

About the ecology of European Brown Hares (*Lepus europaeus*) in forests – a pilotstudy in the Palatinate Forest, southwest Germany

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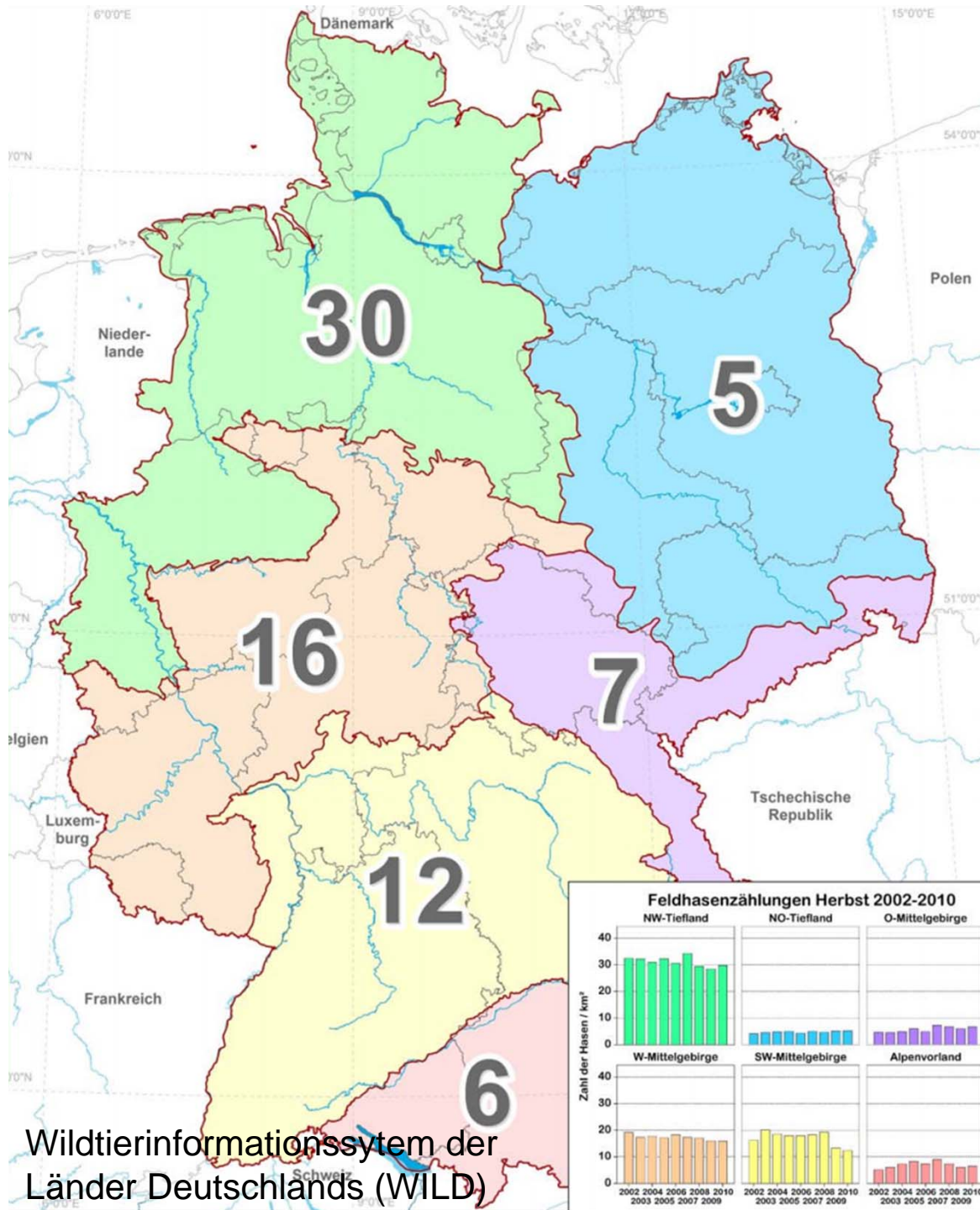
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Background

- Widespread in Middle Europe
- Typical for open fields, pastures, arable landscapes
- Population decline since 1970
 - Reasons: intensification of agriculture, increase of predators, extreme weather events
- on national red lists as “threatened”
- hunting bag (Germany) 1960: 1,4 Mio. and today: 383000





- $\bar{x} = 12.7$ Ind./100 ha
- local 100 Ind./100 ha
- population size of 4 Mio.
- No countings in forests

Since 2001 recording of European Brown Hares in spring and autumn in reference areas through spotlight counts

- But Brown Hare is a forest species too
- Damage on young trees caused by Hares is common

S1



- Most research in Brown Hare was located in open landscapes
- A lack of knowledge of the ecology of Brown Hares in forest habitats is given
- To reduce this lack we intended a pilot study about the ecology of Brown Hares in forests



Current state of research

- Literature Study: “web of science” and “google scholar”
- Consultation with experts in Brown Hare research



- Only studies in mixed landscapes
- No studies about Brown Hares in closed forest ecosystems!



What we know so far

- **Brown Hares are also found in forests, mainly in field-forest-border-structures** (*BRESINSKI 1983, STRAUß & POHLMAYER 2001; ZACCARONI ET AL. 2009; ZÖRNER 1975*)
- **Resting sites in forests** (*ANGELICI ET AL. 1999; KINSER 2011; SPÄTH 1989*)
- **Partly higher population densities in field-forest-structures than in pure farmland** (*BRESINSKI 1983; LUNDSTRÖM-GILLIÉRON & SCHLAEPFER 2003*)



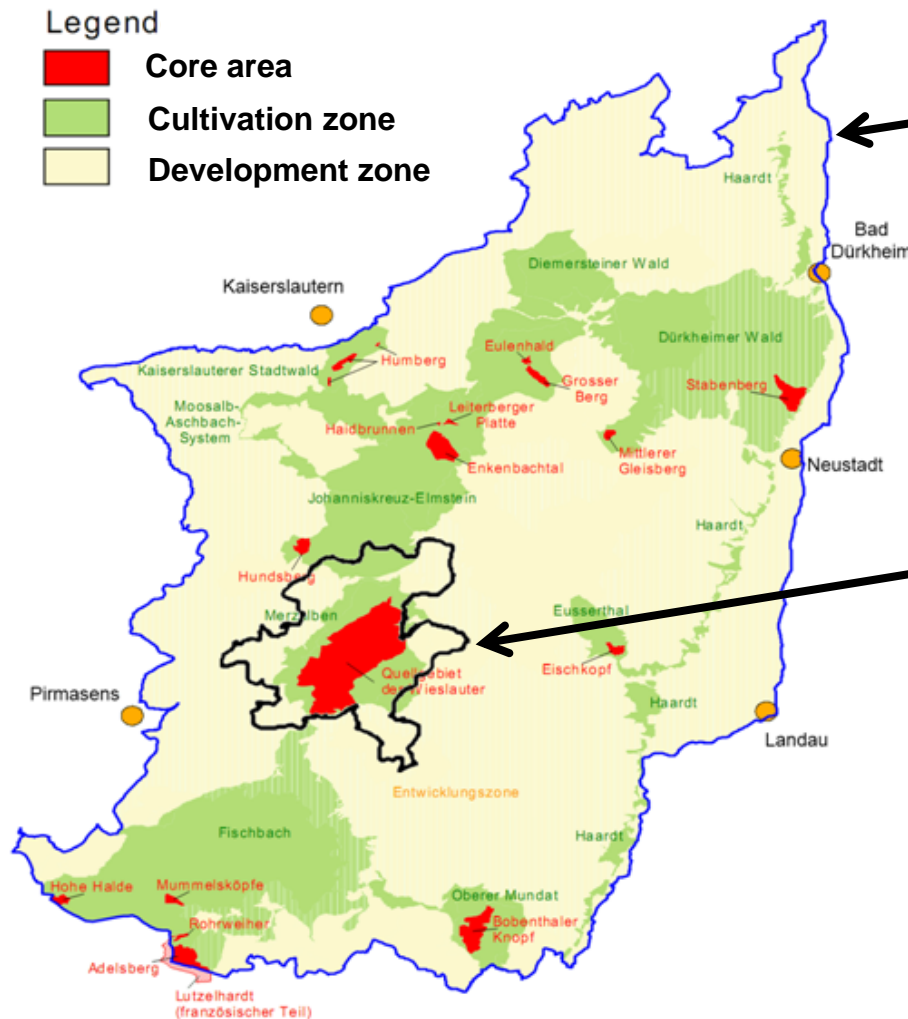
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31 % forest area in Germany and it's still increasing



Area of research



Palatinate Forest ~ 170 000 ha

Forest covers over 90 % of the whole area and there is no agricultural usage.

Research area ~ 10 000 ha

No hunting for Brown Hares is practised.



1. Recording the browsing damages on rejuvenating areas

→ Brown Hares caused more damages than we expected (> 32%)

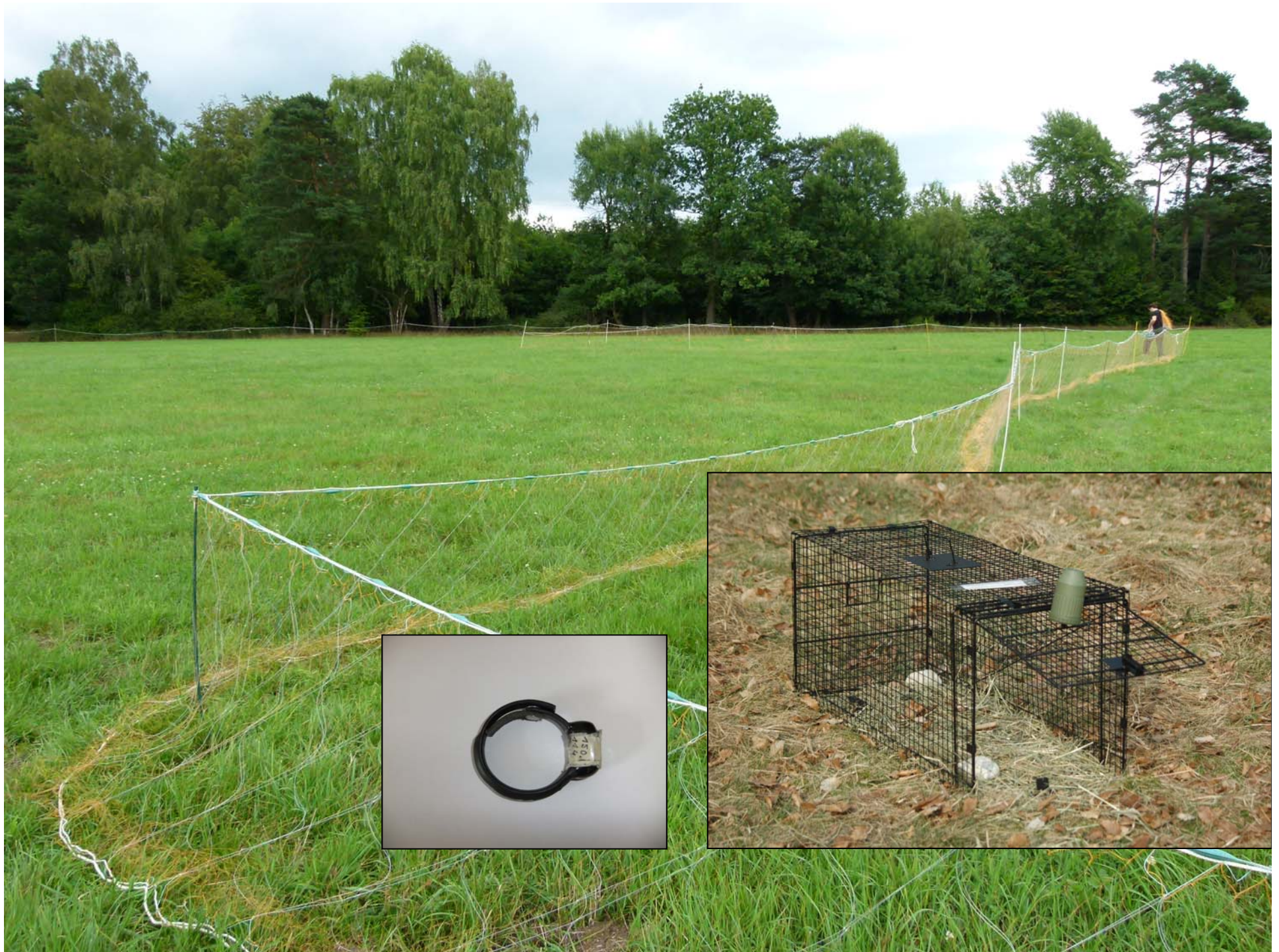
2. While spotlight countings for Red-deer in spring we recorded Brown Hares additional

→ Minimum 1 Ind./100 ha; in one night we counted 50 individuals on glades in an area of 8400 ha



Project objectives

- Detailed habitat analysis of Brown Hares in a closed forest
- Activity patterns
- Number of dens per Brown Hare
- Home range analysis
- Foraging places
- Comparison with data of Brown Hares living in field habitats!



A photograph of a light-colored stuffed rabbit toy lying in a field of tall green grass. The rabbit is positioned in the center-right of the frame, facing towards the left. It is entangled with a thin, silver-colored wire mesh that crisscrosses the entire scene. The grass is dense and vibrant green, with some blades of grass visible through the mesh. The overall scene suggests a field experiment or a challenge in capturing animals.

**Capturing Brown Hares was more difficult than we
thought!**

Problems



Rheinland-Pfalz

Static nets :

- **Brown Hares were not caught in the nets**
→ **Escape by getting under the nets**

Cage traps (108 x 46 x 41 cm)

- **They won't go into the traps**

Possible results ?

- Subpopulation of Field Brown Hares and Forest Brown Hares
- Brown Hares in forests are not threatened
- They cause more damage than we think



→ There have to be other treatments or conservancy measures of Brown Hares in forests than in fields



Thank you for your attention!

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Literature



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Distribution

