

## Written evidence submitted by Dr Peter Apps (AAB0009)

### AN ASSESSMENT OF THE PREDICTABLE IMPACTS OF BANS ON HUNTING TROPHY IMPORTS TO THE UK ON POPULATION SIZE AND DISTRIBUTION OF SOUTHERN AFRICAN MAMMALS.

Dr Peter Apps

#### MY BACKGROUND AND QUALIFICATIONS

I have a PhD in Zoology, and 23 years experience in wildlife biology and conservation. I currently work on mitigation of human-predator conflict. I am an author of 69 peer-reviewed articles and 6 books on southern African wildlife. n My ResearchGate profile has the details;

<https://www.researchgate.net/profile/Peter-Apps>

My reason for submitting evidence is that in my professional judgement the proposed ban on trophy imports will lead to unintended and undesirable declines in wildlife populations, that cannot properly be the intent of the legislation.

#### SUMMARY

If trophy imports to the UK are banned the economic viability of areas managed for consumptive wildlife will be compromised. Those areas will revert to commercial livestock or crops, or their subsistence equivalents. The consequent loss of wildlife habitat will lead to declines in the populations of 112 of the 117 species of mammal (excluding bats, small rodents and insectivores) in southern Africa, and local or widespread extirpations of 54 of them.

#### EVIDENCE

In nearly all discussion about trophy hunting, the focus falls exclusively on the species that are hunted, and most narrowly on those referred to as “iconic”, meaning large, well-known animals whose images are frequently used in internet fund-raising schemes. The hundreds of other species that inhabit wildlife habitats managed for hunting are generally ignored (either deliberately or through a lack of information).

I have compiled a list of 117 species of mammals from the Southern African Subregion (the part of the African continent south of the Kavango and Zambezi rivers), excluding approximately 250 species of bats, nocturnal small rodents, shrews and golden moles, with the impacts on their numbers and distributions that can be confidently predicted to be a consequence of bans on hunting trophy imports (see attached Excel Spreadsheet). Of the 115 species for which there is adequate data for a prediction, only three are not predicted to suffer declines in numbers, and all three of those have numbers

and distributions that are already so small that they occur only in non-consumptive protected areas. Fifty four species will suffer local extirpations, and three of them; African wild dog, white rhino and black rhino will have their distributions restricted to formal protected areas.

The predictions are drawn from the extensive compilations of historical distributions by Rautenbach, Smithers, Skead, and Boshoff and Kerley, compared to current and historical distributions from the IUCN red lists and the red list for South Africa, Swaziland and Lesotho, in addition to national scale habitat inventories and compilations of species distributions at national levels. Coverage is extremely uneven – Mozambique has adequate inventories of its mammals covering only 5% of its area. Consequently, it was necessary to extrapolate and interpolate from one country to another. Given the ubiquity of the impacts of habitat loss on species numbers and distribution, there is no reason to suppose that there will be significant differences in impact between countries.

The predictable population reductions and extirpations are driven by habitat loss as wildlife habitat that is currently used for hunting is converted back to commercial or subsistence agriculture or even more destructive land uses such as industry, mining and urban sprawl. Commercial hunting operations depend for financial sustainability on the high prices of trophy hunts. If trophy hunts decrease in number, or have to be offered at lower prices due to decreased demand, then financial constraints will lead to hunting ranches reverting to commercial livestock or crops. Wildlife habitat managed for hunting on communal land will revert to subsistence cropping and pastoralism. Where wildlife survives on agricultural land the loss of tangible value through hunting will lead to decreased tolerance for the damage wildlife inflicts, and lethal control, especially of large predators; lions, leopards, cheetahs, spotted hyaenas and African wild dogs, will increase as a consequence.

Land tenure systems differ between countries, but they have in common the need for land uses to generate tangible material benefits for owners, leaseholders, or residents. If wildlife-based land uses do not generate competitive levels of income they get replaced by land uses that do; at large scale these are subsistence and commercial cropping and livestock, and at local scale industry, mining and urban sprawl. None of these land uses support the numbers or diversity of wild species that are found in areas with wildlife-based land uses.

None of the predictions are at all controversial; they are a replay of the impacts that occurred when commercial agriculture expanded in South Africa and the then Rhodesia, and an acceleration of the impacts that are currently occurring throughout the subregion as growing human and livestock populations lead to increasing pressures to convert land to subsistence cropping and pastoralism. Poaching adds an additional pressure; the high costs of anti-poaching, especially for elephant ivory and rhino horn, can be recouped from non-consumptive wildlife viewing only at the very top of the market, whose geographic coverage is far too small to be significant at sub-regional level.

This compilation is only the tip of the iceberg of biodiversity loss that is a predictable consequence of a trophy import ban. It excludes the approximately 200 species of bats, small rodents, shrews and golden moles that also inhabit the subregion. All of these are likely to be adversely impacted.

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<b>SPECIES COMMON NAME</b>	<b>SPECIES SCIENTIFIC NAME</b>	<b>PREDICTABLE OUTCOME OF HUNTING TROPHY IMPORT BANS</b>	<b>NOTES</b>
<i>Aardvark</i>	<i>Orycteropus afer</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Treated as a pest in farmland; its burrows undermine roads and earth dams, and damage field machinery. Popular as food with local people and very vulnerable to snaring.</i>
<i>Aardwolf</i>	<i>Proteles cristatus</i>	<i>Localised declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Benefits from increased termite numbers in badly managed rangelands, but is killed for ritual materials and is a bycatch of indiscriminate trapping, domestic dogs and poisoning</i>
<i>African buffalo</i>	<i>Syncerus caffer</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Mostly incompatible with human settlement. They will be eradicated from contact zones with cattle due to disease concerns. Popular targets for poachers.</i>
<i>African civet</i>	<i>Civettictis civetta</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Populations decline where vegetation is overexploited by livestock. Persecuted for perceived raids on poultry, bycatch of meat snaring, indiscriminate predator control with traps and poisons. Harvested for skins.</i>
<i>African clawless otter</i>	<i>Aonyx capensis</i>	<i>Widespread declines</i>	<i>Degradation of riparian and wetland habitat reduces otter numbers. Over-fishing depletes their prey base. Persecuted for perceived raids on poultry, bycatch of meat snaring, indiscriminate predator control with traps and poisons.</i>
<i>African elephant</i>	<i>Loxodonta african</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Incompatible with crop growing and settlements. Unwelcome in livestock areas because they break fences and damage water points. Vulnerable to poaching, especially where local residents get no benefit from their presence.</i>

<i>African striped weasel</i>	<i>Poecilgale albinucha</i>	<i>Possible declines and local extirpations, possible local increases</i>	<i>Numbers may increase where overgrazing favours increase in gerbil populations, but bush encroachment and conversion of grasslands degrades habitat. Skins are in demand for ritual attire.</i>
<i>African wild dog</i>	<i>Lycaon pictus</i>	<i>Rapid declines leading to extirpation everywhere outside Parks and Reserves</i>	<i>No protected area is big enough to avoid edge effects and population sinks in adjacent livestock areas. Incompatible with crop farming where there is no prey, and with livestock unless natural prey remains.</i>
<i>African wildcat</i>	<i>Felis silvestris caffra</i>	<i>Widespread declines and genetic mixing with domestic cats</i>	<i>Can survive in farmland, but is persecuted for attacks on small stock and poultry and vulnerable to indiscriminate trapping, snaring and poisoning.</i>
<i>Banded mongoose</i>	<i>Mungos mungo</i>	<i>Widespread declines, local extirpation</i>	<i>Does best where diverse large herbivores produce abundant dung where it forages for insects. Vulnerable to indiscriminate trapping and poisoning</i>
<i>Bat-eared fox</i>	<i>Otocyon megalotis</i>	<i>Widespread declines, local extirpation, possible local increases</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Requires abundant termites for food. Vulnerable to indiscriminate poisoning and trapping, and to domestic dogs and their diseases. Pelts are in demand.</i>
<i>Black rhino</i>	<i>Diceros bicornis</i>	<i>Sharp declines ending in extirpation outside fortress sanctuaries</i>	<i>Extremely vulnerable to organised poaching, and anti-poaching measures are beyond the means of landowners who can realise no value from their animals.</i>
<i>Black wildebeest</i>	<i>Connochaetes gnou</i>	<i>Localised declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Consumptive game ranches running black wildebeest will convert back to livestock</i>
<i>Black-backed jackal</i>	<i>Canis mesomelas</i>	<i>Widespread declines and extirpations</i>	<i>As consumptive private reserves convert back to livestock jackal control will revert back to the indiscriminate elimination of the pre-1990s.</i>
<i>Black-footed cat</i>	<i>Felis nigripes</i>	<i>Widespread declines</i>	<i>Can survive on well-managed livestock land but overgrazing deprives them of cover and prey. Vulnerable to indiscriminate trapping and poisoning.</i>
<i>Blesbok</i>	<i>Damaliscus pygargus phillipsi</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Blesbok are mainly on consumptive game farms that will revert to livestock without the cash income from trophy hunting</i>
<i>Blue duiker</i>	<i>Philantomba monticola</i>	<i>Declines, localised extirpations</i>	<i>Forest habitat specialists, very vulnerable to the snaring and hunting with dogs that follows incursions into areas previously managed for wildlife</i>
<i>Blue wildebeest</i>	<i>Connochaetes taurinus</i>	<i>Widespread declines, local extirpations that may become large scale</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Blue wildebeest on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock and fences into extensive consumptive wildlife areas will block migrations and gene flow.</i>
<i>Bontebok</i>	<i>Damaliscus</i>	<i>Widespread declines, local</i>	<i>Bontebok on consumptive game farms that will revert to livestock without the cash income</i>

	<i>pyargus pygargus</i>	<i>extirpations</i>	<i>from trophy hunting will disappear.</i>
<i>Brown hyaena</i>	<i>Hyaena brunnea</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Can survive in extensive livestock areas but not with intensive livestock. Targeted for livestock killings and vulnerable to indiscriminate trapping and poisoning. Their front legs are used for traditional charms.</i>
<i>Bushbuck</i>	<i>Tragelaphus scriptus</i>	<i>Widespread declines, local extirpations</i>	<i>Needs woodland and forest that are vulnerable to conversion and mismanagement under agriculture or traditional use. Very vulnerable to snaring and poaching with dogs.</i>
<i>Bushpig</i>	<i>Potamochoerus larvatus</i>	<i>Widespread declines, local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Incompatible with crop farming. Vulnerable to snaring.</i>
<i>Bushveld elephant shrew</i>	<i>Elephantulus intufi</i>	<i>Possible widespread decline</i>	<i>Habitat degradation under livestock and especially poorly managed pastoralism is inevitable.</i>
<i>Bushy-tailed mongoose</i>	<i>Bdeogale crassicauda</i>	<i>Unknown</i>	<i>This species has hardly been studied at all</i>
<i>Cape fox</i>	<i>Vulpes chama</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Widely persecuted on livestock farms for attacks on lambs and kids. Vulnerable to dogs, indiscriminate trapping and poisoning. Some demand for pelts.</i>
<i>Cape grey mongoose</i>	<i>Galerella pulverulenta</i>	<i>Widespread declines</i>	<i>Badly managed livestock cause general habitat degradation</i>
<i>Cape grysbok</i>	<i>Raphicerus melanotis</i>	<i>Localised declines</i>	<i>Not much of it habitat is currently managed for hunting</i>
<i>Cape hare</i>	<i>Lepus capensis</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs</i>
<i>Cape mountain zebra</i>	<i>Equus zebra zebra</i>	<i>Local declines and extirpations</i>	<i>If consumptive game ranches with zebras revert to livestock the zebras will be shot out or moved.</i>
<i>Cape rock elephant-shrew</i>	<i>Elephantulus edwardii</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Badly managed livestock cause general habitat degradation</i>
<i>Caracal</i>	<i>Caracal caracal</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. As consumptive private reserves convert back to livestock caracal control will revert back to the indiscrete elimination of the pre-1990s.</i>

<i>Central African large spotted genet</i>	<i>Genetta maculata</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by over-stocked free-ranging cattle degrades habitat. Persecuted for raiding poultry, vulnerable to indiscriminate trapping and poisoning.</i>
<i>Chacma baboon</i>	<i>Papio hamadryas ursinus</i>	<i>Widespread declines and local extirpations</i>	<i>Incompatible with crops, vegetables and fruit orchards. A pest of small livestock. Unwelcome in residential areas for raids on houses and garden and attacks on people.</i>
<i>Cheetah</i>	<i>Acinonyx jubatus</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Cheetahs on livestock farms and consumptive game ranches and conservancies will lose their tangible value and be eliminated as problem animals. Edge effects along unfenced protected area boundaries will compromise core populations.</i>
<i>Damara dik-dik</i>	<i>Madoqua damarensis</i>	<i>Localised declines and extirpations</i>	<i>The distribution is very limited. Overgrazing by badly managed livestock degrades habitat, they are very vulnerable to snaring and poaching with dogs.</i>
<i>Damara ground squirrel</i>	<i>Xerus princeps</i>	<i>Declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by livestock degrades habitat.</i>
<i>Dwarf mongoose</i>	<i>Helogale parvula</i>	<i>Widespread declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>Eastern rock elephant-shrew</i>	<i>Elephantulus myurus</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>Egyptian mongoose</i>	<i>Herpestes ichneumon</i>	<i>Declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by livestock degrades habitat. Vulnerable to dogs, persecuted for raiding poultry and perceived attacks on small livestock, vulnerable to indiscriminate trapping and poisoning.</i>
<i>Eland</i>	<i>Taurotragus oryx</i>	<i>Large widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Eland on consumptive game ranches and in conservancies will be replaced by livestock, eland on abandoned hunting concession will be poached.</i>
<i>Four-toed elephant-shrew</i>	<i>Ptrodromus tetradactylus</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>Gemsbok</i>	<i>Oryx gazella</i>	<i>Large widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Gemsbok on consumptive game ranches and conservancies will be replaced by livestock,</i>

			<i>gemsbok in abandoned hunting concession will be poached.</i>
<i>Giraffe</i>	<i>Giraffe camelopardalis</i>	<i>Large widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Giraffe on consumptive game ranches and conservancies will be replaced by livestock, giraffe in abandoned hunting concession will be poached.</i>
<i>Grant's lesser bushbaby</i>	<i>Galagoides granti</i>	<i>Widespread declines</i>	<i>Depends on woodland, which is vulnerable to mismanaged livestock and over-harvesting of timber</i>
<i>Grey duiker</i>	<i>Silvicapra grimmia</i>	<i>Large widespread declines, local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Vulnerable to poaching with dogs and snaring.</i>
<i>Grey rhebok</i>	<i>Pelea capreolus</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Vulnerable to poaching with dogs.</i>
<i>Ground pangolin</i>	<i>Mais temminckii</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Very vulnerable to poaching wherever there is public access.</i>
<i>Hartmann's mountain zebra</i>	<i>Equus zebra hartmannae</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Zebras on consumptive game ranches will be replaced by livestock and zebras on conservancies and abandoned hunting concession will be poached for skins and meat.</i>
<i>Hewitt's red rock rabbit</i>	<i>Pronolagus saundersiae</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs.</i>
<i>Hippo</i>	<i>Hippopotamus amphibius</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Riparian development deprives them of habitat. Water abstraction for crops deprives them of daytime refuges. Popular targets of meat and ivory poachers.</i>
<i>Honey badger</i>	<i>Mellivora capensis</i>	<i>Widespread declines</i>	<i>Overgrazing by livestock degrades habitat. Vulnerable to indiscriminate trapping, snaring and poisoning.</i>
<i>Impala</i>	<i>Aepyceros melampus</i>	<i>Widespread large declines and local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Impala on consumptive game ranches, conservancies and hunting concessions will be replaced by livestock, removed, or poached.</i>
<i>Jameson's red rock rabbit</i>	<i>Pronolagus randensis</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs.</i>
<i>Kaokaland slender mongoose</i>	<i>Galerella flavescens</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>



<i>Karoo-rock elephant shrew</i>	<i>Elephantulus pilicaudus</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>Klipspringer</i>	<i>Oreotragus oreotragus</i>	<i>Declines and local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by livestock degrades habitat. Vulnerable to poaching with firearms.</i>
<i>Kudu</i>	<i>Tragelaphus strepsiceros</i>	<i>Large widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Kudu on consumptive game ranches and in conservancies will be replaced by livestock, kudu on abandoned hunting concessions will be poached.</i>
<i>Leopard</i>	<i>Panthera pardus</i>	<i>Widespread declines and extirpations everywhere outside Parks and Reserves. Declines in Parks and Reserves</i>	<i>The rest of the subregion will follow South Africa where leopards are almost restricted to formally protected areas due to poaching and conflict killings. Leopards on game ranches in SA will be killed as problem animals when the ranches revert to livestock.</i>
<i>Lesser Bushbaby</i>	<i>Galago moholi</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Depends on woodland, which is vulnerable to mismanaged livestock and over-harvesting of timber</i>
<i>Lichtenstein's hartebeest</i>	<i>Alcelaphus lichtensteinii</i>	<i>Local declines and extirpations</i>	<i>The range in the subregion is extremely restricted. The population in the Kruger NP will be in affected. The few in Zimbabwe are vulnerable to poaching.</i>
<i>Lion</i>	<i>Panthera leo</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Incompatible with livestock and settlement. Lions on consumptive game ranches in South Africa, conservancies in Namibia and vacated hunting concessions in Botswana, Zimbabwe and Mozambique will be killed as problem animals and poached for skins, teeth, claws and bones. Core populations will suffer edge effects and lose connectivity.</i>
<i>Meerkat</i>	<i>Suricata suricatta</i>	<i>Widespread declines</i>	<i>Can survive in livestock areas but overstocking degrades habitat.</i>
<i>Meller's mongoose</i>	<i>Rhynchogale melleri</i>	<i>Likely declines</i>	<i>Almost nothing is known about this species</i>
<i>Mountain reedbuck</i>	<i>Redunca fulvorufula</i>	<i>Widespread declines.</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Mountain reedbuck on consumptive ranches and concessions will be replaced by livestock. Vulnerable to poaching with dogs and a popular target for coursing competitions.</i>
<i>Natal red rock rabbit</i>	<i>Pronolagus crassicaudatus</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs.</i>
<i>Nyala</i>	<i>Tragelaphus</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat.</i>

	<i>ngasii</i>		<i>Nyala on consumptive game ranches will be replaced by livestock or poached for meat using firearms and dogs. They are forest/woodland animals; habitats that are susceptible to over-harvesting of timber and poorly managed livestock.</i>
<i>Oribi</i>	<i>Ourebia ouribi</i>	<i>Widespread declines and extirpations</i>	<i>Oribi on consumptive game ranches will be displaced by livestock and poached out with dogs. A popular target for coursing competitions.</i>
<i>Palm civet</i>	<i>Nandinia binotata</i>	<i>Declines</i>	<i>Marginal in the subregion, dependent on forest that will be degraded and fragmented by incursions of crops and livestock.</i>
<i>Plains zebra</i>	<i>Equus quagga</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Zebra on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock and fences into extensive consumptive wildlife areas will block migrations and gene flow. Popular targets for poachers in search of meat and skins.</i>
<i>Puku</i>	<i>Kobus vardonii</i>	<i>No effect in the subregion</i>	<i>The extreme northern edge of the subregion is the southern limit of puku distribution and a few dozen live there in a National Park</i>
<i>Red bush squirrel</i>	<i>Paraxerus palliatus</i>	<i>Declines, local extirpations</i>	<i>A forest specialist susceptible to habitat loss through timber extraction, clearance for crops, and burning.</i>
<i>Red duiker</i>	<i>Cephalophus natalensis</i>	<i>Declines, localised extirpations</i>	<i>Forest habitat specialists, very vulnerable to the snaring and hunting with dogs that follows incursions into areas previously managed for wildlife</i>
<i>Red hartebeest</i>	<i>Alcelaphus buselaphus</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Red hartebeest on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock and fences into extensive consumptive wildlife areas will block migrations and gene flow.</i>
<i>Red lechwe</i>	<i>Kobus leche</i>	<i>Papid localised declines leading to extirpations</i>	<i>Translocated lechwe in South Africa will be replaced by livestock. Core populations in the Okavango - Chobe - Linyanti are in National Parks and Reserves</i>
<i>Riverine rabbit</i>	<i>Bunolagus monticularis</i>	<i>No likely effect</i>	<i>The very small numbers are currently not in consumptive wildlife areas</i>
<i>Roan</i>	<i>Hippotragus equinus</i>	<i>Widespread declines and localised extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Roan on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade tall grass habitat. Roan are popular targets for meat poachers..</i>
<i>Rock dassie</i>	<i>Procavia capensis</i>	<i>Declines</i>	<i>Will be targeted for meat and pelts by people encroaching into previous consumptive wildlife areas</i>
<i>Round-eared</i>	<i>Macroselides</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>

<i>elephant shrew</i>	<i>proboscideus</i>		
<i>Sable</i>	<i>Hippotragus niger</i>	<i>Widespread declines and local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Sable on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade tall grass habitat.</i>
<i>Samango monkey</i>	<i>Cercopithecus albogularis</i>	<i>Declines</i>	<i>Dependent on dense woodland and forest which are vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation. They will be persecuted as pests of crops and fruit. Skins are in demand for traditional ceremonial attire.</i>
<i>Scrub hare</i>	<i>Lepus saxatilis</i>	<i>Widespread declines</i>	<i>Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs</i>
<i>Selous' mongoose</i>	<i>Paracynictis selousi</i>	<i>Unknown.</i>	<i>Although common this species has not been studied.</i>
<i>Serval</i>	<i>Leptailurus serval</i>	<i>Widespread declines, local extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Depends on tall grass habitats that are degraded by overgrazing by livestock. Persecuted for perceived attacks on small livestock and poultry. Very vulnerable to dogs. Skins are sought after.</i>
<i>Sharpe's grysbok</i>	<i>Raphcerus sharpei</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Vulnerable to snaring and poaching with dogs</i>
<i>Short-snouted elephant-shrew</i>	<i>Elephantulus brachyrhynchus</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>Side-striped jackal</i>	<i>Canis adustus</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for perceived attacks on small livestock. Vulnerable to indiscriminate predator control with traps and poison. Some demand for pelts.</i>
<i>Sitatunga</i>	<i>Tragelaphus spekii</i>	<i>No effect in the subregion</i>	<i>Core populations are in National Parks and Reserves</i>
<i>Slender mongoose</i>	<i>Galerella sanguinea</i>	<i>Minor declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for raids on poultry. Vulnerable to indiscriminate poisonings</i>
<i>Small grey mongoose</i>	<i>Galeralla pulverulenta</i>	<i>Minor declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for raids on poultry. Vulnerable to indiscriminate poisonings</i>
<i>Small-spotted</i>	<i>Genetta genetta</i>	<i>Minor declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for raids on poultry. Vulnerable to indiscriminate poisonings</i>

<i>genet</i>			
Smith's red rock rabbit	<i>Pronolagus rupestris</i>	Declines	Overgrazing by livestock degrades habitat. Vulnerable to poaching with dogs.
South African ground-squirrel	<i>Paraxerus cepapi</i>	Widespread declines	Overgrazing by livestock degrades habitat and depletes food supply. Not compatible with crops or vegetables
South African large-spotted genet	<i>Genetta tigrina</i>	Minor declines	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for raids on poultry. Vulnerable to indiscriminate poisonings
Southern African hedgehog	<i>Atelerix frontalis</i>	Widespread declines	Spines are in demand by traditional healers
Southern African porcupine	<i>Hystrix africaeaustralis</i>	Widespread declines	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Persecuted for damage to crops, pumpkins and root vegetables. Poached for meat and quills.
Southern reedbuck	<i>Redunca arundinum</i>	Widespread declines and extirpations	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Reedbuck on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Very vulnerable to poaching with dogs.
Spotted hyaena	<i>Crocuta crocuta</i>	Widespread serious declines and extirpations	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Not compatible with livestock or settlements. Core populations in National Parks and Reserves will suffer edge effects.
Spotted-necked otter	<i>Lutra maculocollis</i>	Declines	Degradation of riparian and wetland habitat reduces otter numbers. Over-fishing depletes their prey base.
Springbok	<i>Antidorcas marsupialis</i>	Widespread serious declines and extirpations	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Springbok on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade habitat. Fences will block migrations and reduce population connectivity.
Springhare	<i>Pedetes capensis</i>	Widespread declines	Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Overgrazing by livestock, especially badly managed pastoralism, degrades habitat and reduces food supply. Incompatible with crops and vegetables. A popular source of bushmeat,

<i>Steenbok</i>	<i>Raphicerus campestris</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Steenbok on consumptive game farms that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade habitat. Very vulnerable to snares and poaching with dogs.</i>
<i>Striped polecat</i>	<i>Ictonyx striatus</i>	<i>Widespread declines</i>	<i>Overgrazing by badly-manged livestock will degrade habitat. Some demand for pelts to traditional ritual attire</i>
<i>Striped tree squirrel</i>	<i>Funisciurus congicus</i>	<i>Declines and local extirpations</i>	<i>Dependent on woodland which is vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation.</i>
<i>Sun squirrel</i>	<i>Heliosciurus mutabilis</i>	<i>Large declines and local extirpations</i>	<i>Dependent on forest, which is vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation.</i>
<i>Suni</i>	<i>Neotragus moschatus</i>	<i>Localised declines and extirpations</i>	<i>Dependent on forest, which is vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation. Very vulnerable to snares and dogs, and largely restricted to wildlife areas. And which only a small fraction are non-consumptive.</i>
<i>Thick-tailed bushbaby</i>	<i>Otolemur crassicaudatus</i>	<i>Widespread declines</i>	<i>Dependent on woodland which is vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation.</i>
<i>Tree dassie</i>	<i>Dendrohyrax arboreus</i>	<i>Declines and local extirpations</i>	<i>Dependent on forest, which is vulnerable to over-harvesting, clearing for agriculture, fire and fragmentation.</i>
<i>Tsessebe</i>	<i>Damaliscus lunatus</i>	<i>Widespread declines and extirpations.</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Tsessebe on consumptive game ranches that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade habitat. Very vulnerable to poaching with firearms</i>
<i>Vervet Monkey</i>	<i>Cercopithecus pygerythrus</i>	<i>Widespread declines</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Incompatible with crops, vegetables and fruit orchards. Unwelcome in residential areas for raids on houses and gardens. Skins are in demand for traditional ritual attire.</i>
<i>Warthog</i>	<i>Phacochoerus africanus</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Warthogs on consumptive game ranches and conservancies will be displaced by livestock, warthogs in abandoned hunting concession will be poached. With no value for either meat or trophies they will be eradicated at large scale to reduce transmission of African swine fever to domestic pigs.</i>
<i>Water mongoose</i>	<i>Atilax paludinosus</i>	<i>Widespread declines</i>	<i>Riparian development and agriculture will degrade habitat. Persecuted for perceived raids on poultry, vulnerable to indiscriminate predator control by traps and poison.</i>
<i>Waterbuck</i>	<i>Kobus ellipsiprymnus</i>	<i>Widespread declines and extirpations</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Dependent on well-watered riparian habitat that is also favoured for crops and livestock.</i>

			<i>Waterbuck on consumptive game ranches that will revert to livestock without the cash income from trophy hunting will disappear. Encroachment of livestock into extensive consumptive wildlife areas will degrade habitat.</i>
<i>Western rock elephant shrew</i>	<i>Elephantulus rupestris</i>	<i>Declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<i>White rhino</i>	<i>Ceratotherium simum</i>	<i>Sharp declines ending in extirpation outside fortress sanctuaries</i>	<i>Conversion of consumptive wildlife-based land use to agriculture will deprive it of habitat. Extremely vulnerable to organised poaching, and anti-poaching measures are beyond the means of landowners who can realise no value from their animals.</i>
<i>White-tailed mongoose</i>	<i>Ichneumia albicauda</i>	<i>Widespread declines</i>	<i>Persecuted for perceived attacks on small livestock. Vulnerable to indiscriminate predator control with traps and poison.</i>
<i>Yellow mongoose</i>	<i>Cynictis penicillata</i>	<i>Possible widespread declines</i>	<i>Overgrazing by livestock degrades habitat. Yellow mongooses are a reservoir host of canine rabies and historically colonies were blasted with dynamite in attempts to limit its spread. Vulnerable to indiscriminate predator control with traps and poison.</i>
<i>Yellow-spot dassie</i>	<i>Heterohyrax brucei</i>	<i>Local declines</i>	<i>Overgrazing by livestock degrades habitat.</i>
<b>117 species</b>			
<i>Number of declines</i>		112	
<i>Number of extirpations</i>		54	
<i>No effect</i>		3	
<i>Unknown</i>		2	

August 2021