

# African ungulates and their drinking troubles: how does sport hunting constrain the timing of access to surface-water?

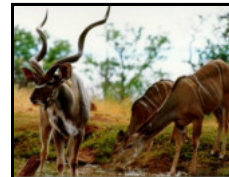
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## Context of the study

- ✓ Predation risk induces behavioural adjustments.
- ✓ Sport hunting risk overlooked?
- ✓ Behavioural-mediated effects of sport hunting and access to key resources.

## Objective

*Testing the shift from daytime to nighttime in the access to surface-water?*



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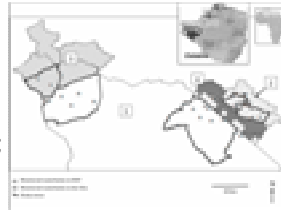
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**Method**

- In Hwange National Park and hunting areas;
- 24h00 waterholes monitoring (species, time);
- Dry season (Septembre/Octobre) in 2007 and 2008;
- impala, kudu, and sable.



Hwange National Park (nonHA)

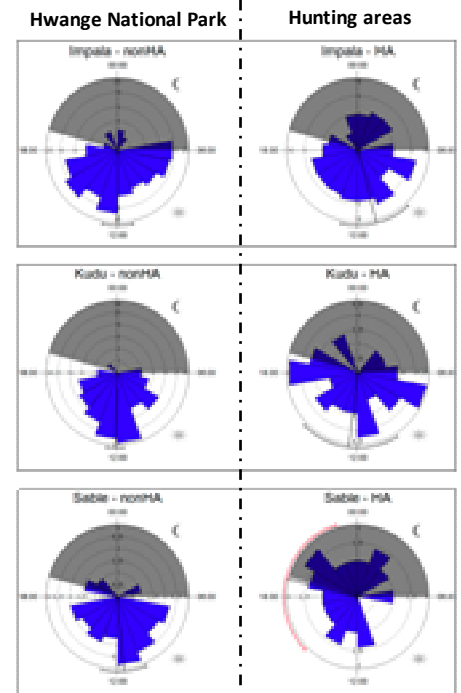


Temporal shift of access to waterholes towards nighttime.

Hunting areas (HA)



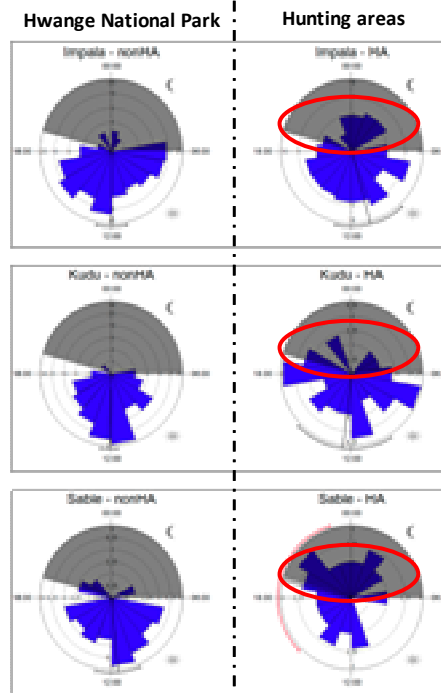
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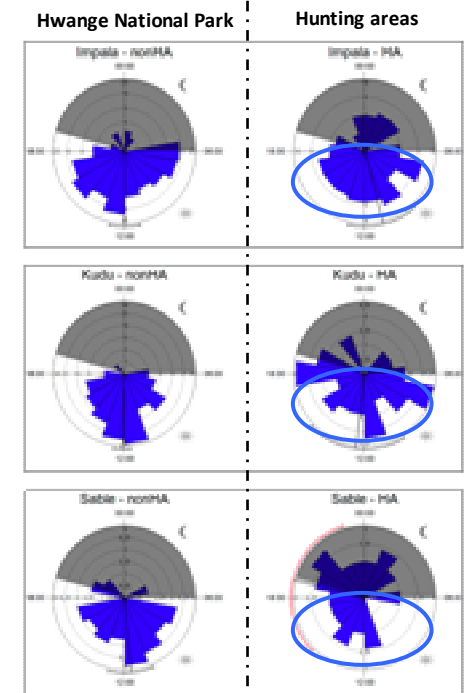
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In hunting areas: **shift is partial** as the the access to waterholes remains essentially diurnal.

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✓ Predation risk higher at night?*



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↳ *✓ Hunting risk not high enough?*  
*✓ Predation risk higher at night?*

In hunting areas: access to waterholes is **more variable** so **less predictable**.

↳ *Response to the dual risk?*

