildlife Trade Regulations (EU WTR) impose strict measures on species listed in EU Annex A, including Annex A ivory⁹. These measures adopted by the EU are stricter than CITES provisions.

A total of 71,611 pre-Convention worked elephant ivory carvings¹⁰ were exported globally by all Parties during 2012-2016 (both direct and as re-exports)¹¹. The UK was the main global (re-)exporter of pre-Convention worked elephant ivory, accounting for 43% of all global re-exports (30,567 carvings). This number is approximately four times the quantity exported by the next highest exporters, Italy and the United States (Figure 10). Over 70% of worked elephant ivory exported by the UK comprised African elephant (*Loxodonta africana*) (as opposed to the Asian elephant *Elephas maximus*). The predominant importers of worked elephant ivory from the UK were China (42%) and the United States (22%).

From a shipment-level analysis, around half of the worked elephant ivory (17,216 carvings) exported by the UK was estimated to be in the form of ivory keys (reported as ivory keys or assumed to be ivory keys if carvings were reported as quantity 50 and 52). Based on the number of transactions of reported and assumed ivory keys, it is estimated that 340 pianos were exported from the UK during 2012-2016, along with approximately 13,350 other worked ivory pieces. Discounting the pianos, this estimation still ranks the UK as the highest global re-exporter of pre-Convention specimens of worked elephant ivory. In addition, the UK also re-exported pre-Convention elephant ivory pieces (1,678 pieces) and tusks (110).

⁸ Public consultation on ivory trade in the EU: https://ec.europa.eu/info/consultations/public-consultation-ivory-trade-eu_en;

UK public consultation on banning UK sales of ivory: <https://www.gov.uk/government/consultations/banning-uk-sales-of-ivory>

⁹ Commission Notice Guidance Document covering the EU regime governing intra-EU trade and re-export of ivory (2017/C 154/06) states that the EU Wildlife Trade Regulations provide the following guidelines for ivory trade:

"Intra-EU trade and the re-export of ivory for commercial purposes are only permitted under the following conditions:

- Intra-EU trade is authorised for ivory items imported into the EU before the elephant species was listed in Appendix I of CITES (18 January 1990 for African elephant and 1 July 1975 for Asian elephant). Intra-EU trade can only occur if a certificate has been issued to this effect by the relevant EU Member State, except for 'worked specimens' (see definition below) acquired before 3 March 1947, which can be traded in the EU without a certificate.
- Re-export from the EU is authorised for ivory specimens acquired before the date on which CITES became applicable to them, i.e. 26 February 1976 for African elephants and 1 July 1975 for Asian elephants."

¹⁰ Trade reported as the following terms: carvings, ivory carvings, jewellery, and piano keys.

¹¹ Reported exports and re-exports were combined because the origins of pre-Convention or antique items are more likely to be misreported as the original provenance of the item is lost.

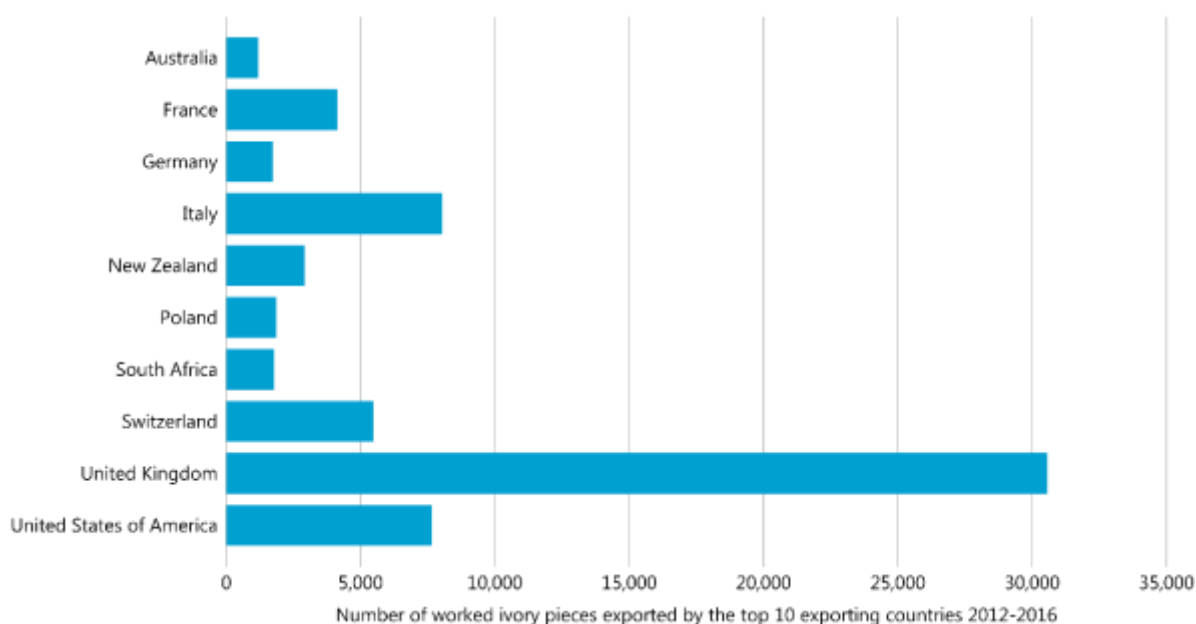


Figure 10. Top ten global re-exporters of pre-Convention (source 'O') worked elephant ivory (carvings, ivory carvings, jewellery, piano keys) 2012-2016 based on both direct and indirect trade combined. Source: CITES Trade Database, UNEP-WCMC.

1.3 Overseas Territories & Crown Dependencies

This section provides a short overview of the CITES-listed trade into and from the UK Overseas Territories and Crown Dependencies¹² (hereafter referred to collectively as 'OTs'). This includes trade to and from the 14 OTs to which CITES has been extended and also to the Turks and Caicos Islands for which information is available based on reports provided by trading partners; this OT has not had CITES extended to it and therefore does not submit CITES annual reports.

Of these 15 OTs, 13 reported at least some CITES trade during 2012-2016, although the overall level was very low compared to the trade of metropolitan UK (Table 4). There were substantial differences between trade as reported by OTs and the trade reported by their trading partners from the rest of the world (hereafter referred to as 'RoW'; this excludes EU Member States). This was particularly notable for imports into OTs. For this reason, trade reported by both trading partners is discussed in this section. Only trade reported by the trading partner was available for the Turks and Caicos Islands.

¹² **Dependent territories to which the Convention applies:** Anguilla (note that CITES was extended to Anguilla on 27 February 2014, i.e. during the study period), The Bailiwick of Guernsey, The Bailiwick of Jersey, The Isle of Man, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Falkland Islands, Gibraltar, Montserrat, Pitcairn Islands, Saint Helena and Dependencies (Tristan da Cunha, Ascension Islands), South Georgia and the South Sandwich Islands. Alongside the submission of CITES trade data for the United Kingdom, the United Kingdom submits a Supplementary Report containing CITES trade data for the dependent territories listed above.

Table 4. Number of direct trade transactions (both imports and exports) during 2012-2016 between the UK Overseas Territories (OTs) and the rest of the world (RoW), as reported by the OTs and their trading partners. Source: CITES Trade Database, UNEP-WCMC.

UK Overseas Territories and Crown Dependencies	Import transactions to OTs from RoW reported by:		Export transactions from OTs to RoW reported by:	
	OT	RoW Exporter	OT	RoW Importer
Anguilla		26		3
Bermuda	1	364		
British Indian Ocean Territory			25	17
British Virgin Islands	13	74	28	34
Cayman Islands	1	616	188	66
Gibraltar			2	1
Guernsey	3	3	3	2
Isle of Man			1	
Jersey	6	2	92	10
Montserrat		9		4
South Georgia and South Sandwich Islands (UK)				6
St. Helena		3	5	2
Turks and Caicos Islands		86		293
Total number of transactions	24	1183	435	527

1.3.1 Imports into Overseas Territories

During 2012-2016, trade was reportedly imported by Bermuda, the British Virgin Islands, the Cayman Islands, Guernsey and Jersey. Imports into Anguilla, Montserrat and St. Helena were also reported by exporters only. According to OTs, there were 435 export transactions and only 24 import transactions during 2012-2016.

Importer-reported trade: The total imports into OTs as reported by the relevant OT consisted of 79 live animals (birds, corals, mammals and reptiles) from the RoW, this predominantly consisted of 30 live bottlenose dolphins (*Tursiops truncatus*; 20 wild-sourced, 10 captive-bred) imported by the British Virgin Islands from Cuba for commercial purposes.

Exporter-reported trade: Based on exporter-reported trade, the OTs imported 35,460 live individuals (approximately 450 times higher than reported by the importing OTs). This largely comprised artificially propagated plants (35,092). Almost 90% of these live plants were orchids, the majority of which were exported by the United States to Bermuda and the Cayman Islands. In addition, the United States reported direct exports of over 2,500 wild-sourced *Alligator mississippiensis* (Appendix II / Annex B) small leather products, mostly to the Cayman Islands, that were not reported as imported by OTs. Honduras and Jamaica reported the export of over 6,500kg wild-sourced queen conch (*Strombus gigas*) (Appendix II / Annex B) meat to the Cayman Islands; no corresponding imports were reported. One explanation could be that the exports did not actually take place, and the trade reported was based on permits issued as opposed to actual trade. However, it could also indicate that the reporting in OTs is not comprehensive.

The United States reported export of live, artificially propagated plants (19 *Guaiacum officinale*, 11 *G. sanctum* and 36 *Zamiaceae* spp.) and wild-sourced small leather products of *A. mississippiensis* to the Turks and Caicos Islands.

1.3.2 Exports from Overseas Territories to the rest of the world

OTs reported the export of 128 taxa to trading partners outside the EU during 2012-2016. The largest exports by number of individuals were 2,000 live, wild-sourced green iguana (*Iguana iguana*) (Appendix II/ Annex B), all exported by the Cayman Islands to Honduras in 2014. In addition, Bermuda reported the export of high levels of raw corals listed in Appendix II / Annex B (1,436 raw corals), predominantly mustard hill coral (*Porites astreoides*), blushing star coral (*Stephanocoenia intersepta*) and fragile saucer coral (*Agaricia fragilis*). Raw corals exported by Bermuda were predominantly wild-sourced (86%) with highest levels reported in 2013. Exports by number of individuals did not differ substantially in number between importers and exporters.

Exports by weight comprised primarily of wild-sourced meat of queen conch (*Strombus gigas*) and reported quantities in trade did vary between importers and exporters. The United States reported direct imports of almost 1,500kg meat from Anguilla. In comparison, the British Virgin Islands reported low level exports of meat (47kg) to the United States and US Virgin islands.

In addition, trading partners reported imports from Turks and Caicos predominantly consisting of *Strombus gigas* meat reported by both number and by weight. Almost 660,000kg wild-sourced *S. gigas* meat was imported by the United States for commercial purposes. Shells were reported both by weight (approximately 4,000kg) and by number (approximately 85,000 shells), the majority of which were wild-sourced and imported by the United States.

1.3.3 Trade between Overseas Territories and the rest of the UK

Exports from the UK to OTs

The UK reported low levels of direct exports to the OTs between 2014 and 2016 only. This trade comprised of 18 live, captive-sourced animals (birds, mammals and reptiles), with around a third being ball python (*Python regius*) (Appendix II / Annex B) reported in 2016 (seven pythons).

In comparison, OTs reported the import of higher levels of trade from the UK, including 720kg of live, wild-sourced coral and 289 live animals (birds, coral, fish, inverts, mammals and reptiles). Live imports from the UK reported by OTs predominantly consisted of captive-sourced (source 'C' and 'F') *P. regius* (52) and live corals (90).

Imports by the UK from OTs

Chelonia mydas (Appendix I / Annex A) specimens accounted for the largest quantity of trade exported by OTs to the UK, with 1,000 and 2,100 specimens, for scientific purposes, reported by the UK and OTs, respectively. In addition, live plants were reported in high quantities; 1,808 Orchidaceae spp. reportedly exported by OTs and 1,008 reportedly imported by the UK.

2 Analysis of EU internal trade certificates

This chapter presents an overview of the UK's commercial trade in species listed in Annex A of the EU Wildlife Trade Regulations (EU WTR). The analysis covers the six-year period 2012-2017. Whilst most of this report only covers 2012-2016 due to data availability, data on Annex A trade for 2017 were available from the UK Management Authority and were, therefore, included to identify any recent trends in internal EU trade certificates. EU Annex A includes all taxa listed in CITES Appendix I, as well as some taxa listed in CITES Appendix II for which the EU has stricter domestic measures.

Certificates for commercial use are issued for Annex A species in accordance with Article 10 of Regulation (EC) No. 338/97; these trade certificates are thus often referred to as 'Article 10' or EU trade certificates, as they are valid in any EU Member State. Article 10 certificates can be either a specimen-specific certificate (SSC) that can cover multiple transactions provided the specimen is permanently marked, or a transaction specific certificate (TSC), whereby a new certificate is issued for each individual transaction¹³. The UK's Animal and Plant Health Agency (the licensing arm of the UK CITES Management Authority) hold data on UK-issued TSCs, and the first issuance of an SSC. Data on subsequent uses of SSCs are not available.

It is therefore important to note that any analysis on issuance of Article 10 certificates will be an underestimate of the total actual sales transactions for Annex A specimens in the UK and a proportion of these transactions will involve specimens that originated in other EU Member States. Accordingly, whilst this section aims to provide an overall summary of Article 10 certificates issued by the UK, any interpretations relating to the potential future volume of transactions in Annex A specimens must be treated with caution.

Article 10 certificates are not required for any Annex B species, which comprise the majority of species listed in the EU Annexes. Unless otherwise noted, trade in seized specimens (reported as source 'I') was excluded¹⁴. See Appendix 2 for details of purpose and source codes.

2.1 Number of certificates issued

During 2012-2017, a total of 82,981 Article 10 certificates were issued by the UK, averaging 13,830 per year over the six-year period. The number of Article 10 certificates issued increased from 11,580 in 2012, to 16,927 in 2017 (Table 5). The African grey parrot (*Psittacus erithacus*) accounted for a considerable amount of the increase in 2017 compared with previous years, with 1,895 Article 10 certificates issued for *P. erithacus* in 2017. *P. erithacus* was only included in Appendix I / Annex A on 02/01/2017; prior to 2017 it was listed in Appendix II / Annex B and accordingly, Article 10 certificates were not required for its commercial use.

¹³ Transaction certificates may be issued where the specimen is not permanently marked or the species conservation status is of particular concern.

¹⁴ The number of transactions in seized specimens was very low (65 Article 10 certificates).

Table 5. Number of Article 10 certificates issued by the UK, 2012-2017

Origin of specimens	2012	2013	2014	2015	2016	2017	Total	% of total
UK	7,074	7,217	8,532	8,708	8,246	9,717	49,494	59.6%
EU (EU27)*	1,169	359	1,431	2,146	1,468	1,226	7,799	9.3%
Rest of world (RoW)†	2,945	4,601	2,123	3,718	3,392	4,521	21,300	25.7%
RoW (via EU27)†	43	36	12	25	36	5	157	<1%
Unknown	349	454	676	609	685	1,458	4,231	5%
Total	11,580	12,667	12,774	15,206	13,827	16,927	82,981	100%

* This includes 14 certificates issued with unknown origin and an EU country other than the UK reported as the EU Member State of import

† 'Rest of the World': countries other than the EU. This includes UK Overseas Territories and Crown Dependencies.

Of the 82,981 Article 10 certificates issued during 2012-2017, **reptiles (52%) and birds (41%) were the dominant groups** (Figure 11). When considered by CITES Appendix, 27% of certificates were issued for Appendix I taxa, and 73% were issued for Appendix II taxa (Figure 11). The majority (93%) of certificates were issued for live specimens (with a 46% increase in issuance of certificates between 2012 and 2017), and almost all (92%) were issued for specimens from captive sources ('A', 'C', 'D' and 'F').

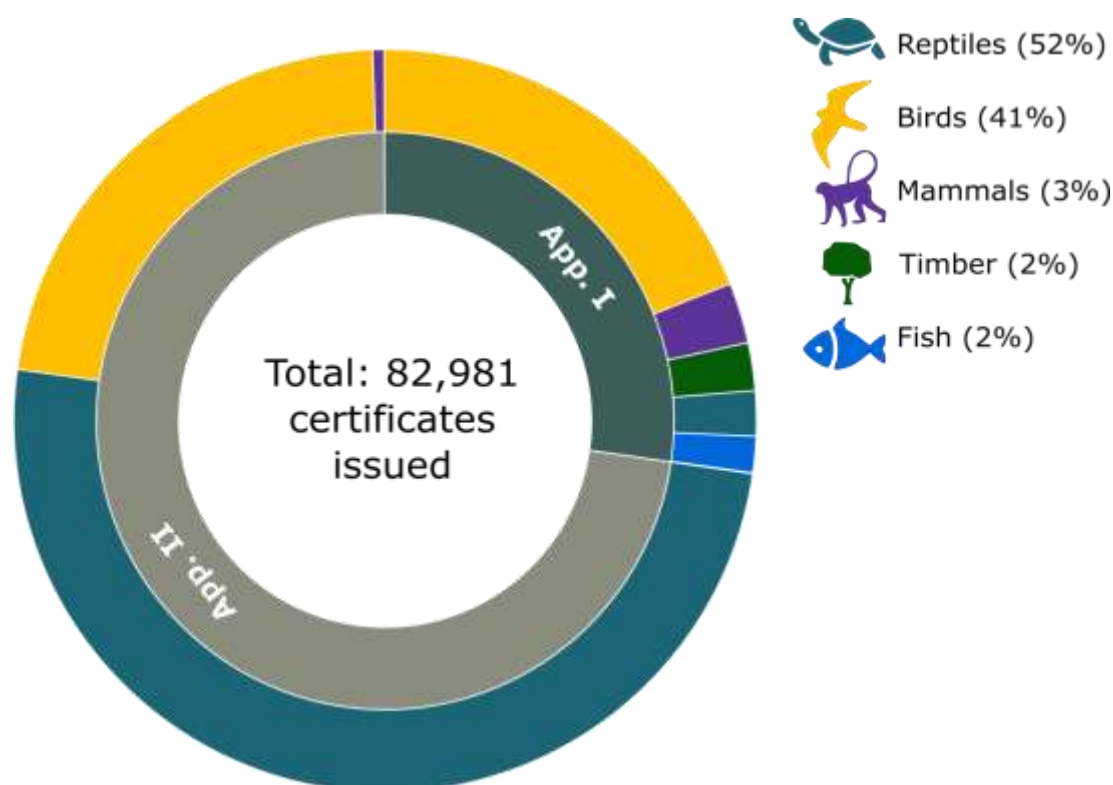


Figure 11. Proportion of all Article 10 certificates issued by the UK for the commercial use of EU Annex A specimens during 2012-2017 reported by CITES Appendix, and, within that, taxonomic group. Source: Animal and Plant Health Agency.

2.2 Total taxonomic breakdown of certificates issued by the UK

Overall, 60% of EU certificates were issued for specimens originating within the UK (49,494). Of the remaining 40% of certificates (33,514), which were issued for specimens that originated in countries other than the UK (including the EU), three countries of origin predominated: the Former Yugoslav Republic of Macedonia (28%), Turkey (17%) and Serbia

(12%). Trade in taxa originating in these countries was dominated by tortoises (genus: *Testudo*), most notably the Hermann's tortoise (*Testudo hermanni*). There were 3,959 certificates issued for specimens from an unknown country of origin, of which 68% had a pre-Convention source code.

In total, UK certificates were issued for 357 taxa, including the following taxa of note (also see Figure 12):

- **Live reptiles** accounted for 52% (42,251) of all Article 10 certificates issued, with certificates comprised of 41 reptile taxa. Issuance was dominated by the Appendix II-listed **Hermann's tortoise (*Testudo hermanni*)** (Figure 12) from captive sources, which accounted for over 34% (28,460) of all Article 10 certificates issued. A further 10% (8,358) of all Article 10 certificates issued were for captive-sourced spur-thighed tortoise (*Testudo graeca*) (Appendix II).
- **Live birds** accounted for a further 41% (32,160) of all certificates issued, around 96% of which were from captive sources. Certificates issued for the commercial use of live birds comprised 156 taxa, with approximately 18% (5,809) issued for the common barn-owl (*Tyto alba*) (Appendix II), and 14% (4,530) the peregrine falcon (*Falco peregrinus*) (Appendix I). Approximately 41% of all certificates for live birds were for falcons (genus: *Falco*).
- **Mammals** made up 3% (2,600) of certificates issued, but roughly 40% of all taxa traded (126 taxa). These included ring-tailed lemurs (*Lemur catta*) (Appendix I), which accounted for 11% (282) of certificates issued for mammals.
- Fish accounted for a further 2% (1,309), dominated by live, captive-bred specimens of the Appendix I **golden arowana (*Scleropages formosus*)** (92%).
- Trade in, primarily pre-Convention, Appendix I-listed **Brazilian rosewood (*Dalbergia nigra*)** accounted for a further 2% of certificates issued (1,602). The majority were reported as either carvings (1,138) or wood products (425).

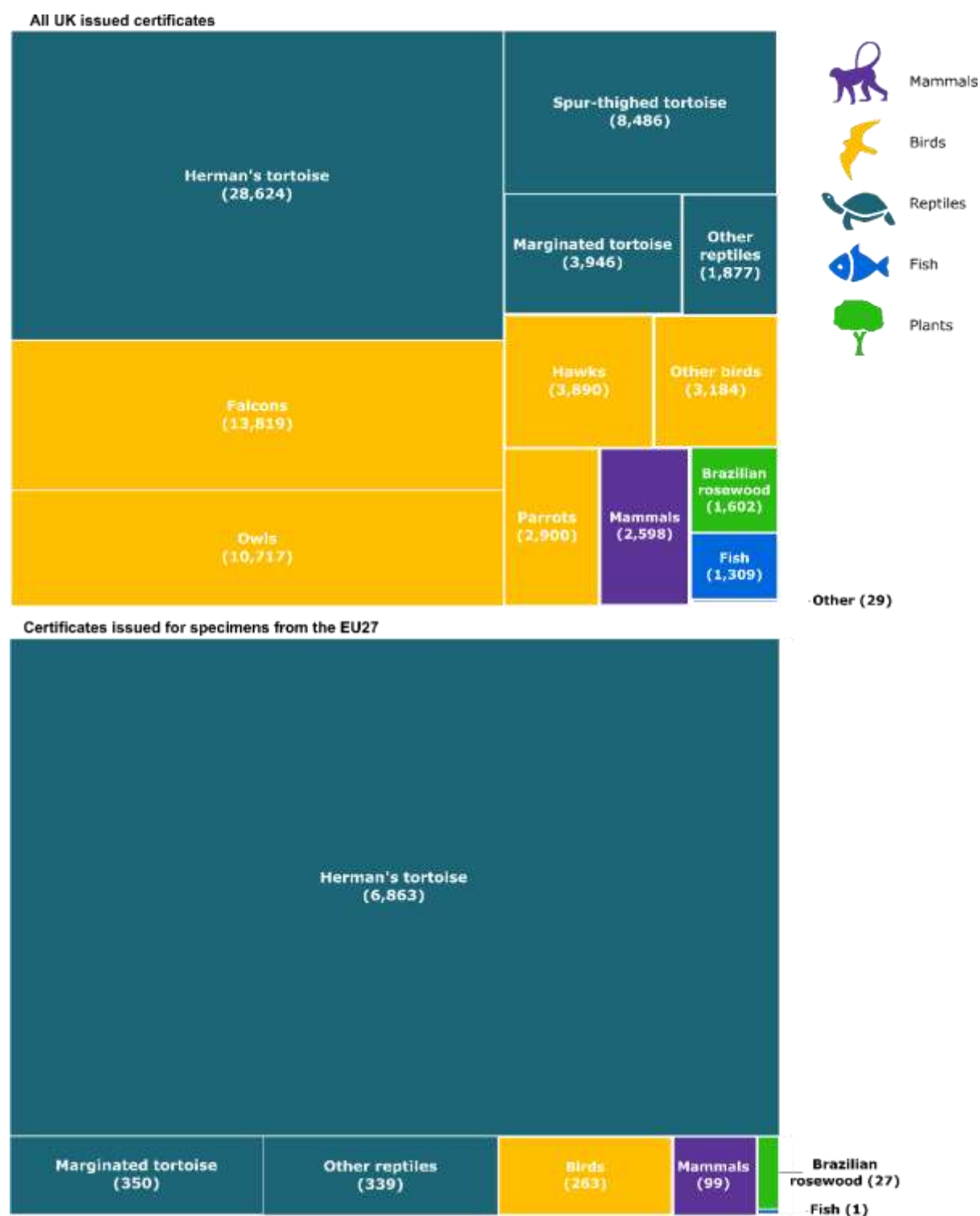


Figure 12. Article 10 certificates by the UK during 2012-2017 by species, for (a) all certificates, (total number = 82,981) and (b) certificates issued for specimens originating in the rest of the EU, based on the number of certificates issued by the UK for specimens from other EU countries (total number of certificates = 7,956). Source: Animal and Plant Health Agency.

2.3 Certificates issued by the UK for specimens from the EU27

A total of 7,956 Article 10 certificates were issued by the UK for specimens that either originated in another EU Member State (7,785) or which were imported into the EU27 (171) during 2012-2017. This represents approximately 10% of the total certificates issued by the UK during 2012-2017. Hereafter, both specimens originating in another EU Member State and specimens imported into another EU Member State, prior to the UK issuing an Article 10 certificate, will be referred to as specimens 'from the EU27' for brevity. Of these certificates, the majority of specimens originated in two Member States: Slovenia (49%) and Croatia (39%), with smaller numbers originating in Germany (4%).

Approximately 97% (7,727) of certificates from the EU27 were issued for live, captive-sourced specimens, whilst only 42 certificates were wild-sourced. The majority (94%) were issued for Appendix II taxa, with 6% issued for Appendix I taxa. These certificates were issued for 127 taxa, with the key taxa being two Appendix II tortoise species: *T. hermanni* (6,865 certificates) and *T. marginata* (350), followed by *T. graeca* (78) (Figure 12).

The key taxonomic groups are detailed below:

- **Live reptiles** accounted for approximately 95% of the Article 10 certificates issued for specimens originating from the EU27 during 2012-2017, which were predominately tortoises. Live, captive-sourced *T. hermanni* accounted for over 86% of all UK issued Article 10 certificates from the EU27 during 2012-2017, with 3,478 originated in Slovenia and 3,036 in Croatia. Live, captive-bred South Pacific banded iguana (*Brachylophus fasciatus*) (Appendix I) accounted for another 37 certificates, more than 80% of these originated in Austria.
- **Birds** accounted for a further 3% (264) of certificates issued for specimens originating in the EU, mainly from Germany (30%) or Spain (22%). Approximately 33% of these certificates were issued for two Appendix I falcons: gyrfalcon (*Falco rusticolus*) (49) and peregrine falcon (*F. peregrinus*) (38).

2.4 Quantity of trade in specimens from the EU27

Number of live individuals

Over 98% of all specimens from the EU27 that were issued with UK Article 10 certificates during 2012-2017 were live individuals (7,838), with almost all from captive sources. Most of these (7,738) were on licences for a single individual. These specimens predominantly originating in two countries: Slovenia (3,896) and Croatia (3,033) (Figure 13).

Approximately 89% (6,937) of live individuals from the EU27 were **reptiles**, 92% (6,863) of which were captive-bred *T. hermanni*, primarily originating in Slovenia (3,573) and Croatia (3,033).

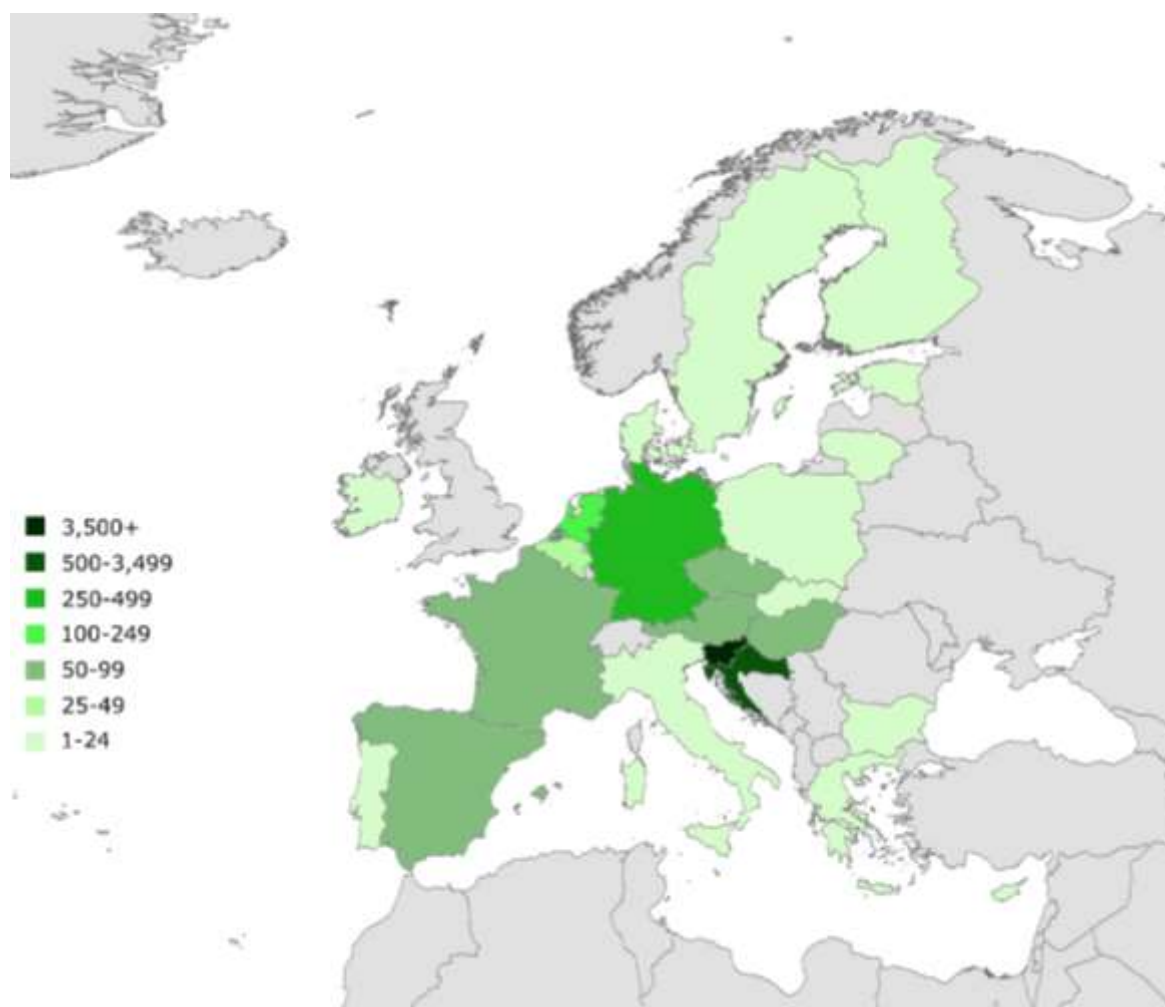


Figure 13. Major EU countries of origin for live EU Annex A specimens issued with UK Article 10 certificates during 2012-2017. Source: Animal and Plant Health Agency.

Number of parts and derivatives

- Of the 668 parts and derivatives for which Article 10 certificates were issued, 330 were accounted for by captive-bred golden eagle (*Aquila chrysaetos*) (Appendix II) feathers originating in Germany.
- Other trade of note included 104 pre-Convention African elephant (*Loxodonta africana*) carvings from an unknown country of origin, which were first imported into Sweden.
- A further 62 Brazilian rosewood (*Dalbergia nigra*) carvings or wood products, which were issued with Article 10 certificates by the UK, were first imported into the EU via the EU27. The *D. nigra* originated in Brazil (56) or was from an unknown country of origin (6) and was primarily pre-Convention (58).

Trade reported by weight/volume

Only five of the 7,956 Article 10 certificates issued by the UK from the EU27 were reported in other units of measure (weight/volume) Four certificates were issued for commercial use of a total of 18kg of feathers of captive-bred golden eagle (*Aquila chrysaetos*), and one certificate was issued for less than 1m³ of pre-Convention *D. nigra* sawn wood.

3 Value of UK trade

This chapter provides an estimate of the financial value of trade in CITES-listed species imported into and exported from the UK with trading partners outside of the EU for the five-year period, 2012-2016¹⁵. Data on animals and plants are presented separately as they are not directly comparable due to differences in the methodology (for method estimating unit prices see Appendix 5). Values could not be estimated for all trade and available price data are biased towards certain commodities. The lack of price data for timber, including the musical instrument trade (both of which are likely to be of high value in UK imports), is a notable gap. The estimated overall value of UK wildlife trade detailed in this chapter should, therefore, be considered as an initial estimate, representing the **minimum** value of UK trade in CITES-listed species. Definitions for purpose and source codes are provided in Appendix 2.

3.1 Imports

3.1.1 Animals

The total value of UK imports of CITES-listed animals during 2012-2016 was estimated at approximately £127 million excluding caviar extract (based on direct and indirect imports combined). Values were assigned using the declared value data for species / commodity (and source where available) combinations from United States customs information included within the United States annual report to CITES; full details on the methods can be found in Appendix 5. This was dominated by the import of reptiles (58%) and mammals (35%).

In addition, the value of imports of caviar extract reported by weight (a commodity used in cosmetics and luxury skincare products) was estimated at £39 million. All caviar extract was sourced from captive-bred Siberian sturgeon (*Acipenser baerii*), originating in France and Italy and imported by the UK via Malaysia and Switzerland. Due to the extremely high value per unit of caviar extract (£9 million per kilo, 40 times greater than the next highest value per unit: Siberian weasel (*Mustela sibirica*) hair at £11,500 per kilo) and the relatively low quantity of species extract in manufactured products, caviar extract was excluded from the remainder of the analysis. It is unclear whether the declared prices in the United States dataset represent the actual price for the extract in its natural form or whether this value represents the luxury commodity that contains the extract; however, caviar extract is known to be traded internationally in both forms.

Approximately two thirds of the estimated value of UK imports of animal commodities (68%) originated in three key countries: the United States, China and Australia. Of particular note was **American alligator (*Alligator mississippiensis*) small leather products originating in the United States and imported into the UK from Switzerland**, which represented approximately 33% of the overall UK import value. The main trade routes in terms of highest estimated value of trade in CITES listed animal commodities into the UK are summarised in Figure 14.

¹⁵ Based on trade data downloaded from the CITES Trade Database on 16th January 2018 and analysed in chapter 1.

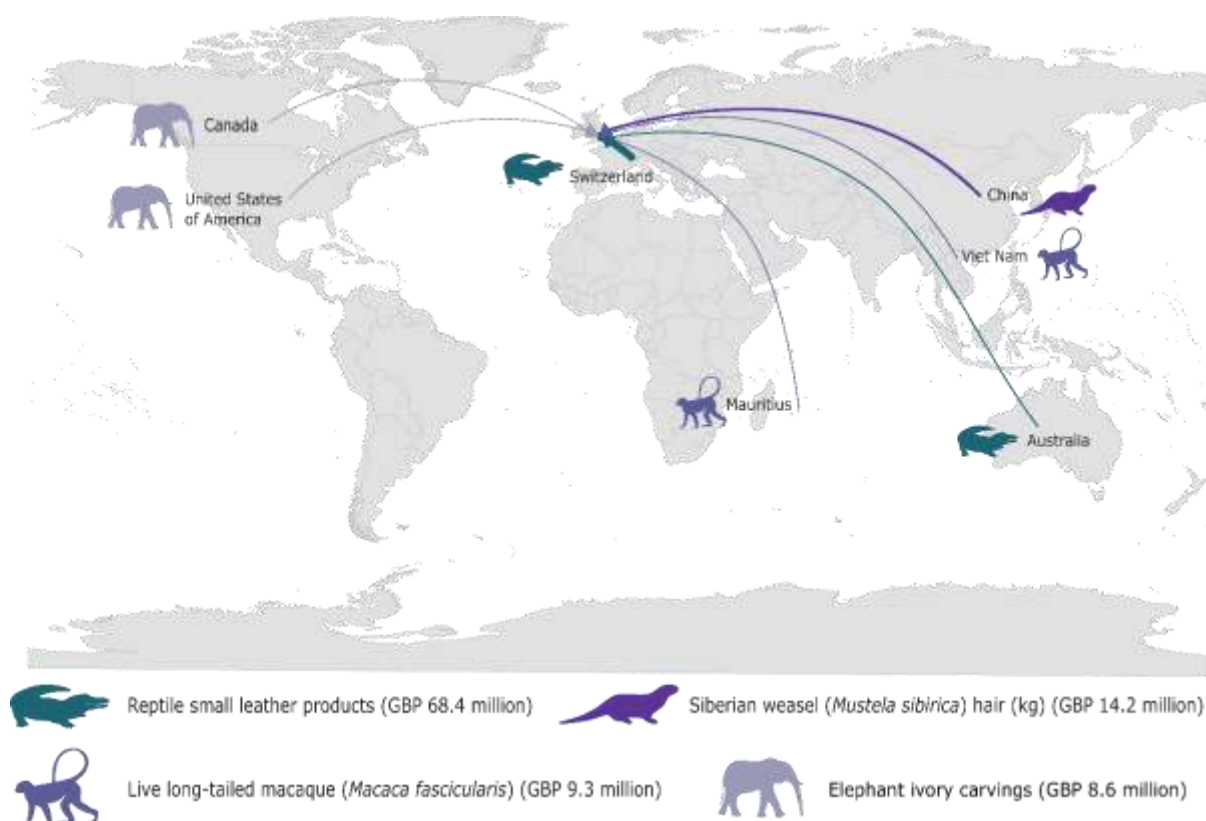


Figure 14. Main trade routes of key animal commodities imported (both directly and indirectly) by the UK, 2012-2016 (all sources excluding source 'I') **by estimated value in GBP**. Values quoted in the legend refer to the value of trade shown in the figure. Arrows weighted by relative value of trade. Plotted data represent 80% of the value of animal imports. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from the United States annual reports submitted to CITES.

Estimates of financial value could be assigned to 98% (32,712) of the import transactions (direct and indirect) reported by the UK for animals during 2012-2016, and 93% (479) of the animal taxa reported in trade during this period. The animal taxa for which values could not be assigned include 12 mammal taxa, nine bird taxa, and three turtle taxa.

Where values could be assigned, the animal commodities imported into the UK with the highest overall estimated trade value were:

- **Reptile small leather products** accounted for 54% (estimated £68.4 million) of the value of UK animal imports and were primarily for commercial purposes. The majority of imports (68% of the overall value) originated from wild-sourced individuals, with the remaining value comprising mainly captive-sourced or ranched individuals. Twenty-six reptile taxa were imported by the UK as small leather products (one Appendix I / Annex A taxon, 21 Appendix II / Annex B, two Appendix III / Annex C and two split-listed species), with the majority of the value of imports dominated by two species: American alligator (*Alligator mississippiensis*) (70% of the estimated value) and the saltwater crocodile (*Crocodylus porosus*) (19.5% of the estimated value). Small leather products of *A. mississippiensis* and *C. porosus* were largely imported from Switzerland (originating in the United States) and from Australia, respectively.
- **Worked elephant ivory** (including trade reported as carvings, ivory carvings, keys, and jewellery) accounted for approximately 13% (£16 million) of the estimated value of UK animal imports and was all reported as Appendix I / Annex A. Almost all (98%) of the

trade was reported as pre-Convention. The African elephant (*Loxodonta africana*) accounted for about 48% of the total value of worked elephant ivory, with a further 47% accounted for by trade at the family level (Elephantidae spp.). Re-exports of ivory of Asian elephant (*Elephas maximus*) were estimated to be worth approximately £0.8 million. Across both species, worked elephant ivory was primarily imported from the United States (31%), Canada (23%), and Switzerland (14%). Approximately 55% (£8.8 million) of the totally estimated value of worked elephant ivory was exported for commercial purposes; the remainder was for personal use (36%) and travelling exhibitions (9%).

- **Wild-source Siberian weasel (*Mustela sibirica*) hair** (Appendix III¹⁶/ Annex D) traded (by weight) for commercial purposes accounted for 11% (£14.4 million) of the value of UK animal imports. Almost all imports were directly from China (99%).
- **Live mammals** accounted for approximately 8% (estimated £9.9 million) of the value of UK animal imports. Approximately 96% of this trade was in captive-bred *Macaca fascicularis* (Appendix II / Annex B), almost all for biomedical purposes. Live mammals were primarily imported directly from Mauritius (62%) and Viet Nam (33%).
- Whilst **corals** accounted for the largest proportion of UK imports by quantity, live corals had an estimated value of £2.5 million and raw corals were estimated at just over £1 million. Together these accounted for approximately 2% of the total value of UK imports.

Of the top imported commodities, Siberian weasel (*Mustela sibirica*) hair had the highest estimated value per unit, of approximately £11,500 per kilo. Reptile small leather products were lower value products in comparison, but were imported in much higher quantities¹⁷ (Figure 15).

¹⁶ with a reservation entered by all EU Member States, Switzerland and Liechtenstein

¹⁷ The mean value of reptile small leather products was £489 per item (range of £36-£4,884 per item, based on 40 values per unit price).

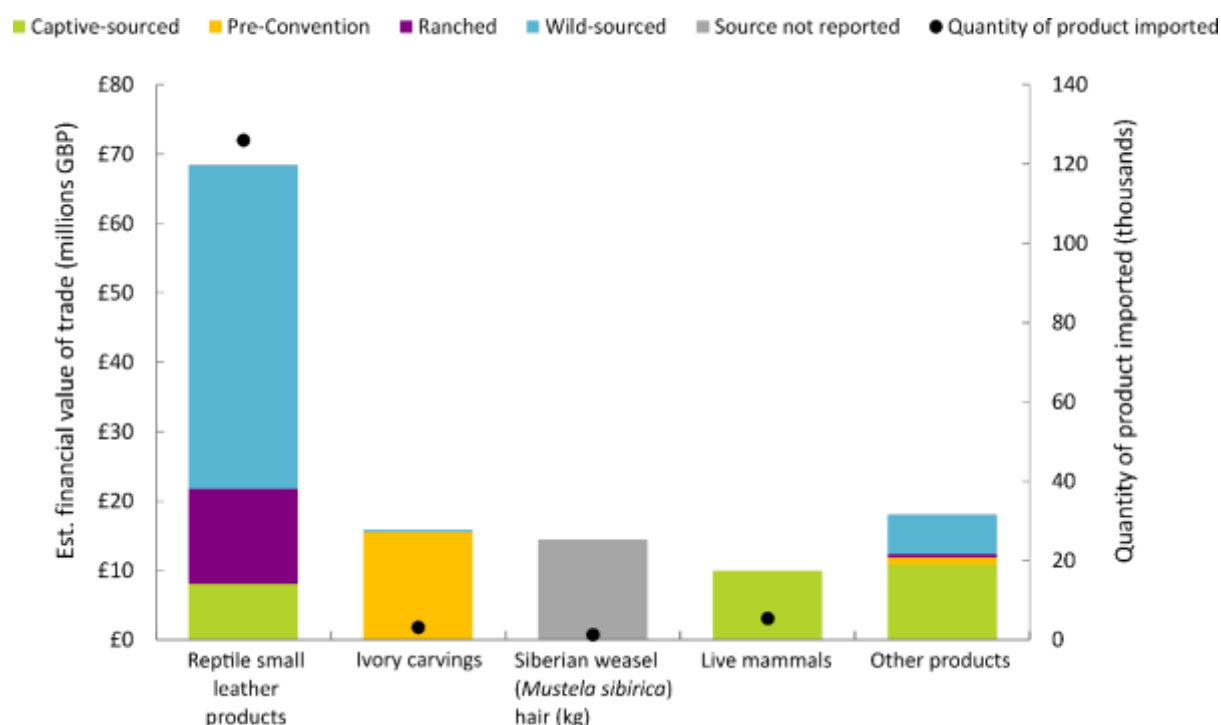


Figure 15. Animal commodities imported by the UK, 2012-2016 accounting for the highest proportion of the estimated value of direct and indirect imports. Stacked bars reflect the estimated value of imports in GBP, coloured by source: captive-sourced (sources 'C', 'D', and 'F'), ranched, wild-sourced (sources 'W', 'U'), and pre-Convention. Black dots indicate the quantity of product imported; quantity is excluded for "Other products" as this is an aggregate of multiple units of measure. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from the United States annual reports submitted to CITES.

3.1.2 Plants

In total, the **estimated minimum value of UK imports of CITES-listed plants (excluding a number of timber species) during 2012-2016 was estimated at approximately £1.18 million** (based on direct and indirect imports combined). To estimate the value of plant imports, 'web-scraping' methods were used to extract price data from online marketplaces; full details on the methods are provided in Appendix 5.

The estimated minimum value of UK imports of CITES-listed plants was dominated by trade from Asia (97%) in live artificially propagated specimens of ornamental plants (orchids, cycads and carnivorous plants). The main direct trade routes into the UK by estimated minimum value are summarised in Figure 16.

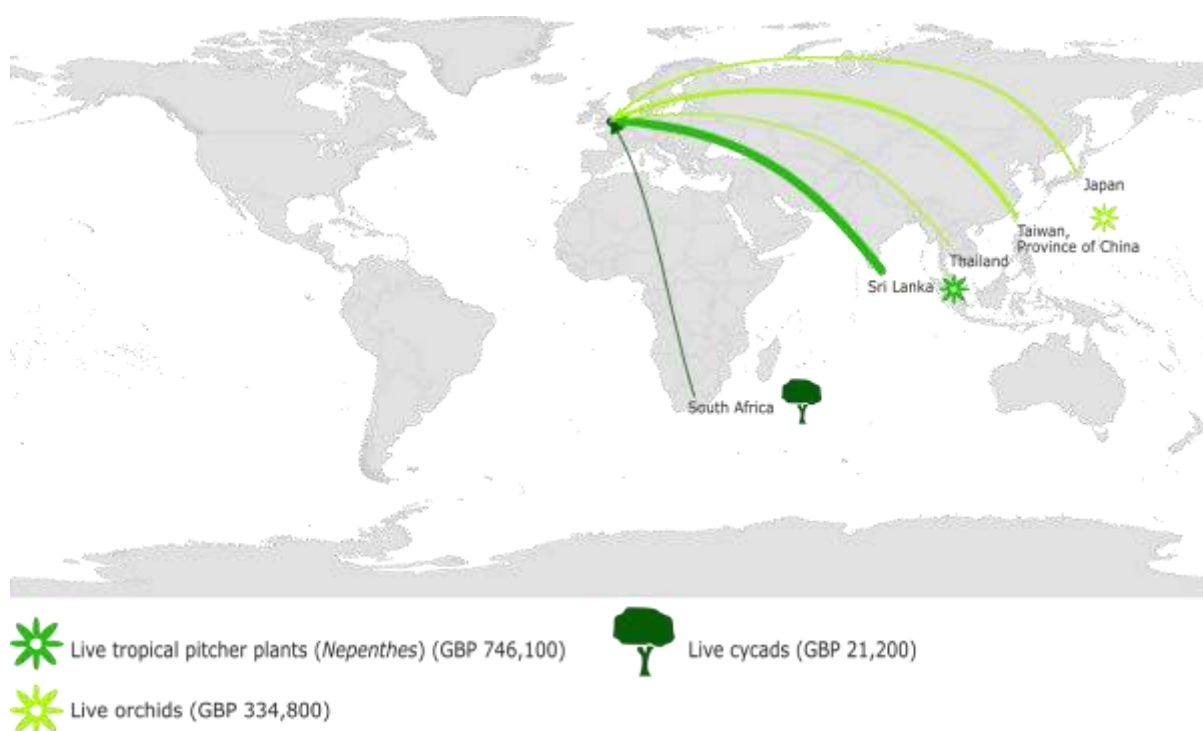


Figure 16. Main trade routes of key plant commodities imported (direct and indirect) by the UK, 2012-2016 (all sources excluding source 'I') **by estimated minimum value in GBP.** Values quoted in the legend refer to the value of trade shown in the figure. Arrows weighted by relative value of trade. Plotted data represent 95% of the value of plant imports. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from online marketplaces.

Based on price data availability, it was only possible to assign financial values to 68% (4,174) of the import transactions (direct and indirect) reported by the UK for plants during 2012-2016 and 71% (590) of the plant taxa reported in trade during this period. The price data are primarily for the live ornamental plant trade and exclude many high value timber species as a result of limited data availability. The estimated minimum values for the UK's trade in plants may be a **substantial under-estimate** because of a lack of comprehensive value data for a number of presumed high value taxa. For instance, trade in oil or extract from *Bulnesia sarmientoi*, *Aniba rosaeodora*, and chips/extract from several *Aquilaria* species (all Appendix II / Annex B), which together were imported at levels of approximately 11,500kg oil / extract, and 1,600kg of chips, are not included in this analysis due to the absence of suitable price data for these species.

Where values could be assigned, the plant commodities imported into the UK with the highest overall trade value included:

- **Live, artificially propagated pitcher plants (genus *Nepenthes*)** (Appendix II / Annex B). These were all imported from Sri Lanka for commercial purposes and accounted for 63% (£746,055) of the total estimated value of CITES-listed plants imported into the UK 2012-2016.
- **Artificially propagated orchids** accounted for almost a third (32%) of UK plant imports by estimated value (£379,114)¹⁸. This was dominated by the import of live orchids with more than half originating from Taiwan, Province of China (Figure 16).

¹⁸ *Cattleya* hybrid and *Paphiopedilum* hybrid made up 31% of the total value of species in the Orchidaceae family overall. 188 species or hybrids of orchids were reported in live trade ranging from £1,801 per plant for *Paphiopedilum* hybrid to £5.72 for *Cattleya coccinea*.

The remaining value was accounted for by orchid roots, imported exclusively from Japan. These imports were all primarily for commercial purposes.

- **Artificially propagated live cycads** traded for commercial purposes accounted for £21,194. Primarily the trade was made up of three Appendix I / Annex A species: *Encephalartos longifolius*, *E. villosus* and *E. friderici-guilielmi* (92% of live cycad imports). Trade in cycads was entirely from South Africa.
- **Brazilian rosewood (*Dalbergia nigra*) carvings** (Appendix I / Annex A) accounted for a further 1% (£13,697) of plant imports by value, primarily from the United States (60% of the value of *D. nigra* trade).

Of the top imported products, *D. nigra* carvings had the highest average value per unit, of approximately £83 per item, followed by live cycads (£53 per plant). In comparison, live *Nepenthes* species and orchids were lower value products, but were imported in higher quantities (Figure 17).

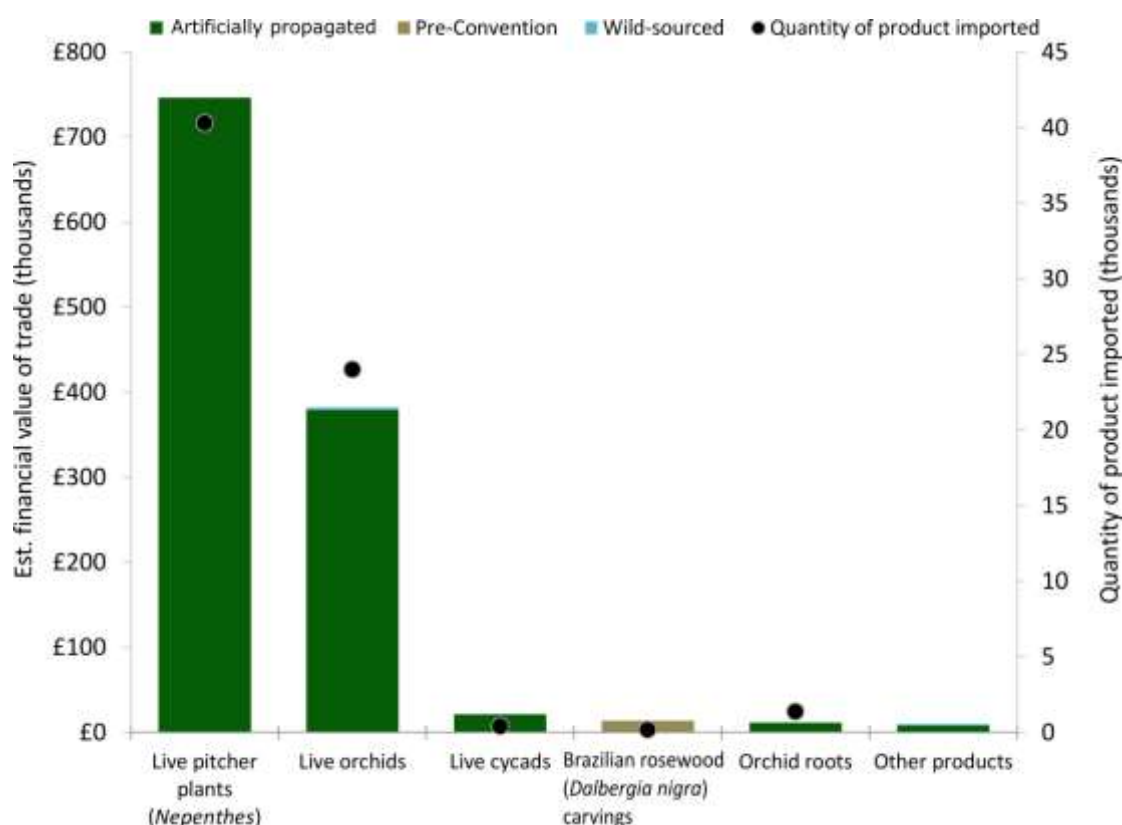


Figure 17. Plant commodities imported by the UK, 2012-2016 accounting for the highest proportion of the value of direct and indirect imports. Stacked bars reflect the estimated value of imports by GBP, coloured by source: artificially propagated (sources 'A', and 'D'), wild-sourced (source 'W' only), or pre-Convention. Black dots reflect the quantity of product imported; quantity is excluded for "Other products" as this is an aggregate of multiple units of measure. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from online marketplaces.

3.2 Exports

3.2.1 Animals

The **value of UK (re-)exports of CITES-listed animals 2012-2016 was estimated at approximately £272 million** (based on direct exports and re-exports combined). This was dominated by the (re-)export of mammals (67%), followed by reptiles (16%) and birds (10%). Around 75% of the estimated value of UK exports of CITES-listed animal commodities was exported to only three countries: the United States, the UAE and China. These trade routes are summarised in Figure 18.

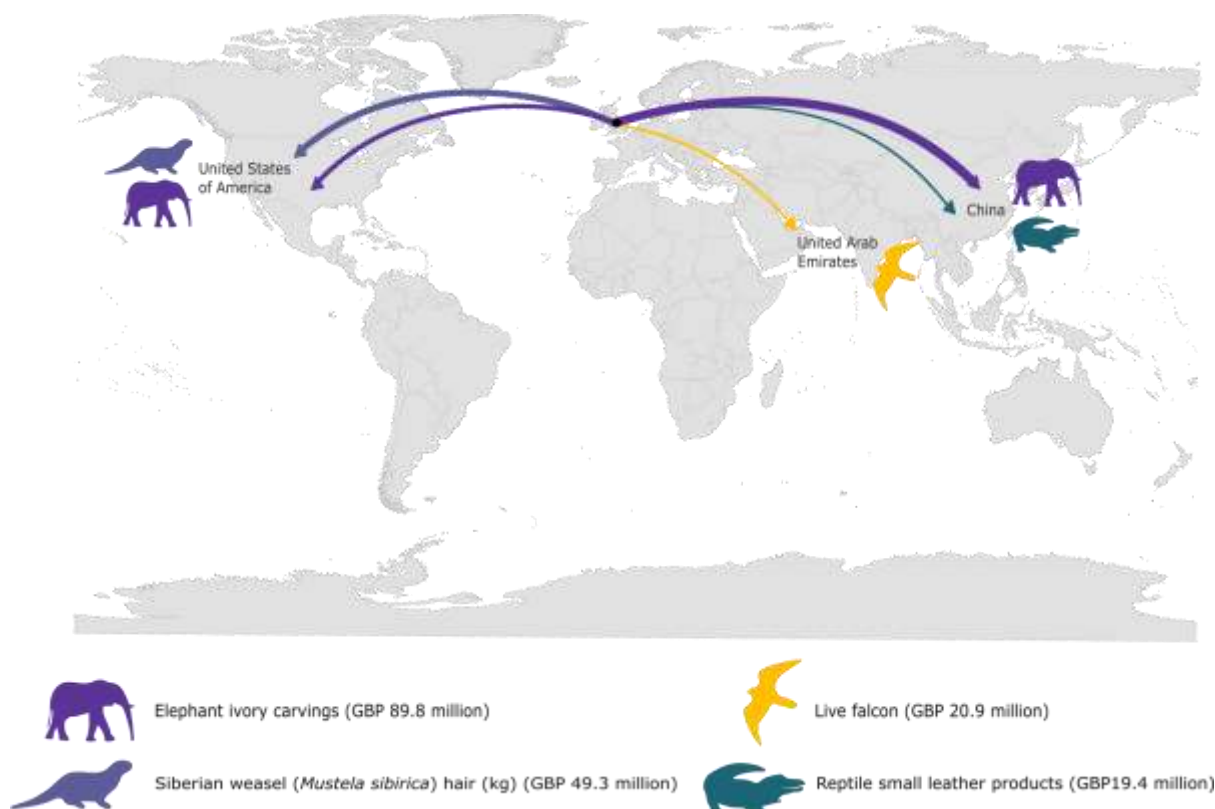


Figure 18. Main trade routes of key animal commodities (re-)exported by the UK, 2012-2016 (all sources excluding source 'I') **by estimated value in GBP**. Values quoted in the legend refer to the value of trade shown in the figure. Arrows weighted by relative value of trade. Plotted data represent 66% of the value of animal exports. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from the United States annual reports submitted to CITES.

Financial values could be assigned to 97% (40,811) of the export transactions (direct exports and re-exports) reported by the UK for animals during 2012-2016, and approximately 88% (364) of the animal taxa reported during this period. The animal taxa for which values could not be assigned include 29 bird taxa and three turtle species.

Where values could be assigned, the animal commodities (re-)exported from the UK with the highest overall trade value included:

- **Worked elephant ivory** (including trade reported as carvings, ivory carvings, keys, and jewellery) accounted for approximately 47% (£129 million) of the estimated value of the UK animal (re-)exports. Almost all (over 99%) of the trade was reported as pre-Convention. This was mainly African elephant (*Loxodonta africana*) (79%; £102 million), with the remainder from Asian elephant (*Elephas maximus*) (11%; £14 million)

or reported at the family level Elephantidae spp. (£13 million). The re-exported ivory was primarily of unknown origin and was mainly re-exported to China (47%), the United States (22%), Australia (8%) and Mexico (4%). Approximately 83% (£107 million) of the total estimated value of worked elephant ivory was exported for commercial purposes, with the remainder for personal use (16%) and travelling exhibitions (1%). Almost all (99%) of the value was in trade reported as Appendix I / Annex A and accounted for approximately 84% of all Appendix I trade.

- **Wild-source Siberian weasel (*Mustela sibirica*) hair** (Appendix III (with reservation) / Annex D) traded (by weight) for commercial purposes accounted for 18% (£49.3 million) of the value of UK animal exports. The UK is an *entrepôt* State for this trade, with this commodity originating exclusively in China. Virtually all was re-exported to the United States.
- **Reptile small leather products** accounted for approximately 15% (£40.4 million) of the estimated value of UK animal (re-)exports and comprised of 31 taxa (four Appendix I / Annex A taxa, 24 Appendix II / Annex B and three split-listed species). Approximately 66% of the estimated value (£26.5 million) consisted of wild-sourced individuals. The majority of (re-)exports were for commercial purposes. As with import values, estimated (re-)export value was dominated by two crocodilian species: American alligator (*Alligator mississippiensis*) (57%), almost all from wild sources (95%), and the saltwater crocodile (*Crocodylus porosus*) (17%), primarily from ranched sources (69%). *A. mississippiensis* is Appendix II / Annex B listed, whilst 10% of *C. porosus* trade was reported as Appendix I / Annex A and 90% as Appendix II / Annex B. The main destinations by estimated value were China (48%, £19.4 million), followed by the United States (14%, £5.8 million).
- A further 9% (estimated £24.2 million) of the value of UK animal (re-)exports was derived from **live, captive-bred falcons** (genus: *Falco*), almost all of which were traded for commercial purposes. This was dominated by trade in the Appendix I / Annex A gyrfalcon (*Falco rusticolus*) (76% of the value of live, captive-bred falcon exports) and *Falco* hybrids (16%). The majority (86%) of the estimated value of UK exports of live, captive-bred falcons was exported to the UAE (£20.9 million), with Qatar and Kuwait both making up 4%.

Of the top exported commodities, *Mustela sibirica* hair had the highest estimated value per unit, of approximately £11,500 per kilo (as for imports). Reptile small leather products by item and live falcons were comparatively lower value products that were also exported in high quantities¹⁹ (Figure 19).

¹⁹ Reptile small leather products had a mean value of £2,509 (range: £31- £51,965, based on 55 values for unit price) and live falcons £2,136 (range: £572-£3,941 per bird, based on 5 values for unit price).

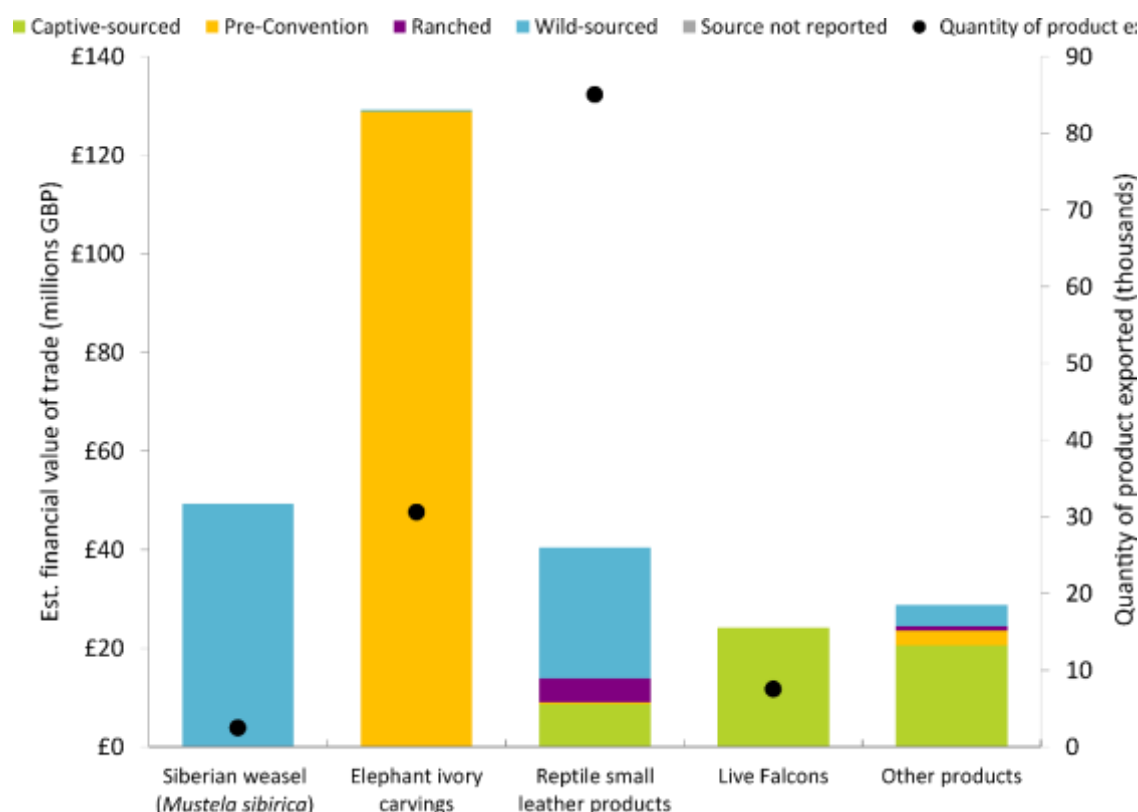


Figure 19. Animal commodities exported by the UK, 2012-2016, accounting for the highest proportion of the value of both direct exports and re-exports. Stacked bars reflect the estimated value of imports in GBP, coloured by source: captive-sourced (sources 'C', 'D', and 'F'), ranched, wild-sourced (sources 'W', 'U'), and pre-Convention. Black dots reflect the quantity of product exported; quantity is excluded for "Other products" as this is an aggregate of multiple units of measure. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from the United States annual reports submitted to CITES .

3.2.2 Plants

In total, the **estimated minimum value of UK (re-)exports of CITES-listed plants (excluding some high value timber) 2012-2016 was estimated at approximately £388,514** (based on direct exports and re-exports combined).

A large proportion (89%) of the estimated minimum value of UK (re-)exports of CITES-listed plant commodities were being exported to the United States, Taiwan, Province of China and Thailand. These trade routes are summarised in Figure 20.

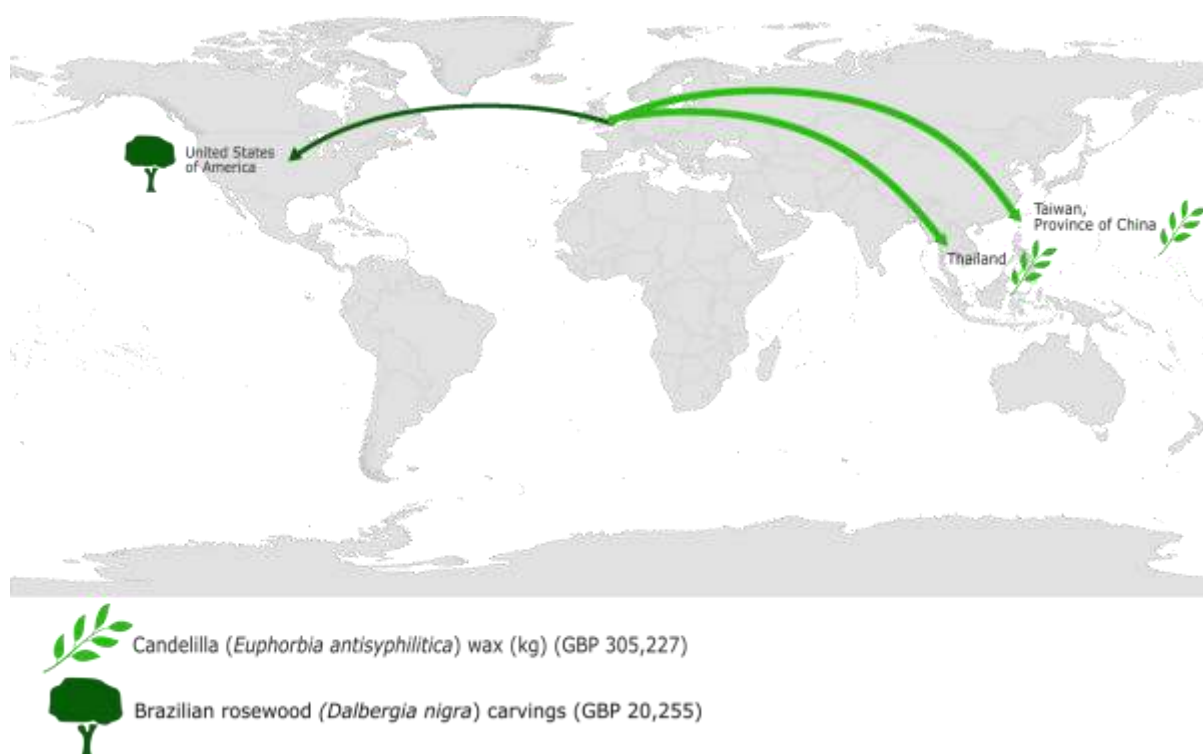


Figure 20. Main trade routes of key plant commodities exported (direct and re-exports) by the UK, 2012-2016 (all sources excluding source 'I') **by estimated minimum value in GBP**. Values quoted in the legend refer to the value of trade shown in the figure. Arrows weighted by relative value of trade. Plotted data represent 84% of the value of plant exports. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from online marketplaces.

Financial values could be assigned to 75% (458) of the (re-)export transactions (based on direct export and re-export transactions) reported by the UK for plants during 2012-2016, and 74% (37) of the plant taxa reported during this period. The price data available for plants primarily related to the live ornamental trade and excluded the majority of high value timber species. As for imports, these estimates are thus likely to represent a significant under-estimate of the true value of the trade.

Where values could be assigned, the plant commodities (re-)exported from the UK with the highest overall estimated trade value included:

- **Wild candelilla (*Euphorbia antisiphilitica*) wax** by weight (Appendix II / Annex B), which accounted for 84% (£326,613) of the estimated value of UK CITES-listed plant exports. This wax all originated in Mexico and was primarily exported to Taiwan, Province of China (48%) and Thailand (39%).
- **Brazilian rosewood (*Dalbergia nigra*) carvings** (Appendix I / Annex A) accounted for a further 10% (£35,695) of the estimated value of UK CITES-listed plant (re-)exports. Approximately 73% of the estimated value of *D. nigra* carvings was derived from pre-Convention carvings, with the remaining 27% (£9,712) from wild-sourced carvings. *D. nigra* carvings were primarily re-exported for commercial purposes to the United States (57% of value) and Australia (9% of value) and were mainly from an unknown country of origin (94%).

Of the top (re-)exported products, *E. antisiphilitica* and *D. nigra* had low values per unit of less than £100, namely £39 per kg of *E. antisiphilitica* wax and £83 per *D. nigra* carving (Figure 21).

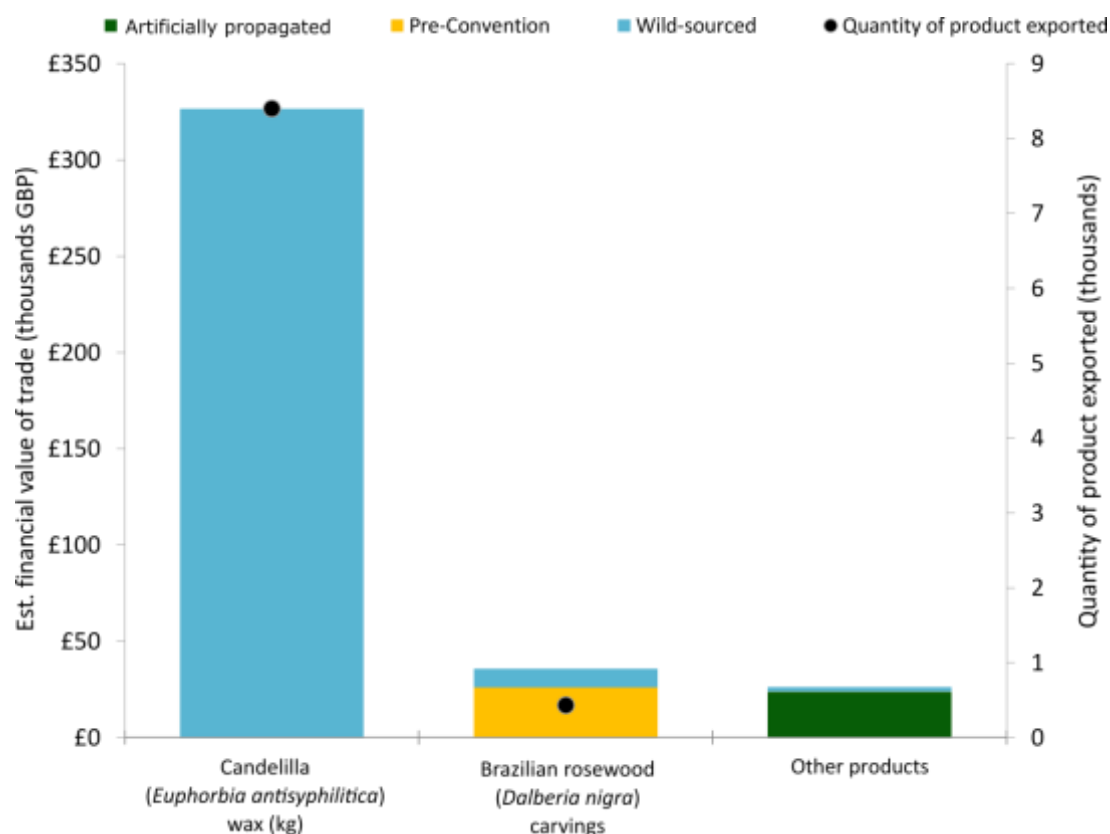


Figure 21. Plant commodities exported by the UK, 2012-2016 accounting for the highest proportion of the estimated minimum value of both direct exports and re-exports. Stacked bars reflect the estimated value of exports by GBP, coloured by source: artificially propagated (sources 'A', and 'D'), wild-sourced (source 'W' only), or pre-Convention. Black dots reflect the quantity of product exported; quantity is excluded for "Other products" as this is an aggregate of multiple units of measure. Source: Trade data sourced from the CITES Trade Database, UNEP-WCMC and price data sourced from online marketplaces.

4 Discussion

4.1 Overview

This report was commissioned, in part, to help the UK prepare for its exit from the European Union. However, it has also provided, for the first time, an overview of the UK's role in international wildlife trade. At a time when much attention is focused on measures to address illegal wildlife trade, this report provides an assessment of legal and sustainable trade in CITES-listed wildlife to, and from, the UK. This trade is of significant financial value to the UK economy and that of our trading partners and many people in the UK will use wildlife products routinely as part of our daily lives.

Understanding our patterns of trade can help us take steps to ensure its sustainability, to reduce the risks of over-exploitation, to ensure the benefits of wildlife trade support local communities and economies in exporting countries and provide incentives for the conservation of species and habitats affected by such trade.

However, whilst this analysis gives us a good understanding of our trade in CITES specimens with the rest of the world, because of the single market within the EU, it was not possible to analyse fully the dynamics of the intra-EU trade in CITES listed species. Consideration of Article 10 certificates here related only to Annex A taxa and, therefore, did not cover the majority of CITES-listed taxa (in Annex B) potentially being traded between the EU and the UK.

Only UK-issued Article 10 certificates were included in the analysis of internal trade certificates. Accordingly, this provides a **minimum** number of transactions involving commercial use of Annex A taxa. In addition, specimens issued with specimen-specific certificates can travel to and from the EU without new Article 10 certificates being issued and would thus not be captured in the data.

The date range of this baseline report covers the most recent five years of data (2012-2016). This means that taxa listed in CITES Appendices at CoP17 (where listings came into force on 2 January 2017) are excluded from this report. The report thus excludes consideration of the genus listings for two timber taxa, *Dalbergia* and *Diospyros*. Accordingly, timber is likely to become far more significant as a component of UK CITES trade going forwards.

The report provides a first estimate of the value of CITES-listed wildlife trade to, and from, the UK. For animals, only price data from United States imports and exports were available, which were then extrapolated to estimate the value of UK imports and exports. However, there will be price differences between countries for the same species and there will be differences in the quality of products, leading to price differences. The estimate of financial value of the trade in UK imports and (re-)exports of CITES-listed animals is, therefore, an approximation of the actual value and at just one stage in the market chain.

Price data on plants was available only from retail websites. Collecting price data from web-scraping was biased towards those plants that are found in the horticulture trade and so which are more readily accessible from online marketplaces. There were fewer data points found for timber commodities. Timber is therefore likely to be highly under-represented in the overall value estimation.

In addition, the price for any given species/commodity may also vary according to size of specimen, shipment size, variety (e.g. rare breeds) – such detail is not captured in the CITES trade data. Retail and wholesale prices for plants and import values for animals may

also not be comparable, due to the different sources of these data. Overall, figures on the value of the trade, should, therefore, be interpreted with some caution.

A future revision of this report and analysis is desirable to capture changes that occur following the UK's exit from the EU. A revised analysis will enable some of the difficulties encountered here to be resolved. Some recommendations for any future analysis are provided below.

4.2 Recommendations

- This study, as an analysis of the '*State of the UK's Wildlife Trade*' should be repeated at a suitable interval to capture the changes that arise from the UK's exit from the EU. Following such exit, it is likely that much of the trade that happens internally within the EU without permits, will, in future, require CITES permits. Thus, the volume and patterns of CITES trade to and from the UK are likely to change significantly in future.
- It is recommended that, in order to understand better the value of UK wildlife trade, the UK CITES Authorities, especially UK Border Force, should seek to obtain UK-specific values for wildlife and wildlife products in trade, rather than relying on data obtained from the United States CITES Annual Report and generic web-scraping methodologies.
- As part of the recommendation above, there is a need for targeted taxon-specific data collection for estimating the value of UK wildlife trade. This is particularly pertinent for estimating the value of timber commodities in trade; the absence of such data was a major gap in the present study. Part of this may require the development of new methods to translate timber commodities into CITES terms in order to correctly determine market values and enable comparison with trade in other taxonomic groups.
- This analysis only considers the direct market value of UK wildlife trade but future analyses may benefit from considering the broader value of such trade. These analyses might include the natural capital values of such trade, look at the 'wildlife footprint' the UK has on the rest of the world and consider the full costs and benefits of legal and sustainable wildlife trade. The latter might include the benefits to livelihoods this trade provides, and the incentives trade might provide to conserve species and habitats which generate such trade (and to seek to minimise any risks of over-exploitation).

Appendix 1: Glossary

Article 10 certificates: Certificates for commercial use issued for species listed in Annex A of the EU Wildlife Trade Regulations in accordance with Article 10 of Regulation (EC) No. 338/97. These trade certificates may also be referred to as ‘EU trade certificates’ as they can be issued by, and are valid in, any EU Member State. Article 10 certificates can be either a specimen-specific certificate (SSC) that can cover multiple transactions provided the specimen is permanently marked, or a transaction specific certificate (TSC), whereby a new certificate is issued for each individual transaction²⁰.

CITES: Convention on the International Trade in Endangered Species of Wild Flora and Fauna²¹.

CITES Appendices: Species covered by CITES are listed in three Appendices. Appendix I includes species threatened with extinction and permits trade only in exceptional circumstances; Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival. Details on whether a species should be included in Appendices I or II can be found in Resolution Conf. 9.24 (Rev. CoP17)²². Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade.

Direct trade: Trade where the exporting country is also the country of origin.

EU WTR: European Union Wildlife Trade Regulations.

EU WTR Annexes: Species covered by the EU Wildlife Trade Regulations are listed in four Annexes and are detailed in Council Regulation (EC) No 338/97²³. This details procedures for all EU Member States to follow, for both internal EU trade and trade with the rest of the world. Annexes A-C roughly align with CITES Appendices I-III, although some species may be included in a higher Annex than their equivalent CITES Appendix listing due to EU stricter domestic measures (e.g. some species in CITES Appendix II may be listed in Annex A of the EU WTR).

Indirect trade: Trade in wildlife or wildlife products that have previously been exported by their country of origin. In most cases, the exporter in an indirect trade transaction will not be the country of origin. If the exporter *is* the country of origin, then the specimen would have to have left the country and returned to it in order to be considered as ‘indirect’ trade.

Trade transactions: A trade transaction is a single record providing details of one permitted shipment (import, export or re-export) of wildlife or wildlife parts and derivatives. The details of CITES trade transactions are reported by CITES Parties and stored in the CITES Trade Database maintained by UNEP-WCMC on behalf of the CITES Secretariat. The number of trade transactions is determined as the number of shipment records based on the unique combination of the following factors: taxon, importer, exporter, origin country, term, unit, source, purpose, importer permit, exporter permit, origin permit, and year.

²⁰ Transaction certificates may be issued where the specimen is not permanently marked or the species conservation status is of particular concern.

²¹ More details are available on the CITES website: <https://www.cites.org>

²² <https://www.cites.org/eng/res/09/09-24R16.php>

²³ EU WTR are detailed here: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1484753427128&uri=CELEX:01997R0338-20170204>

Appendix 2: Supplementary information

Table B1. Conversion Factors.

Converted from	Converted to
Grams; milligrams	Kilograms (kg)
Millilitres	Litres (l)
Centimetres	Metres (m)
Pairs	Whole values [1 pair = 2 items]
Sides	Whole skins [2 sides = 1 skin]
Timber (including logs, sawn wood, veneer <i>etc</i>) in kilograms	Cubic meters (m ³) [calculated using the mid-point of the range of specific weights provided in the CITES Identification Manual (Vales <i>et al</i> 1999 ²⁴)].

Table B2. Codes for purpose of trade.

Code	Description
B	Breeding in captivity or artificial propagation
E	Educational
G	Botanical gardens
H	Hunting trophies
L	Law enforcement/judicial/forensic
M	Medical (including biomedical research)
N	Reintroduction or introduction into the wild
P	Personal
Q	Circuses and travelling exhibitions
S	Scientific
T	Commercial / Trade
Z	Zoos

Table B3. Codes for purpose of trade.

Code	Description
A	Annex A plants artificially propagated for non-commercial purposes and Annexes B and C plants artificially propagated in accordance with Chapter XIII of Regulation (EC) No 865/2006, as well as parts and derivatives thereof
C	Annex A animals bred in captivity for non-commercial purposes and Annexes B and C animals bred in captivity in accordance with Chapter XIII of Regulation (EC) No 865/2006, as well as parts and derivatives thereof
D	Annex A animals bred in captivity for commercial purposes and Annex A plants artificially propagated for commercial purposes in accordance with Chapter XIII of Regulation (EC) No 865/2006, as well as parts and derivatives thereof
F	Animals born in captivity, but for which the criteria of Chapter XIII of Regulation (EC) No 865/2006 are not met, as well as parts and derivatives thereof
I	Confiscated or seized specimens ²⁵
O	Pre-Convention specimens
R	Specimens originating from a ranching operation
U	Source unknown (must be justified)
W	Specimens taken from the wild
X	Specimens taken in 'the marine environment not under the jurisdiction of any State'

²⁴ Vales, M.A., Clemente, M. & García Esteban, L. (1999) Timber identification. In *CITES Identification Manual: Flora*. CITES Secretariat, Switzerland.

²⁵ To be used only in conjunction with another source code.

Appendix 3: Number of transactions by taxonomic group

The main taxonomic groups of CITES-listed taxa in trade by number of transactions are summarised in Table 1 (direct imports) and Table 2 ((re-)exports). The full breakdown of number of transactions by reported taxon, term and current Annex is provided in an accompanying Excel document, which can be found on the report webpage. This will enable further exploration of the number of transactions reported for each taxon-term combination.

Appendix 4: Methodology for case study 1 (trophy analysis)

The CITES definition of 'hunting trophy' (Res. Conf. 12.3 (Rev CoP17)) is: 'a whole animal, or readily recognizable part or derivative of an animal, specified on any accompanying CITES permit or certificate, that:

- i. is raw, processed or manufactured;
- ii. was legally obtained by the hunter through hunting for the hunter's personal use; and
- iii. is being imported, exported or re-exports by or on behalf of the hunter, as part of the transfer from its country of origin, ultimately to the hunter's State of usual residence.

To estimate numbers of individuals in trade as trophies, trade reported as one of the accepted terms (trophies, bodies, and accepted trophy parts as listed in Table D1), reported as purpose 'H' (hunting trophy), 'P' (personal), or 'T' (commercial), and from any source other than 'I' (confiscations) was included. For trade in trophy parts, conversion factors were used to convert body parts into number of trophies (see Table D1 for conversion factors).

Table D1. Accepted trophy parts and conversion factors

Reported term	Conversion factor
Ears	2
Feet	4
Genitalia	1
Horns	2
Skins	1
Skulls	1
Tails	1
Teeth ^(a)	12
Trophies ^(b)	1
Tusks ^(c)	2

^(a) Teeth only included for *Hippopotamus amphibius* and *Hippopotamus spp.*

^(b) Trophies only considered a trophy part when reported on the same export permit as tusks, for *Loxodonta africana* only.

^(c) Any tusks reported for *Hippopotamus amphibius* and *Hippopotamus spp.* were treated as 'Teeth'.

The minimum number of whole animals traded was calculated using an analysis of shipment level information, provided the following parameters were the same: taxon, source, unit of trade, year, reported type (importer or exporter), country of export, country of import, country of origin, export permit number²⁶. Where no export permit number was provided, the converted trophy parts were each considered a separate animal²⁷. A precautionary approach was taken for trade reported without an export permit number because the remaining parameters do not provide sufficient information to conclude that the trophy parts derived from the same animal.

For *Loxodonta africana*, where trade on the same permit was recorded as 'one trophy' and 'two tusks', this was considered to be one trophy (rather than 1 trophy: 1 and two tusks: 1 = 2 trophies) as tusks associated with trophies are often reported separately for this species.

²⁶ For example (all key parameters being equal): 2 ears (converted to 1 by the conversion factor) + 1 tail + 1 skull = 1 trophy.

²⁷ For example (all key parameters being equal): 2 ears (converted to 1 by the conversion factor) + 1 tail + 1 skull = 3 trophies if the export permit number was absent.

Exclusions

The following records were excluded from the trophy combination analysis:

- *Loxodonta africana* skins: these skins are thick and can be split horizontally several times; as such, they cannot be equated to a number of individuals;
- *Loxodonta africana* tusks identified from permit numbers as being traded as part of the authorized sale of stockpiled ivory;
- *Crocodylus niloticus* and *Arctocephalus* spp. skins exported for commercial purposes, as these are likely to be traded for further processing and do not represent trophies;
- Trade reported by weight or units other than in number, which cannot be easily converted to numbers of individuals.

Appendix 5: Methodology for chapter 3 (valuation)

To calculate the value of relevant 2016 imports to and (re-) exports from the United Kingdom, we use a methodology developed by UNEP-WCMC for the EU Analysis report. Caviar extract, used in cosmetics, is excluded from this valuation; this commodity is imported in very small quantities, and it is unclear whether the declared prices in the United States dataset represent the actual price for the extract in its natural form or the luxury commodity containing the extract, both of which are traded.

Data collection: Animals

Financial values for animal products were obtained using species-specific values in United States dollars (USD) that are included in the United States annual report to CITES (as transmitted by the United States Fish and Wildlife Service). All annual reports from 2011 to 2016 were used to compile price data for the analysis, and prices were adjusted to 2016 values to take account of inflation using <http://www.usinflationcalculator.com/>.

Data collection: Plants

The United States annual reports do not report prices for most plant imports so data for plants were collected from retail and wholesale websites from around the world. Google searches for the names of the main plant groups in trade (e.g. orchids, timber) plus the phrases 'for sale', and 'buy' were carried out to find plants and plant products for sale. In addition, eBay searches for the main plant groups and genera plus terms were carried out. The process was repeated using the names of some of the key genera, species and trade terms that lacked price data after the first phase. All prices were converted to USD.

Analysis

The two datasets were used to calculate the median value for each combination of taxa/term/unit/source for animals, and taxa/term/unit for plants, as the source could not be determined for the majority of retail products. These medians were then multiplied by the reported trade volume of that combination to obtain total values for CITES-listed exports from the region. Only medians for which at least five prices were found were used in the final calculations. In cases where there was an insufficient sample size, a suitable proxy was used. For example, where the sample size at the species level was not large enough, a proxy of the next lowest taxonomic level for which there was a large enough sample size was used (up to order). In cases where no suitable proxy could be found, the data were excluded. Final values were presented in Great British Pounds (GBP) using conversion factor 0.74 GBP to 1 USD.