Selecting from the seasonal menu

Seasonal variation in prey selection and dietary niche breadth of wolves

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Background

Grey wolf (*Canis lupus*) diets vary with **seasonal factors**, however wild ungulates are usually their main prey.
Since my study area was recolonised by wolves in 2015, **fallow deer** have **increased** their **diurnality** in autumn and winter, possibly to avoid the nocturnal wolf.
Simultaneously wolves have increased their use of wild boar, their alternative main prey.

Aim

The aim of my thesis was to study **seasonal variation** in the **use of wild ungulates** as prey by wolves and whether it's related to prey availability i.e., **if there was prey selection**.

Methods

Prey use was estimated through analysis of scats collected in **Maremma regional park** (90 km²).
Prey availability was estimated using 60 motion activated camera traps dispersed in the park.
Each measure of wolf diet was estimated per season over a three year period from April 2020 – March 2023.

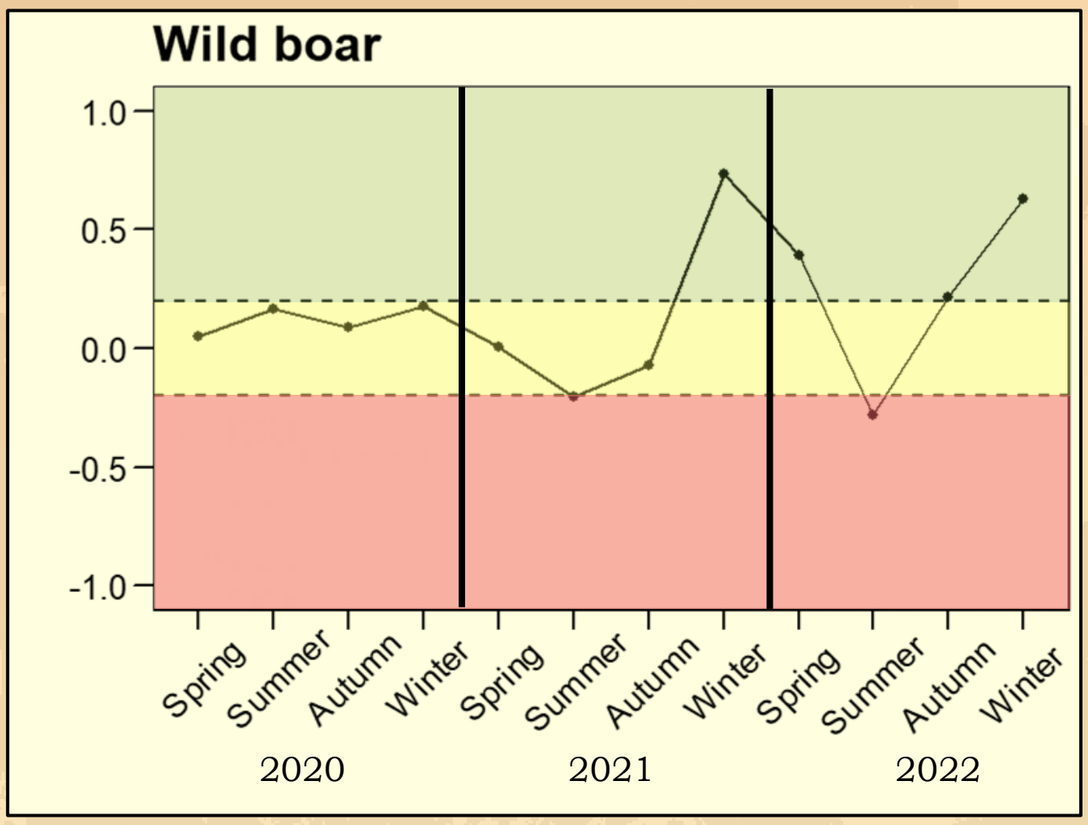
Conclusions

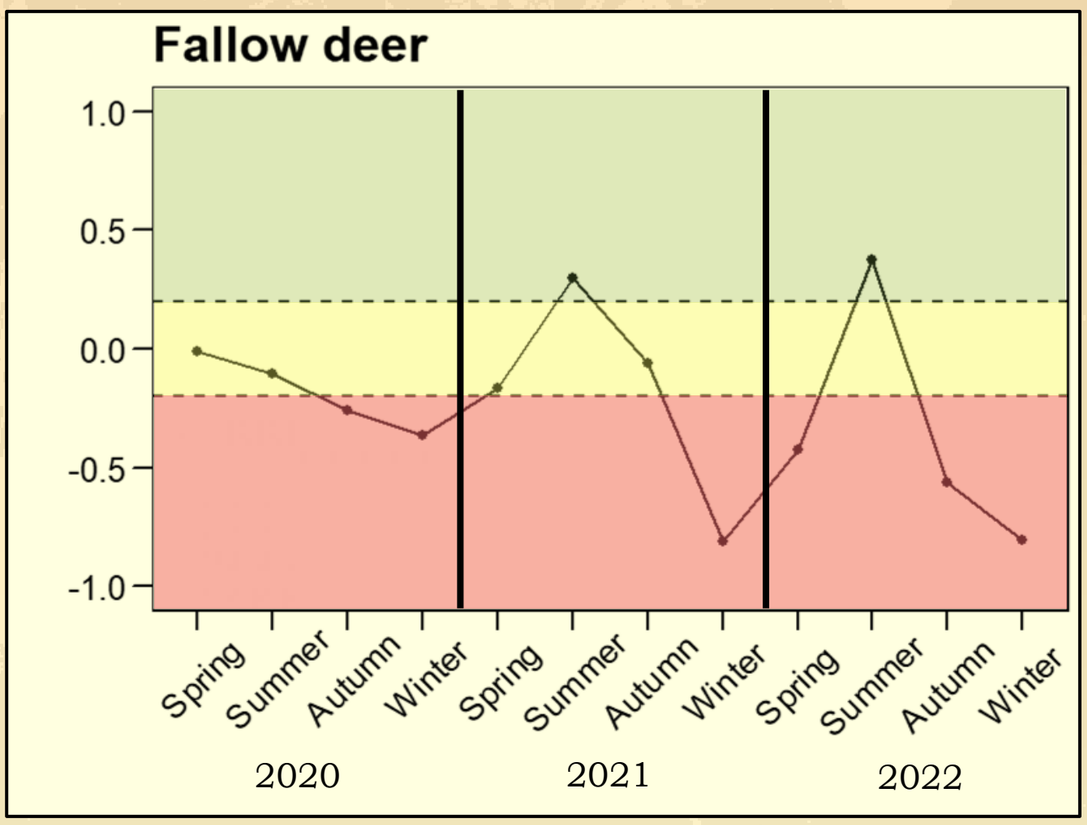
Seasonality in the diet of wolves and an impact of the seasonal prey behaviour was in my study supported by:

- avoidance of fallow deer in winter
- selection in winter for wild boar and roe deer, the alternative prey
- wolves having a more narrow diet breadth when fallow deer are more diurnal.

Results

Wild boar was the **main wild ungulate prey** and use of them increased over the study period, while use of fallow deer decreased.
Selection indices for use of **fallow deer** showed **selection in summer**, when young prey are abundant.
Hurlbert's niche breadth index showed **wider diet breadth in spring and summer**, than in autumn and winter.





Jacobs' selection index using relative occurrence of prey found in scats. Values >0.2 are considered selection and <-0.2 as avoidance.