

Using
Natural processes
*to restore and
manage nature*



Leo Linnartz

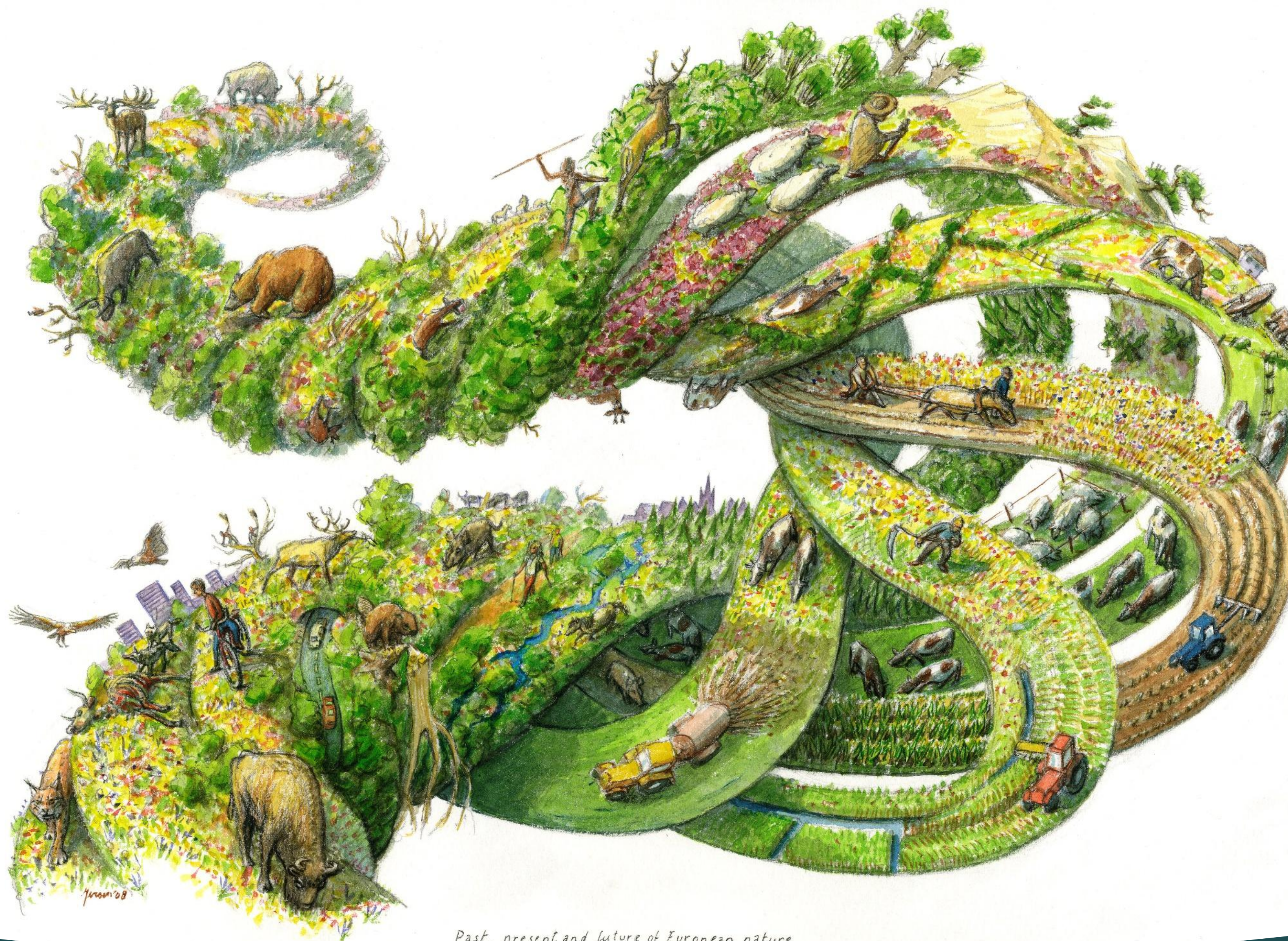
ECOLOGIST

*EXPERT IN THE
THEORY AND
PRACTICE OF
REWILDING*



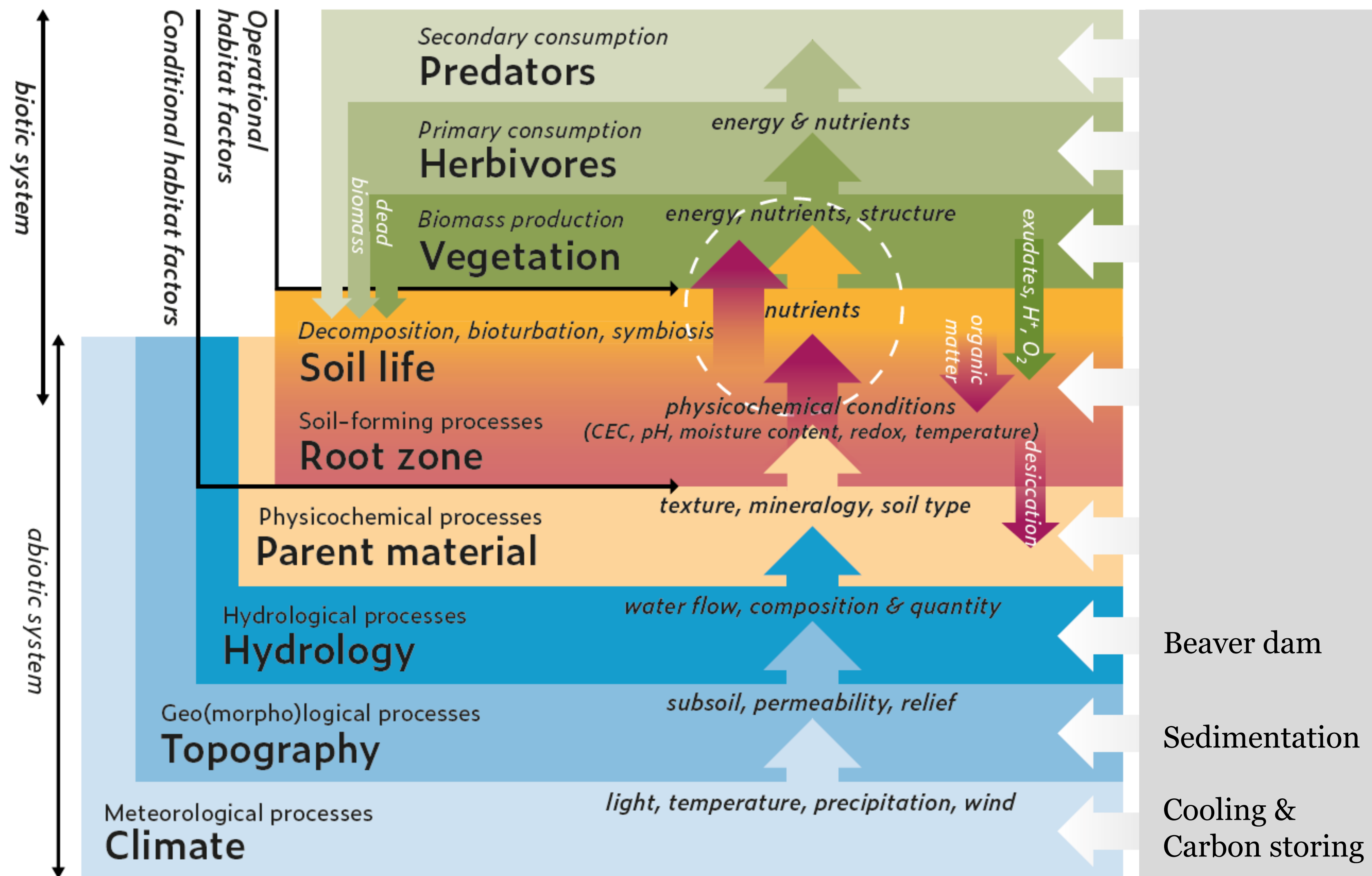
ARK Rewilding Nederland

- NGO with ANBI-status, CBF-keur
- 41 employees
- Office in Nijmegen
- Over 35 years of experience
- 7 regional programmes showcase rewilding in the Netherlands
- Additional programs for more wild nature in the Netherlands



Past, present and future of European nature

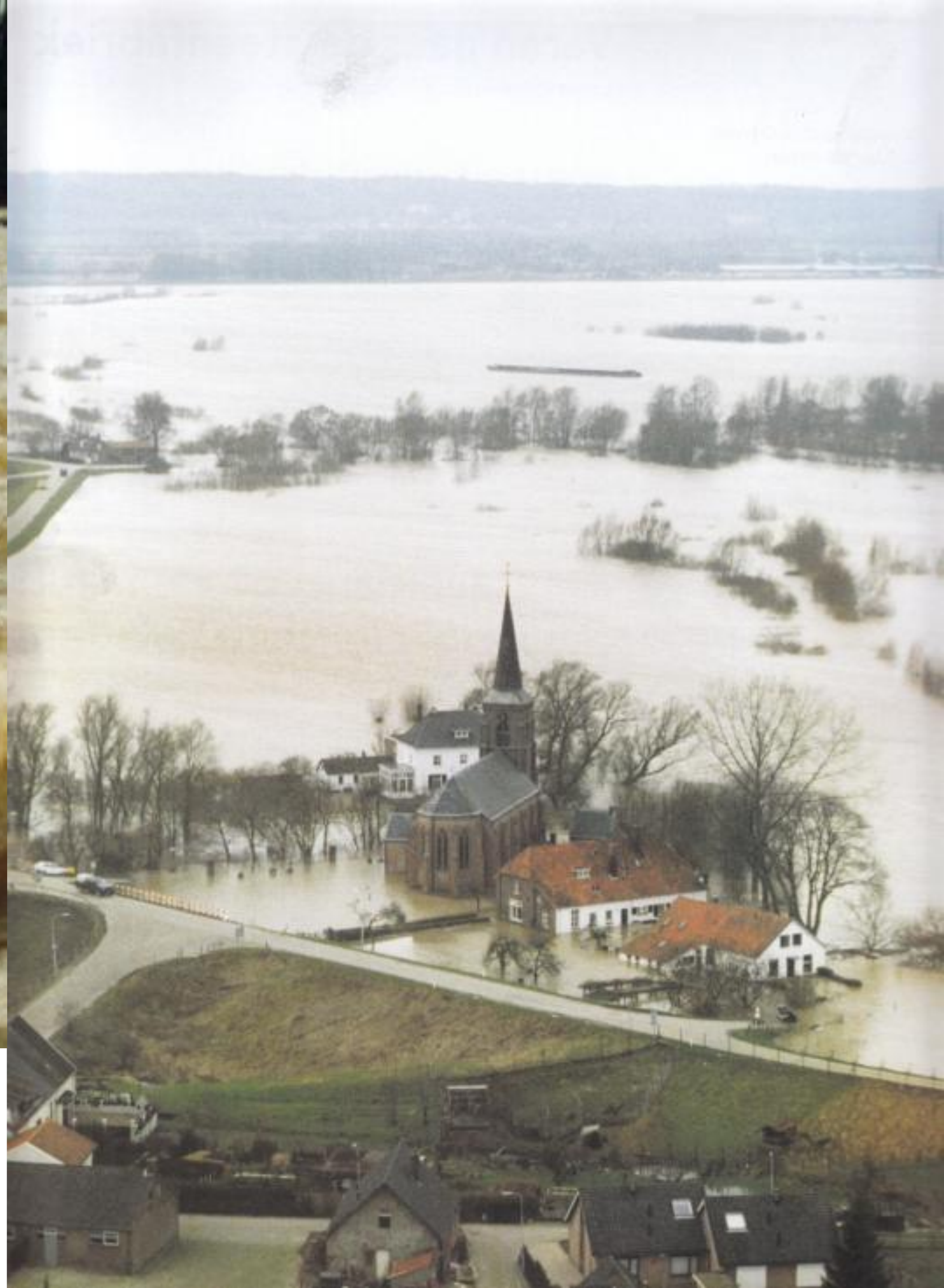
ARK restores ecosystems by restoring natural processes



Biotic and abiotic natural processes and their interaction



Border Meuse, limited space for flood water and nature



Plans, pilots, but also... urgency
Floods in 1993 and 1995



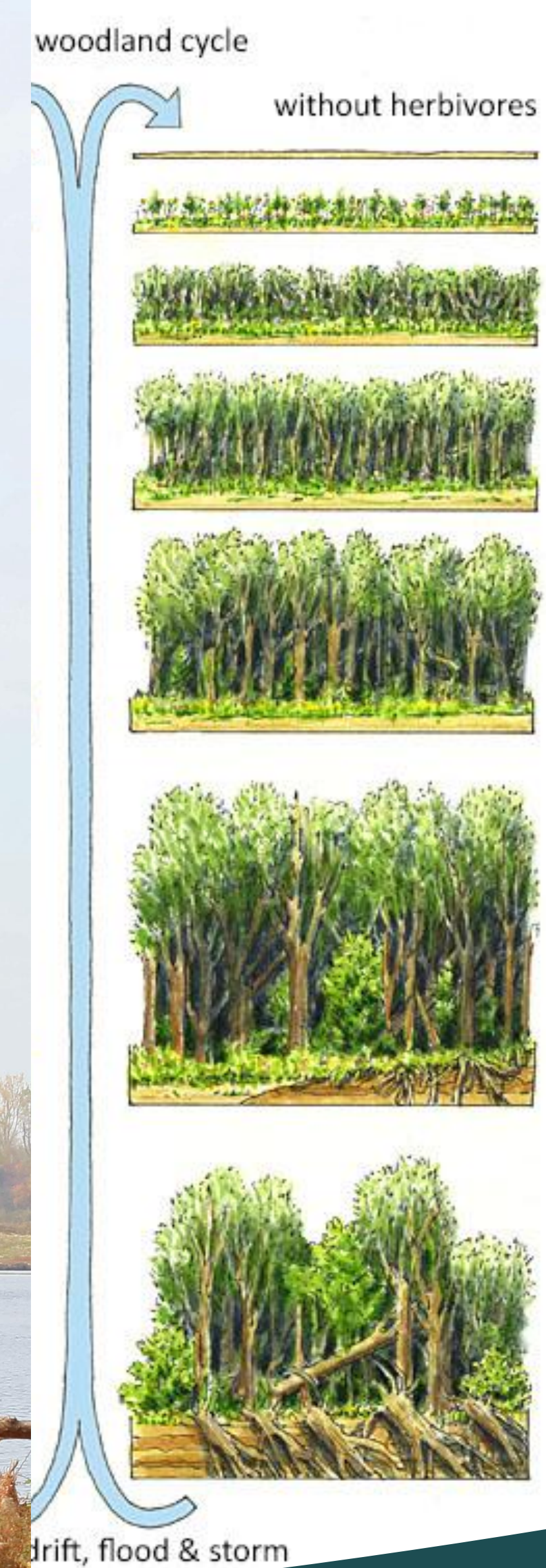
Economic necessity was used to create flood defence and more rewilded nature



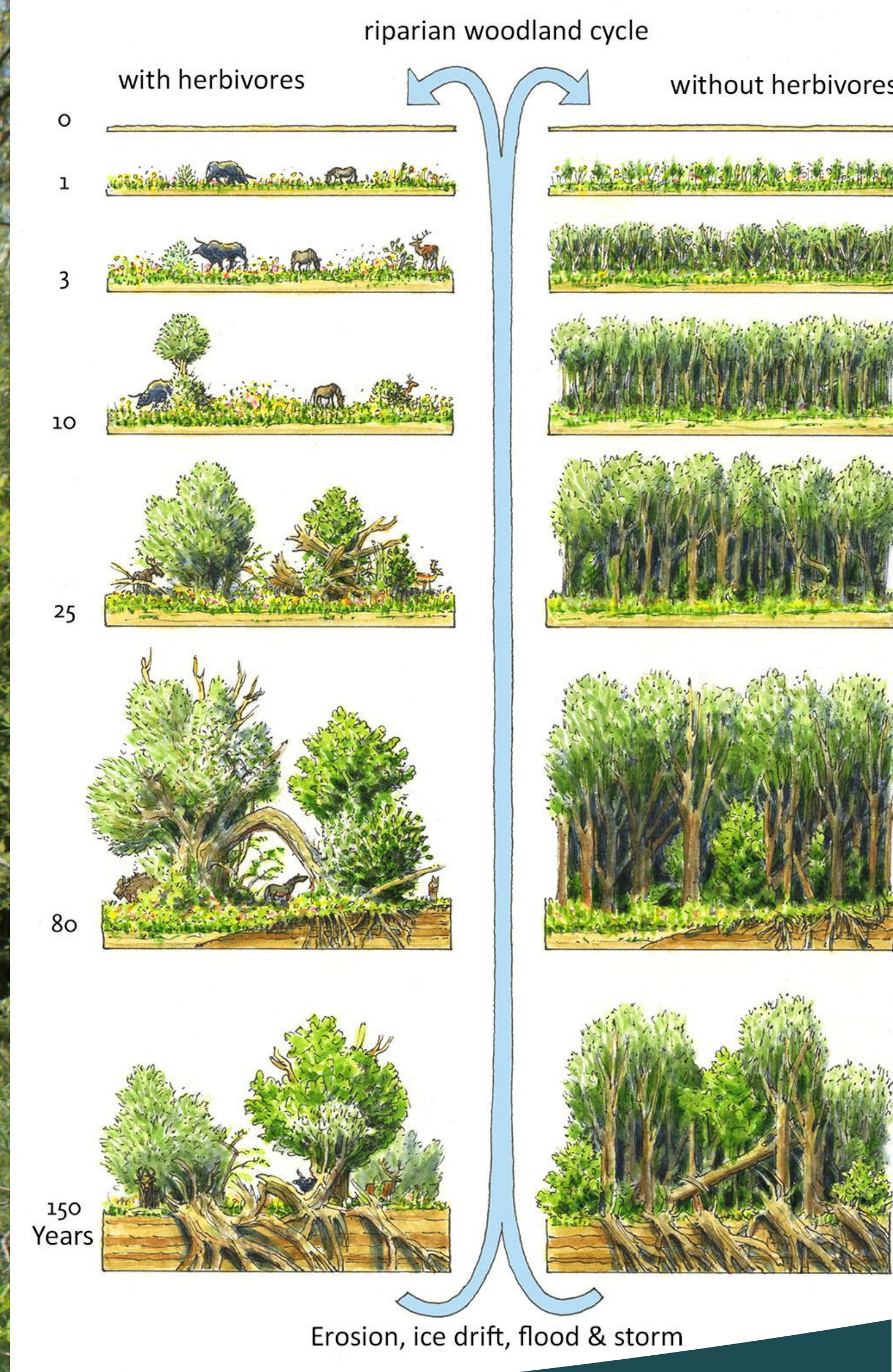
As gravel banks and floodplain were restored, people returned



Erosion and sedimentation was made possible, nature profits

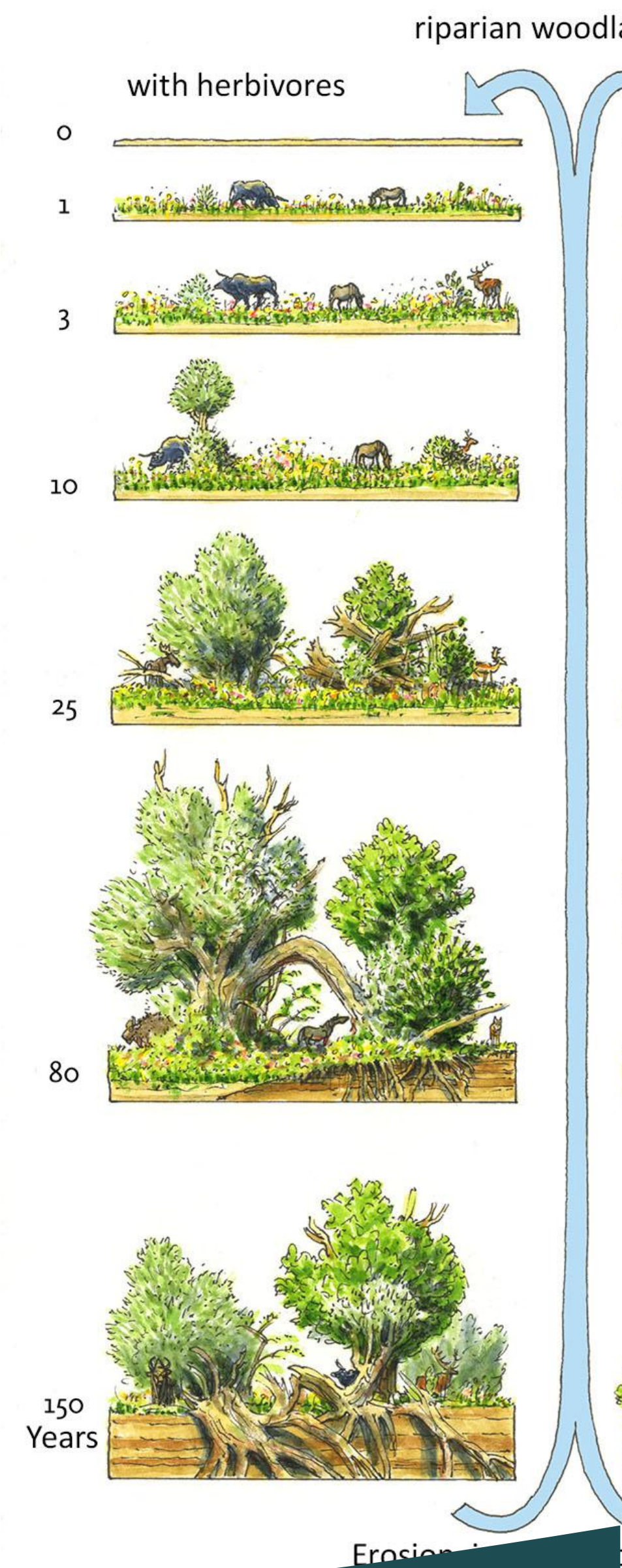


Riparian woodland reset by river erosion



With herbivore grazing, riparian woodland is more open





Herbivores delay succession towards woodland

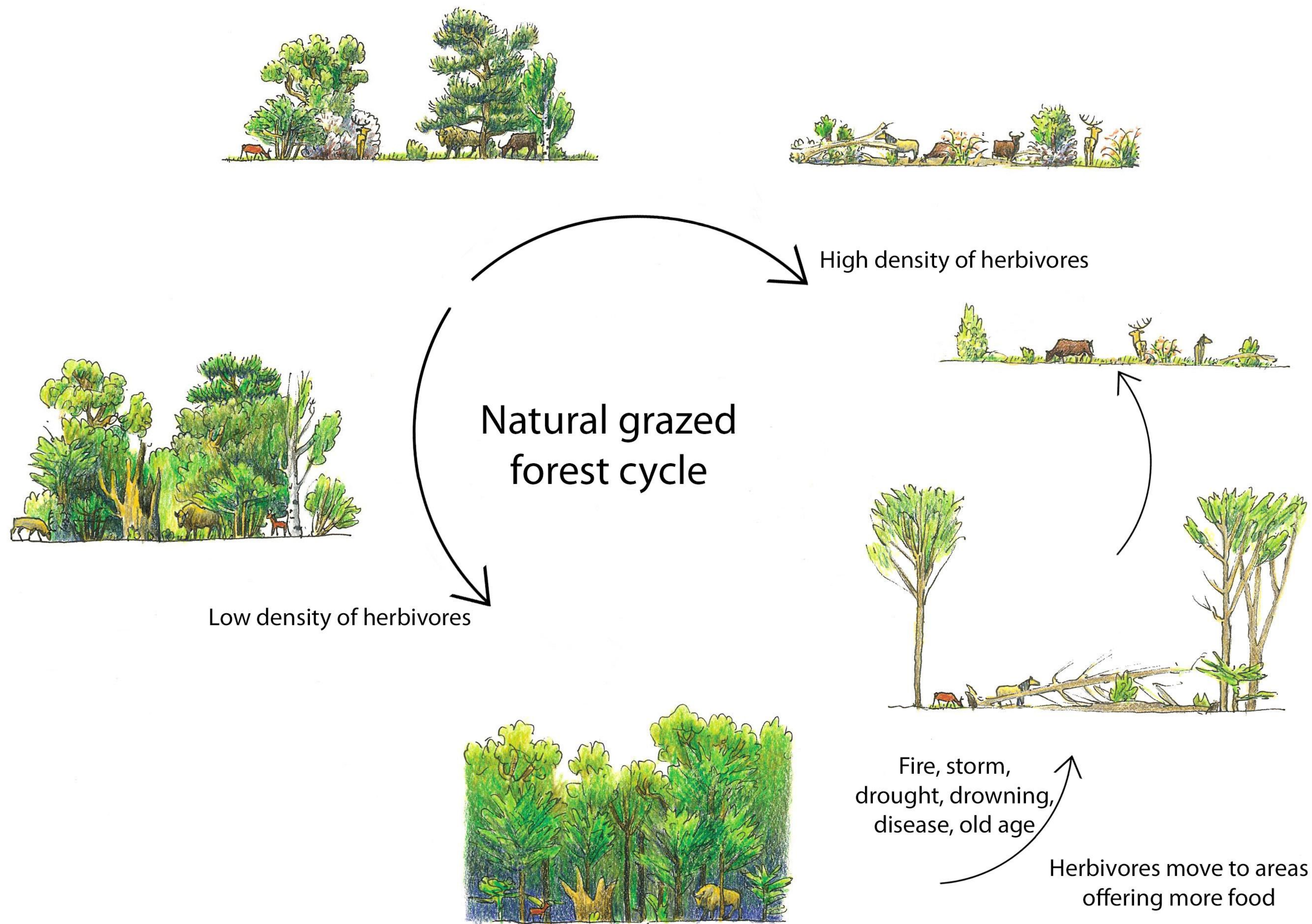




Like flowing water, fire and wind contribute to restarting the forest cycle



Insects and fungi also play their part



Abiotic processes restart the cycle; biotic processes slow it down



Large herbivores slow down wood encroachment



Large herbivores debark, rub, browse and break



Trees and bushes appear adapted to grazing

Mosaic landscapes appear



Full of flowers, insects and birds

A

Miocene



B

Pliocene



Czyżewski & Svenning et al. 2026. Revisiting Europe's temperate forests: Palaeoecological evidence for an herbivory-driven woodland-grassland mosaic biome

Mosaic landscape and our biodiversity have been around for 23 million years

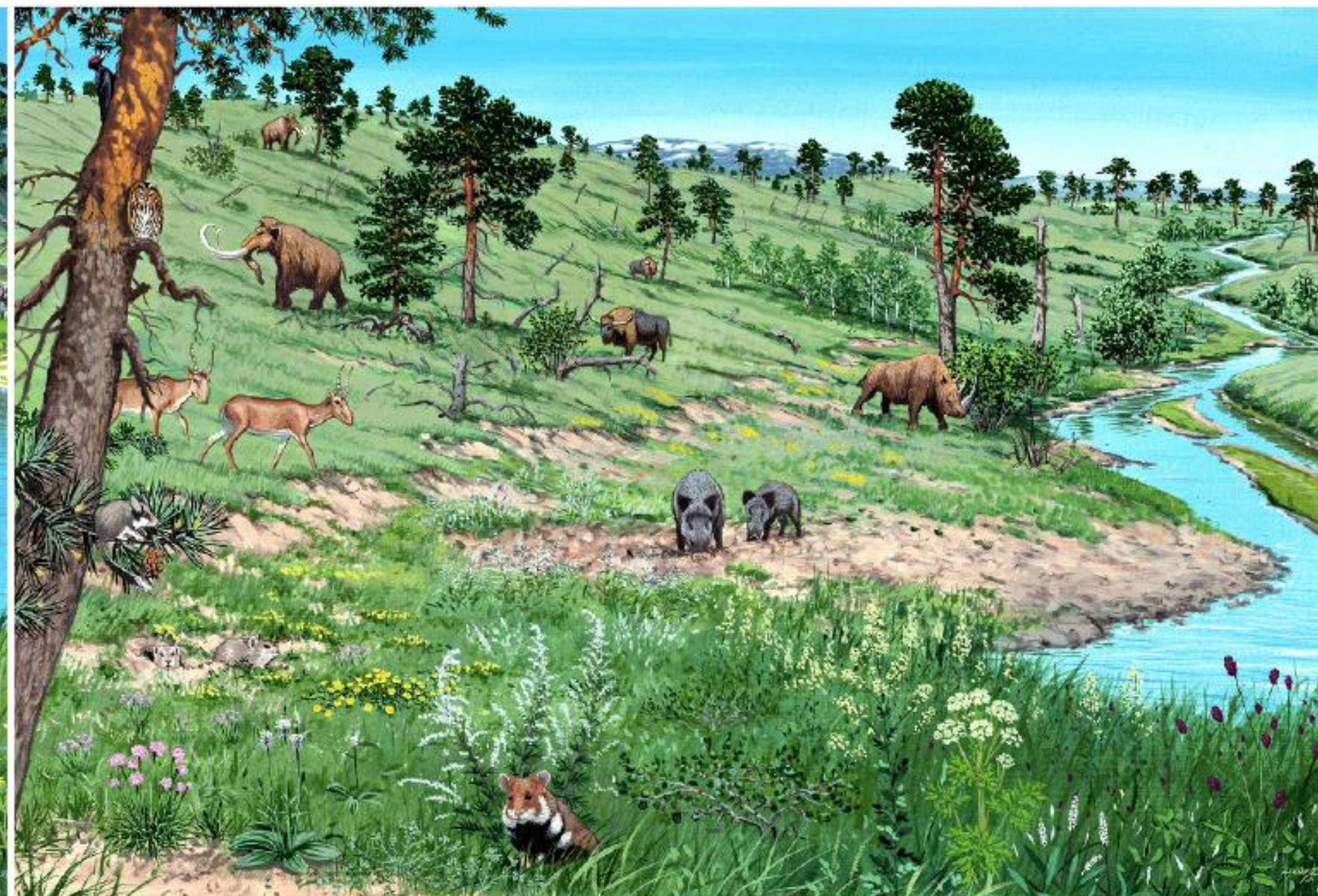
C

Last Interglacial



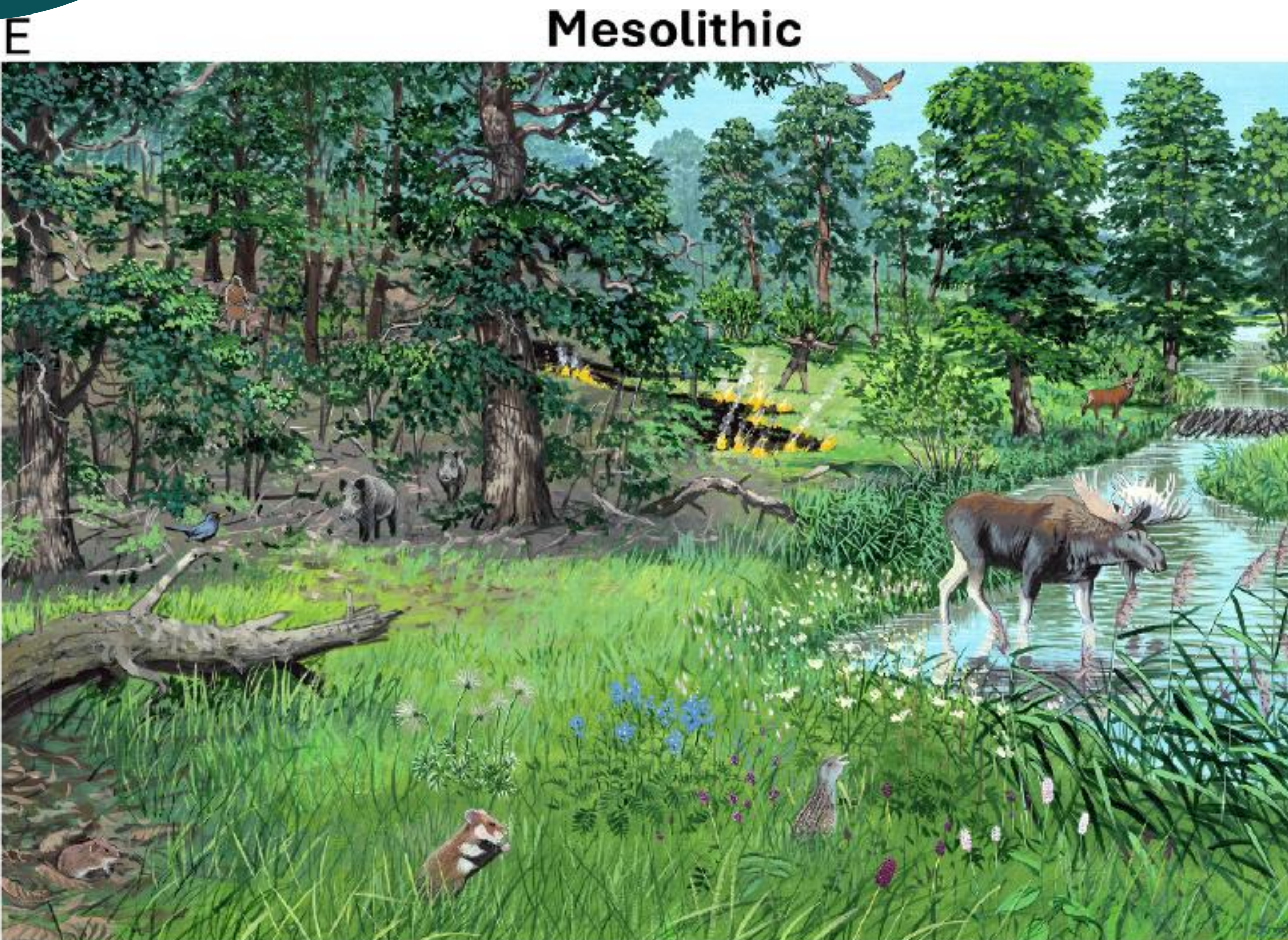
D

Last Glacial



Czyżewski & Svenning et al. 2026. Revisiting Europe's temperate forests: Palaeoecological evidence for an herbivory-driven woodland-grassland mosaic biome

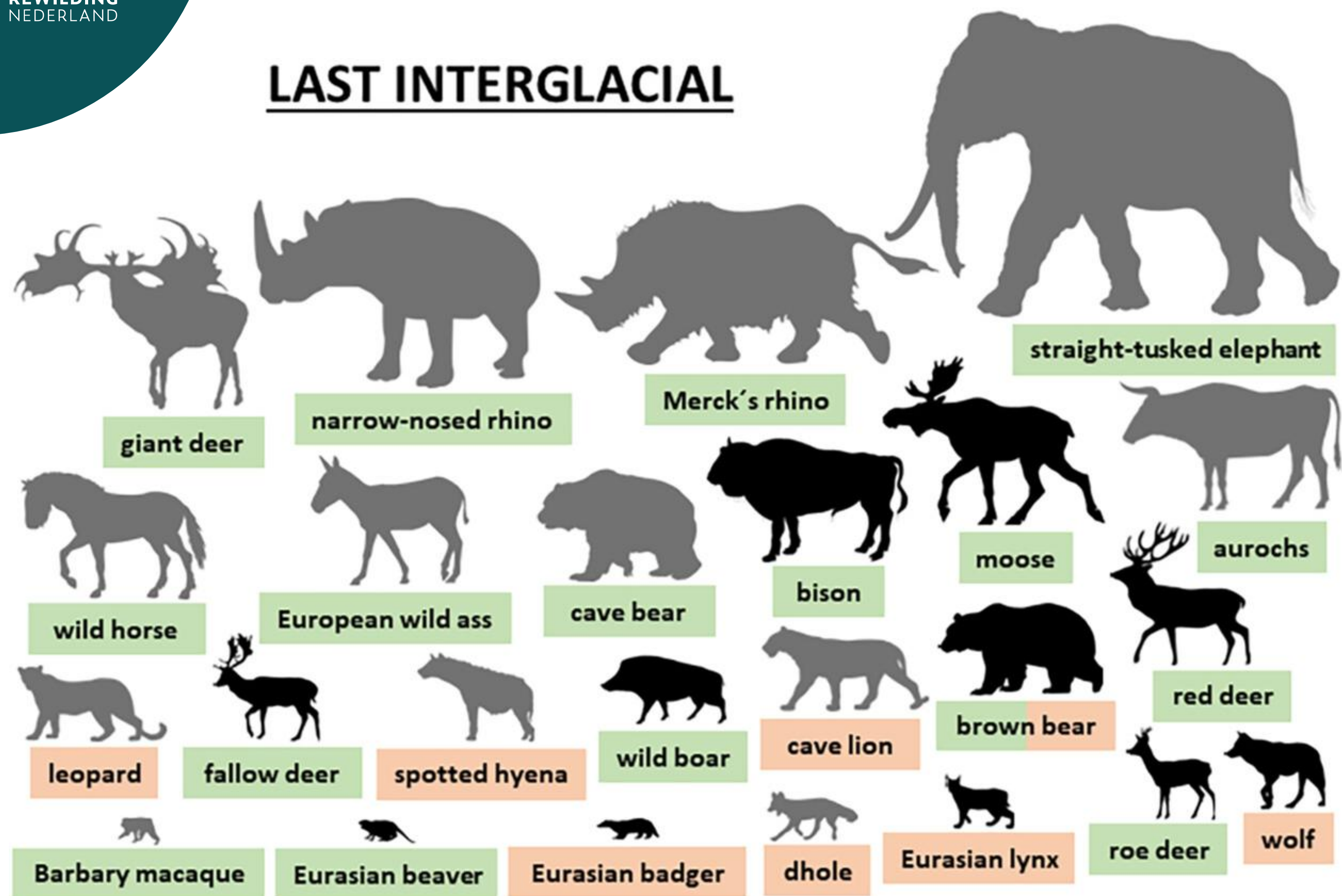
Half-open woodland during both glacials and interglacials



Czyżewski & Svenning et al. 2026. Revisiting Europe's temperate forests: Palaeoecological evidence for an herbivory-driven woodland-grassland mosaic biome

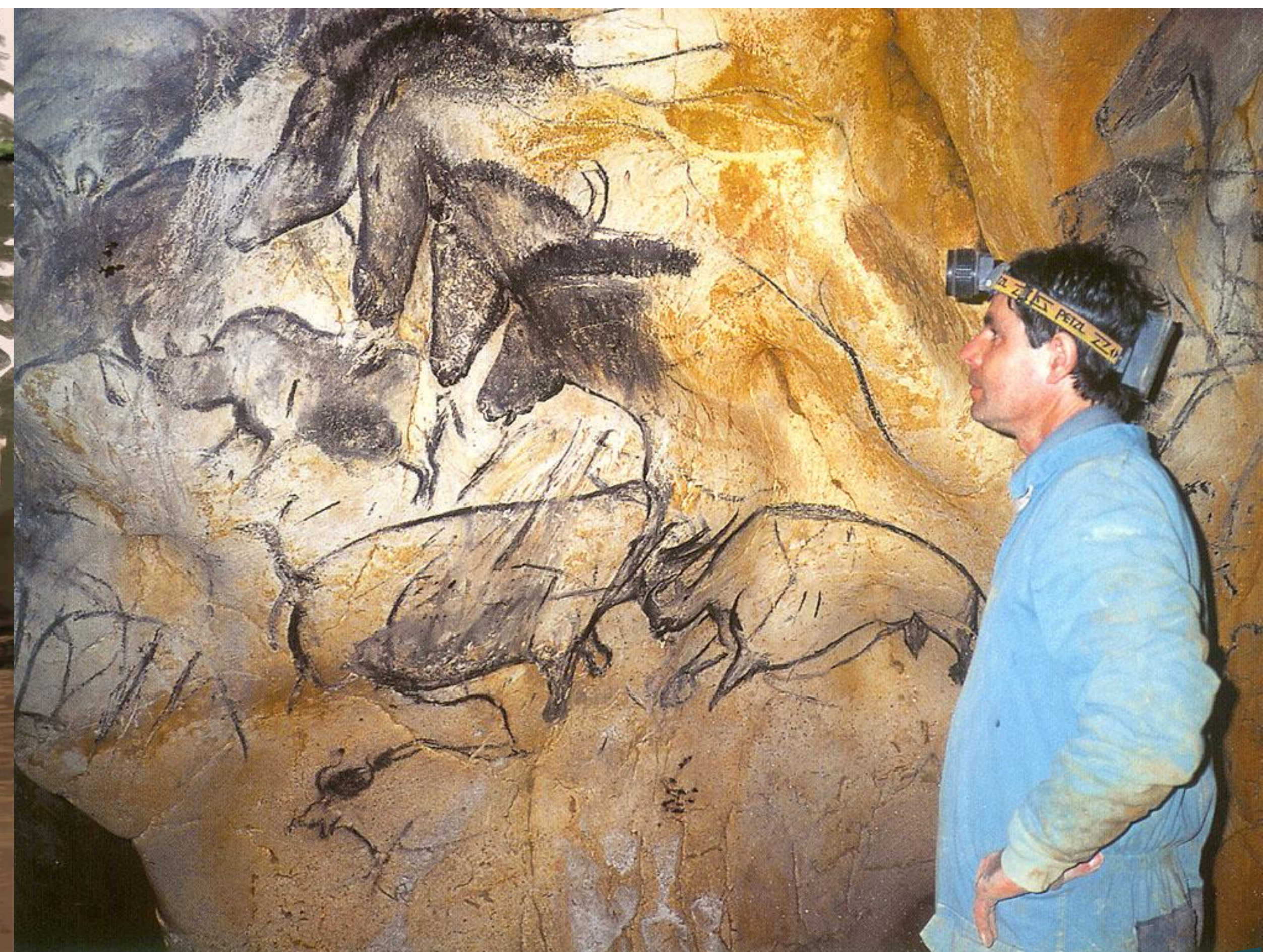
Also, in the Holocene

LAST INTERGLACIAL

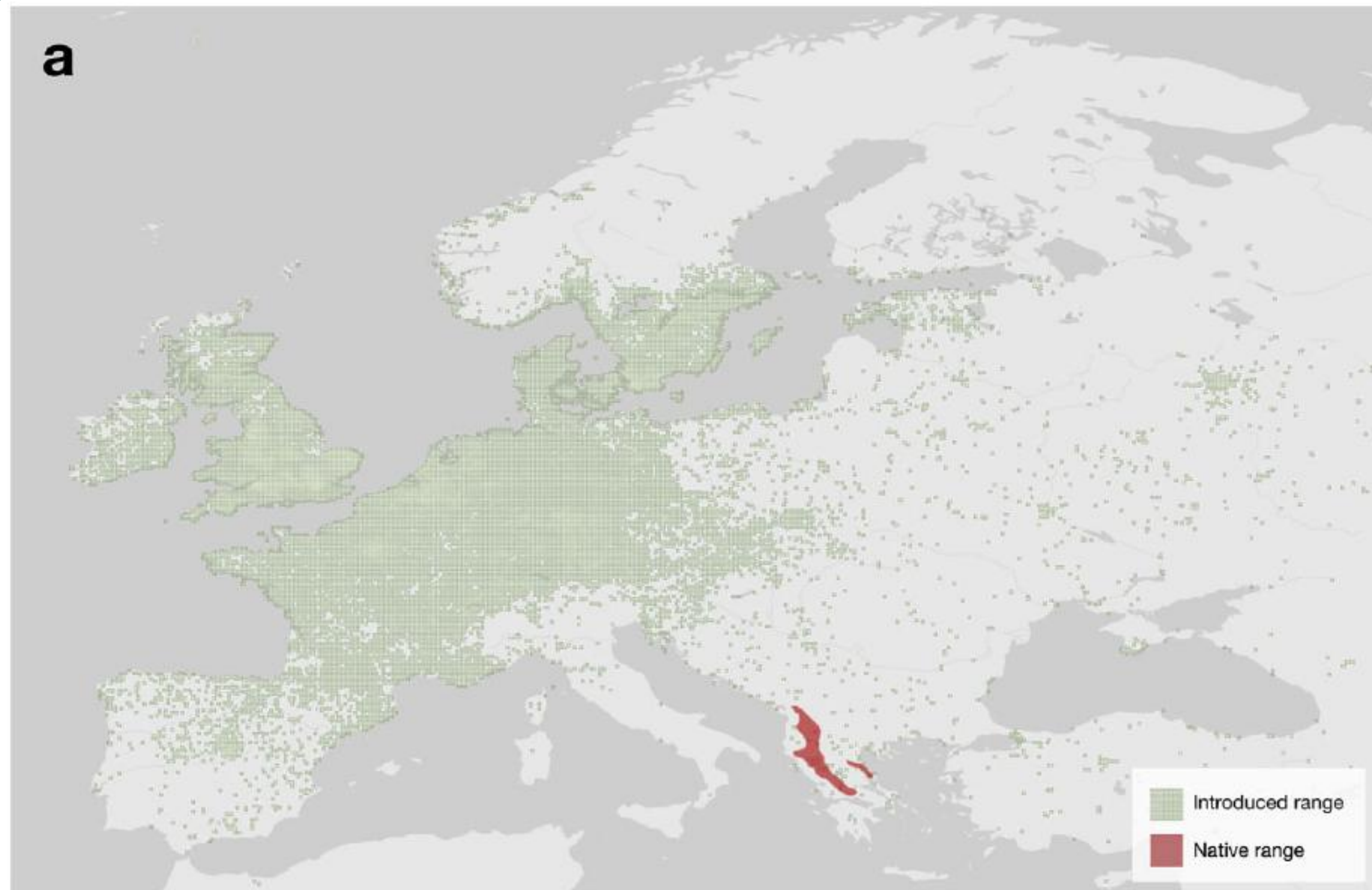


Davoli et al. 2023, Megafauna diversity and functional declines in Europe from the Last Interglacial to the present

European wildlife looked like this for 23 million years



Nature amnesia / shifting baseline syndrome

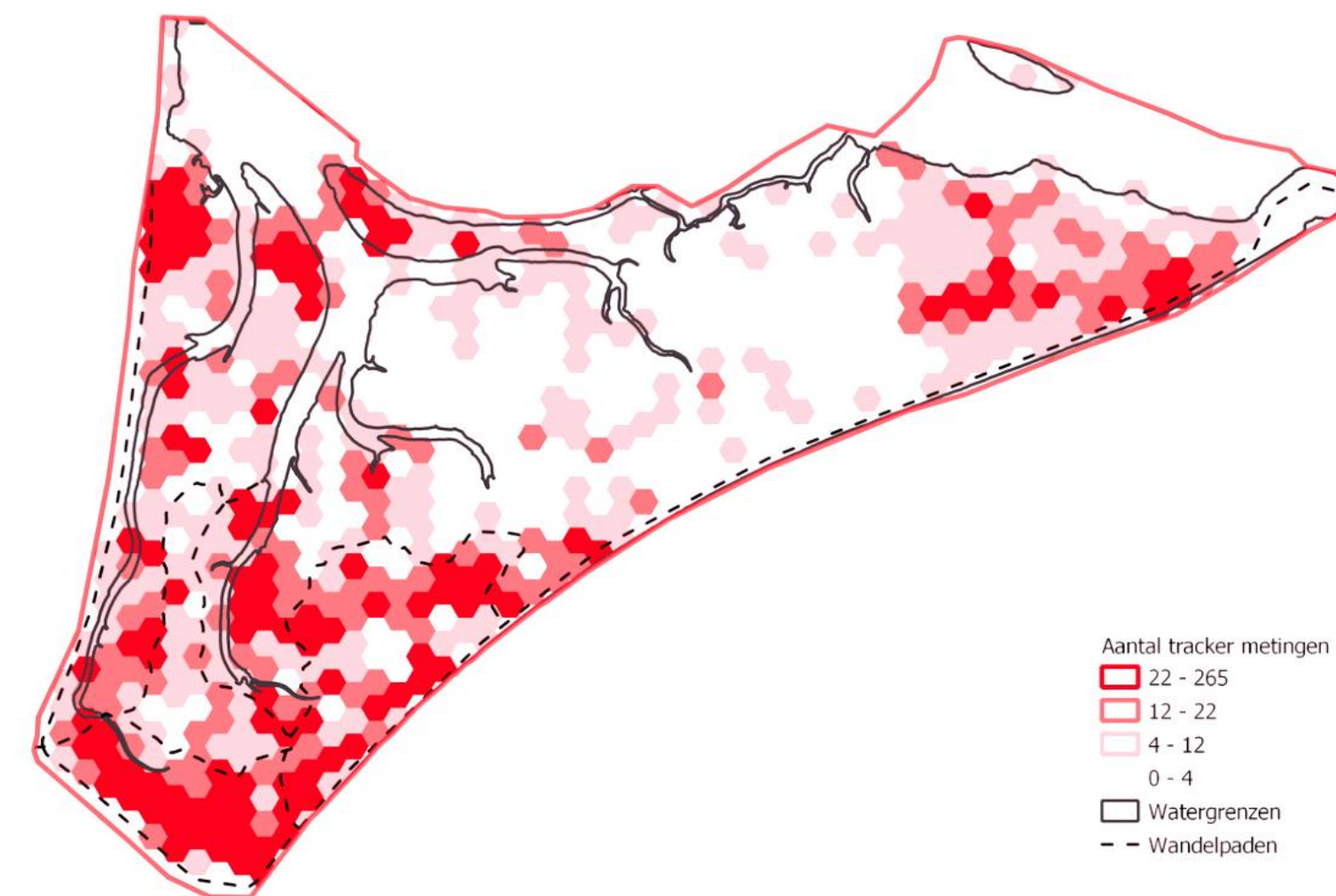


Bron: Tighe 2026. The potential effect of megafaunal extinctions on modern conservation of horse chestnut

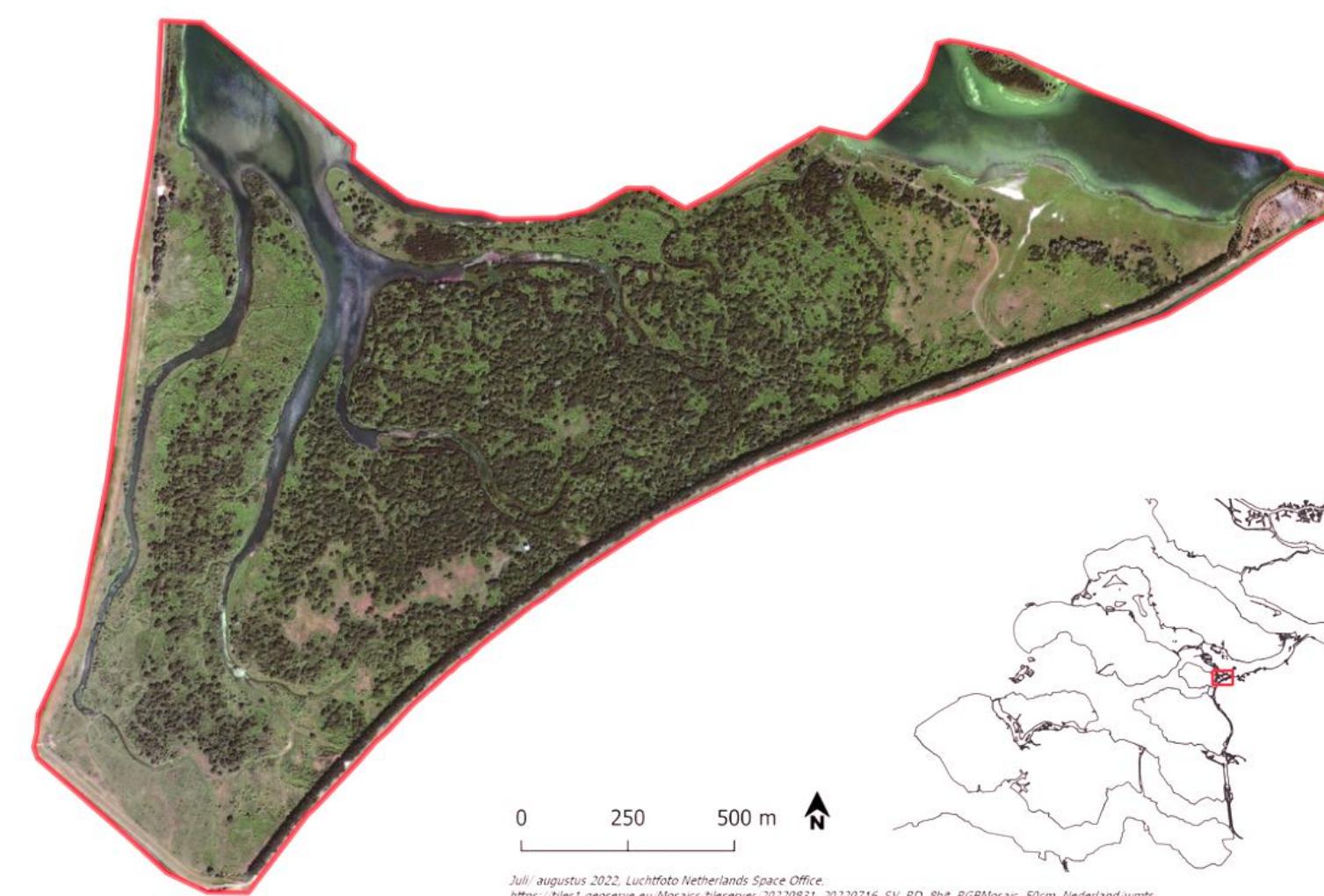


Horse chestnut

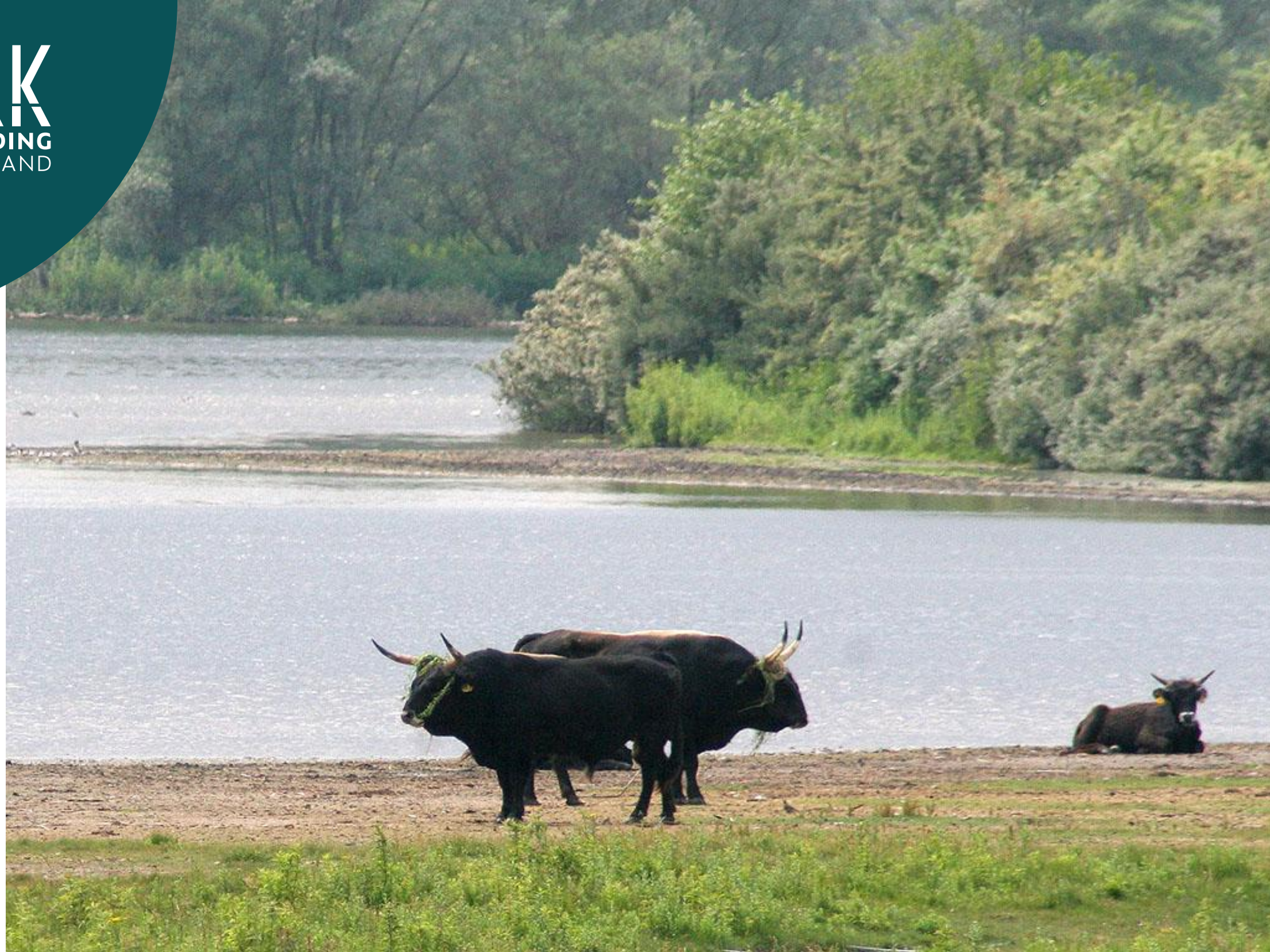
Bovine distribution



Slikken van de Heen



Bison or bovine?



- Competition
- Inbreeding avoidance
- More varied area use
- Bigger landscape impact
- Safer for visitors

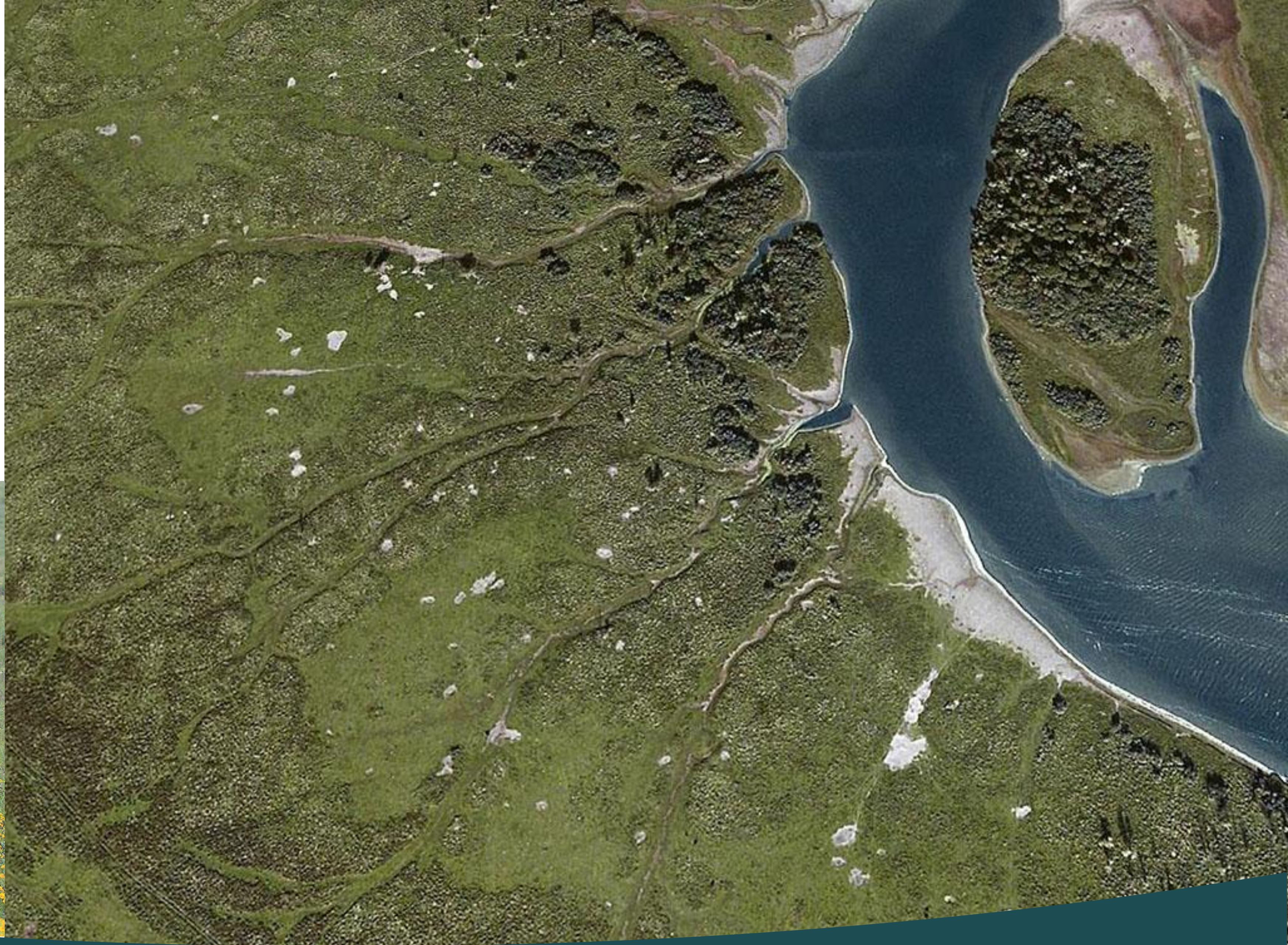
Reintroduction of herbivores in natural social herds



Biodiversity benefits from competition



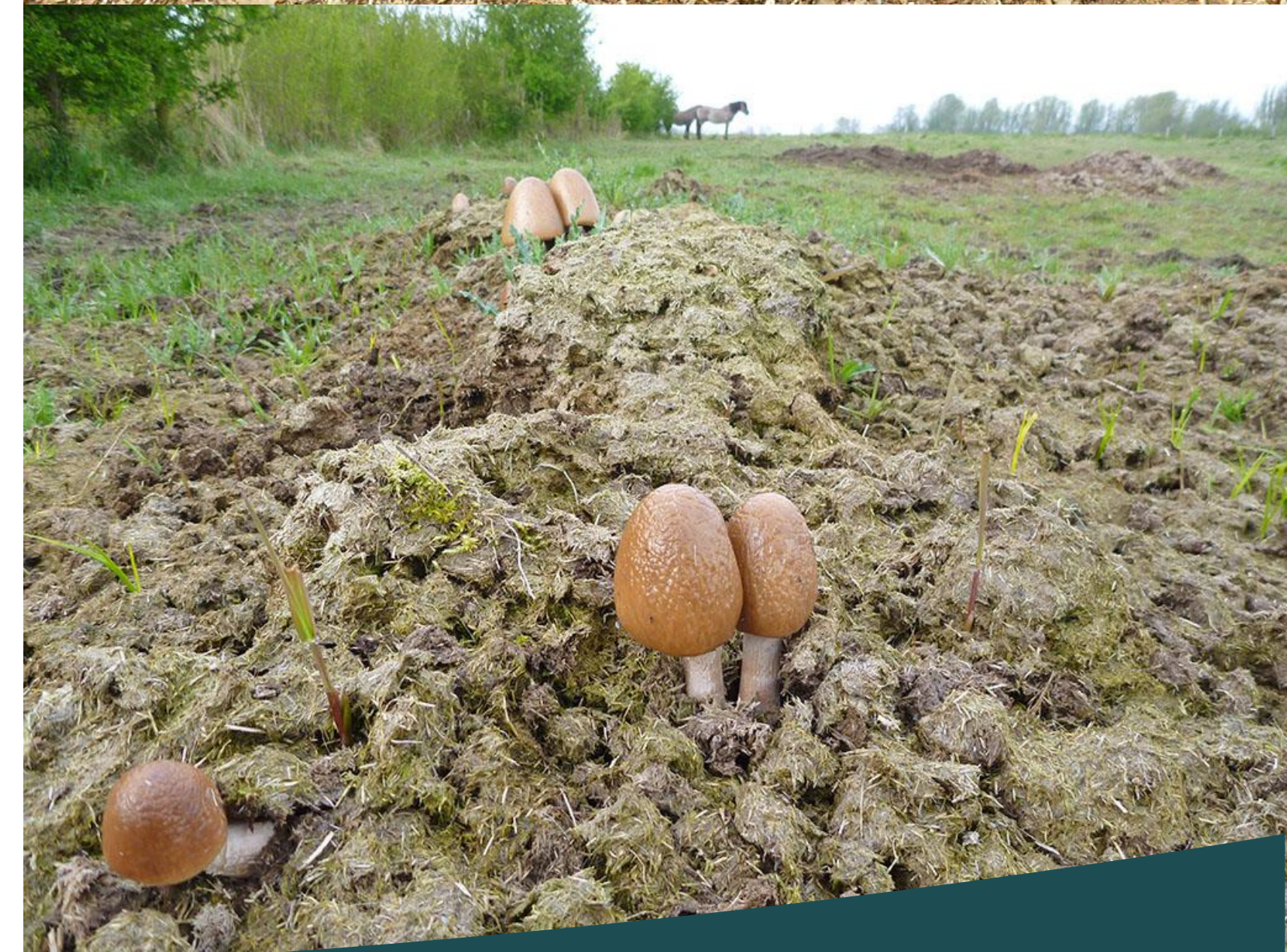
Wallows are also beneficial for biodiversity



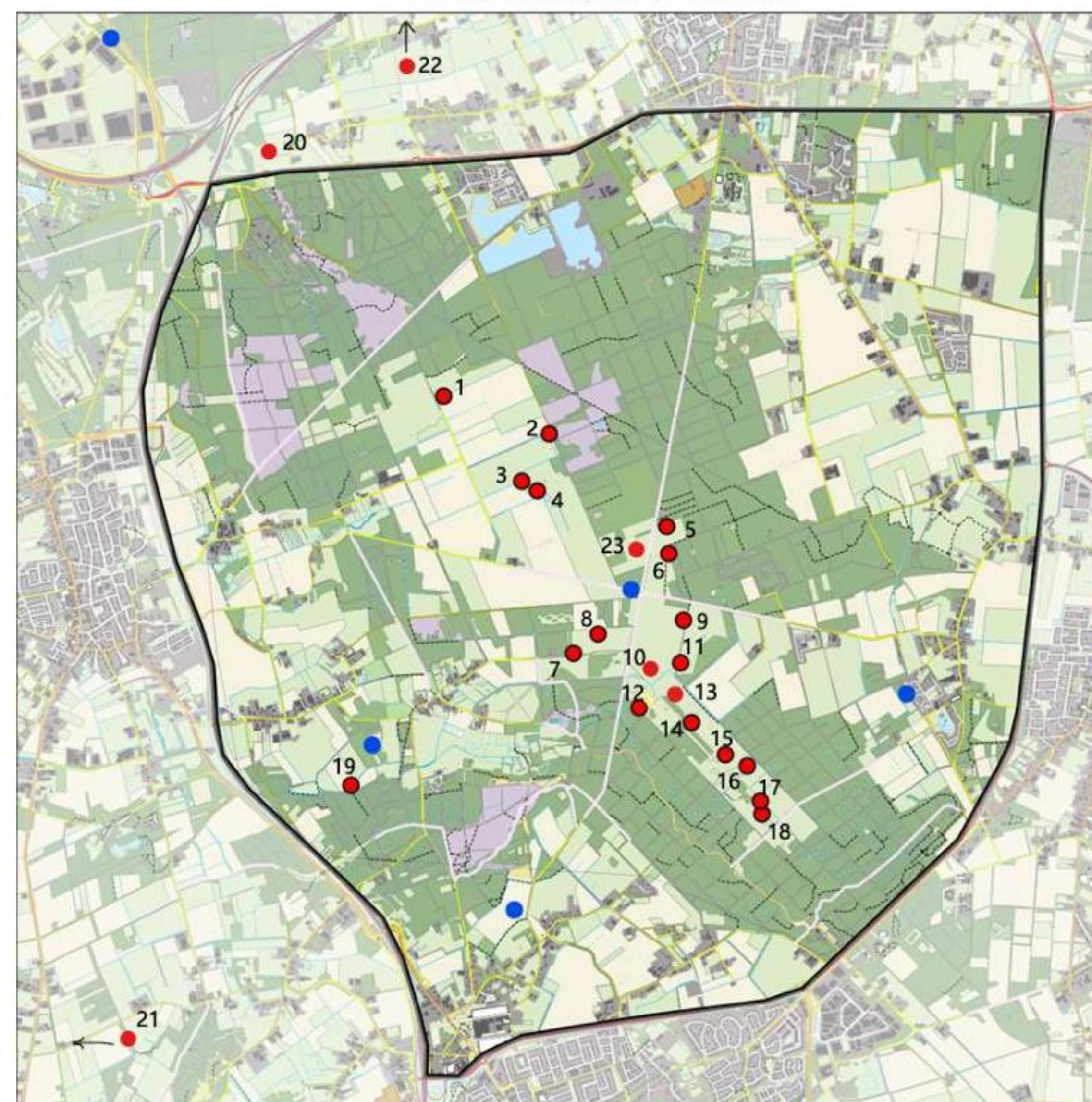
Bull pits and wallows, a small-scale mosaic connected by animal trails



Wandering large herbivores spread seeds



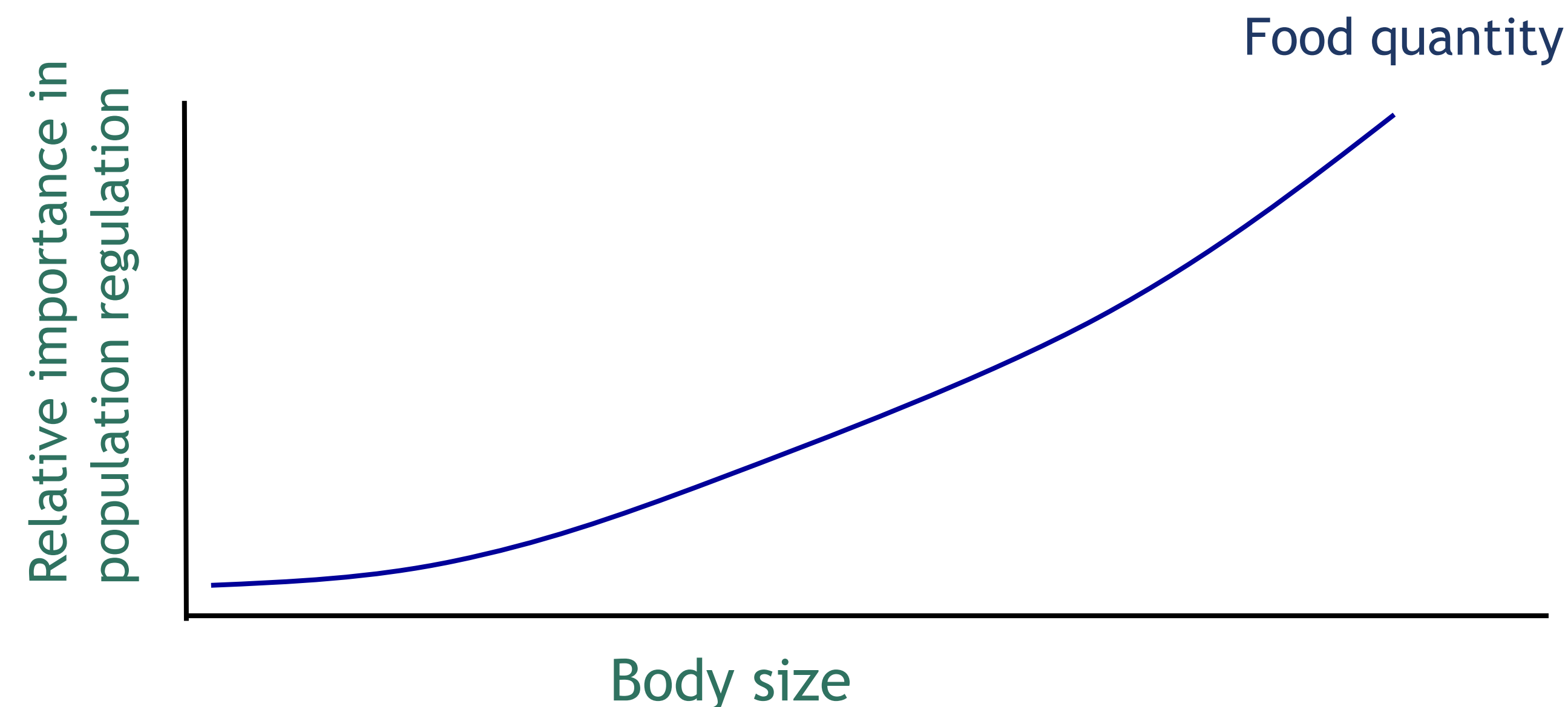
Healthy, 'medicine' free dung is full of life



Kaart van de territoria (rode stippen) en locaties (blauwe stippen) van de Grauwe klauwieren in de Maashorst en Herperduin 2025

Species comeback: 21 Red-backed shrike territories in Maashorst rewilding area versus 2 outside

After Hopcraft, Olff & Sinclair (2009) Trends Ecol. Evol.

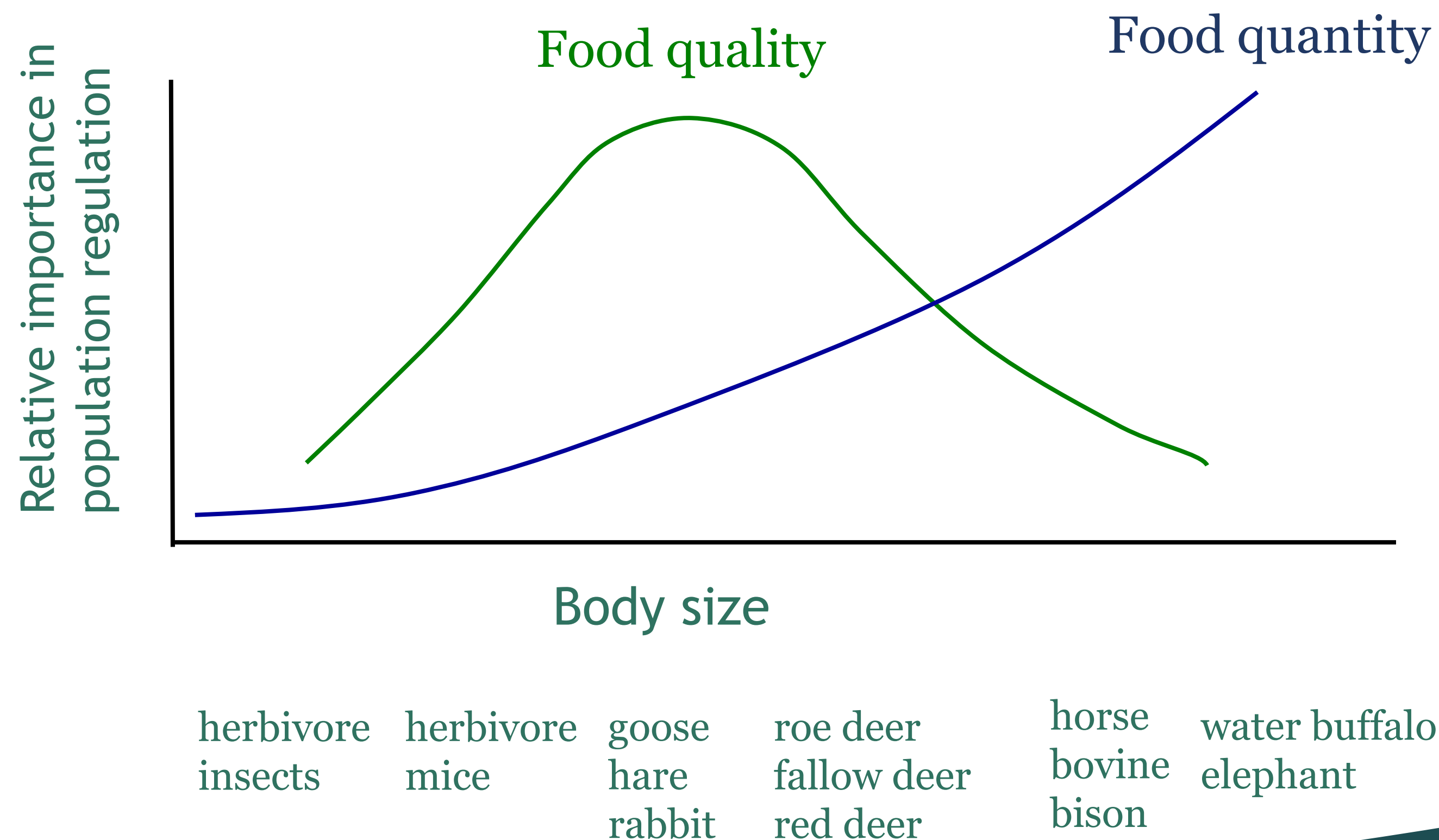


herbivore insects	herbivore mice	goose hare rabbit	roe deer fallow deer red deer	horse bovine bison	water buffalo elephant
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Food scarcity in winter determines natural density of large herbivores



After Hopcraft, Olff & Sinclair (2009) Trends Ecol. Evol.



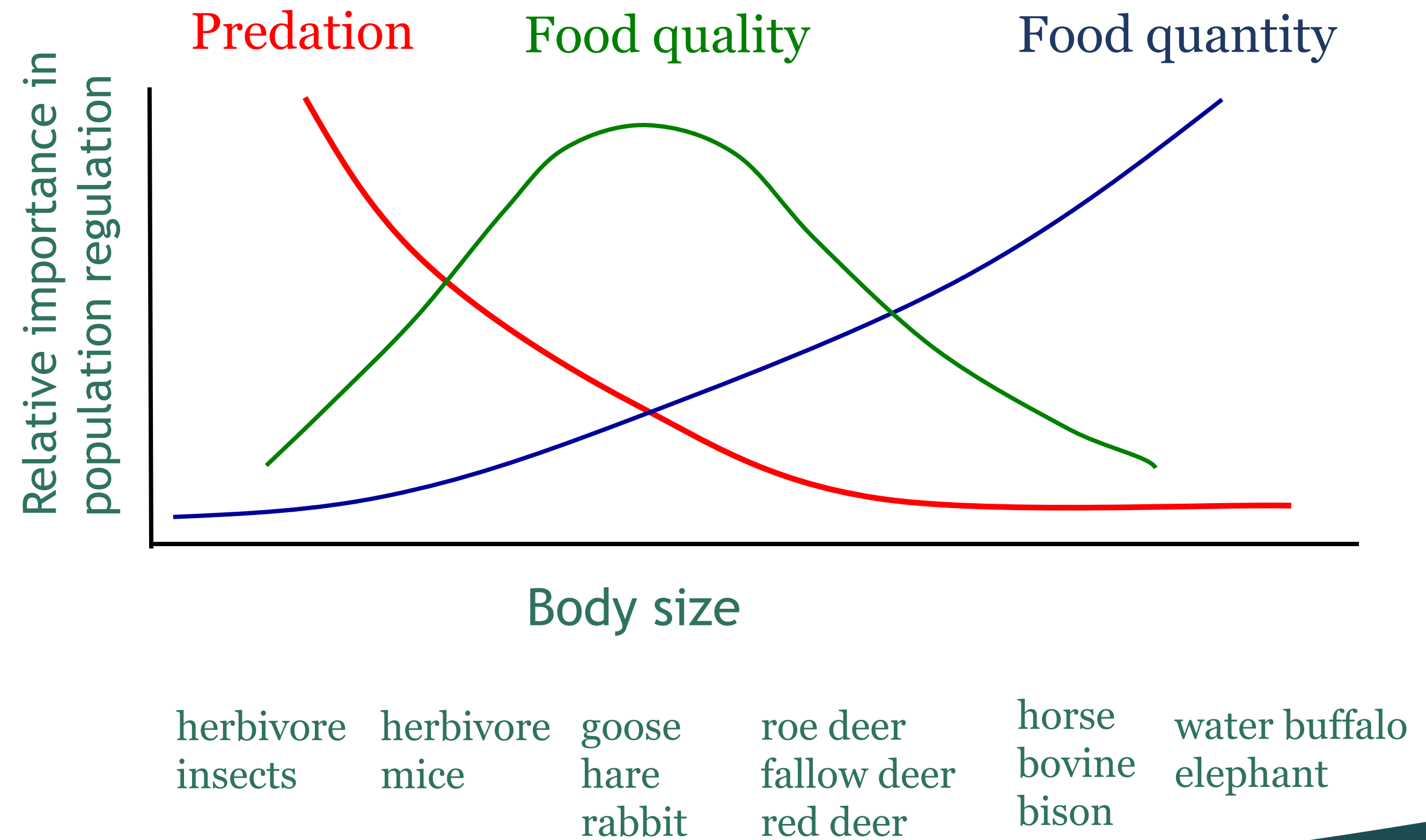
Food quality does that for medium-sized herbivores



Large herbivores improve the landscape for smaller animals

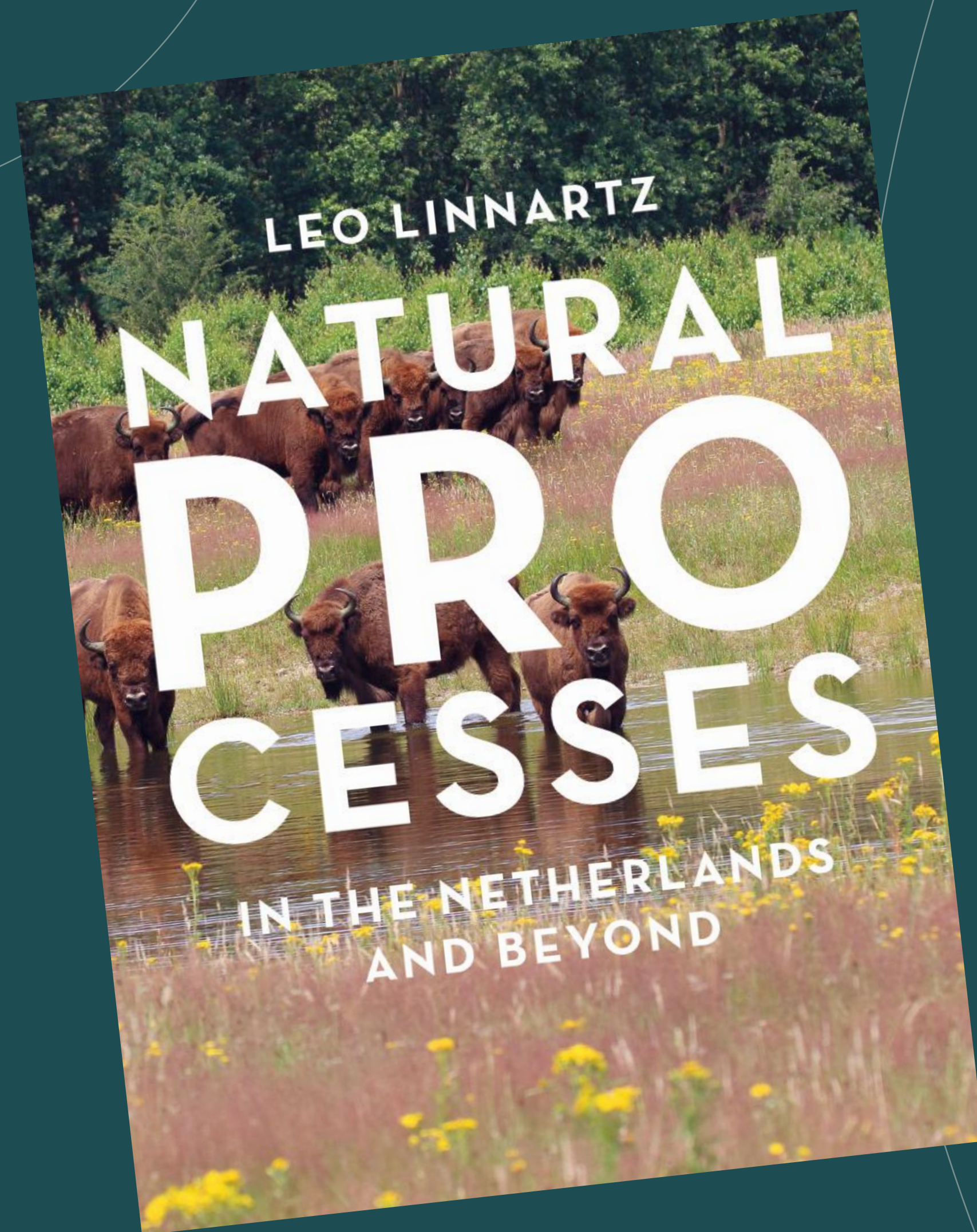


After Hopcraft, Olff & Sinclair (2009) Trends Ecol. Evol.



Predation limits smaller herbivores, offering space to large ones







Een vos versleept delen van het kadaver en verspreidt daarmee voedingsstoffen.

De steenloper eet insecten en het spek van het kadaver.



www.ark.eu/zeekadavers
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