CONTRIBUTED PAPER

Evaluating key evidence and formulating regulatory alternatives regarding the UK's Hunting Trophies (Import Prohibition) Bill

Daniel W. S. Challender[1,2,3] | Michael 't Sas-Rolfes[3,4] | Amy Dickman[5] |
Darragh Hare[5,6] | Adam G. Hart[3,7] | Michael Hoffmann[8,9] |
David Mallon[10,11] | Roseline L. Mandisodza-Chikerema[12] | Dilys Roe[3,13]

[1]Interdisciplinary Centre for Conservation Science (ICCS), Department of Biology, University of Oxford, Oxford, UK

[2]Oxford Martin Programme on Wildlife Trade, Oxford Martin School, University of Oxford, Oxford, UK

[3]Species Survival Commission/Commission on Environmental, Economic and Social Policy, Sustainable Use and Livelihoods Specialist Group, c/o IUCN, Gland, Switzerland

[4]School of Geography and the Environment, University of Oxford, Oxford, UK

[5]Wildlife Conservation Research Unit, Department of Biology, The Recanati-Kaplan Centre, University of Oxford, Tubney, UK

[6]Department of Natural Resources and the Environment, Cornell University, Ithaca, New York, USA

[7]Natural and Social Sciences, Francis Close Hall, University of Gloucestershire, Cheltenham, UK

[8]IUCN Red List Committee, c/o IUCN, Gland, Switzerland

[9]Conservation and Policy, Zoological Society of London, London, UK

[10]Department of Natural Sciences, Manchester Metropolitan University, Manchester, UK

[11]IUCN Species Survival Commission, c/o IUCN, Gland, Switzerland

[12]Zimbabwe Parks and Wildlife Management Authority, Harare, Zimbabwe

[13]International Institute for Environment and Development, London, UK

Correspondence
Daniel W. S. Challender, Interdisciplinary Centre for Conservation Science (ICCS), Department of Biology, University of Oxford, 11a Mansfield Road, Oxford OX1 3SZ, UK.
Email: dan.challender@biology.ox.ac.uk

Funding information
BAND foundation; Luc Hoffmann Institute; Panthera; WWF Germany; Recanati-Kaplan Foundation; John Muir Trust; Jamma International; Global Challenges Research Fund, Grant/Award Number: ES/S008160/1

Abstract

Public policy addressing biodiversity loss is most likely to be effective when it is informed by appropriate evidence and considers potential unintended consequences. We evaluate key evidence relating to the Hunting Trophies (Import Prohibition) Bill that was discussed in the UK Parliament between 2022 and 2024. We characterize the UK's role in international hunting trophy trade by analyzing CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) trade data for 2000–2021 and 2015–2021. For CITES-listed species imported to/exported from the UK as hunting trophies in these periods we use data from the International Union for Conservation of Nature (IUCN) Red List of Threatened Species to determine whether hunting designated as "trophy hunting" is (i) likely a major threat contributing to species being of elevated conservation concern, (ii) likely or possibly causing localized declines, or (iii) not a threat. We then use the Red List to determine whether

such hunting provides, or potentially provides, benefits for species and/or people. Finally, we evaluate the UK Government's impact assessment of the bill. In 2000–2021 an estimated 3494 hunting trophies from 73 CITES-listed species and subspecies were exported to the UK involving an estimated 2549 whole organism equivalents (WOEs), that is, individual animals. Imports involved 158.86 ± 66.53 (mean $\pm$ SD) trophies/year (115.83 ± 32.27 WOEs/year). In 2015–2021, 79% of imports were from countries where populations of the hunted species are stable, increasing, or abundant. Legal hunting for trophies is not a major threat to any of the species or subspecies imported to the UK, but likely or possibly represents a local threat to some populations of eight species. This hunting does, or could potentially, benefit 20 species and subspecies, and people. Among other concerns, the impact assessment failed to adequately consider the costs and benefits to local communities in countries where such hunting occurs. Informed by these analyses we discuss alternative regulatory options.

KEYWORDS

ban, CITES, hunting, impact assessment, policy, regulation, threat, wildlife trade

1 | INTRODUCTION

Public policy addressing biodiversity loss is most likely to be effective when it is informed by appropriate evidence, is context-specific, and considers potential unintended consequences (IPBES, 2022; Sutherland et al., 2020). Inadequate consideration of these factors can result in regulatory failure, including perverse impacts and counter-productive policies (Baldwin et al., 2012; Grabosky, 1995). Overexploitation is a key threat to biodiversity (IPBES, 2022) but devising policies to mitigate this threat can be inherently challenging. There is a lack of knowledge of many species, including their population biology, size, and trends, the impact of offtake, and the evolutionary impacts of harvesting (Smith et al., 2011). The most appropriate policies to address overexploitation may differ between contexts and scales related to ecological, economic, social, and/or governance factors (Cooney et al., 2015; IPBES, 2022) meaning that identifying optimal solutions is not straightforward. Further complicating policy formulation regarding wildlife use are the frequently polarized (and sometimes misinformed) views of diverse stakeholders, especially concerning sentient and charismatic species, with ethical, ideological, and scientific arguments used to support or oppose potential options (Hammond et al., 2022; Mkono, 2022). Yet with adequate knowledge of species and the social-ecological systems that they are part of, appropriate policies can be devised to support species conservation and benefit local people ('t Sas-Rolfes et al., 2022).

"Trophy hunting"—defined by the IUCN (2012) as legal, low-offtake hunting, where hunters pay a high fee to hunt individual animals with particular characteristics (e.g., horn length) and retain all or part of the animal—has emerged as a contemporary conservation policy debate, with widespread media coverage, particularly following the death of Cecil the lion in 2015 ('t Sas-Rolfes, 2017; Yeomans et al., 2022). This has largely been due to advocacy groups arguing that such hunting threatens wildlife populations, disregards animal welfare, is morally reprehensible and should be further legislated against (Born Free et al., 2022). Conversely, evidence indicates that in diverse circumstances across several continents, legal and well-managed hunting for trophies can deliver benefits to local people and support conservation by ensuring that biodiversity is a competitive land use option (IUCN, 2016a; Parker et al., 2023). Nevertheless, various governments have legislated to restrict the trade in hunting trophies since 2015. For example, Australia and France have banned imports of lion (*Panthera leo*) trophies, Finland has banned imports of trophies from all species on Annex A and selected species on Annex B of the EU Wildlife Trade Regulations (EUWTRs), and the Netherlands has prohibited trophy imports from over 200 species (Ares, 2019).

In the last decade, advocacy groups have encouraged the United Kingdom (UK) to tighten controls on the import and export of hunting trophies (Ares, 2019). The Wildlife Trade Regulations (WTRs) in the UK (as retained EU law) and EUWTRs in Northern Ireland

list all CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) and some non-CITES species in four Annexes (A–D). Under these regulations, imports of hunting trophies from wild species to the UK require an import and export permit for Annex A species and six species in Annex B: white rhino (*Ceratotherium simum*), hippopotamus (*Hippopotamus amphibius*), African elephant (*Loxodonta africana*), argali (*Ovis ammon*), polar bear (*Ursus maritimus*), and lion. For other species in Annex B only an export permit is required, and hunting trophies are treated as personal and household effects. Import and export permits can only be granted based on non-detriment findings (NDFs), to ensure that trade is not detrimental to wild populations. International trade in hunting trophies involving CITES-listed species is therefore regulated with exporting countries providing key oversight.

In 2019 the UK Government issued a call for evidence on the scale of hunting trophy imports and exports and associated impacts and held a consultation on further restricting this trade. In June 2022, a Private Members' Bill—the Hunting Trophies (Import Prohibition) Bill— proposed to ban the import of hunting trophies to the UK from species listed in Annexes A and B of the WTRs, which the Government stated would protect ∼7000 species (UK Government, 2021a). The rationale was to ensure that imports of hunting trophies to the UK do not place additional pressure on species of conservation concern and, based on the belief that since the British public feels strongly about "trophy hunting," it is an issue the government should address (DEFRA, 2021). The bill failed to pass the second committee stage in the House of Lords in September 2023. An identical Private Members' Bill was submitted in December 2023 but did not progress to the committee stage in the House of Commons. This article pertains to both bills and to future legislation with similar intentions.

The rationale for an import ban asserts that legal hunting for trophies threatens many species, including those imported to the UK, but the evidence to support this is unclear. Here, we evaluate key evidence relating to the bill and the associated policymaking process. We focus on CITES-listed species because these have been deemed in need of international trade regulation to avoid overexploitation (CITES, 1973). Import and export data are routinely collected for CITES-listed species in the UK but not for other species.

Specifically, we:

1. estimate the number of hunting trophies from CITES-listed species and the associated number of animals traded globally in the periods 2000–2021 and 2015–2021.

2. characterize the role of the UK in this trade considering the species involved, the number of trophies and individual animals traded, the source of trophies (e.g., wild vs. captive-bred), and importing and exporting countries. We focus on the period 2000–2021 to provide historical context and the period 2015–2021, which broadly aligns with the UK Government's impact assessment (see DEFRA, 2021) (Supplementary Material 1).

3. determine the population status of CITES-listed species exported to the UK as hunting trophies in the period 2015–2021 and calculate the proportion of trade sourced from populations with different status.

4. contextualize UK hunting trophy imports of CITES-listed species in overall UK trade in animal species listed under CITES and trade for commercial purposes and as pets.

5. use data from the International Union for Conservation of Nature (IUCN) Red List of Threatened Species (hereafter "Red List") to determine for CITES-listed species imported to/exported from the UK whether legal hunting for trophies (as defined) is (i) likely a major threat contributing to species being of elevated conservation concern, (ii) either likely or possibly causing localized declines (distinction explained below), or (iii) not a threat, and additionally whether it provides, or has the potential to provide, benefits for species and/or local communities where such hunting takes place.

6. use quality indicators from the Regulatory Policy Committee (RPC; Regulatory Policy Committee, n.d.) to evaluate the UK Government's impact assessment of the Hunting Trophies (Import Prohibition) Bill in conservation terms.

Informed by these analyses, we discuss alternative policy options that UK policymakers may wish to consider in regulating international trade in hunting trophies of CITES-listed species. This article should be of interest to politicians and policymakers in the UK, the EU, and other countries considering similar legislation, countries where trophy hunting takes place, and practitioners and academics in the UK and internationally.

2 | METHODS

2.1 | International trade in CITES-listed species

To estimate the number of hunting trophies from CITES-listed species and associated number of animals traded globally, characterize the role of the UK in this trade, and

contextualize UK hunting trophy imports within overall UK trade in CITES-listed animal species and compare these imports with trade for commercial purposes and as pets, we used CITES trade data. In March–May 2023 we downloaded comparative tabulation reports from the CITES trade database for the period 2000–2021 (CITES Trade Database, 2023) recognizing that the latest year of complete data is expected to be 2021, that is, 2 years prior to the current year (CITES Secretariat and UNEP-WCMC, 2022). For search terms used see Supplementary Material 1. We summarized direct trade using pivot tables in MS Excel and used exporter-reported quantities because they are often more complete (CITES Secretariat and UNEP-WCMC, 2022), recognizing that these quantities may refer to permits issued rather than quantities of specimens exported (Supplementary Material 1). For trade terms and units used see Supplementary Material 1. As one animal may produce multiple trophies, the number of trophies does not equate to number of animals killed but converting trade volumes to whole organism equivalents (WOEs) enables estimates of the number of individual animals involved (Supplementary Material 1). We estimated WOEs for trade adapting the approach by Harfoot et al. (2018) (Supplementary Material 1). We used RStudio Version 1.4.1717 to calculate means and standard deviations for trade in species and WOEs over time.

2.2 | Population status

We determined the population status (e.g., increasing, decreasing, or stable) of each species exported to the UK as a hunting trophy in the period 2015–2021 by reviewing and collating the available information for each exporting country in the global Red List assessment for each taxon (using Red List version 2022-2, IUCN, 2023) and/or regional assessments where they were available. We then calculated the proportion of trade sourced from countries with populations of these species that are increasing or decreasing or similar respectively.

2.3 | Trophy hunting as a contributor to species being of elevated conservation concern and as a benefit provider

To determine whether legal hunting for trophies is (i) likely a major threat contributing to species being of elevated conservation concern (i.e., to a species meeting, or approximating, the thresholds for listing in any of categories NT [Near Threatened], VU [Vulnerable], EN [Endangered], CR [Critically Endangered], or EW

[Extinct in the Wild], as defined by IUCN), (ii) either likely or possibly causing localized declines, or (iii) not a threat to species, we built a MS Excel database including data from Red List assessments (using version 2022-2) for species imported to/exported from the UK as hunting trophies in 2000–2021 (Supplementary Material 1). Our approach to classifying species in the above three categories draws on a similar analysis published for international trade (Challender et al., 2023). We read the narrative text in the threats and justification fields of each assessment and interpreted this information with available information on coded threats for species (e.g., 5.1.1. [Hunting & collecting terrestrial animals → Intentional use [species being assessed is the target]]) (Supplementary Material 1). We considered the timing (e.g., past), scope (e.g., minority of the population), and severity (e.g., causing rapid declines) of the threats (where these data were available), to assist in distinguishing between major and minor threats (IUCN, 2016b). We read the Use and Trade field of assessments for additional context and used information on how species are used and/or traded to inform decision-making (Supplementary Material 1).

We categorized legal hunting for trophies as a major threat contributing to species being of elevated conservation concern where the available evidence indicates that a species has intentional use as a major threat (based on the threats narrative and/or coded threats, including timing, scope, and severity), and the threats narrative indicates that trophy hunting (as defined) is currently a primary factor driving this threat. Where this was not the case, species were not considered to have legal hunting for trophies as a major threat. We then categorized these species into two sub-categories based on whether there is evidence indicating that legal hunting for trophies is either (a) *likely* (i.e., probable) or (b) *possibly* (i.e., stated but qualified as uncertain, e.g., "may be," "potentially," or similar) causing localized declines. Species that did not meet either of these criteria were considered not to be threatened by legal hunting for trophies at any level. We determined, based on available information in Red List assessments, whether legal hunting for trophies does, or has the potential to, benefit the species and/or local people (Supplementary Material 1). The Red List was updated in December 2023, and we checked and updated our categorization of species against Red List version 2023-1 (IUCN, 2024).

We acknowledge that there are limitations to using Red List data to document whether species are used and/or traded, and whether species are threatened by use and/or trade. These limitations, discussed elsewhere (Challender et al., 2022, 2023; Marsh et al., 2022), include that assessments need updating and may omit information

on use and/or trade of species. There may also be biases in taxonomic groups assessed on the Red List, but most species hunted for trophies have been assessed meaning we can be confident our approach is robust.

2.4 | Evaluating the UK Government's impact assessment of the bill

We used quality indicators from the RPC to evaluate the UK Government's impact assessment of the bill in conservation terms (Supplementary Material 1). Regulatory proposals in the UK must be accompanied by an impact assessment which evaluates the likely risks, costs, and benefits of proposed regulation to businesses, the public and third sectors, and individuals in the UK (Regulatory Policy Committee, n.d.). Guidance states that it is sometimes reasonable to consider people living outside of the UK, and that impacts on wildlife and the natural environment should be considered (Supplementary Material 1).

The RPC is an independent regulatory body, which assesses the quality of evidence and analysis used to inform UK Government regulatory proposals (Regulatory Policy Committee, n.d.). We used the RPC's quality indicators to evaluate the impact assessment for the bill (DEFRA, 2021), considering whether assumptions were reasonable and justified, the quality of analysis and evidence, and areas of the assessment that could be improved (Supplementary Material 1). We applied this to all five sections of the impact assessment: policy rationale, costs and benefits, risks and unintended consequences, wider impacts, and post-implementation review.

3 | RESULTS

3.1 | International trade in hunting trophies of CITES-listed species, the role of the UK, and population status of imported species

Direct trade in hunting trophies of CITES-listed species in 2000–2021 (i.e., over 22 years) involved an estimated 557,799 trophies globally and an estimated 419,877 WOEs. The top exporters were Canada and South Africa (>130,000 trophies respectively) while the top importer was the US, importing >247,000 trophies (Supplementary Material 2). The UK ranked 19/74 exporting countries, exporting an estimated 968 trophies (968 WOEs). Among importing countries, the UK ranked 25/183, importing an estimated 3494 trophies (2549 WOEs), <1% of the global trade in terms of number of trophies and WOEs.

In 2015–2021 (i.e., 7 years) trade globally involved an estimated 162,891 hunting trophies from CITES-listed species (106,005 WOEs). The top exporters were South Africa (53,304 trophies) and Canada (36,520) while the top importer was the US (74,107 trophies) (Supplementary Material 2). The UK ranked 37/53 exporters, exporting 17 trophies (17 WOEs), and 25/155 importers, importing an estimated 951 trophies (738 WOEs), again <1% of global trade.

The UK imported hunting trophies from 73 CITES-listed species and subspecies in 2000–2021, mainly involving mammals (96%) (Supplementary Material 2). The top 10 imported species accounted for 74% of this trade (2569/3494 trophies), which mainly involved wild specimens (Table 1). Overall, this trade involved an estimated 158.86 ± 66.53 (mean $\pm$ SD) trophies/year (115.83 ± 32.27 WOEs/year). For African elephant, the species with the highest number of trophy imports, this involved 24.45 ± 30.23 trophies/year, or 5.66 ± 5.08 WOEs/year. Most (88%) trade in the top 10 imported species came from just six countries: South Africa (29%), Canada (18%), Zimbabwe (13%), Namibia (13%), Botswana (8%), and Zambia (7%). For 63 species and subspecies (86%), a mean of <5 trophies were imported annually (Supplementary Material 2). Of the 73 species and subspecies, 50 (69%) averaged imports of less than one trophy a year, and 17 (23%) had a single trophy imported over the 22-year period (Supplementary Material 2).

Direct exports of hunting trophies from CITES-listed species from the UK in 2000–2021 involved 18 species, including 16 bird species and two (non-native) mammals (hog deer [*Axis porcinus*] and swamp deer [*Rucervus duvaucelii*]) (Supplementary Material 2). Four bird species (pintail [*Anas acuta*], shoveler [*A. clypeata*], teal [*A. crecca*], and wigeon [*A. penelope*]), accounted for 98% of exports (945/968 trophies; 945 WOEs), which were sourced from the wild, and mainly imported by Malta (98%). This trade may not meet our definition of trophy hunting, but we included it because CITES purpose code H was used, that is, the specimens were traded as hunting trophies. These species are no longer listed under CITES.

In 2015–2021, the UK imported an estimated 951 hunting trophies (738 WOEs) from 44 CITES-listed species and subspecies (Supplementary Material 2). The top 10 species accounted for 78% of this trade, which mainly involved wild specimens, and included many of the same species for 2000–2021 (Table 2). Changes comprise the absence of leopard (*Panthera pardus*) and

TABLE 1 Top 10 species imported to the UK as hunting trophies in 2000–2021 ranked by number of trophies, mean no. of trophies imported/year, WOEs imported, mean WOEs imported/year, exporters(s), and source(s).

Rank	Species	No. of trophies	Mean (±SD) no. trophies/year	WOE	Mean (±SD) WOE/year	Exporter(s)	Source(s)
1	African elephant *Loxodonta africana*	538	24.45 ± 30.23	125	5.66 ± 5.08	BW (166), ZW (162), ZA (114), TZ (56), MZ (23), NA (10), ZM (4), CM (3)	W (538)
2	American black bear *Ursus americanus*	485	22.04 ± 17.78	307	13.95 ± 8.32	CA (474), US (11)	W (485)
3	Hippopotamus *Hippopotamus amphibius*	318	14.45 ± 16.56	91	4.12 ± 3.49	TZ (96), ZM (95), ZW (61), UG (31), ZA (30), MW (2), MZ (2), CM (1)	W (318)
4	Hartman's mountain zebra *Equus zebra hartmannae*	260	11.81 ± 6.52	253	11.5 ± 6.48	NA (219), ZA (41)	W (259), F (1)
5	Chacma baboon *Papio ursinus*	250	11.36 ± 9.62	244	11.09 ± 9.39	ZA (165), NA (48), ZW (34) BW (2), ZM (1)	W (250)
6	Lion[a] *Panthera leo*	173	7.86 ± 5.97	162	7.35 ± 5.60	ZA (100), TZ (28), ZW (17), NA (13), ZM (10), MZ (5)	W (89), C (83), F (1)
7	Caracal *Caracal caracal*	159	7.22 ± 5.39	159	7.22 ± 5.39	ZA (153), NA (6)	W (158), F (1)
8	Southern lechwe *Kobus leche*	148	6.72 ± 4.76	148	6.72 ± 4.76	ZA (81), ZM (36), BW (25), NA (6)	W (92), F (51), R (5)
9	Leopard *Panthera pardus*	122	5.45 ± 3.76	117	5.31 ± 3.49	ZW (36), NA (23), TZ (21), MZ (15), ZM (15), BW (7), ZA (5)	W (122), C (1), I (1)
10	Nile crocodile *Crocodylus niloticus*	116	5.27 ± 5.34	102	4.63 ± 3.45	ZA (43), ZW (32), ZM (19), TZ (11), MZ (9), NA (2)	W (112), C (4)

Note: CITES source codes: C, animals bred in captivity; F, animals born in captivity; I, confiscated or seized specimen; R, ranched specimens; W, taken from the wild.

Abbreviations: BW, Botswana; CA, Canada; CM, Cameroon; MW, Malawi; MZ, Mozambique; NA, Namibia; TZ, Tanzania; UG, Uganda; US, United States of America; WOEs, whole organism equivalent; ZA, South Africa; ZM, Zambia; ZW, Zimbabwe.

[a]Imports from the wild involved 4.04 ± 6.03 trophies/year (3.54 ± 5.5 WOEs/year), imports from animals bred in captivity involved 8.42 ± 2.43 trophies/year (8.42 ± 2.43 WOEs/year), and imports from animals born in captivity involved 0.04 ± 0.02 trophies/year (0.04 ± 0.02 WOEs/year).

Source: CITES Trade Database (2023).

caracal (*Caracal caracal*) from this list but the inclusion of giraffe (*Giraffa camelopardalis*) and vervet monkey (*Chlorocebus pygerythrus*). Trade amounted to 135.85 ± 47.51 trophies/year (105.32 ± 40.58 WOEs/year). For the top 10 species this equates to between 5.57 ± 5.56 and 23.85 ± 16.67 trophies/year or 2.64 ± 1.27 and 15 ± 10.56 WOEs/year (Table 2). Lion imports mainly involved captive-bred animals (83% or 59 trophies) and wild lion imports involved 1.71 ± 2.42 trophies/year (1.42 ± 1.71 WOEs/year). Of the 44 species and subspecies, 33 (75%), averaged <5 trophies imported annually,

and 36 (82%) fewer than a mean of 5 WOEs a year. For 22 species and subspecies (50%) imports involved fewer than five trophies and for 25 species and subspecies (57%) less than one WOE a year.

Twenty-two countries exported hunting trophies to the UK in 2015–2021 but most exports were from four countries. South Africa, Canada, Namibia, and Zimbabwe exported 94% of trophies in the top 10 species or 73% of all trophy imports to the UK. Seventy-nine percent of imports (753/951 trophies) were from countries where populations of the hunted species are stable,

TABLE 2   Top 10 species imported to the UK as hunting trophies in 2015–2021 ranked by number of trophies, mean no. of trophies imported/year, WOEs imported, mean WOEs imported/year, exporter(s), and source(s).

Rank	Species	No. of trophies	Mean (±SD) no. trophies/year	WOE	Mean (±SD) WOE/year	Exporter(s)	Source(s)
1	American black bear *Ursus americanus*	167	23.85 ± 16.67	71	10.14 ± 6.33	CA (167)	W (167)
2	Chacma baboon *Papio ursinus*	105	15 ± 10.56	105	15 ± 10.56	ZA (70), NA (20), ZW (14), ZM (1)	W (105)
3	African elephant *Loxodonta africana*	93	13.28 ± 12.28	34	4.82 ± 3.36	ZW (60), ZA (15), BW (5), MZ (5), NA (4), TZ (2), ZM (2)	W (93)
4	Hartman's mountain zebra *Equus zebra hartmannae*	82	11.71 ± 6.47	75	10.71 ± 6.23	NA (71), ZA (11)	W (82)
5	Lion[a] *Panthera leo*	71	10.14 ± 4.29	69	9.85 ± 3.71	ZA (61), NA (6), MZ (2), TZ (2)	W (12), C (59)
6	Giraffe *Giraffa camelopardalis*	50	7.14 ± 11.17	25	3.57 ± 5.34	ZA (43), ZW (5), NA (2)	W (50)
7	Southern lechwe *Kobus leche*	45	6.42 ± 5.41	45	6.42 ± 5.41	ZA (34), NA (6), ZM (5)	F (32), W (11), R (2)
8	Vervet monkey *Chlorocebus pygerythrus*	45	6.42 ± 3.55	45	6.42 ± 3.55	ZA (41), ZM (2), ZW (2)	W (43), R (2)
9	Nile crocodile *Crocodylus niloticus*	44	6.28 ± 4.75	43	6.14 ± 4.37	ZA (33), ZW (5), MZ (2), NA (2), TZ (2)	W (43), C (1)
10	Hippopotamus *Hippopotamus amphibius*	39	5.57 ± 5.56	19	2.64 ± 1.27	ZW (15), ZM (12), ZA (8), TZ (4)	W (39)

Note: CITES source codes: C, animals bred in captivity; F, animals born in captivity; R, ranched specimens; W, taken from the wild.

Abbreviations: BW, Botswana; CA, Canada; MZ, Mozambique; NA, Namibia; TZ, Tanzania; WOEs, whole organism equivalent; ZA, South Africa; ZM, Zambia; ZW, Zimbabwe.

[a]Imports from the wild involved 1.71 ± 2.42 trophies/year (1.42 ± 1.71 WOEs/year) and imports from animals bred in captivity involved 8.42 ± 2.43 trophies/year (8.42 ± 2.43 WOEs/year).

Source: CITES Trade Database (2023).

increasing, or abundant (Supplementary Material 3). For example, the American black bear population in Canada is estimated at 450,000 individuals and is increasing (Garshelis et al., 2016). African elephant populations in Zimbabwe and South Africa number 82,000 and ~27,000 animals, respectively, both increasing (CITES, 2022; Selier et al., 2016). Hartmann's Mountain zebra (*Equus zebra hartmannae*) numbers ~44,000 individuals in Namibia and populations are increasing, as in South Africa (Gosling et al., 2019). Lion populations in South Africa have increased in recent decades and may be at carrying capacity (Bauer et al., 2015; Bauer et al., 2016).

3.2 | UK hunting trophy imports in context

For 2000–2021 the UK imported/exported 1929 CITES-listed animal species while species imported/exported as hunting trophies comprised <5% (90/1929 species) (Figure 1). Combined imports to and exports from the UK in CITES-listed animal species in this period involved an estimated 4.93 million WOEs. The 3494 hunting trophies imported to the UK, involving an estimated 2549 WOEs, comprise <0.1% of UK trade in CITES-listed animal species. The same applies to 2015–2021; hunting trophies involved <4% of the species traded to and from the
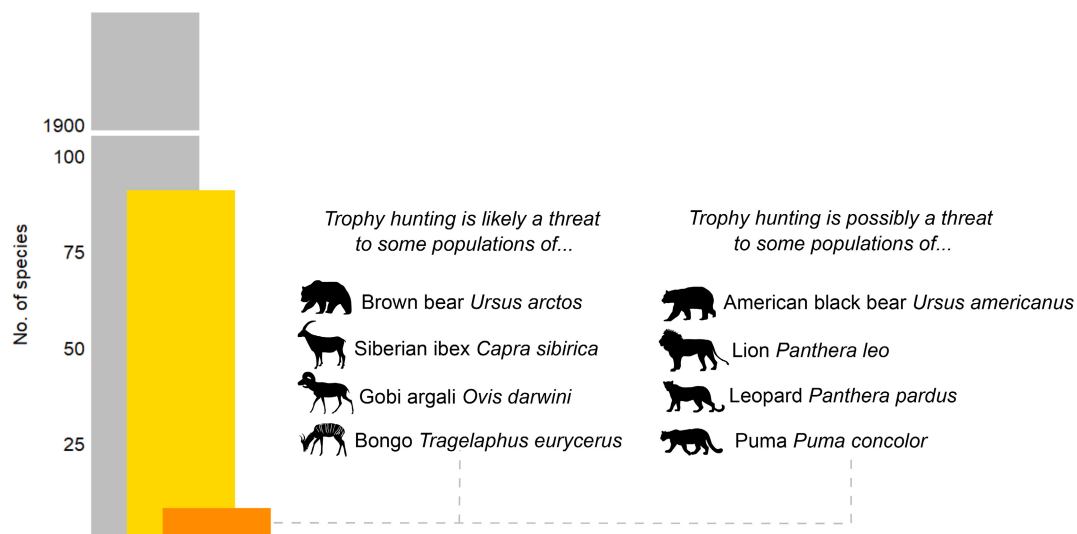
FIGURE 1 Number of CITES-listed animal species imported to/exported from the UK for all purposes (2000–2021) (gray), number of these species imported to/exported from the UK as hunting trophies in the same period (yellow), and number of these species for which trophy hunting is likely or possibly a local threat to some populations but does not contribute to the species being of elevated conservation concern (orange). *Source*: CITES Trade Database (2023) and IUCN Red List (2023).

UK (44/1154 species) and <0.1% of UK trade in CITES-listed animal species. For comparison, many more species were traded, and trade volumes were greater, for commercial purposes, involving 1211 CITES-listed animal species and an estimated 4.85 million WOEs. Similarly, imports to and exports from the UK in animals as pets involved 568 species and an estimated 7752 WOEs, though most of these animals were reportedly from non-wild sources.

3.3 | Trophy hunting as a contributor to species being of elevated conservation concern and as a benefit provider

Of the species and subspecies imported to/exported from the UK as hunting trophies in 2000–2021, which were, or are, included under CITES, 61% (56/92 species) are categorized as Least Concern (LC) on the Red List, that is, are not threatened with extinction (Supplementary Material 4). We refer to 92 species because the Red List recognizes two distinct species of both urial and African elephant and one species was both imported and exported (see Supplementary Material 4). Thirty-nine percent (36 species) can be considered to be of elevated conservation concern (defined by IUCN as species assessed as Near Threatened, Threatened, or Extinct in the Wild). Fourteen species (15%) are categorized as Near Threatened, 13 species (14%) as Vulnerable (VU), 4 (4%) as Endangered (EN), and 5 (5%) as Critically Endangered

(CR) (Supplementary Material 4). Intentional hunting and/or harvesting of aquatic resources is a major or minor threat to 79% of these taxa (Supplementary Material 4), which consists of poaching and/or hunting that is illegal or poorly, or not, regulated.

Trophy hunting is not a major threat to any of the 92 species or subspecies imported to or exported from the UK as hunting trophies in 2000–2021 (Supplementary Material 4). However, it is likely a local threat (i.e., has or is causing localized declines) to some populations of 4% of these taxa (four species) (Figure 1). For brown bear (*Ursus arctos*) evidence suggests that where the species exists in large, contiguous populations, hunting rates are likely unsustainable in the short term but contribute to population fluctuations only rather than ongoing declines (McLellan et al., 2017). The Siberian ibex (*Capra sibirica*) is subject to regulated hunting for trophies in several countries, which targets males in the highest age classes (Reading, Michel, Suryawanshi, & Bhatnagar, 2020). If poorly regulated and managed, such hunting can have negative consequences, including on the sex and age composition of populations, but potential impacts are low if hunters only harvest a minor proportion of males (Michel & Rosen, 2016; Reading, Michel, Suryawanshi, & Bhatnagar, 2020). For Gobi argali (*O. darwini*) evidence indicates that unsustainable trophy hunting comprises a minor localized threat in Mongolia (Reading, Michel, & Amgalanbaatar, 2020). The bongo (*Tragelaphus eurycerus*) is reportedly threatened by demand for hunting trophies, especially where hunting is poorly regulated (IUCN SSC

Antelope Specialist Group, 2016), but this occurs in a small portion of the species' range (Cameroon and Central African Republic) and represents, at most, a local threat.

Trophy hunting is possibly (rather than likely) a local threat to some populations of four species (4% of the 92 taxa) (Figure 1). For lion, this may have at times contributed to population declines in Botswana, Namibia, Tanzania, Zimbabwe, Cameroon, and Zambia (Bauer et al., 2016). For leopard, where hunting for trophies over-concentrates on a particular area and targets animals in their prime that are reproductively active it can be detrimental to populations (Stein et al., 2020). Legal hunting of American black bear for trophies is well controlled in North America, but it may contribute to population fluctuations (Garshelis et al., 2016). The puma (*Puma concolor*) is legally hunted for trophies in many western and midwestern US states, which potentially comprises a minor, local threat (Nielsen et al., 2015).

For 20 species and subspecies imported to the UK as hunting trophies in 2000–2021, trophy hunting provides, or has the potential to provide, important benefits (Supplementary Material 4). These include revenue generation for conservation, monetary and/or non-monetary benefits (e.g., meat and housing) to local communities, added value to wildlands that may be used for competing purposes such as agriculture, and enhanced population growth for threatened species. This includes species for which trophy hunting is likely or possibly a localized threat. Legal hunting for lion trophies has a net positive impact in some areas and is an important tool for conserving wild habitat and providing financial resources to governments and local communities (Bauer et al., 2016). Regulation which reduces the profitability of this hunting could result in widespread negative impacts for anti-poaching measures and the tolerance of lion outside protected areas (Hunter et al., 2013 cited in Bauer et al., 2016). Legal hunting of blesbok (*Damaliscus pygargus*) generates revenue and provides meat for local people (Dalton et al., 2019). For white and black rhino (*Diceros bicornis*), selective hunting of older males can increase population growth rates and provide resources for protection (Emslie, 2020a, 2020b). For bongo, well-regulated hunting for trophies has the potential to provide economic justification for preserving large areas of habitat in remote areas of Central Africa where possibilities for commercially successful tourism are limited (IUCN SSC Antelope Specialist Group, 2016). For Siberian ibex, banning legal hunting for trophies and/or associated trade risks removing incentives to prevent poaching, which may increase human-caused mortality of the species (Reading, Michel, Suryawanshi, & Bhatnagar, 2020).

3.4 | Evaluating the UK Government's impact assessment of the bill

We rated all five sections of the impact assessment weak because inappropriate assumptions were made, the quality of key analyses were poor, and/or there were areas that could be improved substantially to understand the likely impact of the bill. We discuss major areas of concern here, summarize key issues in Table 3 and the full evaluation is in Supplementary Material 5.

The impact assessment considered costs to UK individuals and businesses, but a major limitation is that it failed to adequately consider the costs and benefits to people (e.g., Indigenous people and local communities) in countries where trophy hunting takes place and helps sustain livelihoods (Table 3, Supplementary Material 5). This is despite the implication in the assessment that most of the costs would likely be incurred by people who live in countries where trophy hunting takes place. The impact assessment would be markedly improved by explicit consideration of these costs, which would enable a more comprehensive characterization of the UK's role in international hunting trophy trade and a better understanding of the likely impacts of the proposed policy.

The impact assessment assumed that the proposed legislation would disincentivize trophy hunting by people wanting to import trophies to the UK. This may or may not be the case but was weakly analyzed. There was little exposition of the actual impact that the proposed policy may have on hunter behavior and little supporting evidence was provided. The assessment would be much improved by robust analysis of the likely impacts of the bill on hunter behavior and whether it would plausibly disincentivize hunting, or not.

Additionally, the impact assessment assumed that the proposed policy would result in better protection of species with positive knock-on effects for biodiversity and ecosystem services. This may or may not be the case and cannot reasonably be assumed without a full analysis and supporting evidence. The policy could contribute to positive or negative outcomes for hunted species, related to social, economic, and/or governance factors in areas where hunting takes place (Table 3). Assuming species would be better protected presumes that the institutional arrangements are appropriate where hunting occurs and that the resources and revenue streams needed would be available, when they may not be, and evidence was not provided.

TABLE 3 Summary of key issues and areas of improvement identified in the UK Government's impact assessment of the Hunting Trophies (Import Prohibition) Bill.

Section	Quality	Summary of key issues identified and areas of improvement
1. Policy rationale	Weak	The rationale focuses on importer-reported data only to characterize the UK's role in the global trade in hunting trophies when exporter-reported quantities are often more complete, likely underestimating the UK's role in this trade The rationale assumes that the proposed legislation will disincentivize legal hunting of species included under the bill by people wishing to export hunting trophies to the UK, which may or may not be the case; empirical evidence referred to in Section 2 of the impact assessment suggests that this may not be the case and hunting may continue (though potentially at lower levels) The assessment would be improved by robust analysis of the likely impacts of the bill on hunter behavior (e.g., would hunters plausibly continue to hunt, or not, and under what conditions) The impact assessment focuses on the impacts of the proposed policy options in the UK, but the analysis could be improved by considering impacts in countries where trophy hunting takes place, especially as the impact assessment suggests that the highest costs would be expected to be borne by actors outside of the UK (e.g., local people and hunting operators) The impact assessment could be improved by robust analysis of the threats to species that are subject to legal hunting for trophies for import into the UK, including explicit consideration of the magnitude of threat (e.g., major vs. minor), if any, and the scope, severity, and impact of any threat
2. Costs and benefits	Weak	It is suggested that most costs can likely be expected to be borne by actors outside of the UK (e.g., hunting operators in countries where hunting trophies are acquired for import) but potential costs to such businesses are mentioned only briefly and are not quantified or monetised, though reference is made to the cost of some hunts The environmental and societal impacts of the proposed policy options, in particular on countries and peoples beyond the UK, are considered vaguely. For example, "potential loss of income for communities that rely on trophy hunting" and "wildlife may lose part of its value due to no longer being economically competitive with other land uses, leading to negative conservation outcomes" It is assumed that benefits will result from a reduction in the acquisition of hunting trophies and subsequent import to the UK as the species involved receive greater protection, which is misleading and not necessarily the case The assumption that reducing trophy hunting will result in enhanced protection of target species does not hold and presumes that the institutional settings are appropriate and necessary resources available for protecting such species where hunting takes place but no justification is provided For policy option #1 (Further restrict import and export of hunting trophies from Annex A and Annex B species), it is assumed that lost custom for hunting trips could be replaced by other forms of tourism, such as "eco-wildlife tourism" but this assumes that areas where species are legally hunted for trophies for import to the UK are suitable for these activities; prevailing evidence suggests that this is not the case for reasons including the remoteness of some areas where hunting takes place and lack of tourist infrastructure
3. Risks and unintended consequences	Weak	The impact assessment would be improved by evidence that major exporting countries have been consulted on the proposed legislation, including insights on the potential impacts of the bill in those countries
4. Wider impacts	Weak	It is suggested that a reduction in trophy hunting could result in positive knock-on effects for species numbers, biodiversity, and ecosystem services but this cannot be assumed because outcomes of the proposed policies could be positive or negative for species based on a range of social (e.g., the attitudes of local people), economic (e.g., incentives for legal and/or illegal offtake), and governance factors (e.g., the legitimacy of local laws and bans/restrictions imposed by importing countries) in areas where this hunting takes place It is recognized in brief that banning the legal movement of hunting trophies could lead to increased illegal wildlife trade and reduce the amount of protein local communities receive as a by-product of trophy hunting but the impact assessment does not present detail on remedial measures beyond suggesting other forms of tourism (e.g., photographic tourism) and "other alternative wildlife management strategies" will be needed
5. Post-implementation review	Weak	It is not clear whether proposed engagement with stakeholders during monitoring and evaluation includes individuals, groups, and businesses internationally (e.g., local communities and hunting operators in areas where trophy hunting takes place), which would be expected to bear most of the costs of the proposed legislation, or just those in the UK

Note: Some issues apply to more than one section of the impact assessment. See Supplementary Material 5 for the full evaluation.

4 | DISCUSSION

The rationale for the Hunting Trophies (Import Prohibition) Bill was to ensure that imports of hunting trophies to the UK are not placing additional pressure on species of conservation concern, by prohibiting such imports from a reported ∼7000 species (UK Government, 2021a). Our analyses indicate that the UK plays a minor role in the global trade of hunting trophies of CITES-listed species, and that hunting trophies comprise <0.1% of UK trade in all CITES-listed animal species. Although the UK imported hunting trophies from 73 CITES-listed species and subspecies in 2000–2021, these represented only ∼1% of the species included under the bill. Based on the Red List, trophy hunting is not a major threat contributing to any of these species being of elevated conservation concern. In 2015–2021, 79% of imports were from countries where populations of the hunted species are stable, increasing, or abundant, including species for which trophy hunting is a likely or possible local threat. Imports of American black bear, brown bear, Siberian ibex, and lion trophies were from countries with healthy populations. Lion imports involved <2 wild animals a year, mainly from countries for which evidence suggests populations are increasing. The leopard is perhaps an exception because although imports were low (<4 animals/year), all were from sub-Saharan Africa where many populations are declining, or their status is unknown (though quotas are typically set by government agencies using more detailed local information and adaptive management). Assuming past trade is indicative of future imports, the argument that the bill would reduce pressure on many threatened species subject to legal hunting for trophies is unfounded. Other threats, notably poaching and/or retaliatory killing, are much greater for most species imported to the UK as hunting trophies. Trophy hunting is likely or possibly a local threat to populations of eight species, but there are likely more effective mitigation measures than the UK banning hunting trophy imports. For example, improved management at national and sub-national levels.

The bill could also undermine conservation efforts that are supported by trophy hunting. More evidence is needed on the potential impacts of the bill, but it could reduce revenue for conservation programs which rely on such hunting to fund wildlife management. Reduced funding could jeopardize law enforcement, anti-poaching efforts, and monitoring thereby increasing other threats to species and habitats. The bill could have negative, even devastating, impacts on Indigenous people and local communities who rely on such hunting for monetary and/or non-monetary benefits (e.g., meat and employment) (Angula et al., 2018; IUCN, 2016a; Parker

et al., 2023). Benefits to local communities vary (e.g., 0–100% of revenue generated) but are frequently very important to them (IUCN, 2016a). For example, in Namibia conservation hunting generated USD 1.3 million and provided 326,000 kg of game meat in 2021, which were distributed to local communities (MEFT/NACSO, 2022). Ultimately, the bill could influence the viability of conservation areas to conserve biodiversity with wildlife habitat being lost to competing land uses such as agriculture and mining (IUCN, 2016a; Lindsey et al., 2007; Strampelli et al., 2022). In this context, the bill may contravene principles in the UK Environment Act (2021), specifically that UK policymaking should prevent environmental harm because the bill could contribute to more harm than it prevents. There is also a risk that the UK sets a precedent that other countries follow resulting in even greater harm to wildlife conservation efforts.

The rationale for the bill is also to respond to the UK Government's hunting trophies consultation. Eighty-four percent of respondents to the consultation indicated a preference to prohibit all hunting trophies entering or leaving the UK; however, 68% of all responses were linked to advocacy group campaigns (UK Government, 2021b). Another poll found that fewer than half of Britons wanted a ban if it would harm conservation or local communities (Survation, 2021). Recent research suggests that UK public opinion is more supportive of hunting programs that provide tangible benefits to people who live in hunting areas (e.g., meat and economic development; Hare et al., 2024). Many respondents to the consultation appear strongly opposed to trophy hunting likely because they consider it ethically unacceptable. This does not mean that prohibiting imports of hunting trophies is the most appropriate policy. In democratic societies public opinion should be considered in public policymaking but, critically, it should not be decisive but interpreted with other evidence using appropriate analytical capacity (Howlett et al., 2020). A key challenge for public policymaking is formulating proportionate policies based on all relevant bodies of evidence, including public opinion shaped by moral values. Regarding this bill, our analyses indicate that it is disproportionate and would be unlikely to achieve its intended effects while risking negative impacts on wildlife and local communities.

5 | RECOMMENDATIONS

Recognizing that trophy hunting can benefit species but can have negative impacts if poorly regulated (Hare et al., 2023; IUCN, 2012), what are alternative policy options to the proposed legislation? Several options exist (Supplementary Material 6), which we argue are more

proportionate and targeted than an indiscriminate ban on hunting trophy imports to the UK:

1. Do nothing differently. The UK could continue to implement rigorously the WTRs and EUWTRs (Northern Ireland), ensuring that imports and exports of hunting trophies of all Annex A and six Annex B species are based on robust NDFs and legal acquisition findings.

2. Remove the personal and household effects derogation from all Annex B species traded as hunting trophies. This would require import permits for all hunting trophies imported to the UK using CITES purpose code H enabling further assessment of sustainability, for example, based on requirements in CITES Resolutions on hunting trophies (Res. Conf. 17.9) and NDFs (Res. Conf. 16.7 [Rev. CoP17]).

3. Apply stricter measures to the import of hunting trophies from particular species; such measures are used to manage trade involving rhinos, bears (Ursidae spp.), and tiger (*P. tigris*) (UK Government, 2023).

4. Implement a smart ban (Webster et al., 2022), analogous to the proposed conservation amendment to the Hunting Trophies (Import Prohibition) Bill (Fleming, 2024). This would prohibit the import of hunting trophies except in circumstances where the benefits of this hunting tangibly contribute to the conservation of the hunted species and their habitat, there is an equitable sharing of hunting revenues with local communities, an adaptive management and monitoring system is in place, and the hunting area has good governance (Fleming, 2024, see IUCN, 2012).

If UK policymakers are committed to legislating on hunting trophy imports, we argue that a smart ban would be the most appropriate and evidence-based policy. It would raise the standard and scope of regulation without unduly affecting hunting for trophies where it is well-regulated and benefits species and Indigenous people and local communities. Under such a smart ban an import permit would be required for hunting trophies from species in Annex B of the WTRs, and imports of trophies from all species on Annexes A and B of the WTRs would be required to demonstrate conservation and other benefits as outlined, which would be legally binding, to qualify for an import permit (Fleming, 2024). These measures would be stricter than those under CITES, and we would encourage the UK Government to consult key exporting countries prior to enacting any law as recommended in CITES Res. Conf. 6.9 (Rev. CoP17) and Res. Conf. 17.9. Research suggests that this policy may also reflect public opinion in the UK more accurately than an indiscriminate ban (Hare et al., 2024).

Public policy to address biodiversity loss requires context-specific solutions (IPBES, 2022; Ostrom, 2007). Our analyses suggest that an indiscriminate ban on imports of hunting trophies to the UK would be disproportionate and may harm biodiversity and rural livelihoods, in part because it does not differentiate between different types of legal hunting across social-ecological and governance contexts (Hare et al., 2023). Crucially, the UK Government's impact assessment failed to adequately consider the likely impacts of this policy on people outside of the UK who are expected to incur most of the costs. The UK Government may consider it disproportionate to evaluate such costs, but we argue that if policymakers were serious about conserving biodiversity they would refrain from proposing oversimplistic policy solutions to complex biodiversity issues. We recommend that UK Government impact assessments concerning biodiversity internationally go beyond UK people and businesses and consider international impacts. This should involve consultation with relevant countries to examine the costs and benefits of policy options, which would help ensure that future policy is appropriately evidence-based (Sutherland et al., 2020), and has the greatest likelihood of benefitting biodiversity, while avoiding environmental and socioeconomic harm.

AUTHOR CONTRIBUTIONS
All authors wrote and approved the paper.

CONFLICT OF INTEREST STATEMENT
DWSC is a member of the IUCN CEESP/SSC Sustainable Use and Livelihoods Specialist Group (SULi) and the IUCN SSC Pangolin Specialist Group. MtS-R is a member of the IUCN SSC African Rhino Specialist Group and SULi. AD conducted this work under a Fellowship funded by the Recanati-Kaplan Foundation and Panthera. She has consultancies with the Darwin Expert Committee and Jamma International, but neither funded this work. AD leads WildCRU which has funding from donors with a wide variety of views of trophy hunting. DH receives research funding from Jamma International, WWF Germany, the Luc Hoffmann Institute (now Unearthodox), the BAND Foundation, the John Muir Trust, and is a consultant for WWF Germany. AGH is a member of SULi and has received non-personal funding from Jamma International, although not for this study.

DATA AVAILABILITY STATEMENT

Data from the IUCN Red List and CITES Trade Database used in this study are available online and summarized in this article and the Supplementary Material.

ORCID

Daniel W. S. Challender https://orcid.org/0000-0002-0606-1715

Darragh Hare https://orcid.org/0000-0003-4418-9637

Adam G. Hart https://orcid.org/0000-0002-4795-9986

Dilys Roe https://orcid.org/0000-0002-6547-6427

REFERENCES

Angula, H. N., Stuart-Hill, G., Ward, D., Matongo, G., Diggle, R. W., & Naidoo, R. (2018). Local perceptions of trophy hunting on communal lands in Namibia. *Biological Conservation*, *218*, 26–31. https://doi.org/10.1016/j.biocon.2017.11.033

Ares, E. (2019). *Trophy hunting*. Briefing Paper Number 7908. House of Commons Library. Retrieved from https://researchbriefings.files.parliament.uk/documents/CBP-7908/CBP-7908.pdf

Baldwin, R., Cave, M., & Lodge, M. (2012). *Understanding regulation. Theory, strategy, and practice*. Oxford University Press Inc.

Bauer, H., Chapron, G., Nowell, K., Henschel, P., Funston, P., Hunter, L. T. B., Macdonald, D. W., & Packer, C. (2015). Lion (*Panthera leo*) populations are declining rapidly across Africa, except in intensively managed areas. *PNAS*, *112*(48), 14894–14899. https://doi.org/10.1073/pnas.1500664112

Bauer, H., Packer, C., Funston, P. F., Henschel, P., & Nowell, K. (2016). *Panthera leo* (errata version published in 2017). The IUCN Red List of threatened species 2016: e.T15951A115130419. https://doi.org/10.2305/IUCN.UK.2016-3.RLTS.T15951A107265605.en Accessed May 22, 2023.

Born Free, et al. (2022). *Joint position on trophy hunting*. Born Free. Retrieved from https://www.bornfree.org.uk/storage/media/content/files/Joint%20NGO%20Position%20Paper%20on%20Trophy%20Hunting_final%20(Logos)_updated_1.pdf

Challender, D. W. S., Brockington, D., Hinsley, A., Hoffmann, M., Kolby, J. E., Massé, F., Natusch, D. J. D., Oldfield, T. E. E., Outhwaite, W., 't Sas-Rolfes, M., & Milner-Gulland, E. J. (2022). Mischaracterizing wildlife trade and its impacts may mislead policy processes. *Conservation Letters*, *15*(1), e12832. https://doi.org/10.1111/conl.12832

Challender, D. W. S., Cremona, P. J., Malsch, K., Robinson, J. E., Pavitt, A. T., Scott, J., Hoffmann, R., Joolia, A.,

Oldfield, T. E. E., Jenkins, R. K. B., Conde, D. A., Hilton-Taylor, C., & Hoffmann, M. (2023). Identifying species likely threatened by international trade on the IUCN Red List can inform CITES trade measures. *Nature Ecology & Evolution*, *7*, 1211–1220. https://doi.org/10.1038/s41559-023-02115-8

CITES. (1973). Convention on International Trade in Endangered Species of Wild Fauna and Flora. Retrieved November 10, 2023 from https://cites.org/eng/disc/text.php

CITES. (2022). *CITES CoP19 Prop. 4. Amendment to annotation 2 pertaining to the elephant populations of Botswana, Namibia, South Africa and Zimbabwe*. CITES. Retrieved June 2, 2023, from https://cites.org/sites/default/files/documents/E-CoP19-Prop-04_1.pdf

CITES Secretariat, & UNEP-WCMC. (2022). *A guide to using the CITES Trade Database. Version 9*. Geneva, Switzerland and Cambridge, UK.

CITES Trade Database. (2023). *Compiled by UNEP-WCMC for the CITES Secretariat*. Retrieved March 22, 2023, from trade.cites.org

Cooney, R., Kasterine, A., MacMillan, D., Milledge, S., Nossal, K., Roe, D., & 't Sas-Rolfes, M. (2015). *The trade in wildlife: A framework to improve biodiversity and livelihood outcomes*. International Trade Centre.

Dalton, D., Birss, C., Cowell, C., Gaylard, A., Kotze, A., Parrini, F., Peinke, D., Radloff, F., & Viljoen, F. (2019). *Damaliscus pygargus*. The IUCN Red List of threatened species 2019: e.T30208A50197331. https://doi.org/10.2305/IUCN.UK.2019-1.RLTS.T30208A50197331.en Accessed May 22, 2023.

DEFRA. (2021). *Ban on the import of hunting trophies*. Impact Assessment. Retrieved from https://publications.parliament.uk/pa/bills/cbill/58-03/0026/HuntingTrophies(ImportProhibition)BillImpactAssessment.pdf

Emslie, R. (2020a). *Ceratotherium simum*. The IUCN Red List of threatened species 2020: e.T4185A45813880. https://doi.org/10.2305/IUCN.UK.2020-1.RLTS.T4185A45813880.en Accessed June 2, 2023.

Emslie, R. (2020b). *Diceros bicornis*. The IUCN Red List of threatened species 2020: e.T6557A152728945. https://doi.org/10.2305/IUCN.UK.2020-1.RLTS.T6557A152728945.en Accessed June 9, 2023.

Fleming, V. (2024). *Policy Review: Hunting trophy imports to the UK*. Technical review of a conservation exemption (Proposed Amendment) for hunting trophy imports to the UK.

Garshelis, D. L., Scheick, B. K., Doan-Crider, D. L., Beecham, J. J., & Obbard, M. E. (2016). *Ursus americanus* (errata version published in 2017). The IUCN Red List of threatened species 2016: e.T41687A114251609. https://doi.org/10.2305/IUCN.UK.2016-3.RLTS.T41687A45034604.en Accessed May 22, 2023.

Gosling, L. M., Muntifering, J., Kolberg, H., Uiseb, K., & King, S. R. B. (2019). *Equus zebra* (amended version of 2019 assessment). The IUCN Red List of threatened species 2019: e.T7960A160755590. https://doi.org/10.2305/IUCN.UK.2019-1.RLTS.T7960A160755590.en Accessed May 26, 2023.

Grabosky, P. N. (1995). Counterproductive regulation. *International Journal of the Sociology of Law*, *23*(4), 347–369. https://doi.org/10.1016/S0194-6595(05)80003-6

Hammond, N. L., Dickman, A., & Biggs, D. (2022). Examining attention given to threats to elephant conservation on social media. *Conservation Science and Practice*, *4*(10), e12785. https://doi.org/10.1111/csp2.12785

14 of 15 | WILEY—Conservation Science and Practice
A journal of the Society for Conservation Biology
Open Access

CHALLENDER ET AL.

Hare, D., Ambarli, H., Dickman, A. J., Dröge, E., Farhidinia, M. S., Johnson, P. J., Khanyari, M., Mandisodza-Chikerema, R., Montgomery, R. A., Sutherland, C., Webster, H., & Wijers, M. (2023). Trophy hunting is not one big thing. *Biodiversity and Conservation*, *32*, 2149–2153. https://doi.org/10.1007/s10531-023-02597-9

Hare, D., Dickman, A. J., Johnson, P. J., Rono, B. J., Mutinhima, Y., Sutherland, C., Kulunge, S., Sibanda, L., Mandoloma, L., & Kimaili, D. (2024). Public perceptions of trophy hunting are pragmatic, not dogmatic. *Proceedings of the Royal Society B*, *291*(2016), 20231638. https://doi.org/10.1098/rspb.2023.1638

Harfoot, M., Glaser, S. A. M., Tittensor, D. P., Britten, G. L., McLardy, C., Malsch, K., & Burgess, N. D. (2018). Unveiling the patterns and trends in 40 years of global trade in CITES-listed wildlife. *Biological Conservation*, *223*, 47–57. https://doi.org/10.1016/j.biocon.2018.04.017

Howlett, M., Ramesh, M., & Perl, A. (2020). *Studying public policy. Principles and processes* (4th ed.). Oxford University Press.

Hunter, L., Lindsey, P., Balme, G., Becker, M., Begg, C., Brink, H., Chardonnet, P., Dickman, A., Edwards, C., Frank, L., Funston, P., Henschel, P., Ikanda, D., Kissui, B., Loveridge, A., Mesochina, P., Midlane, N., White, P., & Whitman-Gelatt, K. (2013). *Urgent and comprehensive reform of trophy hunting of lions is a better option than an endangered listing; a science-based consensus*. Panthera. Unpublished policy document.

IPBES. (2022). In J. M. Fromentin, M. R. Emery, J. Donaldson, M. C. Danner, A. Hallosserie, & D. Kieling (Eds.), *Thematic assessment report on the sustainable use of wild species of the intergovernmental science-policy platform on biodiversity and ecosystem services*. IPBES Secretariat. https://doi.org/10.5281/zenodo.6448567

IUCN. (2012). *IUCN SSC guiding principles on trophy hunting as a tool for creating conservation incentives. Ver. 1.0*. IUCN. Retrieved from https://portals.iucn.org/library/efiles/documents/Rep-2012-007.pdf

IUCN. (2016a). *Informing decisions on trophy hunting*. IUCN Briefing Paper. Retrieved from https://iucnsuli.org/wp-content/uploads/2022/07/InformingDecisionsOnTrophyHunting.pdf

IUCN. (2016b). *Required and recommended supporting information for IUCN Red List assessments. Annex 1 of the Rule of Procedure for IUCN Red List assessments 2017–2020*. Retrieved from https://cmsdocs.s3.amazonaws.com/keydocuments/Rules_of_Procedure_for_IUCN_Red_List_Assessments_2017-2020.pdf

IUCN. (2023). *The IUCN Red List of threatened species. Version 2022-2*. https://www.iucnredlist.org

IUCN. (2024). *The IUCN Red List of threatened species. Version 2023-1*. https://www.iucnredlist.org

IUCN SSC Antelope Specialist Group. (2016). *Tragelaphus eurycerus* (errata version published in 2017). The IUCN Red List of threatened species 2016: e.T22047A115164600. https://doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22047A50195617.en Accessed May 22, 2023.

Lindsey, P. A., Roulet, P. A., & Romañach, S. S. (2007). Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. *Biological Conservation*, *134*(4), 455–469. https://doi.org/10.1016/j.biocon.2006.09.005

Marsh, S. M. E., Hoffmann, M., Burgess, N. D., Brooks, T. M., Challender, D. W. S., Cremona, P. J., Hilton-Taylor, C., de Micheaux, F. L., Lichtenstein, G., Roe, D., & Böhm, M. (2022).

Prevalence of sustainable and unsustainable use of wild species inferred from the IUCN Red List of Threatened Species. *Conservation Biology*, *36*(2), e13844. https://doi.org/10.1111/cobi.13844

McLellan, B. N., Proctor, M. F., Huber, D., & Michel, S. (2017). *Ursus arctos* (amended version of 2017 assessment). The IUCN Red List of threatened species 2017: e.T41688A121229971. https://doi.org/10.2305/IUCN.UK.2017-3.RLTS.T41688A121229971.en Accessed May 22, 2023.

MEFT/NACSO. (2022). *The state of community conservation in Namibia (annual report 2021)*. MEFT/NACSO. Retrieved from https://www.nacso.org.na/sites/default/files/The%20State%20of%20Community%20Conservation%20Report%202021%20book.pdf

Michel, S., & Rosen, T. (2016). Chapter 16.3: Hunting of prey species: A review of lessons, successes, and pitfalls – Experiences from Kyrgyzstan and Tajikistan. In T. McCarthy & D. Mallon (Eds.), *Snow leopards – Biodiversity of the world: Conservation from genes to landscapes* (pp. 236–243). Elsevier.

Mkono, M. (2022). How we can make the trophy hunting debate less fraught. *Nature Human Behaviour*, *7*, 6–8. https://doi.org/10.1038/s41562-022-01488-3

Nielsen, C., Thompson, D., Kelly, M., & Lopez-Gonzalez, C. A. (2015). *Puma concolor* (errata version published in 2016). The IUCN Red List of threatened species 2015: e.T18868A97216466. https://doi.org/10.2305/IUCN.UK.2015-4.RLTS.T18868A50663436.en Accessed May 16, 2023.

Ostrom, O. (2007). A diagnostic approach for going beyond panaceas. *PNAS*, *105*(7), 15181–15187. https://doi.org/10.1073/pnas.0702288104

Parker, B. G., Khanyari, M., Ambarlı, H., Buuveibaatar, B., Kabir, M., Khanal, G., Mirzadeh, H. R., Onon, Y., & Farhadinia, M. S. (2023). A review of the ecological and socio-economic characteristics of trophy hunting across Asia. *Animal Conservation*, *26*, 609–624. https://doi.org/10.1111/acv.12840

Reading, R., Michel, S., & Amgalanbaatar, S. (2020). *Ovis ammon*. The IUCN Red List of threatened species 2020: e.T15733A22146397. https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T15733A22146397.en Accessed May 16, 2023.

Reading, R., Michel, S., Suryawanshi, K., & Bhatnagar, Y. V. (2020). *Capra sibirica*. The IUCN Red List of threatened species 2020: e.T42398A22148720. https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T42398A22148720.en Accessed May 16, 2023.

Regulatory Policy Committee. (n.d.). *About us*. Regulatory Policy Committee. Retrieved May 16, 2023, from https://www.gov.uk/government/organisations/regulatory-policy-committee/about#what-we-do

Selier, S. A. J., Henley, M., Pretorius, Y., & Garai, M. (2016). A conservation assessment of *Loxodonta africana*. In M. F. Child, L. Roxburgh, E. Do Linh San, D. Raimondo, & H. T. Davies-Mostert (Eds.), *The Red List of mammals of South Africa, Swaziland and Lesotho*. South African National Biodiversity Institute and Endangered Wildlife Trust.

Smith, M. J., Benítez-Díaz, H., Clemente-Muñoz, M. Á., Donaldson, J., Hutton, J. M., Noel McGough, H., Medellin, R. A., Morgan, D. H. W., O'Criodain, C., Oldfield, T. E. E., Schippmann, U., & Williams, R. J. (2011). Assessing the impacts of international trade on CITES-listed species: Current practices and opportunities for scientific research. *Biological Conservation*, *144*(1), 82–91. https://doi.org/10.1016/j.biocon.2010.10.018

Stein, A. B., Athreya, V., Gerngross, P., Balme, G., Henschel, P., Karanth, U., Miquelle, D., Rostro-Garcia, S., Kamler, J. F., & Laguardia, A. (2020). *Panthera pardus* (amended version of 2019 assessment). The IUCN Red List of threatened species 2020: e.T15954A163991139. https://doi.org/10.2305/IUCN.UK.2020-1.RLTS.T15954A163991139.en Accessed May 22, 2023.

Strampelli, P., Henschel, P., Searle, C. E., Macdonald, D. W., & Dickman, A. J. (2022). Habitat use of and threats to African large carnivores in a mixed-use landscape. *Conservation Biology*, *36*(6), e13943. https://doi.org/10.1111/cobi.13943

Survation. (2021). *Conflicting attitudes around the trophy hunting ban*. Survation. Retrieved from https://www.survation.com/conflicting-attitudes-around-the-trophy-hunting-ban/

Sutherland, W. J., Brotherton, P. N. M., Davies, Z. G., Ockendon, N., Pettorelli, N., & Vickery, J. A. (Eds.). (2020). *Conservation research, policy and practice*. Cambridge University Press.

't Sas-Rolfes, M. (2017). African wildlife conservation and the evolution of hunting institutions. *Environmental Research Letters*, *12*(11), 115007.

't Sas-Rolfes, M., Emslie, R., Adcock, K., & Knight, M. (2022). Legal hunting for conservation of highly threatened species: The case of African rhinos. *Conservation Letters*, *15*(3), e12877. https://doi.org/10.1111/conl.12877

UK Government. (2021a). *Importing of hunting trophies banned to protect world's threatened species*. UK Government. Retrieved May 22, 2023, from https://www.gov.uk/government/news/importing-of-hunting-trophies-banned-to-protect-worlds-threatened-species

UK Government. (2021b). *Consultation outcome. Summary of responses and government response*. Retrieved June 2, 2023, from https://www.gov.uk/government/consultations/hunting-trophies-controlling-imports-to-and-exports-from-the-uk

UK Government. (2023). *Commercial use of endangered species: Check if you need a CITES certificate*. UK Government. Retrieved November 23, 2023, from https://www.gov.uk/guidance/endangered-species-certificates-for-commercial-use

Webster, H., Dickman, A., Hart, A., & Roe, D. (2022). Keeping hunting bans on target. *Conservation Biology*, *36*(4), e13932. https://doi.org/10.1111/cobi.13932

Yeomans, N., Hare, D., Dröge, E., & Hart, A. G. (2022). Ten years of coverage of trophy hunting in UK newspapers. *Frontiers in Conservation Science*, *3*, 1061295. https://doi.org/10.3389/fcosc.2022.1061295

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.