Sylvicapra grimmia – Common Duiker

Regional Red List status (2016)	Least Concern
National Red List status (2004)	Least Concern
Reasons for change	No change
Global Red List status (2016)	Least Concern
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	No

The Common Duiker is highly adaptable, elusive and resilient; they vary from other duiker species in their presence in savannah habitats rather than forests, and their more slender body shape (Bowland 1997).

Taxonomy

Sylvicapra grimmia (Linnaeus 1758)

ANIMALIA - CHORDATA - MAMMALIA - CETARTIODACTYLA - BOVIDAE - *Sylvicapra* - *grimmia*

Synonyms: *Capra grimmia* (Linnaeus 1758)

Common names: Common Duiker, Bush Duiker, Grey Duiker, Grimm's Duiker (English), Gewone Duiker, Duiker (Afrikaans), Ipunzi, Ejayelekileko (Ndebele), Impunzi (Ndebele, Xhosa, Zulu), Phuthi (Sepedi, Sesotho), Phuti, Ntsha (Sepedi), Photi, Phôti, Phothi (Setswana), Imphunzi (Swati), Mhunti (Tsonga), Ndsa, Ntsa (Venda)

Taxonomic status: Species

Taxonomic notes: As many as fourteen subspecies of *Sylvicapra grimmia* have been recognised in Africa (Grubb & Groves 2001; Wilson 2013), however it is difficult to identify the precise geographic limits of each subspecies as the Common Duiker has a continuous distribution across sub-Saharan Africa (Wilson 2013). Some of these subspecies can be distinguished based on colouration and size characteristics (Wilson 2013). Within the assessment region, *S. g. grimmia* occurs in the extreme south of the species' range (Western, Eastern and Northern Cape provinces; Skinner & Chimimba 2005), and is substantially greyer in colour compared to the other subspecies, hence the alternate name, Grey Duiker in the Cape (Wilson 2013). *Sylvicapra g. caffa* is found further north of *S. g. grimmia* within the KwaZulu-Natal, North West, Gauteng, Mpumalanga and Limpopo provinces (Skinner & Chimimba 2005), extending into southern Mozambique and eastern Zimbabwe (Wilson 2013). The sandy-coloured *S. g. steinhardti* ranges throughout Namibia into Angola, Botswana and marginally into the Northern Cape Province to Port Nolloth (Wilson 2013). While distribution is continuous, there are many cases of intergradation but geographical boundaries between forms have not been delineated accurately (IUCN SSC Antelope Specialist Group 2016). Hence only the species is assessed here.

Assessment Rationale

Listed as Least Concern as the species is widespread and abundant within the assessment region, with a global total population size in the millions. Although bushmeat hunting may cause localised declines, the Common Duiker is resilient and should continue to exist in large numbers over its range. This species is also able to exist in agricultural landscapes, providing that the natural peripheral vegetation cover remains intact. It is a key prey species and subpopulations should be sustained by improving habitat condition and installing permeable fences on land outside protected areas as part of holistic management strategies to reduce potential livestock/game damage from predators.

Regional population effects: There are numerous routes for dispersal into the assessment region through transfrontier areas, such as the Great Limpopo Transfrontier Park, Kgalagadi Transfrontier Park and the Greater Mapungubwe Transfrontier Conservation Area.

Distribution

The Common Duiker is one of the most widely distributed antelopes throughout sub-Saharan Africa (IUCN SSC Antelope Specialist Group 2016), occurring within savannah woodland habitats. Although they may utilise the shelter of forest fringes when disturbed, they are generally absent from forests (Skinner & Chimimba 2005). They do not occur within desert regions unless they are following vegetated watercourses, such as parts of the Namib Desert (Skinner & Chimimba 2005). Similarly, they avoid open grasslands where tree cover is limited, aside from the very long grassland habitats of Nyika Plateau in Malawi (Skinner & Chimimba 2005). Despite the large-scale anthropogenic habitat conversion, much of their historical geographic range has remained stable as they can persists despite dense human populations (IUCN SSC Antelope Specialist Group 2016). This species is considerably adaptable to land transformation, as it is known to persist in peri-urban and urban areas, and on the fringes of agricultural areas, where natural vegetation remains predominantly undisturbed.

Recommended citation: Birss C, Relton, C, Selier, J. 2016. A conservation assessment of *Sylvicapra grimmia*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

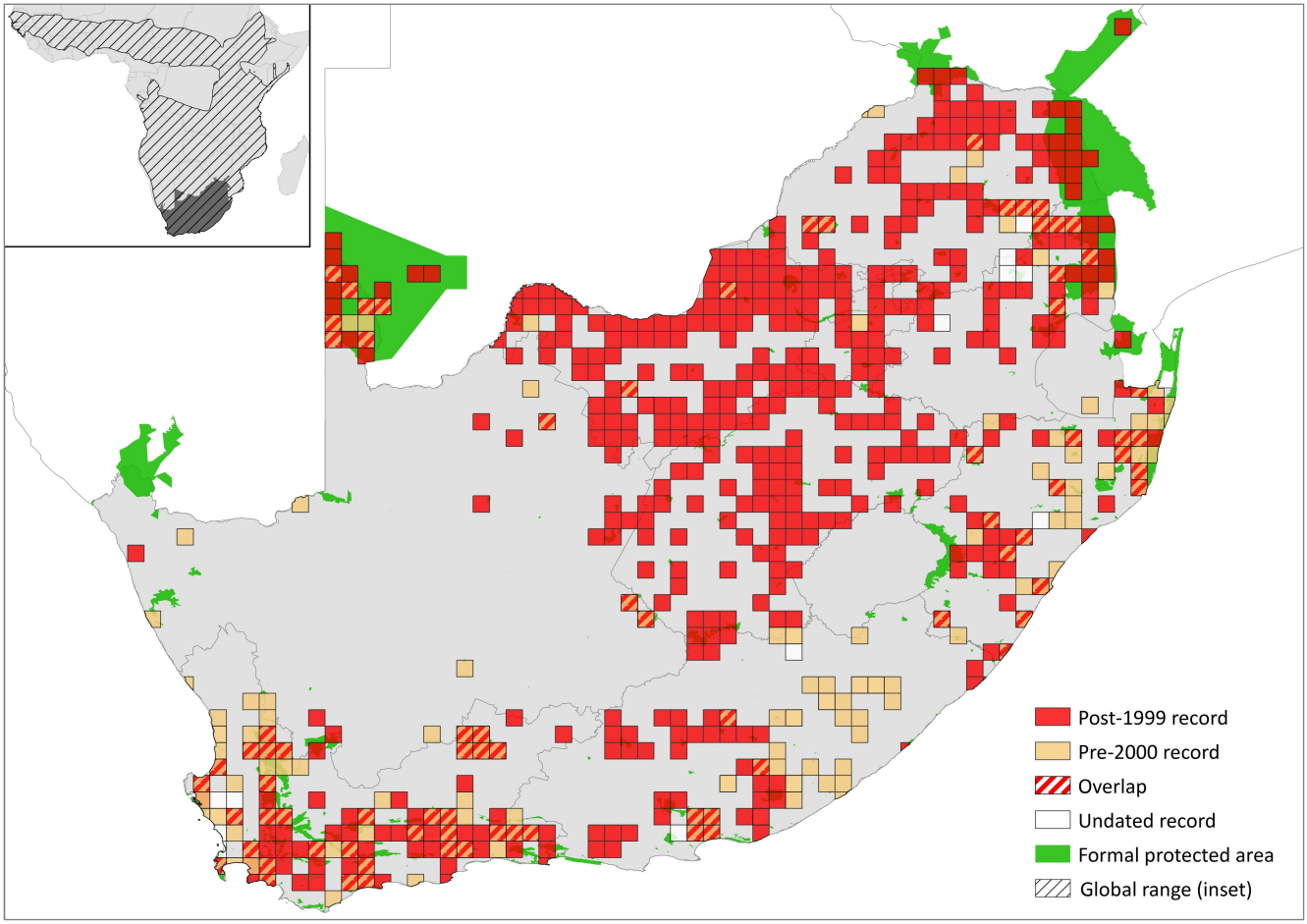

Figure 1. Distribution records for Common Duiker (*Sylvicapra grimmia*) within the assessment region

Table 1. Countries of occurrence within southern Africa

Country	Presence	Origin
Botswana	Extant	Native
Lesotho	Extant	Native
Mozambique	Extant	Native
Namibia	Extant	Native
South Africa	Extant	Native
Swaziland	Extant	Native
Zimbabwe	Extant	Native

In southern Africa, Common Duiker occur extensively through Namibia, Botswana (although they are uncommon in the region of the Okavango Delta), Zimbabwe and Mozambique (south of the Zambezi River). Within the assessment region, it is widespread through all provinces and through all biomes in South Africa, is widespread in Swaziland, but is considered rare in Lesotho (Lynch 1994), which may be a result of its lack of sufficient vegetation cover and browse resources (Skinner & Chimimba 2005).

Population

Aerial surveys produced population density estimates of 0.01–0.15 individuals / km², however, due to the secretive nature of this species, this is likely to be an underestimate (East 1999). Within favourable habitats where this species is common, ground surveys revealed population density estimates of 0.3–1.7 individuals / km² (IUCN SSC Antelope Specialist Group 2016). Wilson (2001) summarises some recorded densities of Common Duiker from various localities in Africa in different vegetation types using line transects. Within the assessment region, in the Greater Addo Elephant National Park, Common Duiker occur across a substantial range of habitats, and densities ranged from 0.44 individuals / km² in the less favourable Dunefield habitat class, to 17 individuals / km² in the more suitable Riparian Woodland habitat class (Boshoff et al. 2002). A global population estimate of 1,660,000 was recommended by East (1999), however, more recently Wilson (2013) suggested that this may in fact be an underestimate, and the overall population may be more in the range of 10 million individuals. Generally, the population trend of the Common Duiker is considered to be stable, although some localised declines, as a result of hunting pressure, have been identified in Gabon and Niger (IUCN SSC Antelope Specialist Group 2016).

Within the assessment region, while no comprehensive count data are available, we infer from their wide distribution and high densities that there are well over 10,000 mature individuals with a stable or increasing population trend, albeit with localised declines in some areas from severe hunting pressure. The Common Duiker is one of the few African antelope species that has demonstrated adaptation to urbanisation and human settlements and exhibits continuous distribution within semi-urbanised environments. Its wide range of tolerance for different habitats enables its continuous distribution across the bioregional variation within South Africa, although it has been proposed that this species exhibits clinal variation across bioregions which would need to be supported by genetic research.

Current population trend: Stable. Although the population may be increasing in some areas, in other regions increased bushmeat demand and hunting is causing local declines.

Continuing decline in mature individuals: Yes, from severe hunting in some areas.

Number of mature individuals in population: >10,000 individuals

Number of mature individuals in largest subpopulation: Unknown

Number of subpopulations: Unknown

Severely fragmented: No

Photo 1. Common Duiker in an agricultural landscape in North West Province (R. John Power).

Habitats and Ecology

This species occurs extensively across a variety of habitats, with the exception of deserts and rainforests. The availability of woody vegetation or tall grass cover is an integral habitat requirement for this species for shelter, protection, shade and food resources, thus the Common Duiker is most characteristically a savannah woodland species. They occasionally occur in open tall grasslands, extending into mountainous habitats, such as Mt. Kilimanjaro and Mt. Kenya (Wilson 2013), as well as the Fynbos Biome in the southwestern extent of their range; but are generally absent from short grasslands (Skinner & Chimimba 2005). The Common Duiker adapts successfully to habitat conversion and fragmentation resulting from agricultural expansion, remaining along the fringes of cultivated areas (Photo 1), occasionally extending into agricultural lands once crops have reached sufficient heights to provide cover (Skinner & Chimimba 2005; Wilson 2013). They also survive in areas where there is low secondary growth (IUCN SSC Antelope Specialist Group 2016).

A study conducted in the Soutpansberg Mountains showed that the Common Duiker preferred feeding in areas with tall grass and scattered fern (sufficient cover and escape routes), followed by wooded islands and thick fern (lack of sightlines/escape routes and presence of predator ambush sites), whereas little foraging occurred at the edges and rocky areas (hard substrate that impede escape potential) (Baker & Brown 2013). Within the Grants Valley, Eastern Cape chicory provided more than one third of the Common Duiker's winter diet and a substantial proportion (14.4%) of the spring diet (Kigozi 2003). Its wide range of tolerance for different habitats enables its continuous distribution across the bioregional variation within South Africa, although it has been proposed that this species exhibits clinal variation across bioregions, which would need to be supported by genetic research. Habitat connectivity across different vegetation types is essential to maintain gene-flow and clinal variation within this species. Its distribution is continuous and widespread throughout South Africa with lower densities in areas without suitable cover.

The Common Duiker is a selective feeder or concentrate selector with a varied diet, but is predominantly a browser, which does not concentrate its feeding on one of a few species (Prins et al. 2006). This species is known to consume a variety of foliage, fruit, seeds, herbs, and occasionally, cultivated crops (Wilson 2013). Gagnon and Chew (2000) reported the percentage of monocots in the diet of the Common Duiker as 12%, whereas a study conducted in southern Mozambique found 14-30% inclusion of monocots in the Common Duiker diet (Prins et al. 2006).

Generally solitary, the Common Duiker is only found in female-young pairs, or male-female pairs while the female is in oestrus (Skinner & Chimimba 2005). This species is an aseasonal breeder, and young may be born at any time of the year following a gestation period of 191 days (Bowland 1997). Young mature rapidly, and females are able to conceive at just 8–9 months old (Bowland 1997; Skinner & Chimimba 2005). Usually one lamb is born, weighing 1.5 kg (Bowland 1997).

Ecosystem and cultural services: This species forms a valuable prey component of the diet of a number of predators, such as Leopard (*Panthera pardus*) (Hayward et al. 2006), Lion (*Panthera leo*) and Spotted Hyaena (*Crocuta crocuta*) (Hayward 2006).

Table 2. Use and trade summary for the Common Duiker (*Sylvicapra grimmia*)

Category	Applicable?	Rationale	Proportion of total harvest	Trend
Subsistence use	Yes	Bushmeat and traditional hunting	Majority	Stable
Commercial use	Yes	Trophy hunting	Minority	Stable
Harvest from wild population	Yes	Bushmeat and traditional hunting	>95%	Stable
Harvest from ranched population	Yes	Trophy hunting	<5%	Stable
Harvest from captive population	Yes	Trophy hunting	<1%	Stable

Table 3. Possible net effects of wildlife ranching on the Common Duiker (*Sylvicapra grimmia*) and subsequent management recommendations

Net effect	Positive, in most of its range
Data quality	Anecdotal
Rationale	This species does not have a high commercial value in the wildlife ranching industry. It has not been widely reintroduced due to its persistence in the landscape. Information on its suitability for keeping in captivity is very poor. It does not have a high tourism value and due to its low densities, is not ideally suited for keeping at high or artificial stocking rates or supporting a sustainable hunting industry by itself.
Management recommendation	This species is considered to be "density dependant" and land owners are encouraged to monitor persistence, density and the number of adult males where hunting off-takes are considered. Animals are generally solitary, or may occur in pairs. They maintain home ranges and territories, and population size is self-regulated according to available habitat type and quality. The level of clinal variation should be determined at a landscape scale through genetic research. Translocations across bioregional boundaries are actively discouraged through conservation legislation.

Use and Trade

This species is used for traditional and trophy hunting. The trade is properly controlled and is considered to be sustainable. It is also hunted as bushmeat, particularly in rural areas, the effects of which may cause local declines. Due to the abundance and low commercial value, interest in captive breeding and keeping of this species is insignificant.

Within savannah regions, the wildlife and ranching industry has probably had a positive influence on this species, as areas of suitable habitat have increased. However, in arid and fynbos regions the conversion from livestock to wildlife ranching is likely to have resulted in increased competition for food resources, and resultantly local abundance declines of Common Duiker, due to the stocking of additional species that did not naturally occur within those bioregions. Additionally, game farms with high quality impermeable fences may pose a threat to gene flow.

Threats

No major threats have been identified for the Common Duiker, however, this species is vulnerable to localised intensive hunting, which may result in local subpopulation declines or extinctions. This species is generally resilient and highly adaptable to habitat conversion and fragmentation, and is often able to persist within human-modified habitats (IUCN SSC Antelope Specialist Group 2016), such as on the fringes of agricultural areas and in close proximity to settlements, provided that suitable vegetation cover is available. However, the erection of impermeable fences is likely to inhibit gene flow. The Common Duiker is fairly resilient to disturbance from human settlements, even where feral dogs pose a risk, demonstrating well developed predator avoidance behaviour. However, young may be especially vulnerable to mortality, due to the increasing presence of stray dogs outside of protected areas. Similarly, increased hunting with dogs in rural areas is responsible for local declines (sensu Grey-Ross et al. 2010).

Current habitat trend: Stable. Human development and agriculture throughout the country have reduced habitat for native wildlife species. However, the Common Duiker shows wide habitat tolerance, and is able to withstand human induced transformation in most areas of its range. Extensive wildlife ranching in savannah habitats, too, may be generally improving veld condition for this species or conserving land that would otherwise be overgrazed by livestock. However, in other bioregions, such as arid and fynbos habitats, where larger herbivores were historically less diverse and numerous, and ecological niches are rather narrow, this species is less tolerant of increased

Table 4. Threats to the Common Duiker (*Sylvicapra grimmia*) ranked in order of severity with corresponding evidence (based on IUCN threat categories, with regional context)

Rank	Threat description	Evidence in the scientific literature	Data quality	Scale of study	Current trend
1	*5.1.1 Hunting & Collecting Terrestrial Animals*: subsistence hunting for bushmeat, often with dogs.	Grey-Ross et al. 2011	Indirect	Regional	Increasing, with the expansion of human settlements.
2	*2.3.2 Small-holder Grazing, Ranching or Farming* and *7.3 Other Ecosystem Modifications:* erection of fences, and expansion of ranching areas leading to habitat fragmentation. Current stresses *1.3 Indirect Ecosystem Effects* and *2.3.5 Indirect Species Effects*: loss of gene flow.	-	Anecdotal	-	Possibly increasing.
3	*8.1.2. Invasive Non-Native/Alien Species/Diseases:* increased mortality as a result of uncontrolled numbers of stray dogs.	-	Anecdotal	-	Increasing and unmanaged.
4	8*.1.2 Alien Species:* introduction of extra-limital herbivores into arid and fynbos areas increases resource competition. Current stress *2.3.2: Interspecific Competition*.	-	Anecdotal	-	Increasing with wildlife ranching expansion.

Table 5. Conservation interventions for the Common Duiker (*Sylvicapra grammia*) ranked in order of effectiveness with corresponding evidence (based on IUCN action categories, with regional context)

Rank	Intervention description	Evidence in the scientific literature	Data quality	Scale of evidence	Demonstrated impact	Current conservation projects
1	*2.1 Site/Area Management*: promotion of fence permeability.	-	Anecdotal	-	-	-
2	*5.1.3 Law & Policy*: establish provincial hunting proclamations and bag limits.	-	Anecdotal	-	-	-
3	*5.3 Private Sector Standards & Codes*: regulation of translocations and reintroductions to prevent ecotype mixing.	-	Anecdotal	-	-	-

competition by other locally introduced herbivores. Wildlife ranching is often reliant on erecting high quality impermeable fences which causes habitat fragmentation and impedes gene flow particularly in the smaller antelope and other similar sized animals.

Conservation

Although this species is present within numerous protected areas, including Kruger National Park and Kgalagadi Transfrontier Park, as well as on private lands, its survival is not currently dependant on protected areas as they are abundant in landscapes outside protected areas. However, the maintenance of gene flow and clinal variation will depend on the establishment and maintenance of landscape and biodiversity corridors, such as by installing permeable fences. Population persistence and abundance should be monitored on private lands, and localised threats associated with feral dogs and bushmeat hunting should be controlled as much as possible.

Recommendations for land managers and practitioners:

- Monitor persistence through the collection of sightings records.
- Monitor density where species is hunted.
- Determine level of clinal variation at landscape scale through genetic research: collect and bank genetic samples to support genetic analysis.
- Promote this species as a natural forage species for indigenous predators as part of the “holistic approach” to damage-causing animal management. Apply genetic conservation principles in the management of the ecotypic species. Where feasible and practical, ensure that fences are permeable particularly on conservation/stewardship sites.

Research priorities: The collection and storage of distribution information to monitor persistence of Common Duiker in the landscape is being conducted by CapeNature in the Western Cape. This information is used in bioregional planning and to inform gaps in data for the Western Cape. Research priorities include:

- Quantifying the effects of wildlife ranching on this species across bioregions.
- Quantifying the effects of habitat fragmentation on gene flow and clinal variation within this species.
- Quantifying the level of bushmeat hunting and illegal hunting with dogs.

Encouraged citizen actions:

- Report sightings and roadkills on virtual museum platforms (for example, iSpot and MammalMAP), especially outside protected areas.
- Landowners should ensure that disturbance of this species and its young is kept to a minimum, particularly with regards to domestic dogs.
- Report feral dogs and illegal hunting to the local municipality or conservation agency for follow-up actions.
- Landowners should monitor persistence and population densities.
- Promote fence permeability.
- Submit hunting returns (this enables higher confidences in calculating impacts of hunting and evaluating bag limit size).
- Create conservancies and maintain green corridors in urban landscapes.
- Understand and support the concept of genetic conservation with particular regard to ecotypic species and their management.

Data Sources and Quality

Table 6. Information and interpretation qualifiers for the Common Duiker (*Sylvicapra grimmia*) assessment

Data sources	Field study (literature, unpublished)
Data quality (max)	Estimated
Data quality (min)	Inferred
Uncertainty resolution	Best estimates
Risk tolerance	Evidentiary

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Details of the methods used to make this assessment can be found in *Mammal Red List 2016: Introduction and Methodology.*