



## Factsheet #5

# How woody plants impact the selection of sites used by Springbok

## Background: Challenges in wildlife management

Wildlife managers in Africa are faced with many different challenges. These challenges range from the need to develop sustainable management practices to using management systems that will optimize their gains and meet their management goals.

In order to develop these practices, there must be a general understanding of the habitat selection process for the various game species. Small African antelopes like springbok are widespread and are among the most common game ranched in Africa. The knowledge and understanding of the influence of plant physical structures on springbok habitat selection can be used to assess how suitable an area may be for springbok farming.

## Aim of this research

This study aimed to understand how vegetation structural attributes influence site selection by springboks.

Using movement patterns of springboks (Hering, 2020), approximately 40 utilized and 20 non-utilized sites as controls were assessed during three seasons. These seasons were the early dry (July 2021), late dry (October 2021) and wet (April 2022) seasons. Plant heights and spinescence (prickles, thorns, etc.) were recorded and the density of woody plants calculated. These attributes were statistically compared between seasons and between utilized and non-utilized (control) sites.

### Attributes assessed:

#### Height



#### Spinescence



Thorns

Prickles

#### Density



High vs Low

## Findings

### Springboks preferred areas with shorter plants

- Springboks **significantly preferred** areas with **high proportions of shorter (<1 m) woody plants** compared to sites with taller plants (Fig. 1), across all 3 seasons (Fig. 2).
- The non-utilised sites had the highest proportion of woody species in the 1 m – 2 m and >2 m height class ranges.

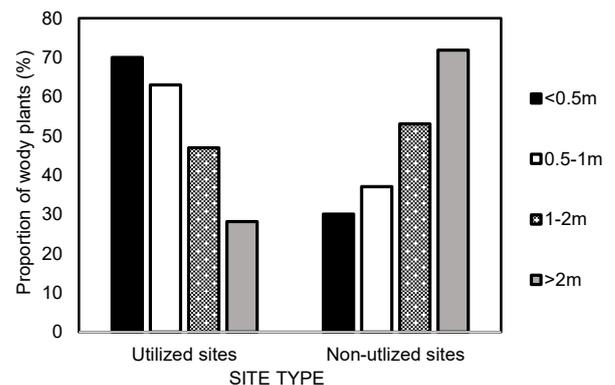


Figure 1: Site selection by springboks in relation to woody plant height structure.

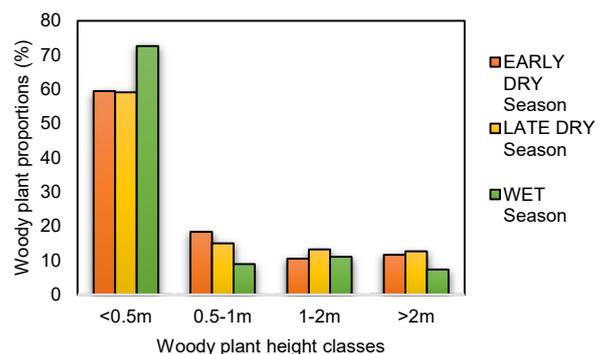
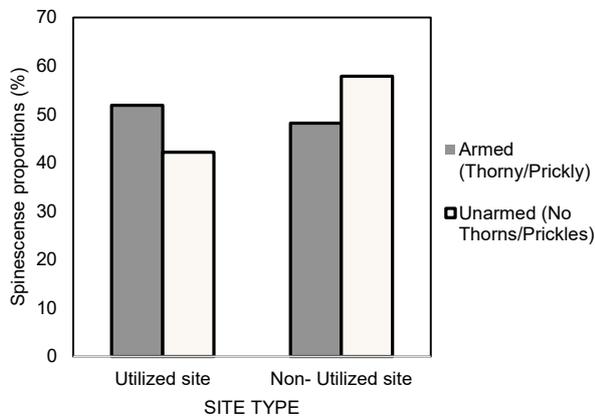


Figure 2: Woody plant height structure in the utilized sites for the three sampled seasons.

## Springboks would rather be amongst more armed plants ...

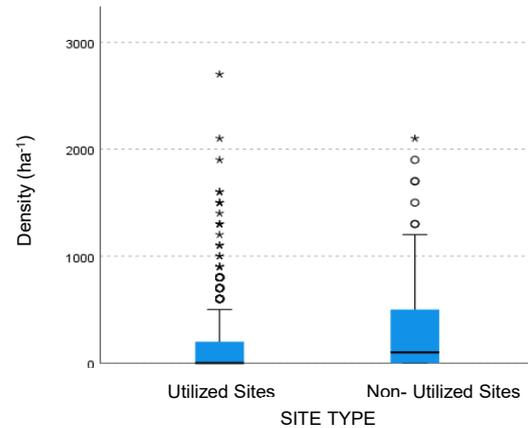
Springbok utilized areas with significantly more armed woody plants (Fig. 3) during all three seasons.



**Figure 3:** Seasonal site selection in relation to prevalence of thorns, prickles, etc. on plants.

## ... than be in risky dense vegetation with less armed plants.

Springboks utilized areas with significantly fewer woody plants (Fig. 4) across seasons. Fewer woody plants result in utilized sites that have **less dense vegetation and are thus more open.**



**Figure 4:** Comparison of woody plant density between springbok utilized and non-utilized sites.

## Recommendations

Springbok habitat suitability maps can be informed using this data. These maps can be used:

- In wildlife farming management plans.
- As an adaptative management tool e.g. as areas become drier as a result of climate change, there may be need for the animals to migrate to more preferred areas. Game ranchers can ensure habitats with suitable vegetation remain available for the animals to migrate to.
- By tour guides that can use the maps to inform their game viewing routes, optimizing the game viewing experience for their clients.

### Take Home Message

Springbok utilized areas that are **open** with **shorter** woody plants which have **more** thorns and spines.

## References

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Hering, R. (2020). How activity center classification works. ORYCS project update report, Etosha Heights Private Reserve, Namibia.

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## The ORYCS Project

The German-Namibian research project “ORYCS – Options for sustainable land use adaptations in savanna systems” aims to assess the suitability of wildlife management strategies in Namibia as options for adapting land use to climate change in savanna ecosystems.

[www.orycs.org](http://www.orycs.org)

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