FORBIO experiment: what are the benefits of tree species mixtures?

Pieter Vangansbeke

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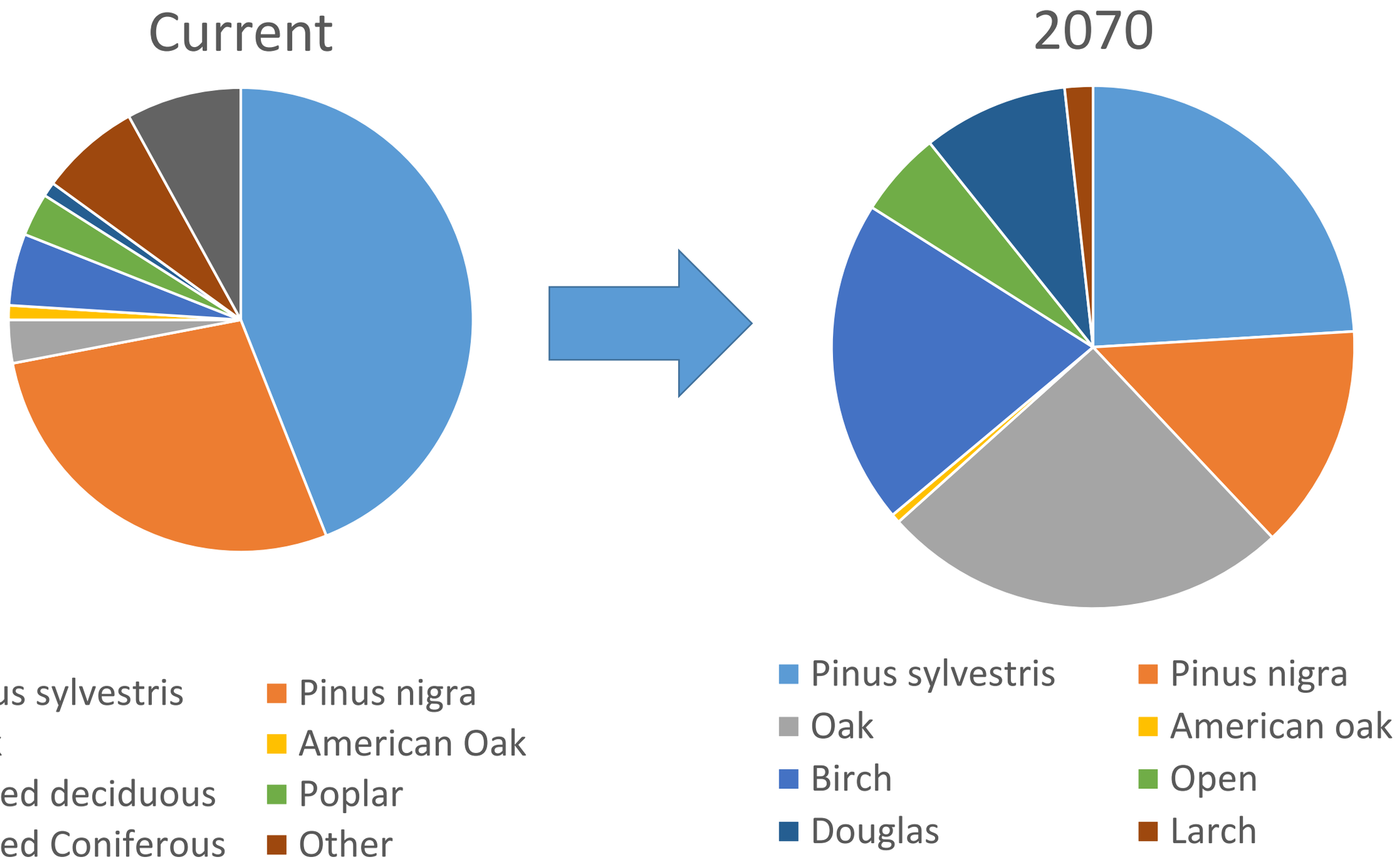
http://www.treedivbelgium.ugent.be/

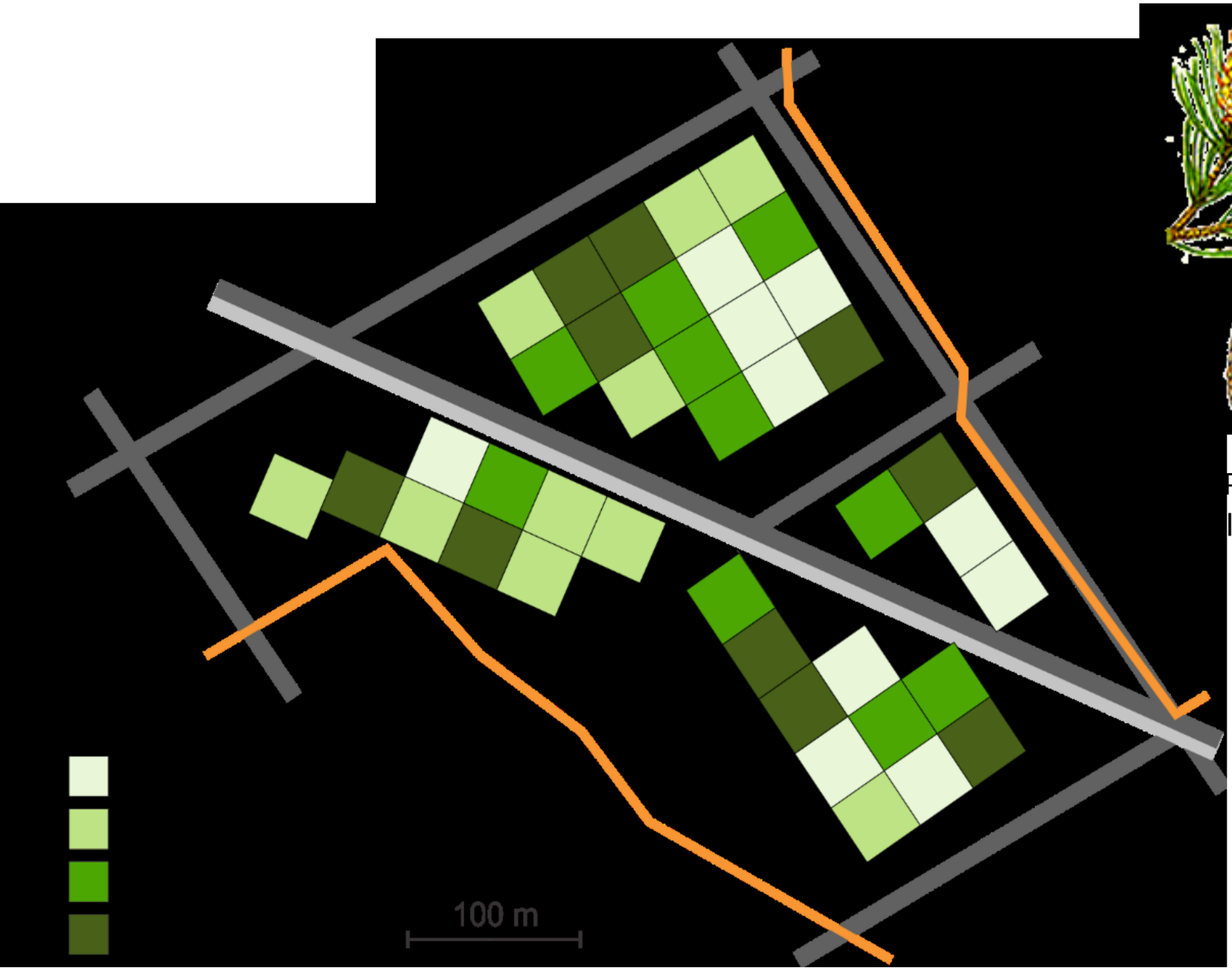
Based on the long term vision for wood production in Bosland

Pieter Moonen
Vincent Kint
Gaby Deckmyn
Bart Muys

Augustus 2011



FORBIO: functioning of biodiverse forests



Pinus sylvestris

Quercus petraea

Betula pendula

Larix kaempferi

Pseudotsuga menziesii

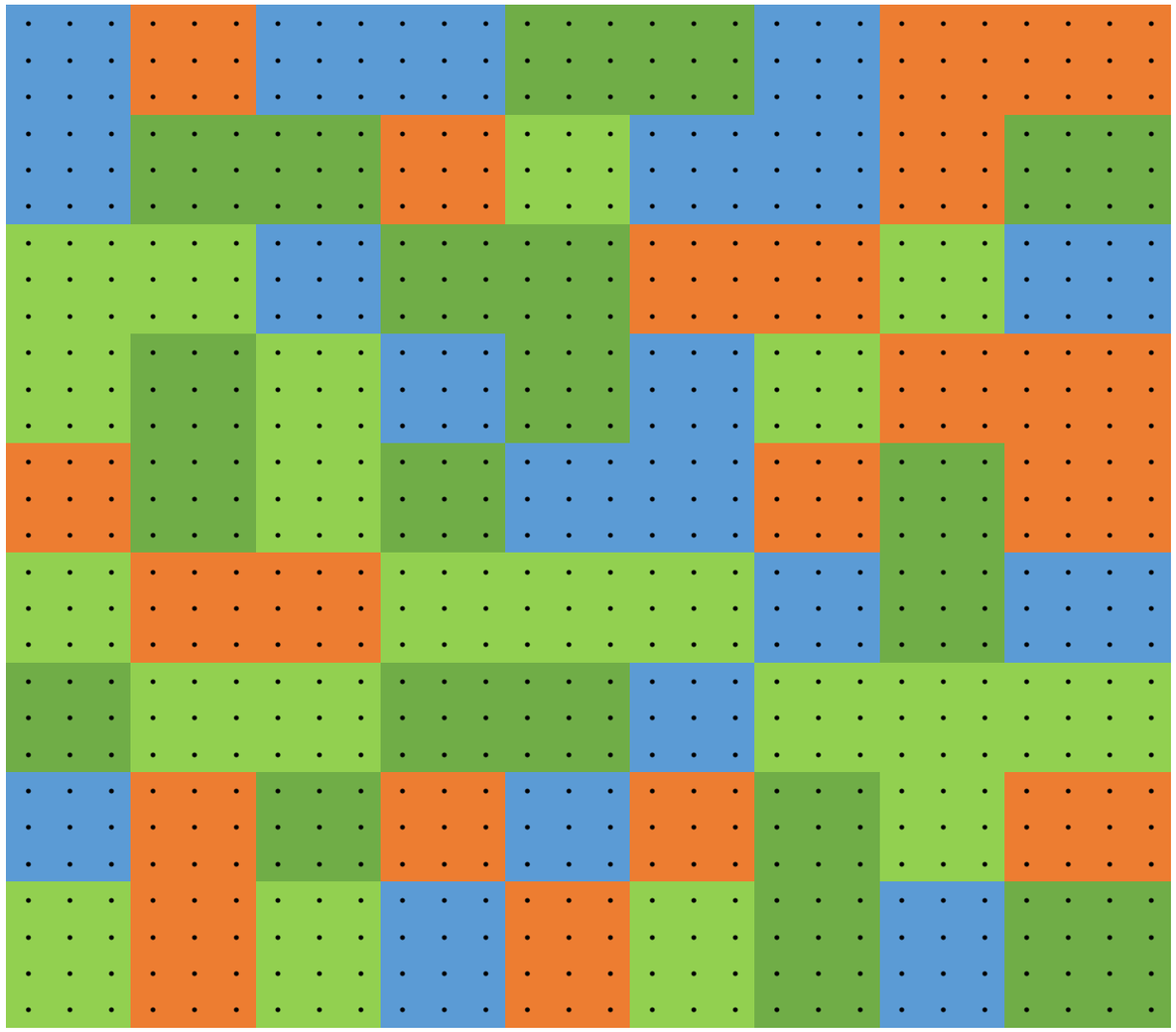
FORBIO: planting design 4-species plot

Birch

Oak

Pine

Douglas



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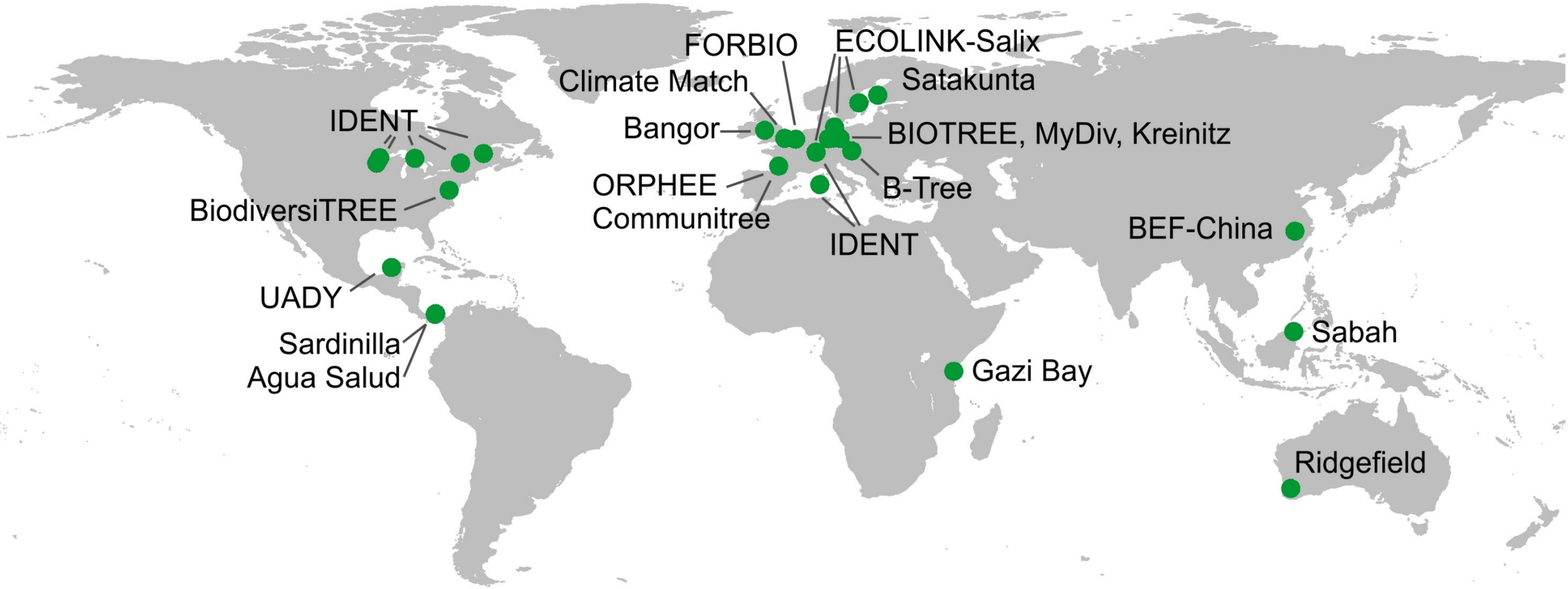
TreeDivNet: the biggest biodiversity experiment of the world



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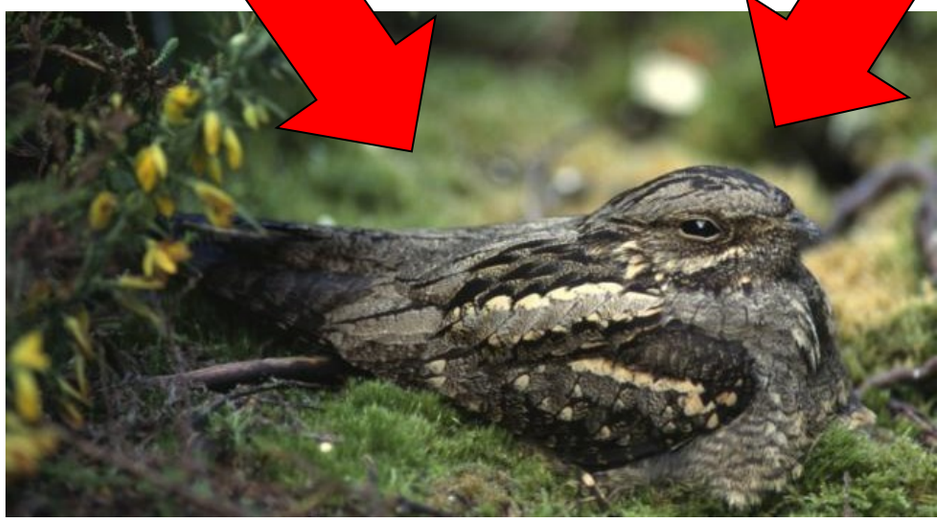
What is the impact of recreation and wood harvest on biodiversity



Pieter Vangansbeke

Pieter.Vangansbeke@ugent.be

Vangansbeke et al., Biodiversity Conservation, 2016

Selection of indicator species

Habitat

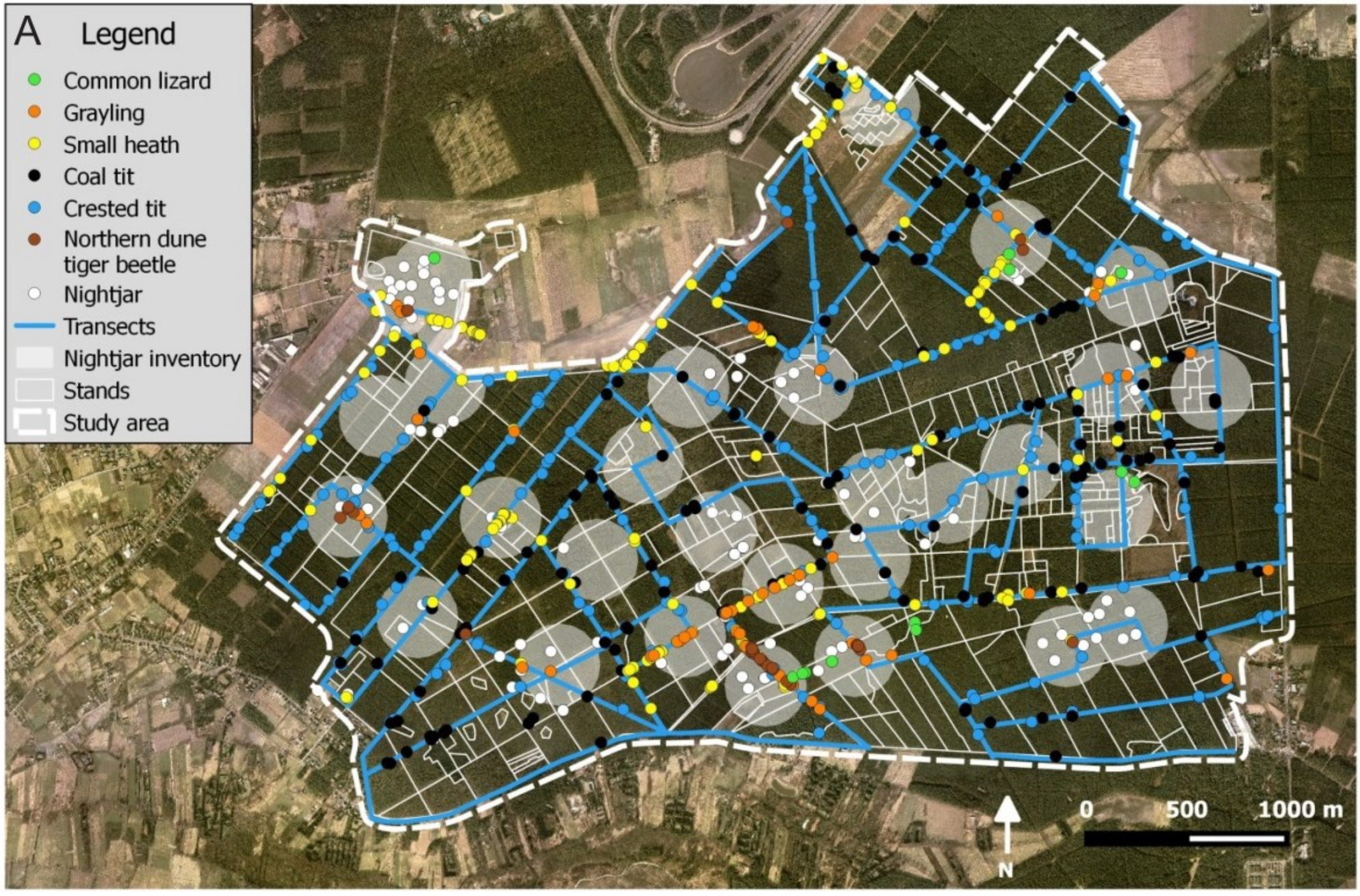
Open Edge Forest

Dispersion

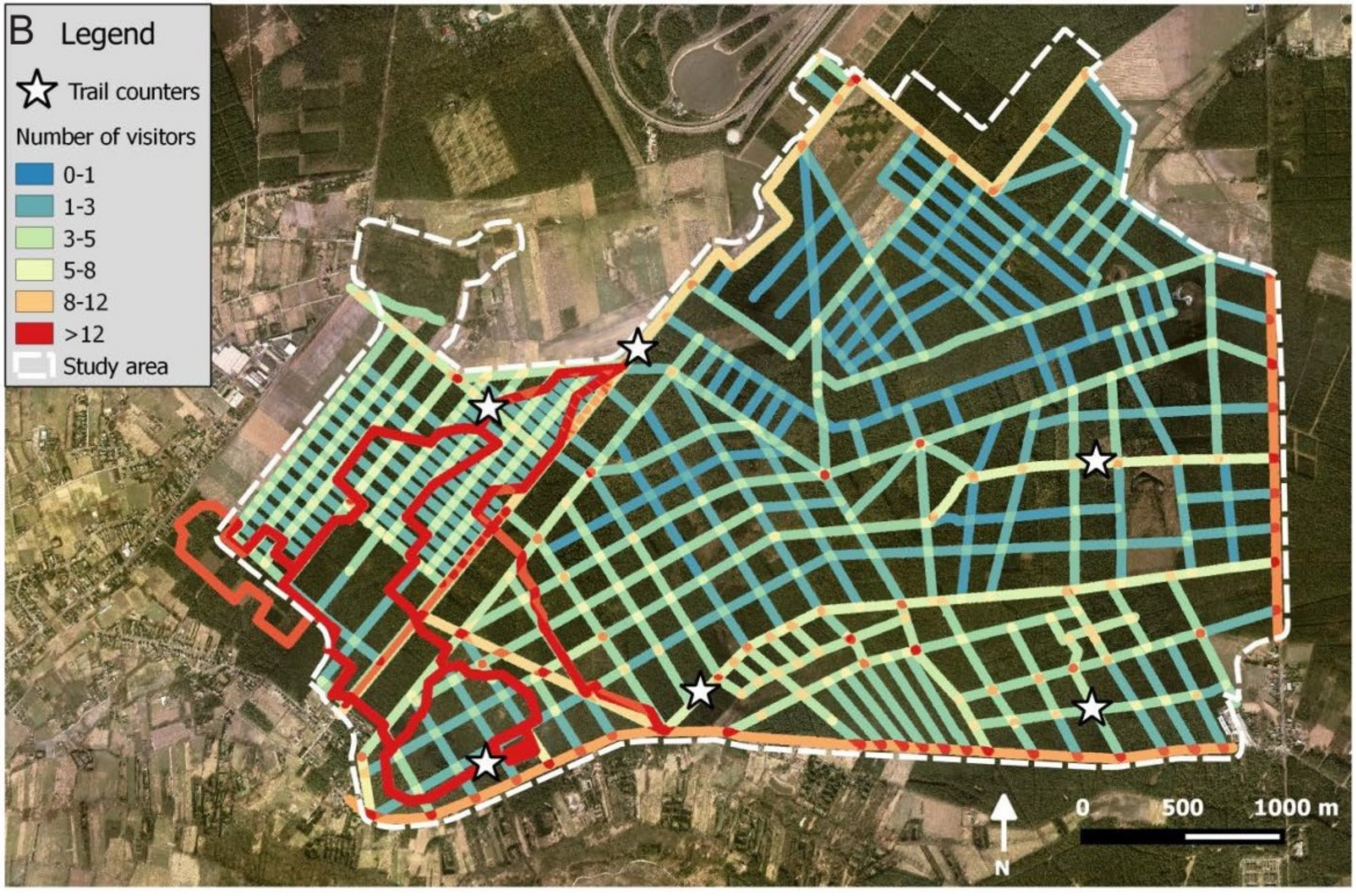
Short

Long

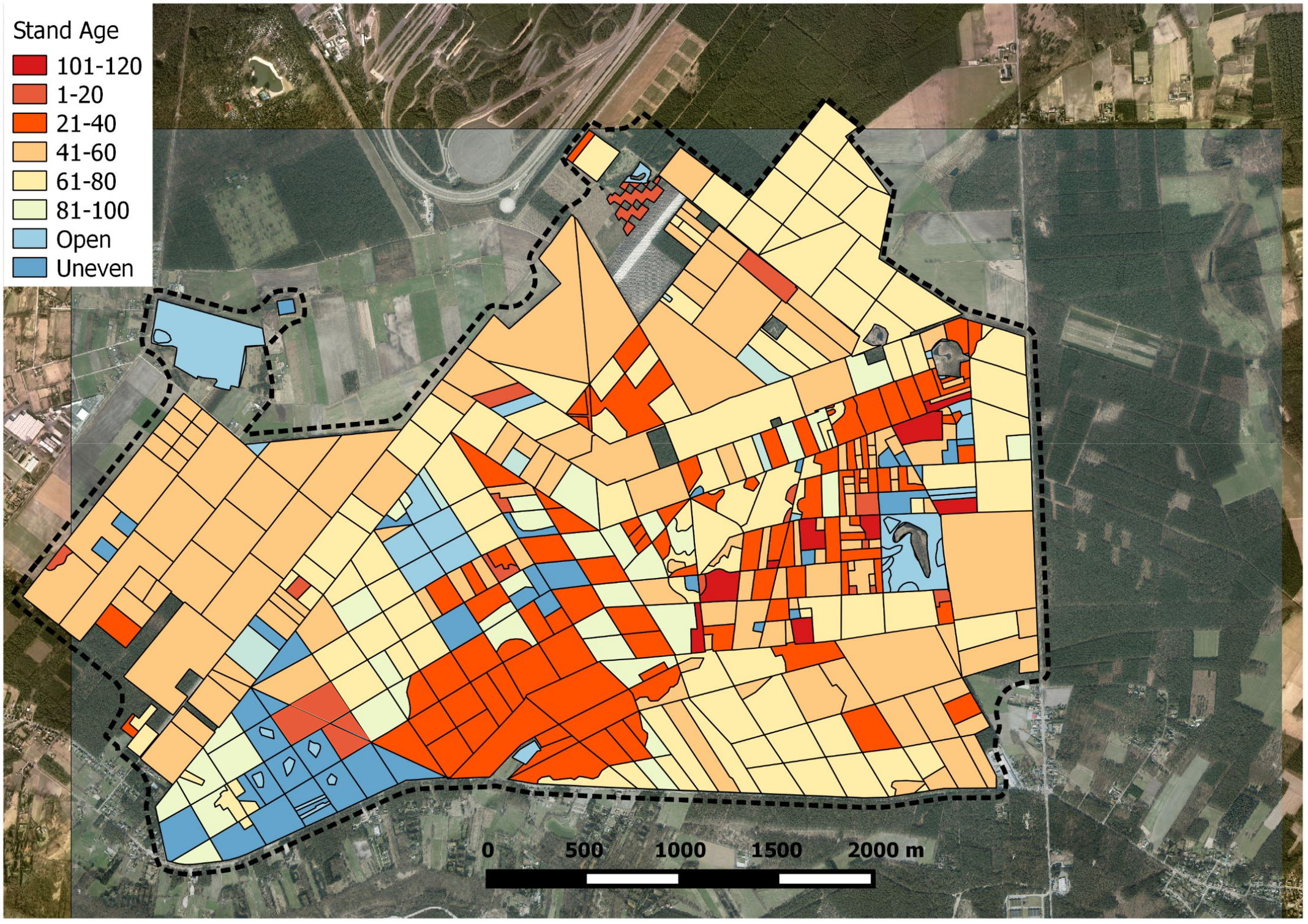
Maps of indicator species distribution



Maps of visitor distribution



Maps of stand characteristics



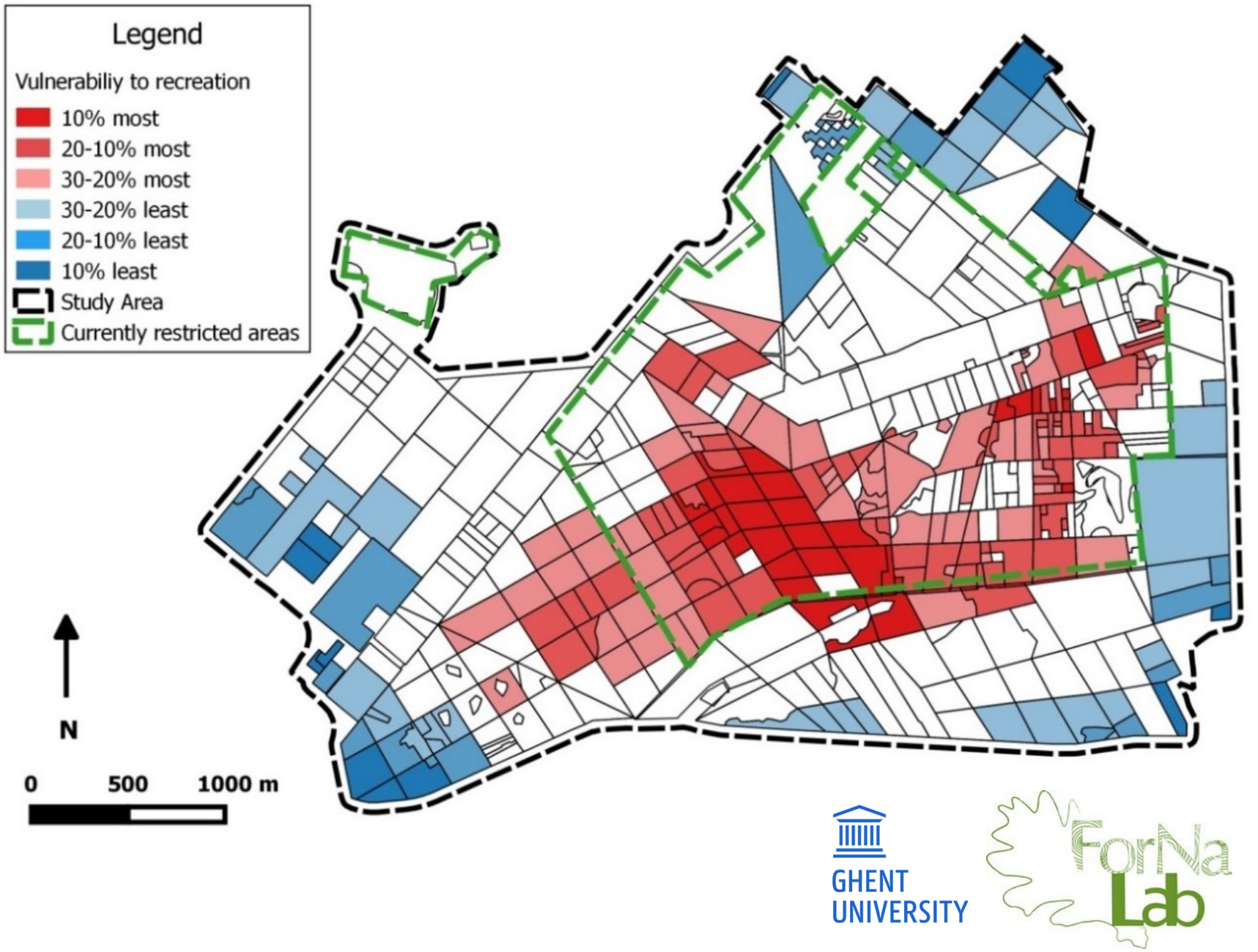
Species preferences

Low recreation pressure
Low amount of edge
Old stands (>80 years)

Clear-cuts or young plantations
Grassland, heathland or sand
Low recreation pressure

Impact of recreation on species

	Recreation (% of current situation)	Habitat suitability for vulnerable species (% of current situation)
S1	125	95 %
S2	125	98 %



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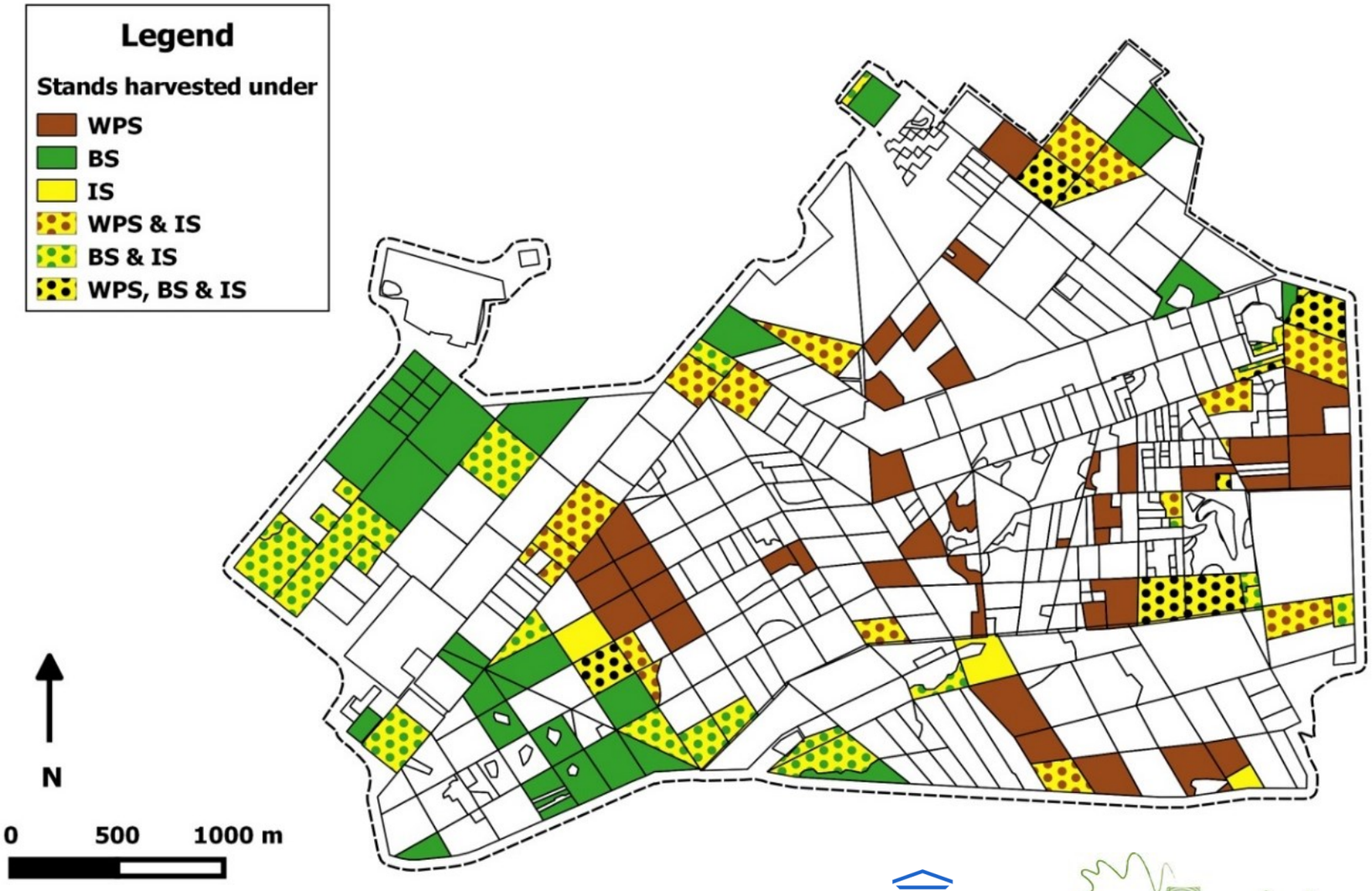
Impact of harvest on species

	Wood harvest m^3 $year^{-1}$	%
Wood production scenario	5645.8	100
Biodiversity scenario	4422.4	78
Integrated scenario	4910.4	87



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Towards smarter sustainable forest management

Trade-offs

Smart spatial solutions help

- Seperate recreation and biodiversity
- Integrate wood harvesting and biodiversity conservation

Collaboration betweens scientists, managers and public