Tragelaphus angasii – Nyala


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Regional Red List status (2016)	**Least Concern**
National Red List status (2004)	Least Concern
Reasons for change	No change
Global Red List status (2008)	Least Concern
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	No

"The imbala-intendi is very cunning; he lives in the very densest jungle, and never comes into the open except at night; he is a witch is the imbala-intendi" – description of the Nyala by a local headman in KwaZulu-Natal, 1896 (Anderson 1997).

Taxonomy

Tragelaphus angasii Angas 1849

ANIMALIA - CHORDATA - MAMMALIA-CETARTIODACTYLA - BOVIDAE - *Tragelaphus - angasii*

Synonyms: No synonyms

Common names: Nyala (English, Sepedi, Venda), Njala (Afrikaans), iNyala (Ndebele, Swati, Xhosa, Zulu), Tsama (Setswana), Litagayezi (Swati), Imbala-intendi, Nyale (Tsonga), iNyala inxala (Zulu)

Taxonomic status: Species

Taxonomic notes: No subspecies are recognised

Assessment Rationale

Although Nyala populations decline substantially in the past, the most recent rough abundance estimate (2013/14 counts) within South Africa is 40,398 animals, and there are estimated to be another 1,000 in Swaziland. The mature population that exists broadly within the natural range is estimated to be 16,217–22,114 animals (assuming a 55–75% mature population structure), but needs further fine-scale analysis and verification. Approximately 49% of the population occurs on private land in South Africa and their numbers are increasing due to it being a popular trophy-hunting and ecotourism species. However, many private subpopulations are intensively managed and may not be eligible for inclusion in the Red List. Including only formally protected areas within the natural distribution range yields a mature population size of 11,213–15,291 animals. There are no major threats to the species and subpopulations are considered to be stable or increasing. Provided that effective management and protection is upheld, it is likely that Nyala numbers will continue to increase on private lands. It should continue to be sustainably utilised so that private landowners are incentivised to reintroduce this species into areas of its natural range. No immediate conservation interventions are necessary but it can cause habitat degradation and lead to Bushbuck (*Tragelaphus sylvaticus*) declines in areas outside of its natural range, and thus regulations to prevent further introduction and naturalised subpopulations should be maintained.

Regional population effects: There is suspected to be dispersal along the northern border of South Africa between Botswana, Zimbabwe and Mozambique, through the Mapungubwe and Greater Limpopo Transfrontier areas and northeast KwaZulu-Natal. In Mozambique they are widespread south of the Zambezi with 50% in protected areas or hunting managed hunting reserves (coutadas).

Distribution

Nyala occur in subtropical/tropical areas with thickets or forests with a discontinuous natural distribution in southern Malawi (Lower Shire Valley), northern (Zambezi valley and Mana Pools National Park) and southern Zimbabwe, central and southern Mozambique, Swaziland and South Africa (including areas of the Limpopo, Mpumalanga and KwaZulu-Natal provinces). The populations in protected areas in Mozambique continue to increase, particularly in Gorongosa National Park and the Zambezi delta coutadas. Nyala from Lengwe have been used to establish a viable population on Sucoma Estate in Malawi. Although the native population of Nyala went extinct in Swaziland by the 1950s, they have been reintroduced successfully onto reserves in the middleveld and lowveld (Skinner & Chimimba 2005). They were historically thought to have occurred as far south as the Hluhluwe River (Anderson 2013) and as far west as Ellisras in Limpopo (Rautenbach 1982). There is little record of the distribution on Nyala prior to the Rinderpest epizootic in 1890s and as the *Tragelaphini* were particularly hard hit, it can be speculated that their natural distribution could have been wider than early records show. Nyala are impacted by cold wet conditions (Anderson 1985) and all early records of their distribution showed that they were only found in hot, low-altitude habitats below the 18° isotherm (Anderson 1976).

Since the early 1960s, animals have been translocated from game reserves in KwaZulu-Natal to other protected

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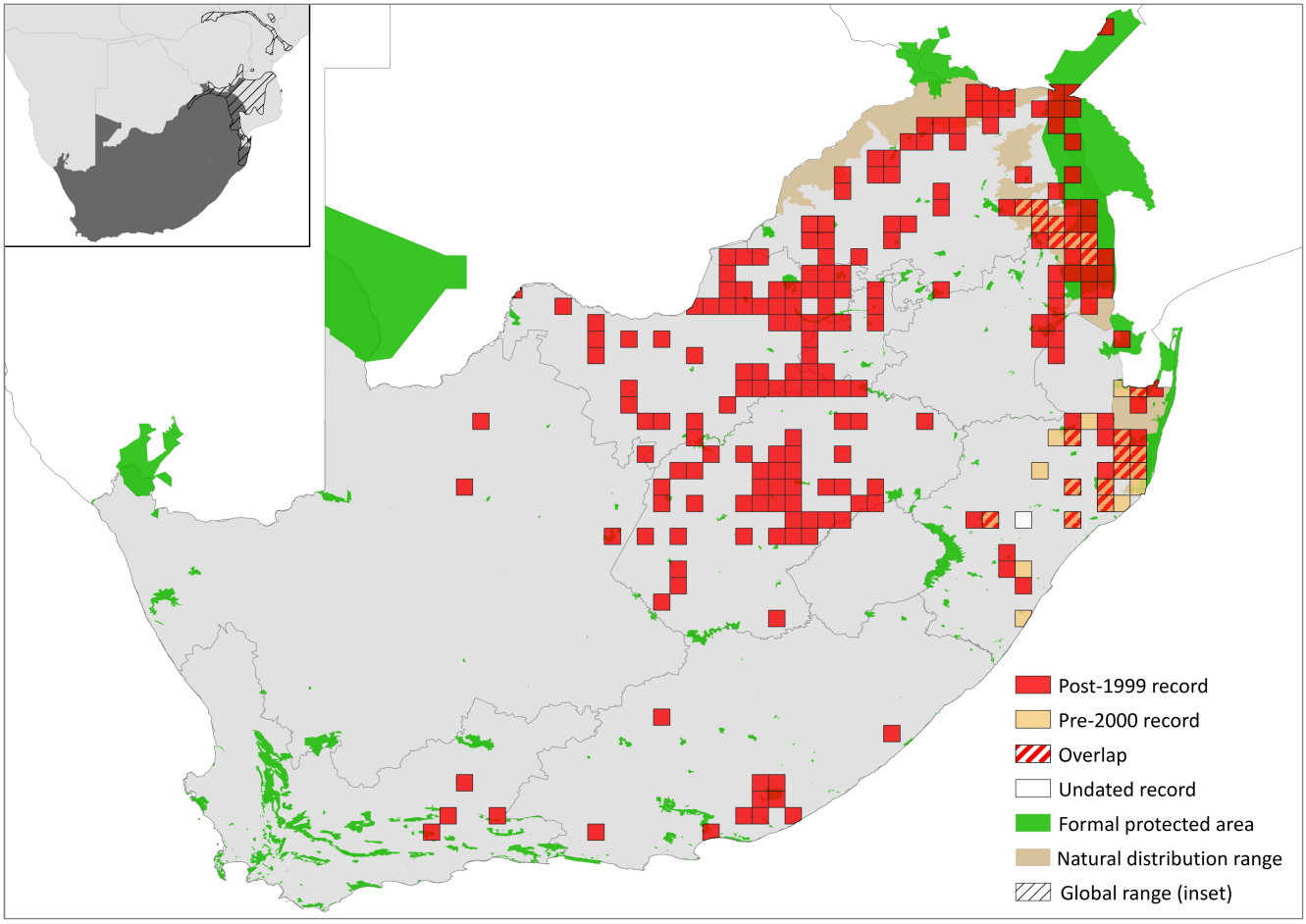

Figure 1. Distribution records for Nyala (*Tragelaphus angasii*) within the assessment region

Table 1. Countries of occurrence within southern Africa

Country	Presence	Origin
Botswana	Extant	Introduced
Lesotho	Absent	-
Mozambique	Extant	Native
Namibia	Extant	Introduced
South Africa	Extant	Native
Swaziland	Extant	Reintroduced
Zimbabwe	Extant	Native

areas and ranches both within and significantly outside its natural range within South Africa, as well as in northern Namibia in the farming districts (Anderson 2013). Additionally, habitat change brought about by the impacts of livestock and the control of fires has favoured woody plant encroachment and the development of Nyala habitat beyond their historical range, which has allowed landowners to introduce this species. They are generally well adapted to artificial range expansion (especially if supplementary feed is provided), as long as the habitats are suitable and do not experience wet winters or extended days of frost (Anderson 2013). In the North West Province, historical accounts give the distribution as far as about Stockpoort, Limpopo River (Rautenbach 1978), which means that they conceivably could have followed the Limpopo River, and entered the North West up a fork of the Marico River, given suitable conditions, but since this evidence is lacking, they remain an extra-limital species in the province. Additionally, the species was discovered on camera traps outside of game farms in the Mositha area, which suggests that escapees have naturalised in many areas (Power 2014). This has led to animals from the North West having spread into neighbouring parts of Botswana, such as the Tuli Block (Anderson 2013).

Population

The global population of Nyala was estimated at over 32,000 individuals by East (1999). The current global population is estimated at c. 36,500 with population trends generally stable or increasing (IUCN SSC Antelope Specialist Group 2016). Recent rough estimates suggest that the abundance of Nyala in South Africa may be at least 30,000, with the majority (~25,000) occurring in KwaZulu-Natal (Anderson 2013). The largest subpopulations are as follows: Ndumo (4,000), Mkhuze (7,000), Hluhluwe iMfolozi (7,000) (Rowe-Rowe 1994); and greater Kruger National Park (3,000) (Anderson 2013). The Swaziland population numbers around 1,000 animals on protected areas and ranches after successful reintroduction (Monadjem 1998). Using available population estimates from both protected areas and ranchlands across the country we estimate the current (2013–2014 counts) population size to be at least 40,398 on 417 properties, which equates to 41,398 if the Swaziland population is included. Of these, formally protected areas constitute 20,683 animals on 56 reserves (of which 20,388 animals on 43 properties occur within the natural range), which means the private sector accounts for *c*. 49% of the total population. Most of the population exists broadly within the natural range (taken to be

Limpopo, KwaZulu-Natal and Swaziland) with an estimated 29,485 animals in 122 properties. However, further scrutiny of whether such subpopulations truly occur within the natural range and whether most private subpopulations qualify as wild and free-roaming (not captive bred) is necessary for a more accurate population estimate. Using a mature population structure of 55–75%, the current mature population size within the natural range is thus estimated to be 16,217–22,114 animals. Generation length is estimated to be 5.5 years (IUCN SSC Antelope Specialist Group 2016), yielding a three generation period of *c*. 16 years (1999–2015). No reliable long-term subpopulation data are available to measure national population trend, but we suspect the population is stable or increasing.

In southern Africa, Zimbabwe has more than 1,000 animals (Anderson 2013), while numbers in Malawi have declined from 3,000 (East 1999) to about 1,500, most notably in the population in Lengwe National Park (which was originally created especially for this species). While still widespread in Mozambique, hunting pressure has probably reduced the population to around 3,000 (Anderson 2013). Extra-limital to the species' natural range, Namibia has about 250 individuals, all on private ranches. Overall, the population is suspected to be stable or increasing within the assessment region, especially on private land.

Current population trend: Stable or increasing

Continuing decline in mature individuals: No

Number of mature individuals in population: 11,213–15,291 animals on formally protected areas within the natural range.

Number of mature individuals in largest subpopulation: 3,850–5,250 on both Mkhuze and Hluhluwe iMfolozi.

Number of subpopulations: Unknown, but possible as many as 122 in the natural range.

Severely fragmented: No

Habitats and Ecology

This species is commonly associated with dense thickets and open thicket woodland mosaics in savannah woodland habitats or dry forests and thickets in riverine woodlands. Generally, home ranges occur near water, and may expand into open grasslands, floodplains or vleis (Skinner & Chimimba 2005). When disturbed, Nyala will retreat to the cover of dense thickets, and, in particularly vulnerable or disturbed environments, they will only roam into open areas at night (Skinner & Chimimba 2005). In KwaZulu-Natal, this species was traditionally restricted to coastal lowlands and riverine bushveld, up to altitudes of 200 m asl (Rowe-Rowe 1994).

This species is considered an intermediate mixed feeder (Hofmann 1988), consuming leaves, grasses (only when green and short), flowers, twigs and fruits (Skinner & Chimimba 2005). Nyala will drink water daily if available, but can survive successfully in in areas where no water in present for parts of the year (Anderson 2013). Following periods of rainfall, when grasses are most succulent, they constitute a large proportion of the Nyala's diet (Van Rooyen 1990, 1992). The Fever Tree (*Vachellia xanthophloea*), the Mustard Tree (*Salvadora persica*), Tambotie (*Spirostachys africana*), the Monkey Orange (*Strychnos* spp.) and the Buffalo Thorn (*Ziziphus mucronata*) were listed as important food sources for Nyala in Mozambique (Tello & Van Gelder 1975). Important grass species include *Digiteria eriantha*, *Panicum coloratum*, *P. maximum* and *Urochloa mosambicensis* (Skinner & Chimimba 2005).

Although Nyala breed throughout the year, a major peak in birth rate occurs from August to December, and a minor peak takes place in May (Skinner & Chimimba 2005). Females reach sexual maturity after about 14 months, while males are only considered to be socially sexually mature at about five years of age (Skinner & Chimimba 2005). Following a gestation period of 220 days, a single calf is born (twins are rare) usually in the shelter of closed thickets and commonly weighs between 4.2 and 5.5 kg (Tello & Van Gelder 1975). Lactation continues for a period of about seven months (Anderson 1984).

Ecosystem and cultural services: From a functional point of view, Nyala can be useful as browsers, as many farms have severe bush encroachment (Power 2014). It is a popular trophy hunting species, as well as being a visible and pretty game species for ecotourism.

Use and Trade

Nyala are subject to hunting for meat (bushmeat) and as trophies (IUCN SSC Antelope Specialist Group 2016). It is also traded at game auctions, and has a subsistence value as meat or for recreational biltong hunters. The Nyala has major national and international value as a trophy animal and possess considerable economic value. This demand (especially for adult males by trophy hunters) has led to the artificial dispersion of Nyala from game reserves in KwaZulu-Natal to other protected areas and private ranches in areas both within and outside of

Table 2. Use and trade summary for the Nyala (*Tragelaphus angasii*)

Category	Applicable?	Rationale	Proportion of total harvest	Trend
Subsistence use	Yes	Bushmeat	Minority	Increasing
Commercial use	Yes	Meat, trophies and live animal sales	Majority	Increasing
Harvest from wild population	Yes	Meat, trophies and live animal sales	~ 40% of commercial use	Increasing
Harvest from ranched population	Yes	Meat, trophies and live animal sales	At least 55% of commercial use	Increasing
Harvest from captive population	Yes	Meat, trophies and live animal sales	> 5% of commercial use	Increasing outside their natural distribution but also within natural distribution due to the value of this animal.

Table 3. Possible net effects of wildlife ranching on the Nyala (*Tragelaphus angasii*) and subsequent management recommendations

Net effect	Positive
Data quality	Anecdotal
Rationale	Wildlife ranching has generally had a positive effect on this species as it has been widely reintroduced onto private properties within its natural distributional range. However, reintroduction outside its natural range has led to habitat destruction and can cause declines in other species.
Management recommendation	Avoid introductions into areas of pristine habitat, particularly where there are prime Southern Bushbuck, *Tragelaphus sylvaticus*, subpopulations. Nyala are known to displace local Bushbuck populations, and are thus associated with declines in sympatric Bushbuck subpopulations (Coates & Downs 2005), thus it is important to monitor the impact Nyala have on Bushbuck where they are sympatric on game farms. Additionally, Nyala should not be introduced into regions prone to severe cold and wet winters.

their former distribution (Anderson 2013). Thus, trophy-hunting has had no negative effect on the population as its value as a trophy animal ensured an increase in numbers due to reintroductions. The rapid increase in the market price of live animals has created an incentive for landowners to manage Nyala for both live sales and the trophy hunting market. Under good conditions they breed throughout the year and in Ndumu Game Reserve, were found to have a mean calving interval of 297 days (Anderson 1984). This and the robust prices for live and trophy animals makes them a sensible option for wildlife ranches with suitable habitat and climate parameters. The current value (2014) of Nyala is R25,000 per head and record of R500,000. Additionally, there are many farmers breeding them commercially in camps, which includes selection of breeding males and other intensive management interventions.

Wildlife ranching has taken advantage of habitat changes brought about by woody plant encroachment – either as a result of overgrazing or a change in the veld burning regime. The increase in woody plants has created new habitats for Nyala and landowners have adapted to this by the introduction of Nyala outside their historic range. Nyala can be kept on very small properties as long as there is enough feed and shelter. On many farms they are free–roaming but, especially where they are extra-limital, they are often kept in camps. The camps can be any size from ½ ha to 20 or 300 ha – depending on the vegetation type. Even if animals are bred in camps, males are often released onto bigger farms so that they can grow out and be hunted. Nyala are provided supplementary food on private properties, especially in winter – largely irrespective of whether it is their natural habitat or not.

Threats

Historically, overexploitation and diseases, such as Rinderpest, resulted in the extensive loss of Nyala throughout their native range. There also were game eradication schemes to control Nagana which would have contributed to historical Nyala declines. However, more recently, through reintroduction, introduction, and population recovery, this species is now considered stable/increasing both within and outside of its former distribution. Currently, no major threats have been identified for Nyala subpopulations. Within the assessment region, human settlement has reduced habitat availability in certain areas. However, wildlife ranching may be creating new habitat for this species. They are also subject to bushmeat poaching. For example, in Borakalalo National Park in North West (Nel 2015).

Current habitat trend: Increasing due to ongoing woodland expansion in South Africa (Skowno et al. 2016).

Conservation

Although having historically disappeared from parts of their former range, they continue to survive in on well-managed protected areas in South Africa and on private land. Within the assessment region, prominent successful subpopulations of Nyala occur within Ndumo Game Reserve, Mkhuze Game Reserve, Hluhluwe-iMfolozi Game Reserve, isiMangaliso Wetland Park and Kruger National Park (East 1999; Anderson 2013). While East (1999) estimated that more than 80% of the global population occurs within protected areas, half of the population exists on private land in South Africa and will continue to increase due to commercial demand by trophy hunters (Anderson 2013). As long as effective protection and management are maintained in the key protected areas for this species and its numbers continue to increase on private land, its status is unlikely to change (IUCN SSC Antelope Specialist Group 2016)

Nyala respond well to protection, to the point where over-

Table 4. Threats to the Nyala (*Tragelaphus angasii*) 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*: local declines due to bushmeat hunting.	Nel 2005	Empirical	-	Increasing
2	*1.1 Housing & Urban Areas*: habitat loss and degradation through human settlement. Current stress *2.1: Species mortality*: increased rates of bushmeat hunting.	-	Anecdotal	-	Stable
3	*8.5.2 Viral/Prion-induced Diseases*: population reduction from rinderpest and eradication programmes.	-	Anecdotal	-	Past

Table 5. Conservation interventions for the Nyala (*Tragelaphus angasii*) 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	*1.1 Site/Area Protection*: formation of conservancies to share economic benefits from this species.	-	Anecdotal	-	-	-
2	*5.3 Private Sector Standards and Codes:* regulation of translocation to prevent habitat degradation and competition with other species	-	Anecdotal	-	-	-

population can become a management problem (IUCN SSC Antelope Specialist Group 2016). This is an opportunity to integrate the sustainable use of this species into wildlife-based, rural economies.

This species causes habitat degradation and competes with Bushbuck outside of its natural range. Thus, regulation of translocation is required to prevent extra-limital movement. For example, the suitable habitat of Borakalalo Nature Reserve in the North West Province has allowed this species to flourish, and the population should be removed to prevent negative impacts on local biodiversity (Power 2014). Potentially suitable areas for reintroduction to supplement diminished relict populations include the Maputo Special Reserve and Limpopo National Park in Mozambique.

Recommendations for land managers and practitioners:

- Develop this species as a keystone within the sustainable, wildlife-based rural economy. Government must establish a programme to ensure that when viable wildlife ranches are transferred to previously disadvantaged communities they are planned and that adequate training is provided to the new owners.
- Restrict movements within South Africa to those from the South African subpopulation.
- The wildlife industry and state conservation agencies must educate general about the benefits of sustainable utilisation of wildlife in conserving the country's biodiversity.

Research priorities:

- Population size and trends.
- Effects of wildlife ranching on this species, and methods of creating wildlife-based economies.
- The effect of captive breeding for horn length on the overall fitness of the population. For example, it is well known in domestic animals that susceptibility to endoparasites is highly hereditary. Only selecting breeding animals for their colour, horn length and shape may reduce fitness.

Encouraged citizen actions:

- Landowners should create conservancies for this species and engage local stakeholders to create sustainable, wildlife-based rural economies.
- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP), especially of free-roaming herds outside protected areas and private lands.
- Purchase and consume game meat.

Data Sources and Quality

Table 6. Information and interpretation qualifiers for the Nyala (*Tragelaphus angasii*) assessment

Data sources	Field study (unpublished)
Data quality (max)	Estimated
Data quality (min)	Estimated
Uncertainty resolution	Best estimate
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.*