

## Defra Call for evidence on additional ivory-bearing species

*This call for evidence concerns the trade in ivory from species other than elephants taking place within the UK, and exports from and imports into the UK.*

### ***Response from Wildlife & Countryside Link***

*Wildlife and Countryside Link (Link) is the largest environment and wildlife coalition in England, bringing together 53 organisations to use their strong joint voice for the protection of nature. Our members campaign to conserve, enhance and access our landscapes, animals, plants, habitats, rivers and seas. Together we have the support of over eight million people in the UK and directly protect over 750,000 hectares of land and 800 miles of coastline.*

This Link response is supported by the following organisations:

- Bat Conservation Trust
- Born Free Foundation
- Environmental Investigation Agency
- Humane Society International
- IFAW
- Whale and Dolphin Conservation
- Wild Justice

Closing down markets for ivory is essential in order to secure a future for elephants. However, there is a significant danger that, by focussing only on the trade in elephant ivory, other ivory-bearing species could suffer as ivory traders and consumers turn to alternative sources of ivory.

We recognise that, while all ivory-bearing species may be at risk, the species most likely to be directly affected by a ban on elephant ivory in the short-medium term is the hippopotamus. The following submission therefore focuses on information and data associated with hippos, with additional data on marine mammals.

### **Key points on Hippopotamus at a glance:**

- 771,000 kg of hippo ivory has been traded internationally since 1975 according to CITES Databases. This equates to an estimated 146,857 hippos.
- More than 90% of global hippo teeth trade is imported to, and re-exported from, Hong Kong SAR, China. Of that, over 75% originated in Tanzania or Uganda.
- Disparities between countries reporting of import and export quantities of hippo ivory undermines regulatory measures, and challenges the persistence of hippo populations in Africa.
- The 1989 global ban on the elephant ivory trade showed a surge in demand for hippo ivory as a legal substitute. Hong Kong SAR, China is set to ban elephant ivory in 2021, and there is a real risk that hippo ivory will become a legal substitute again.

- There is a lack of up-to-date hippo population data, and discrepancies between import and export data of hippo ivory – data that is crucial for policy and trade decisions and any new monitoring scheme should factor this in.
- Hippos and elephants are sympatric, so infrastructure, trade routes and trade networks already exist because of the illegal elephant ivory trade.

**Please provide any evidence you have on whether the trade (legal and illegal) in ivory from these species threatens their survival.**

**Hippopotamus**

Hippos have been traded for their teeth since Egyptian times, but a combination of poor population data, legal and illegal trade has impacted their population. In the Democratic Republic of Congo in the early 2000s, the population of hippos fell by 95% from 29,000 individuals to 1,300 as a result of hunting during eight years of civil unrest<sup>i</sup>. Armed groups sold hippo teeth and meat to fund themselves during the war<sup>ii</sup>. While hippo numbers are increasing in the DRC, with the current population at an estimated 5,000, ongoing violence in the region makes progress uncertain. The population is classified as stable, but is at only 17% of its 1970s peak. 42% of all hippo populations are in decline, 23 Unknowns, 23 stable and only 10% increasing according to IUCN.

With a population estimate between 115,000 to 130,000 animals today we can look at CITES trade data and see that nearly 147,000 hippos ivory has been traded legally e.g. more than the remaining population.

With illegal poaching, trophy hunting, legal and illegal water abstraction, habitat destructions, expansion of human agriculture, increased human wildlife conflict as well as the impact from climate change and some country culls the illegal trade is adding massive pressure to a species under threats from multiple sources. Andersson and Gibson (2018) examined the discordances between import and export data on the legal, commercial trade in hippo ivory as specified in the CITES Trade Database, accessed in April 2016<sup>i</sup>. They noted that 771,000 kg of hippo ivory has been traded internationally for commercial purposes since 1975, and 90% of this volume was imported by and re-exported from Hong Kong SAR, China. More than 75% of the Hong Kong SAR, China hippo ivory imports originated from two countries; Tanzania (41%) and Uganda (35%).

The researchers uncovered a huge disparity between what is reported as imported, and exported between countries. Over 14,000 kg of hippo teeth was unaccounted for between Uganda and Hong Kong SAR, China, representing more than 2,700 hippos. This represents 2% of the global hippo population, and nearly 30% of Uganda's total hippo population, which is currently estimated at 7,000–10,000<sup>i</sup>. It also illustrates that illegal trade in hippo ivory is taking place.

**Legal Trade in Hippopotamus teeth**

Hippo teeth can reach up to 50cm in size and are a source of ivory considered easier to carve, obtain and transport in comparison with elephant ivory. They are considered luxury goods and are carved into sculptures and other ornaments.

The trade in hippo ivory is regulated by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Hippos have been listed on CITES Appendix II since 1995. Appendix II species are not necessarily threatened with extinction, but trade must be controlled to avoid over-exploitation or utilisation incompatible with their survival. To trade or export hippo parts, an export permit may be issued only if the specimen was legally obtained and if the export will not be detrimental to the survival of the species. No import permit is needed unless required by national law <sup>3</sup>.

There is, however, a lack of standardisation across African range states in trade quotas and hunting regulations for hippos. Uganda is currently the only source country to ban the trade in hippo teeth in 2014.

### Is the legal trade in Hippopotamus teeth sustainable?

In order to assess and monitor sustainability of the legal hippo trade, up-to-date scientific population estimates are required to inform trade and policy decisions. These are worryingly lacking. Furthermore, accurate trade data such as reliable and accurate country import and export quantities is also essential to monitor sustainability. However, gross discordances in such data is evident, and undermine regulatory measures, which therefore challenge the persistence of hippo populations in Africa.

Andersson and Gibson (2018) examined the discordances between import and export data on the legal, commercial trade in hippo ivory as specified in the CITES Trade Database, accessed in April 2016 <sup>i</sup>. They noted that 771,000 kg of hippo ivory has been traded internationally for commercial purposes since 1975, and 90% of this volume was imported by and re-exported from Hong Kong SAR, China. More than 75% of the Hong Kong SAR, China hippo ivory imports originated from two countries; Tanzania (41%) and Uganda (35%).

The researchers uncovered a huge disparity between what is reported as imported, and exported between countries. Over 14,000 kg of hippo teeth was unaccounted for between Uganda and Hong Kong SAR, China, representing more than 2,700 hippos. This represents 2% of the global hippo population, and nearly 30% of Uganda's total hippo population, which is currently estimated at 7,000–10,000 <sup>i</sup>.

The researchers used the most conservative method available to estimate individual hippo numbers from weight of teeth. They used the ratio of 5.25 kg of teeth per individual, as specified by Williamson's 'Tackling the ivories: The status of the US trade in elephant and hippo ivory' report <sup>iii</sup>.

Using the exact same method, and taking the figure of **771,000 kg of hippo ivory** traded internationally since 1975<sup>4</sup>, we calculate that this volume of ivory equates to a shocking estimate of **146,857** hippos. According to the research paper<sup>i</sup>, 90% of this volume was commercial trade into or out of Hong Kong SAR, China, which equates to 693,900kg of hippo ivory, representing **132,171** hippos traded to Hong Kong SAR, China alone between 1975 and 2016.

Furthermore, 97% of all the CITES-registered commercial trade of hippo teeth into or out of Hong Kong SAR, China since 1975 is specified as wild caught, with less than 2% listed as captive-bred, ranched or pre-convention. Therefore, 97% of 693,900 kg of ivory is equal to 673,083 kg of hippo ivory, equating to roughly **128,206 wild hippos**.

### **Illegal trade in Hippo teeth**

Concern about the falling hippo numbers led Uganda to ban the trade in hippo teeth in 2014, but wildlife authorities says that since the ban, the flow of hippo ivory to international markets has continued, due to the long-established transcontinental trade networks, structures and mechanisms that had previously been in place<sup>i</sup>. Similarly, the existence of the legal trade in elephant ivory pre 1989 provided 'fertile grounds' for illegally traded ivory<sup>ivv</sup> in 2005 when the international demand for ivory and ivory products returned. It is feared the same will happen to the hippo ivory trade, with trade continuing illegally, under the guise of legal trade – due to the lack of standardisation of and inaccuracies in reporting.

Furthermore, the period following the 1989 global ban on elephant ivory trade showed a surge in demand for hippo ivory as a legal substitute<sup>iii,iv</sup>. Hong Kong SAR, China the world's biggest importer of hippo ivory<sup>i</sup>, is set to implement a domestic elephant ivory ban in 2021. It is wholly possible that even more people will want hippo ivory as a substitute, which without appropriate demand reduction and enforcement efforts could lead to decimation of the already vulnerable wild hippo population.

The EAGLE Network (Eco Activists for Governance and Law Enforcement) aims to protect threatened wildlife species in key African countries from large-scale poaching, by increasing the level of wildlife law enforcement in each country and deterring poachers and traffickers. The EAGLE network has representatives in [Congo](#), [Gabon](#), [Guinea](#), [Togo](#), [Benin](#), [Senegal](#), [Ivory Coast](#) and [Burkina Faso](#). They have reported evidence of illegal trade in hippo teeth as recently as January 2019, with 4 traffickers caught smuggling hippo ivory in Cameroon<sup>vi</sup> and a trafficker attempting to trade in hippo teeth in Uganda. The EAGLE Network's 2018 annual report documented the arrest of traffickers who were attempting to traffic more than 230 pieces of hippo ivory<sup>vii</sup>.



**Uncarved hippo tooth sent into IFAW UK as part of IFAW's ivory surrender**

### **Human-induced environmental changes to Common Hippos**

Hippos rely on a permanent body of water to submerge themselves, and grasslands to graze<sup>viii</sup>. This niche environmental requirement puts hippos in competition with the ever-increasing human population for natural resources, water and land, leading to human–wildlife conflict. It also makes them extremely vulnerable to climate change<sup>ix</sup>.

Climate change models of predicted impacts in the Virungas of East Africa anticipate that hippo populations residing here would be seriously affected due to an increase in droughts and an increased human demand for water<sup>ix</sup>. A lack of grass foraging areas for hippos due to human encroachment would also threaten their existence<sup>x</sup>.

Droughts can be extremely devastating for hippos<sup>xi</sup>. In 2006, severe drought conditions killed 60–80 hippos in the Masai-Mara National Reserve<sup>xii</sup>, and another report recorded more than 4,490 human–hippo conflict incidences in a 12-year period between 1997 and 2008 in Kenya, with droughts exacerbating the problem<sup>xiii</sup>.

Human-wildlife conflict is a major cause of hippo deaths and this problem will only intensify as climate change worsens.

### **Mammoth**

Although extinct, people have been harvesting the tusks from the Arctic tundra and selling them. Mammoth ivory is a concern due to it having a similar appearance to elephant ivory as a look-a-like species and should be considered in relation to the impact of the elephant ivory trade, rather than just an extinct species. There have been instances of adverts offering elephant ivory for sale and labelling it as mammoth to evade legislation. There are ways of identifying mammoth ivory e.g. if the Schreger lines are visible and less than 90 degrees it is mammoth, while elephant ivory is greater than 115 degrees.

Musical instrument makers and bow makers are currently using mammoth ivory as a legal substitute for elephant ivory and they would be impacted by any ban involving mammoth ivory. We would recommend an exemption is sought so they can continue to import raw mammoth ivory, use mammoth ivory in the manufacture of new bows, instruments and the selling and transportation of those instruments has no restrictions and no date limits set either.

### **Narwhal**

Aboriginal subsistence quotas for narwhal exist in both Canada and Greenland. Changing sea ice conditions related to climate change have facilitated easier access to small cetaceans, as documented for narwhals in Smith Sound in North Greenland<sup>xx</sup> and a joint WWF and Traffic report from 2015 warned that the effects of climate change mean the hunting of narwhal needs to be better monitored and. According to the MADB database of EU imports, EU countries have imported 1,466 narwhal tusks since 2014. All but 39 were from Canada.

### **Toothed cetaceans**

Sperm whales, killer whales and other toothed cetaceans are targeted for their teeth in several countries including the Solomon Islands, Canada, Venezuela, Greenland, Iceland<sup>xxi, xxii</sup> and Indonesia. There is extensive international trade in cetacean teeth, including into and from the UK, in both whole and carved teeth. CITES trade indicates regular imports to the UK of both whole sperm whale teeth and carvings, which could include bone carvings. Since 2015, 48 sperm whale carvings and 13 teeth were

imported to the UK (mainly from the US and Fiji), mainly for commercial use. Beluga and narwhal teeth are made into necklaces, earrings and other items and sold to tourists in handicraft shops in Greenland. In July 2013, the Civil Guard seized 250 sperm whale teeth with a combined weight of 80 kgs in Valencia, Spain <sup>xxiii</sup>. Two people were charged with trying to sell the ivory online for 1000 Euros per kilo, for making chess pieces. The seizure was believed to be the largest of its kind in Europe.

Cetacean bones are also found in international trade, including from species hunted in indigenous subsistence hunts in the USA and Greenland.

The MADB database (European statistics) and the US harmonised commodity codes list do not break down the general category for ivory into species: The HS code for ivory states that, throughout the tariff schedule, elephant, hippopotamus, walrus, narwhal and wild boar tusks, rhinoceros horns and the teeth of all animals are regarded as ivory.

### **Common Warthog**

Warthogs are classified by IUCN as of 'least concern' and are common. Though populations are in slight decline, they are still abundant and are targeted mainly for their meat, rather than their teeth. The trade in their ivory products is not the driver of localised population declines.

### **Walrus**

Aboriginal subsistence quotas exist for this species and are regulated by governments in Canada and Greenland. Although historically commercial hunting took place on a large scale, it stopped in 1928 and the main threats to walrus today are climate change, habitat loss and disturbance. According to the MADB database of EU imports, EU countries have imported 733 walrus tusks since 2014, in addition to 395 teeth (which could also be tusks). Imports into the EU of worked walrus products since 2014, including under the codes for carvings, ivory carvings, bone carvings, jewellery, ivory jewellery and ivory pieces, number in the tens of thousands.

## **Is there any evidence of a link between the legal trade in ivory from these species and illegal wildlife trade?**

### **Illegal trade in Hippopotamus teeth**

Yes. Concern about the falling hippo numbers led Uganda to ban the trade in hippo teeth in 2014, but wildlife authorities says that since the ban, the flow of hippo ivory to international markets has continued, due to the long-established transcontinental trade networks, structures and mechanisms that had previously been in place<sup>i</sup>. Similarly, the existence of the legal trade in elephant ivory pre 1989 provided 'fertile grounds' for illegally traded ivory<sup>vi</sup> in 2005 when the international demand for ivory and ivory products returned. It is feared the same will happen to the hippo ivory trade, with trade continuing illegally, under the guise of legal trade – due to the lack of standardisation of and inaccuracies in reporting<sup>i</sup>.

Furthermore, the period following the 1989 global ban on elephant ivory trade showed a surge in demand for hippo ivory as a legal substitute<sup>iii</sup>. Hong Kong SAR, China the world's biggest importer of

hippo ivory<sup>j</sup>, is set to implement a domestic elephant ivory ban in 2021. It is wholly possible that even more people will want hippo ivory as a substitute, which without appropriate demand reduction and enforcement efforts could lead to decimation of the already vulnerable wild hippo population.

The EAGLE Network (Eco Activists for Governance and Law Enforcement) aims to protect threatened wildlife species in key African countries from large-scale poaching, by increasing the level of wildlife law enforcement in each country and deterring poachers and traffickers. The EAGLE network has representatives in [Congo](#), [Gabon](#), [Guinea](#), [Togo](#), [Benin](#), [Senegal](#), [Ivory Coast](#) and [Burkina Faso](#). They have reported evidence of illegal trade in hippo teeth as recently as January 2019, with 4 traffickers caught smuggling hippo ivory in Cameroon<sup>vi</sup> and a trafficker attempting to trade in hippo teeth in Uganda. The EAGLE Network's 2018 annual report documented the arrest of traffickers who were attempting to traffic more than 230 pieces of hippo ivory.

### **Hippos being poached for their teeth and illegal trade**

The Hong Kong University research from 2017 shows that far more hippo teeth are being brought into Hong Kong than were reported leaving African countries. Which is confirmed by the CITES export data and import data from Hong Kong. In fact, it calculates that an additional 14,000kg (14 metric Tonnes) of hippo ivory was imported in to Hong Kong above the export data quoted by Uganda. The researchers uncovered a huge disparity between what is reported as imported, and exported between countries. Over 14,000 kg of hippo teeth was unaccounted for between Uganda and Hong Kong, representing more than 2,700 hippos. This represents 2% of the global hippo population, and nearly 30% of Uganda's total hippo population. This discrepancy, the paper says, undermines regulations designed to protect hippos and potentially puts their populations' stability at risk. It also shows that poaching and illegal trade is taking place and this was from just one country.

Hippo ivory, which resembles that of an elephant, is [being increasingly traded globally](#) with 12,847 hippo teeth and tusks, weighing a total of 3,326.721kg, bought and sold in 2018. Trade increased from 273 items in 2007 to 6,113 in 2011.

[Eagle Network cases](#) (page 3) in January 2019 resulted in four traffickers being arrested with 54 kg of pangolin scales, 5 hippo teeth and 2 unidentified precious stones. The pangolin scales were packed inside 3 bags and transported in the taxi car that was watched and followed closely by one of the traffickers on a motorbike. The traffickers activated a network of poachers and smaller traffickers in towns and villages around Douala. The hippo teeth were brought in from Chad by two of the traffickers. Two of them have been in the pangolin scales business for long time.





*4 traffickers arrested with 54 kg of pangolin scales*

[The Eagle Network report](#) for 2018 reported that in Uganda, in January, 3 traffickers were arrested with 25 kg ivory, 100 hippo teeth weighing 50kg and pangolin scales in the West of the country. They traffickers are Ugandans, residing in Congo, and have been trafficking various kinds of contraband for years, getting it from Congo or nearby Murchison Falls National Park. Another ivory trafficker was arrested with 3 tusks and 124 pieces of hippo ivory in the North of the country. He is a repeat offender, already arrested for trafficking ivory and illegal possession of firearms in 2014.

An ivory trafficker was arrested with 7 ivory tusks and hippo teeth in Cameroon the same month as he attempted to move the ivory from its hideout. He transported the contraband concealed inside a truck with cattle from the North where he bought the ivory to East of the country. The operation uncovers a new trafficking route with the opposite direction to that used by ivory traffickers generally. Usually ivory is trafficked from the South and East regions to the North where it crosses border to Nigeria that has not yet put in place strong wildlife law enforcement measures. But this time the ivory was trafficked from the North to the East. The trafficker also dealt in leopard and lion skins as well.

An ivory trafficker was arrested in Congo in May with 2 ivory tusks, 5 elephant tails, hippo teeth and other contraband. He used his shop and practice of a traditional healer to cover his illegal activities, while he trafficked wildlife contraband as far as the major cities of the country and beyond the Congo border in Gabon.

Mamadou Dia, the Head of Wildlife Division in the Guinean Ministry in charge of wildlife was arrested a month later. Dia had created a fraudulent hunting reserve for Carlos Corces Bustamante arrested in October and took bribes from him. This high-level corruption facilitated the slaughter of protected species by hunters from all over the globe under the pretence of Safari hunting. The reserve was well hidden from high authorities, including the Minister of Environment. The tariff of Carlos the Spanish jailed hunting operator and Dia his high official crony: 5,000 USD - killing an elephant; 3,000 USD - killing a leopard; 1,800 USD - killing a hippo.

### **Illegal trade**

Hong Kong University said that the legal trade from Tanzania is a real risk. They said several steps must be taken in order to control demand for teeth and prevent the poaching and smuggling of hippos and



their parts. The report does not pin point specific gangs, but looks at country wide population impacts and reductions as well as trade, so some of the specific information being requested will not be available. Any information on trade or gangs would be historic and not current as it is a Lit Review.

### **Example of smugglers and gangs**

A [National Geographic report](#) in Uganda December 2016, shows investigators posing as buyers to lure the suspects to a lodge near Buliisa, a town in western Uganda, as night set in.

“The two men arrived by motorbike with the contraband concealed inside a nylon sack. “They requested for me to take [the sack] inside a room,” one of the men, Fred Byenkya, tells me. It was laden with 234 pieces of hippopotamus teeth, taken from as many as 58 illegally killed [hippos](#). “Then,” Byenkya sighs, “the policeman said, ‘You are under arrest.’” I spoke with Byenkya last month in the Buliisa jail, where he and his accomplice, Moses Okech, had just been sentenced to spend two years for illegally possessing wildlife products, in this case hippo teeth. Ugandan authorities say the men were selling the contraband to agents of international buyers and that the teeth were destined for Asia, where hippo ivory is carved into ornaments. In 2014 Uganda, increasingly worried about falling hippo numbers, banned the trade in hippo teeth, which had been legal. But the wildlife authority says that since the ban the flow of hippo ivory to international markets has continued, much of it going to Hong Kong, as was the case when the trade was legal. So far this year investigators have seized nearly 900 pounds of hippo ivory—a fraction of the total suspected illegal trade in Uganda, according to Vincent Opyene, a lawyer and the founder of the Kampala-based [Natural Resource Conservation Network](#), which investigates wildlife trafficking in the country”.

### **Trade Routes for smuggling**

Tumwesigye suspects the teeth are smuggled out of Uganda through two main routes: the international airport in Entebbe and overland by road into [neighboring Kenya](#) to the port of Mombasa, known to be a major entrepôt for illegal wildlife products going to Asia. “It is possible that because the hippo teeth are smaller, if they are well packed and concealed, you will put them in a container for timber or for other products that are being exported,” Tumwesigye says. “Most times this hippo teeth, this ivory, is passing through the [borders] disguised as something else.” He says border officials are paid off to turn a blind eye to the smuggling.

## **Does the legal trade in ivory from these species contribute to their conservation or protection and/or does it support wider biodiversity conservation?**

### **Hippopotamus**

The simple answer is no. The common hippo’s range has declined and has become fragmented and its population size has reduced by 7–20% in the last century<sup>ii</sup>. Nearly 147,000 hippos have been killed since 1975 and traded for their teeth, with only 130,000 remaining. The Democratic Republic of the Congo and West African countries have seen the sharpest hippo declines. It is clear that the trade is not regulated properly and hippo population data is limited. With multiple threats it is clear that this species is not being managed and the legal trade is not playing a part in their conservation.

During the 1970s to the 1990s, Lake Edward in the Democratic Republic of Congo (DRC) was home to the largest population of hippos in the world with a population estimate of roughly 29,000 hippos<sup>xiv xv</sup>. In the early 2000s, however, the population fell by 95% as a result of hunting, during eight years of civil unrest<sup>i</sup>. Armed groups sold hippo teeth and meat to fund themselves during the war<sup>ii</sup>. While hippo numbers are increasing in the DRC, with the current population at an estimated 5,000, ongoing violence in the region makes progress uncertain, and the population is only stable at 17% of its 1970s peak<sup>iii</sup> (fig 4).

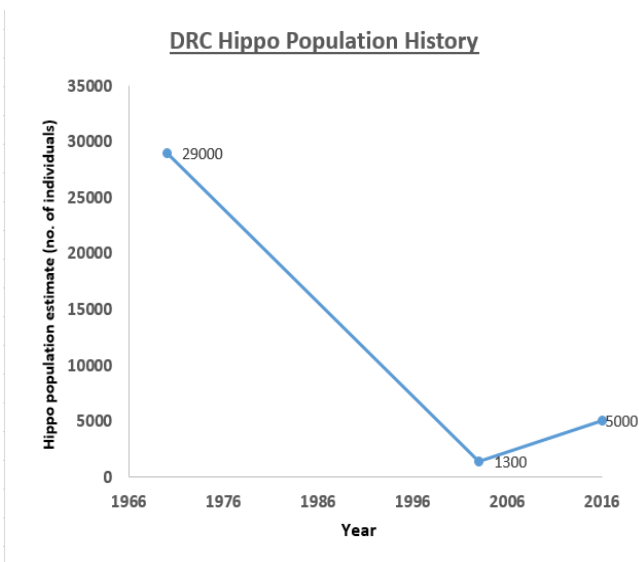


Figure 4 – Hippo population estimates from 1970–2016 in the Democratic Republic of Congo<sup>xiv,i</sup>.

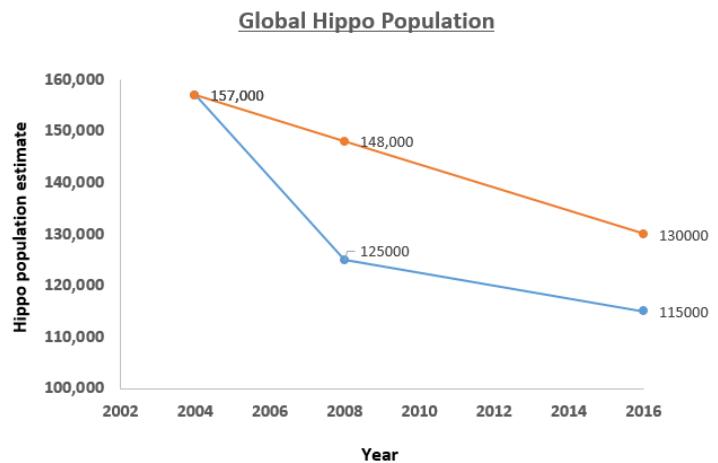


Figure 5 – Global hippo population trends from 1970–2016, showing the range estimates<sup>iii,iv</sup>.

Finding up-to-date global population estimates for hippos prior to 2016 is extremely difficult, with IUCN assessments only undertaken in 2016, 2008, 2006 and 1992. Global figures for hippo populations since the early 2000's do show a downward trend, but there is also a plateau between the 2008 and the 2016 IUCN Red List assessments (fig 5), hence why they are currently listed as vulnerable yet stable.

According to the supplementary data provided by the IUCN Red List assessment in 2016<sup>iii</sup>, there is concern regarding the conservation status of hippos in more than 64% of the countries where they are found. More than 42% of countries where hippos live are showing population declines, and more than 23% of countries have unknown hippo population trends (fig 6).

### Hippo Population Trend

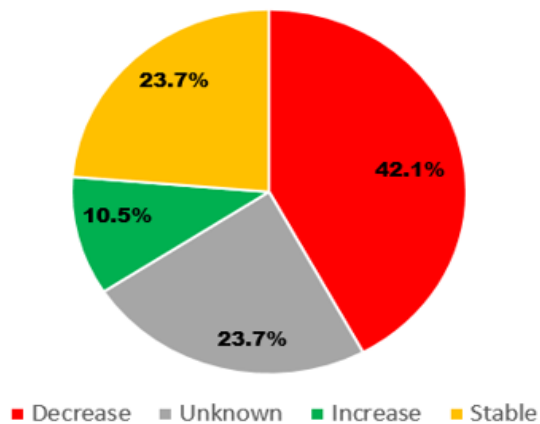


Figure 6 – Country population trend data, from the 2016 IUCN Red List supplementary data <sup>5</sup>.

Just under a quarter of countries have stable populations, and just 10% of countries have populations that are increasing. There is a projected population decline of 30% over the next 30 years.

Current data suggests that hippo populations in Western Africa are at the highest level of risk due to the fragmented nature of their distribution and the high frequency of hippo–human conflicts <sup>iv</sup>.

## How do we best monitor any threat from trade in ivory on these species?

### Hippopotamus

There needs to be new survey data on populations, seizure data from authorities, legal trade reports from CITES and import countries to estimate the amount of ivory being traded and to which countries. There also needs to be better monitoring of hippo poaching sites similar to the MIKE system used for elephants. It is the lack of data and monitoring that is allowing poaching to continue on such a large scale. As the same people are often involved in both hippo and ivory smuggling, existing elephant ivory smuggling existing channels are being used.

In monitoring any threat CITES trade data is vital and import data from countries like Hong Kong SAR China. The Chinese authorities and the University of Hong Kong have identified discrepancies in the amount being traded in to Hong Kong and what was legally claimed as exports, so this monitoring must be reviewed.

There is a real lack of hippo population data and research across Africa and range states and IUCN have concluded that there is concern regarding the conservation status of hippos in more than 64% of the countries where they are found. More than 42% of countries where hippos live are showing population declines, and more than 23% of countries have unknown hippo population trends <sup>ii</sup>. The global hippo population is projected to decline by a further 30% over the next 30 years<sup>ii</sup>.

In the early 2000s, the world's largest population of hippos in the Democratic Republic of Congo (DRC) declined by more than 95% due to hunting for their meat and teeth <sup>xvi, xvii</sup> (fig 1). While this particular population has since plateaued, it is only stable at 17% of its 1970s peak. Once a stronghold for hippos, the DRC and other West African countries have seen the sharpest hippo population declines.

Hippo export data is also important to identify consumer countries in any monitoring programme. Hippo ivory is considered easier to carve and cheaper to obtain than elephant ivory. According to CITES

Trade Databases, 771,000 kg of hippo ivory has been traded internationally for commercial purposes since 1975 <sup>i</sup>. Hong Kong SAR, China is the primary importer of hippo ivory, and has traded more than 90% of this quantity, with more than 75% of the hippo ivory originating from Uganda or Tanzania <sup>i</sup>.

Andersson and Gibson (2018) examined patterns in the trade of this species and have discovered a huge discrepancy between export and import data of hippo ivory between Uganda and Hong Kong SAR, China <sup>i</sup>. More than 14,000 kg of hippo teeth were unaccounted for, representing 30% of Uganda's total hippo population, and 2% of the global hippo population <sup>i</sup>. Using the same methodology as the researchers at the University of Hong Kong <sup>4</sup> to discern number of hippos from weight of teeth, we have estimated that the 771,000 kg of ivory traded internationally during the past 40 years equates to more than **146,857 hippos** <sup>i</sup>.

The 1989 global ban on the elephant ivory trade saw a huge surge in demand for hippo ivory as a legal substitute <sup>xviii, iii</sup>. An elephant ivory ban is due to be enforced in 2021 in Hong Kong SAR, China – the predominant importer of hippo ivory. Without concurrent reduced demand and increased enforcement efforts, there is a serious and pressing risk that hippo populations will suffer once again to feed the demand for ivory – as a substitute for elephant ivory as was seen in 1989.

The discordance and inaccurate recording of import and export data of hippo ivory between source and market, combined with a concerning lack of up-to-date population estimates for hippos and the ever-increasing threat of climate change makes assessing the sustainability of the legal hippo trade extremely difficult. What's more, where there is legal trade, there is illegal trade – which researchers at the University of Hong Kong speculate as the main reason for the huge import and export data discordances in the hippo ivory trade between Uganda and Hong Kong SAR, China <sup>ii</sup>.

**In essence, hippo populations are precarious. The cumulative impacts of intensifying threats such as climate change and habitat loss, but especially the trade in hippo teeth, seriously challenges the persistence of hippo populations.**

## **How do we best identify the point at which a species might become threatened by the trade in its ivory?**

### **Hippopotamus**

Common hippo populations are already threatened. The evidence speaks volumes with more animals being traded since 1975, than currently exist in the world today showing that a population is being exploited for its ivory, skin and meat. CITES trade data shows that 771,000kg of hippo ivory has been traded internationally since 1975. This equates to an estimated 146,857 hippos. Today IUCN estimated global Common Hippo populations between 115,000 and 130,000 at its upper limit.

The Common hippo is already threatened by the legal and illegal ivory trade as has been illustrated in previous answers. With only 10% of hippo populations growing, 42% in decline, 23% unknown and 23% stable I would say there is concern about the individual populations that are more vulnerable. When poaching occurred in DRC we saw declines of 95% in population numbers in a very short period of time due to civil unrest. Uganda realised that populations were declining and stopped the legal trade in Hippo

ivory, but populations are still being poached and seizures of hippo ivory are being made in Uganda. IUCN who monitor populations have listed the species as Vulnerable and have also predicted that populations may fall by 30%, citing impacts like increased water resource abstraction, human hippo conflict, climate change, the illegal wildlife trade, as well as trophy hunting. Evidence would strongly suggest that Common Hippos are already threatened by the trade in Ivory. Also with the Hong Kong SAR China elephant ivory market due to close in 2021 there may be a switch to a legal alternative e.g. Common Hippo ivory, which in turn could stimulate the illegal ivory market to meet demand with Hong Kong SAR China.

## **What is non-elephant Ivory used for?**

Ivory from the species in scope of this call for evidence has been used for various purposes throughout history. Ivory from species such as walrus and sperm whale were historically used for producing solid carved pieces. For example, carved, engraved or decorated whale teeth and walrus tusks, known as scrimshaw, were carved by sailors and whalers.

Walrus ivory was used as a carving medium in European cultures from the 11<sup>th</sup> to the 20<sup>th</sup> century. Examples include the Lewis chessmen, which date back to the 12<sup>th</sup> Century<sup>xix</sup>. In the 17<sup>th</sup> to 19<sup>th</sup> Centuries walrus ivory was also used in Islamic cultures, for example to carve knife handles and sword hilts. Walrus ivory is sometimes used in the repair of older musical instruments in the UK.

By contrast the narwhal tusk was and continues to be valued for its spiral shape and therefore often kept whole and uncarved. The spiral tusks were historically considered to be curiosities.

Indigenous communities continue to legally hunt walrus and narwhal and sell ivory as whole, unworked tusks/teeth, or worked items such as jewellery and sculptures. Inuit communities have carved walrus ivory for over 5,000 years.

Common hippopotamus teeth are used in traditional African tribal art. Mammoth ivory is sometimes used in the repair of older ivory musical instruments in the UK.

## **Are there any other important or common uses of ivory from these species?**

### **Hippopotamus**

Hippo teeth are carved into sculptures, figurines, trinkets, and other ornaments, and are considered a luxury good in South East Asia.

771,000 kg of hippo ivory has been traded internationally since 1975 according to CITES Databases. This equates to an estimated 146,857 hippos. More than 90% of global hippo teeth trade is imported to, and re-exported from, Hong Kong SAR, China. Of that, over 75% originated in Tanzania or Uganda.

Disparities between countries reporting of import and export quantities of hippo ivory undermines regulatory measures, and challenges the persistence of hippo populations in Africa.

Hippo ivory is considered easier to carve, cheaper to access, and easier to trade than elephant ivory.

**Is the ivory from any of these species valued in other parts of the world and why? Please provide any evidence to support your answer.**

**Hippopotamus**

More than 90% of global hippo teeth trade is imported to, and re-exported from, Hong Kong SAR, China. Of that, over 75% originated in Tanzania or Uganda. They are considered luxury goods and are carved into sculptures and other ornaments mainly in SE Asia and the main market for carving is in Hong Kong SAR China and then the finished products are re-exported.

**What is the value of global trade in ivory from these species?**

**Hippopotamus**

No trade values have been found for the entire market, but clearly there is a large global import, carving and export market worth a substantial amount of money based on trade between Hong Kong SAR China and the USA .

In the USA of the 810 shipments of carved hippo ivory reported in LEMIS as cleared between 1995 and 2002, 699 (86%) listed Hong Kong as the exporting jurisdiction. An additional 22 shipments that list Tanzania as the country of export also show the foreign supplier to be a company identified by TRAFFIC as based in Hong Kong. If shipments from Hong Kong-based companies are used to determine the trade route of the hippo ivory, therefore, Hong Kong's role in the trade becomes even more significant. Using that analysis, 721 (89%) of the 810 shipments of carved hippo ivory imported into the USA between 1995 and 2002 involved Hong Kong-based suppliers (TRAFFIC analysis of USFWS LEMIS data, March 2004).

A table in the TRAFFIC report shows the countries of export for shipments of carved hippo ivory into the USA by year between 1995 and 2002. The countries of origin recorded for these shipments were primarily Tanzania, Uganda, Burundi, the Democratic Republic of Congo, Malawi, and China (likely ivory exported from Africa to China and then re-exported through Hong Kong). This trade pattern suggests that carved hippo ivory entering the USA originates in East, Southern, and to an extent Central Africa, flows to Hong Kong or China to be worked, and is then re-exported from Hong Kong to the USA (TRAFFIC analysis of USFWS LEMIS data, March 2004). Furthermore, TRAFFIC's examination of who in Hong Kong is listed as the foreign supplier showed that the trade is dominated by a small number of companies. For example, between 1995 and 2002, 13 Hong Kong-based companies accounted for 642 (79%) of all carved hippo ivory shipments to the USA. The top five listed exporters alone accounted for 443 of these shipments (54%).

The remainder of shipments of carved hippo ivory imported into the USA that listed Hong Kong as the jurisdiction of export came primarily from other suppliers recorded in LEMIS as being craft shops, carving factories, and trading companies, although in some cases the ivory was imported by individuals

(TRAFFIC analysis of USFWS LEMIS data, March 2004). A second, smaller trade route for carved hippo ivory involves shipments entering the USA directly from African range states, in particular South Africa and Zimbabwe. Shipments from these nations accounted for 63 LEMIS records between 1995 and 2002. The foreign suppliers for these carvings were primarily a small number of curio shops, safari companies, and trading companies. In addition, LEMIS records indicate that while some of these African shipments are commercial in nature, involving company-to-company transactions, the majority appeared to be non-commercial in nature. These involved small numbers of carved ivory pieces, often imported by individuals, perhaps as souvenirs or curios. There were also several records in LEMIS showing a specialty trade in carved ivory by companies identified as custom knife-makers (TRAFFIC analysis of USFWS LEMIS data, March 2004)

**Do you have any evidence on if the protection of these species OR the trade in their ivory provide any economic value outside the UK? If so, please provide this evidence and also any evidence you have on any links between this value and the UK.**

#### **Hippopotamus**

We do not have economic value data on this question. The UK needs to highlight that other ivory bearing species are being traded around the world. The trade between Hong Kong SAR China and the USA and other SE Asia markets shows that legal trade has an economic value and would suggest contacting US Fish & Wildlife Service for a valuation on hippo ivory imports in to the country.

**Does the UK play an important role in the trade of these types of ivory?**

#### **Hippopotamus**

We do not have CITES, individual Police Force or Border Force trade and seizure data for Hippo ivory trade in to the UK. Although seizures have been made in the UK, we are not a prime market for the importation of hippo ivory teeth or carved items.

#### **Domestic Market**

As detailed in the 'What is non-elephant ivory used for?' section we are aware that there are antique items made of this ivory and that ivory from walrus and mammoth are sometimes used in the repair of older musical instruments in the UK. Similarly we are aware from the data on UK imports and re-exports for commercial purposes (as outlined in previous section) that traders in the UK undertake trade in whole teeth/tusks from these species. However, we have no information on the scale of trade in ivory from these species within the UK and their value.

**International examples of country-level restrictions on the trade in non-elephant ivory**



The eight ivory bearing species in scope of this call for evidence are subject to a range of international agreements, and EU and domestic legislation.

**We are interested in finding out more about other countries' restrictions on trade in ivory from these species. Please provide any information and/or evidence that you are aware of on this.**

### **Hippopotamus**

Before Uganda's 2014 ban, hunting hippos was illegal, but their teeth could be traded legally if they came from carcasses of hippos that died naturally or were killed only for bush meat, according to the Uganda Wildlife Authority.

But such large volumes of ivory were being traded that the authority suspected falsified export permits were being used for teeth from [hippos poached in neighbouring Democratic Republic of the Congo](#). Although hippos are a protected species there, and no legal trade has been recorded in nearly 20 years, places like Virunga National Park—once a hippo stronghold—[now have a fraction of their original populations](#).

It is clear from CITES export data and the Eagle network reports, arrests and seizures that restrictions on trade have not stopped the illegal trade and hippo populations are still in decline.

---

<sup>i</sup> Andersson, A. & Gibson, L. (2017) Missing teeth: Discordances in the trade of hippos ivory between Africa and Hong Kong, *African Journal of Ecology*, vol 56, issue 2, pp. 235–243.

<sup>ii</sup> Lewison, R. & Pluháček, J. (2017) *Hippopotamus amphibius*. The IUCN Red List of Threatened Species 2017: <https://www.iucnredlist.org/species/10103/18567364>

<sup>iii</sup> Williamson, D. F. (2004). Tackling the ivories: The status of the US trade in elephant and hippo ivory. TRAFFIC North America: World Wildlife Fund. [https://www.traffic.org/site/assets/files/4054/tackling\\_the\\_ivories.pdf](https://www.traffic.org/site/assets/files/4054/tackling_the_ivories.pdf)

<sup>iv</sup> Knights, P., Hofford, A., Andersson, A., & Cheng, D. (2015) The illusion of control: Hong Kong's 'legal' ivory trade. San Francisco, USA, WildAid. Retrieved from <http://wildaid.org/sites/default/files/resources/The%20Illusion%20of%20Control-Full%20Report.pdf>

<sup>v</sup> Hsiang, S. & Sekar, N. (2016). Does legalization reduce black market activity? Evidence from a global ivory experiment and elephant poaching data, *National Bureau of Economic Research*, No. w22314. Accessed at: <https://www.nber.org/papers/w22314>

<sup>vi</sup> EAGLE (Eco Activists for Governance and Law Enforcement) January Briefing (2019) Accessed at: <http://www.eagle-enforcement.org/data/files/eagle-briefing-january-2019-public.pdf>

<sup>vii</sup> EAGLE (Eco Activists for Governance and Law Enforcement) Annual Report (2018) Accessed at: <http://www.eagle-enforcement.org/data/files/eagle-network-annual-report-2018.pdf>

- 
- viii Stommel, C., Hofer, H. and East, M.L. (2016) The effect of reduced water availability in the Great Ruaha River on the vulnerable common hippopotamus in the Ruaha National Park, Tanzania. *PLoS one*, vol. 11, issue 6, p.e0157145.
- ix Plumptre, A.J., Nangendo, G., Ayebare, S., Kirunda, B., Mugabe, H., Nsubuga, P. & Nampindo, S. (2017) Impacts of Climate Change and Industrial Development on the long-term changes in Wildlife Behavior in the Greater Virunga Landscape, WCS & GVTC Report. Available at: [http://www.greatervirunga.org/IMG/pdf/gvtc-wcs\\_report\\_on\\_behaviour\\_changes\\_to\\_development\\_and\\_climate\\_changes-final\\_draft\\_2017\\_11.pdf](http://www.greatervirunga.org/IMG/pdf/gvtc-wcs_report_on_behaviour_changes_to_development_and_climate_changes-final_draft_2017_11.pdf)
- x Eksteen, J., Goodman, P., Whyte, I., Downs, C., Taylor, R., (2016) *A conservation assessment of Hippopotamus amphibius*. In Child, M.F., Roxburgh, L., Do Linh San, E., Raimondo, D., Davies-Mostert, H.T., eds. *The Red List of Mammals of South Africa, Swaziland and Lesotho*. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa, Accessed at: [https://www.ewt.org.za/wp-content/uploads/2019/02/11.-Hippopotamus-Hippopotamus-amphibius\\_LC.pdf](https://www.ewt.org.za/wp-content/uploads/2019/02/11.-Hippopotamus-Hippopotamus-amphibius_LC.pdf)
- xi Kenya's hippos hit hard by drought (2009) Francois Auseill, Phys Org Article, Accessed at: <https://phys.org/news/2009-08-kenya-hippos-hard-drought.html>
- xii Bogonko, B., & Lee, M. (2006, January 16) News about planet Earth: The Drought Kills Hippos in Kenyan Wildlife Reserve. Terra Daily; referenced in: Kilungu, H., Leemans, R., Munishi, P.K. and Amelung, B. (2017) Climate change threatens major tourist attractions and tourism in Serengeti National Park, Tanzania. In *Climate Change Adaptation in Africa* (pp. 375-392). Springer.
- xiii Kanga, E.M., Ogotu, J.O., Piepho, H.P. and Olf, H. (2012) Human–hippo conflicts in Kenya during 1997–2008: vulnerability of a megaherbivore to anthropogenic land use changes, *Journal of land use science*, vol. 7 issue 4, pp.395-406.
- xiv Estes, R. (1992) *The Behavior Guide to African Mammals: Including hoofed mammals, carnivores, and primates*. University of California Press. pp. 222–26.
- xv CITES website <https://www.cites.org/eng/app/appendices.php>
- xvi “DR Congo's hippos face extinction” BBC Article (2005) <http://news.bbc.co.uk/1/hi/world/africa/4240420.stm>
- xvii Hillman Smith, A.K., Merode, E., Smith, F., Ndey, A., Mushenzi, N., & Mboma, G. (2003) Virunga National Park – North Aerial Census of March 2003. <http://www.assets.panda.org/downloads/virungaaerialcount.pdf>
- xviii Weiler, P., De Meulenaer, T., & Vander Blook, A. (1994) Recent trends in international trade of hippopotamus ivory. *TRAFFIC Bulletin*, 15, 47–49
- xix British Museum News. [https://www.britishmuseum.org/about\\_us/news\\_and\\_press/statements/the\\_lewis\\_chessmen.aspx](https://www.britishmuseum.org/about_us/news_and_press/statements/the_lewis_chessmen.aspx)
- xx Nielsen, M. 2009. Is climate change causing the increasing narwhal (*Monodon monoceros*) catches in Smith Sound, Greenland? *Polar Research*, 28: 238–245.
- xxi <https://www.icelandreview.com/news/jewellers-want-teeth-and-bones-from-massive-whale-beaching/>
- xxii <https://grapevine.is/news/2015/09/26/another-beached-sperm-whale-poached/>
- xxiii <https://www.elmundo.es/elmundo/2013/07/10/valencia/1373455186.html>

Extra reading:

“Poaching causes hippo population crash”, New Scientist Article, Fred Pearce (2003)

<https://www.newscientist.com/article/dn4109-poaching-causes-hippo-population-crash/>

Plumptre, A.J., Nangendo, G., Ayebare, S., Kirunda, B., Mugabe, H., Nsubuga, P. & Nampindo, S. (2017) Impacts of Climate Change and Industrial Development on the long-term changes in Wildlife Behavior in the Greater Virunga Landscape, WCS & GVTC Report. Available at:

<http://www.greatervirunga.org/IMG/pdf/gvtc->

[wcs\\_report\\_on\\_behaviour\\_changes\\_to\\_development\\_and\\_climate\\_changes-final\\_draft\\_2017\\_11.pdf](http://www.greatervirunga.org/IMG/pdf/gvtc-wcs_report_on_behaviour_changes_to_development_and_climate_changes-final_draft_2017_11.pdf)

Anon (2004). Report to Zambia Wildlife Authority on the hippopotamus survey, Chinzombo Research Centre, Chilanga reference, read in: Population status of the common hippopotamus (*Hippopotamus amphibius*) in Luangwa River, Zambia (2012):

[http://www.academicjournals.org/app/webroot/article/article1380107420\\_Chomba%20et%20al.pdf](http://www.academicjournals.org/app/webroot/article/article1380107420_Chomba%20et%20al.pdf)