



Forest segregation for conservation: From managed forests to conservation forests

Experiences and Challenges

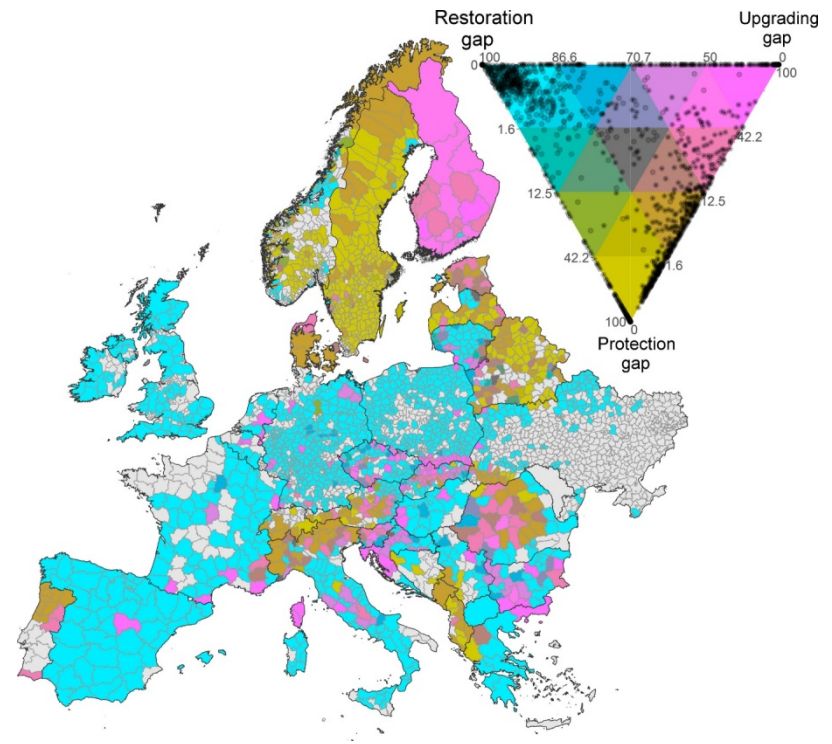
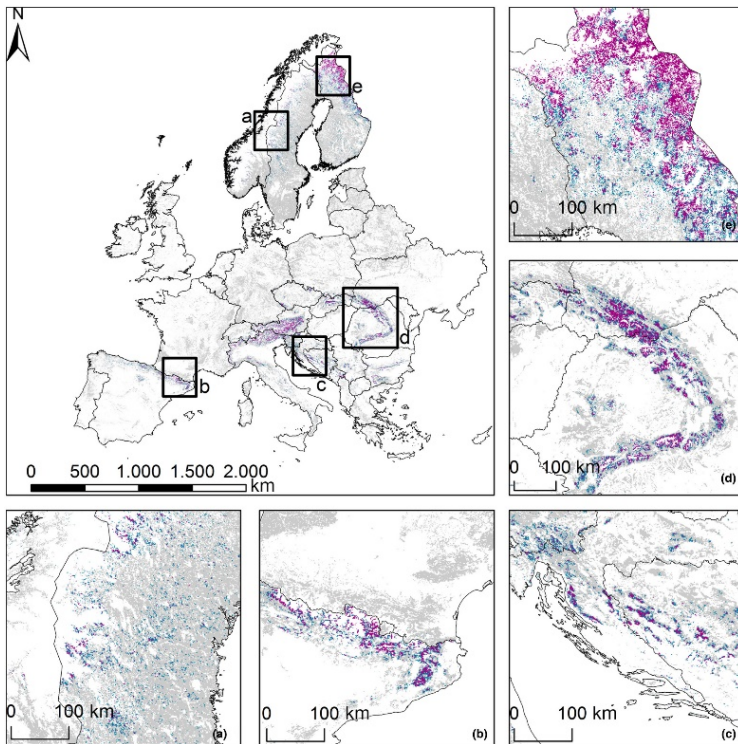
Yoan Paillet, INRAE, UR Lessem, Grenoble, France

➤ Primary forests in Europe

Scarce and poorly protected

0,7% of European forest area are considered primeval

Conservation gaps remain regarding these forests

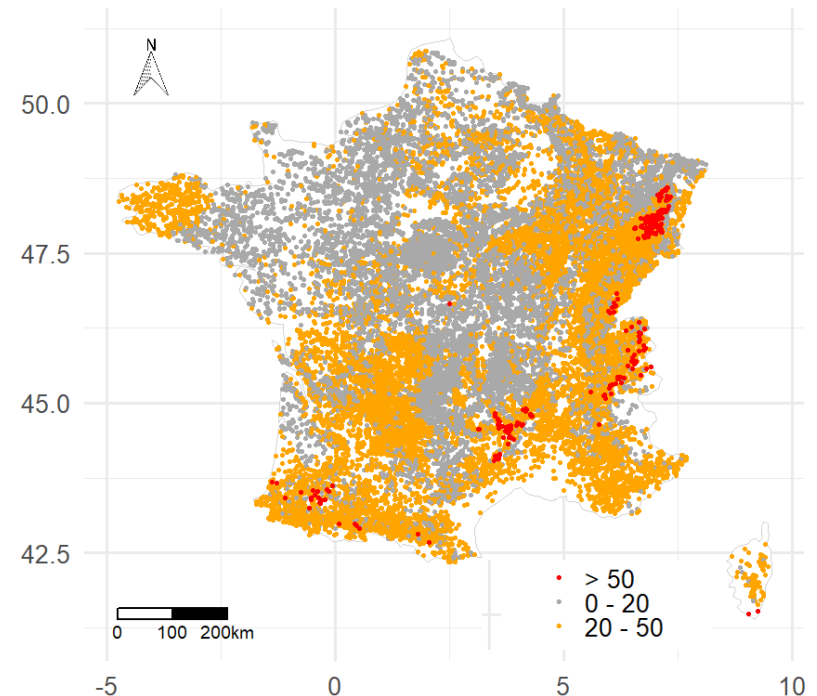
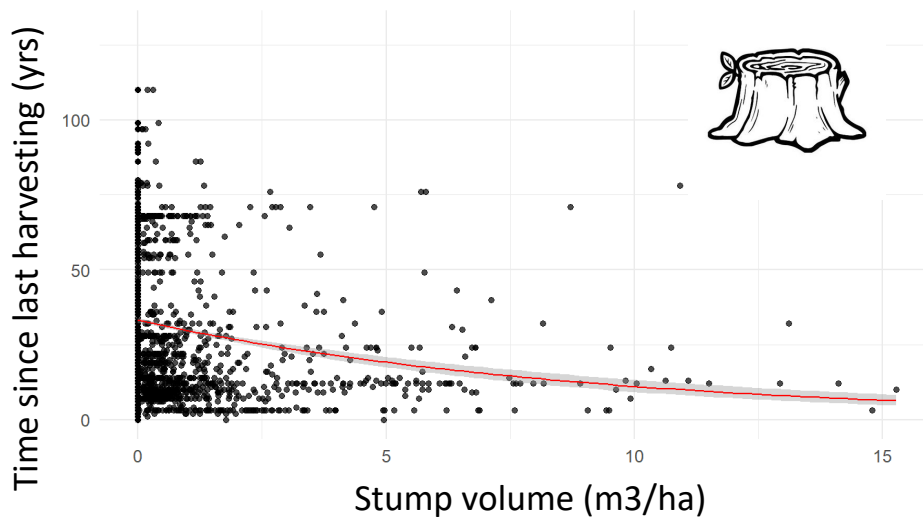


➤ Setting aside managed forests in Europe

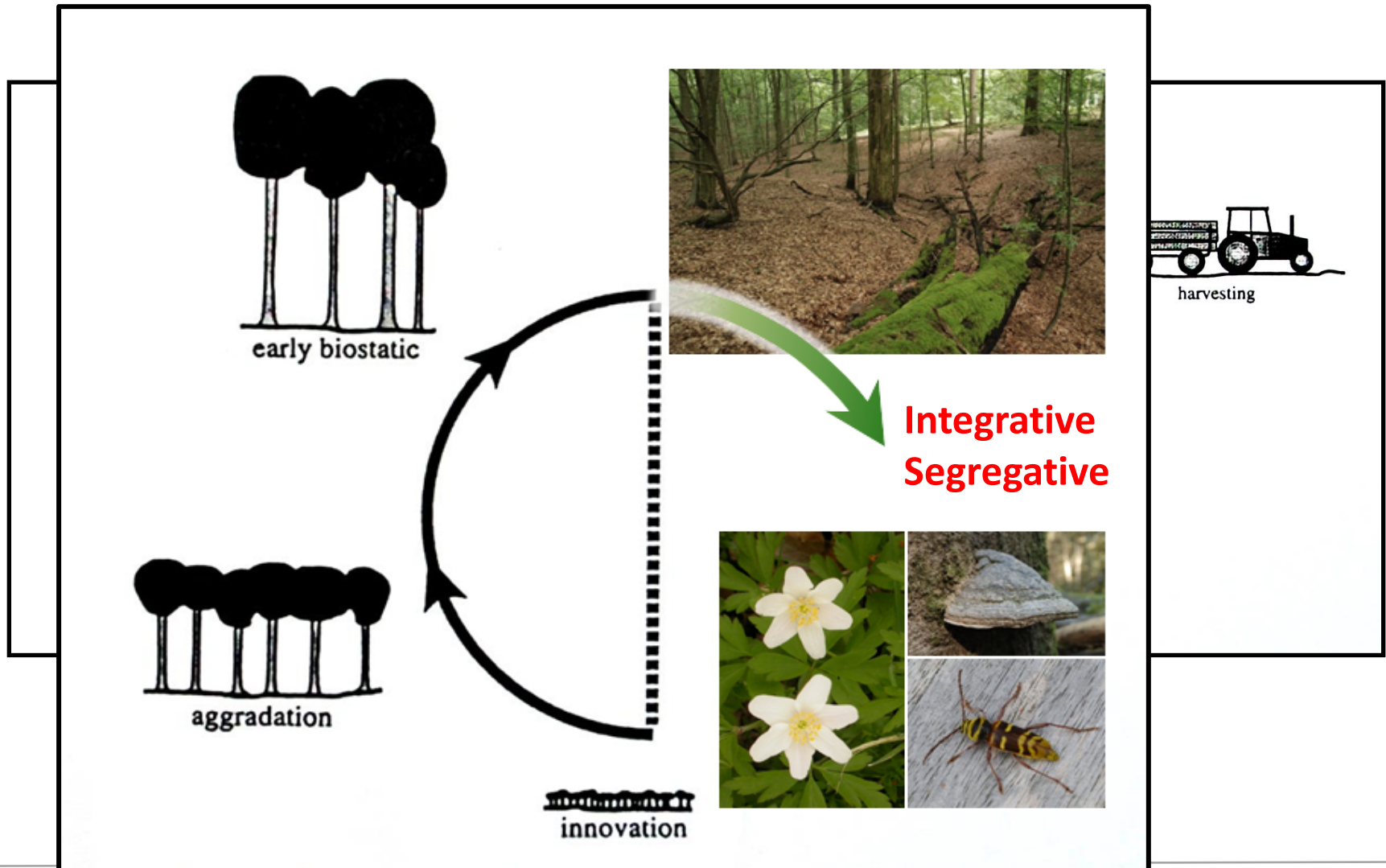
Could / Should act as a surrogate for conservation

Forest unharvested for a +/- long time represent a non negligible part of the forest area

In France => 3% +/- 2% have not been harvested for at least 50 years



Overcoming the 'management shortcut'

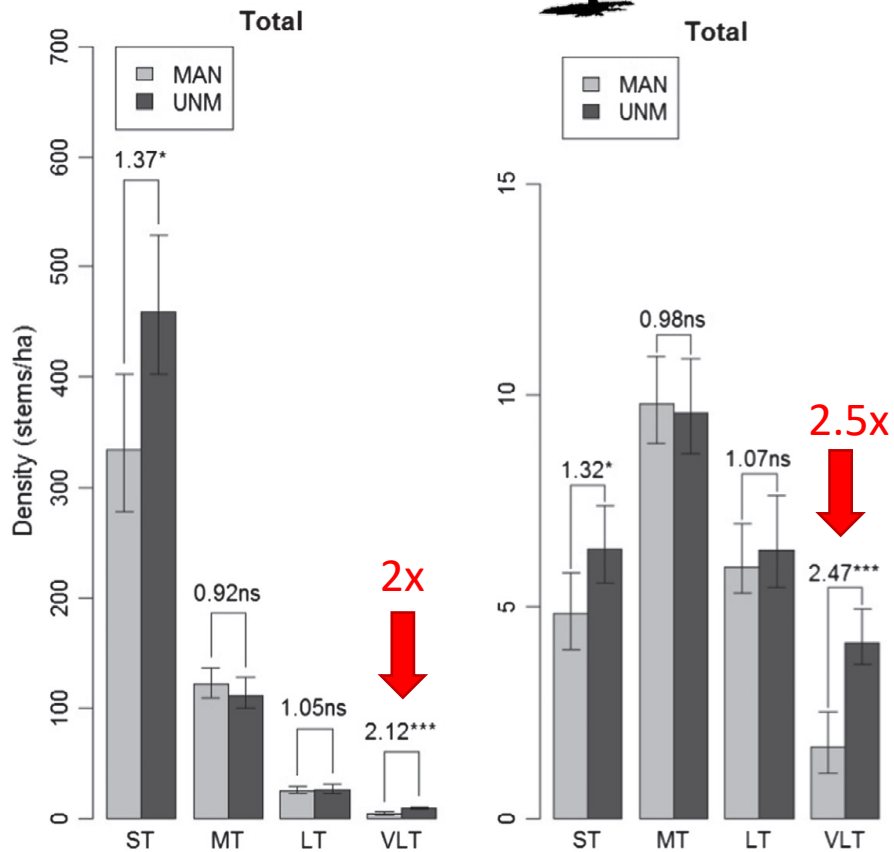


➤ Why is it good to be abandoned

Free expression natural dynamics



Large living trees

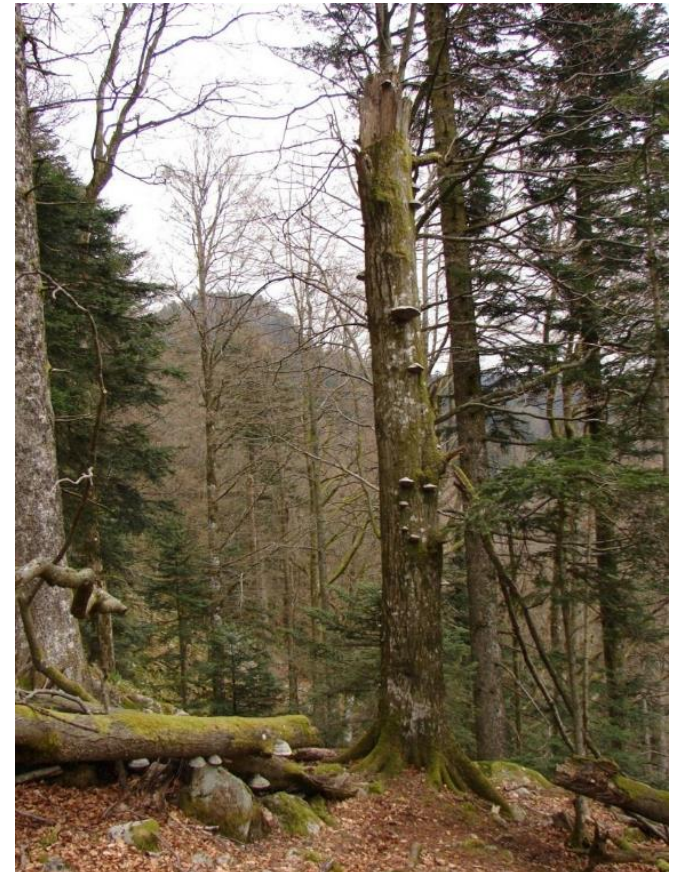
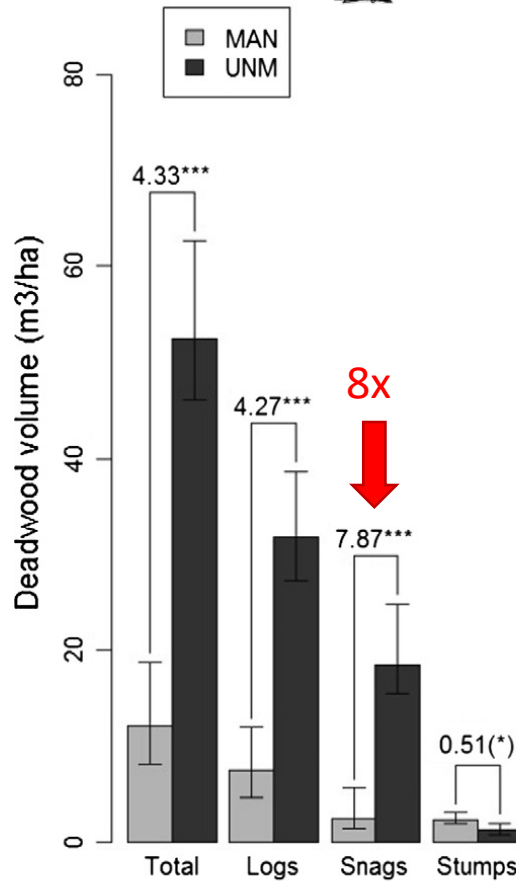


INRAE

➤ Why is it good to be abandoned

Free expression of natural dynamics

Deadwood

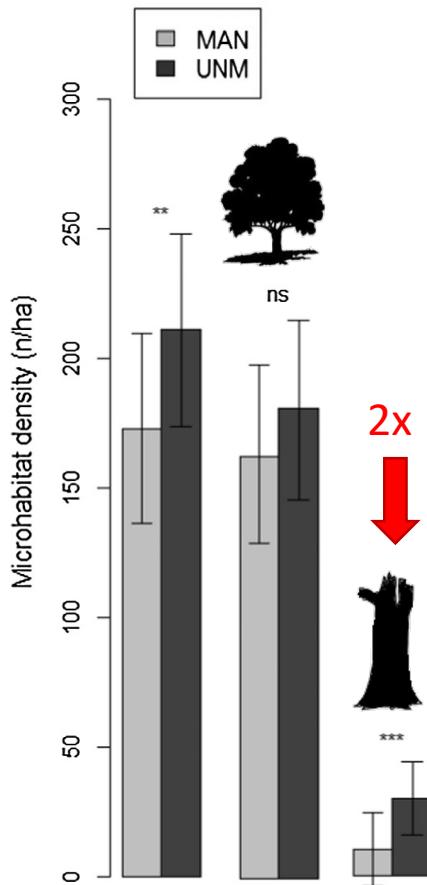


INRAE

➤ Why is it good to be abandoned

Free expression of natural dynamics

Tree-related microhabitats



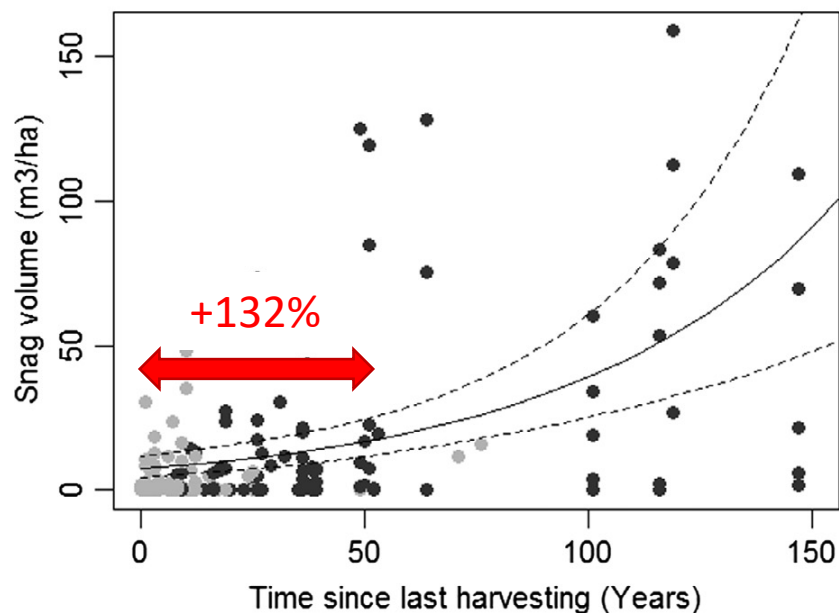
INRAE

➤ How long does it take to be old?

It is very variable but it takes a while!

Deadwood is quite documented:

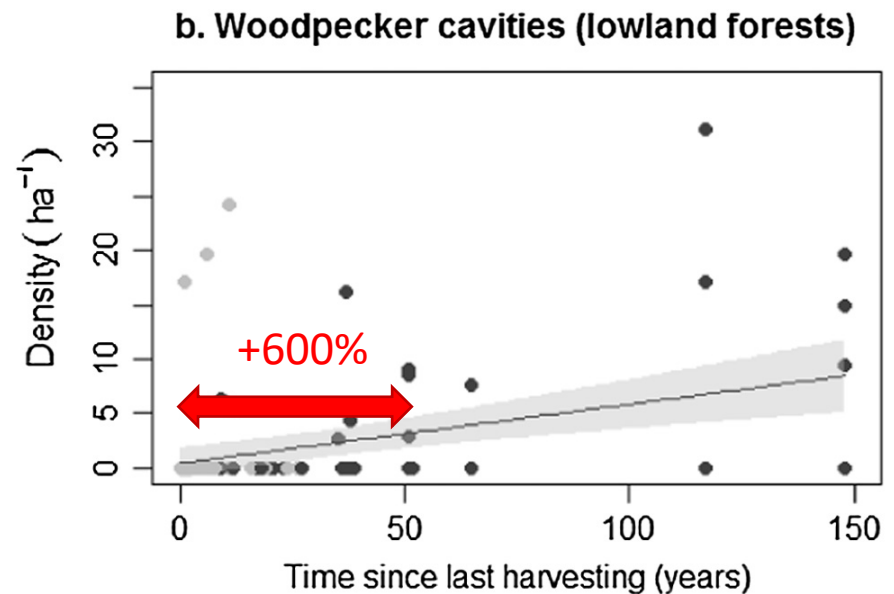
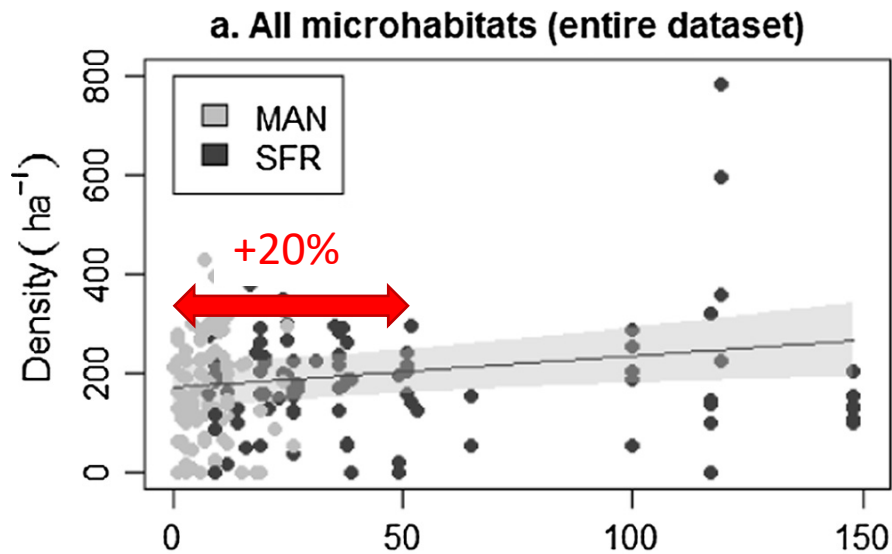
- Paillet et al. (2015): **0.4 m³/ha/yr**
- Meyer & Schmidt 2011: **1.0 m³/ha/yr**
- Vandekerckhove et al. 2009: **1.64 m³/ha/yr**



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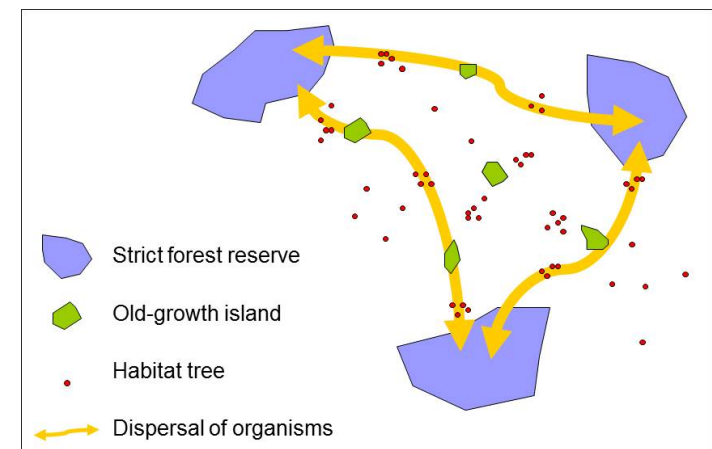
Less for tree related microhabitats



➤ But is it really working (for biodiversity) in the end

Forest structure complexification is beneficial for biodiversity but...

- Some need large areas to develop : rewilding?
- Colonisation credit has to be paid (sometimes)
- Spatial structure of set-aside areas is crucial...
- ...must be complemented with integration measures



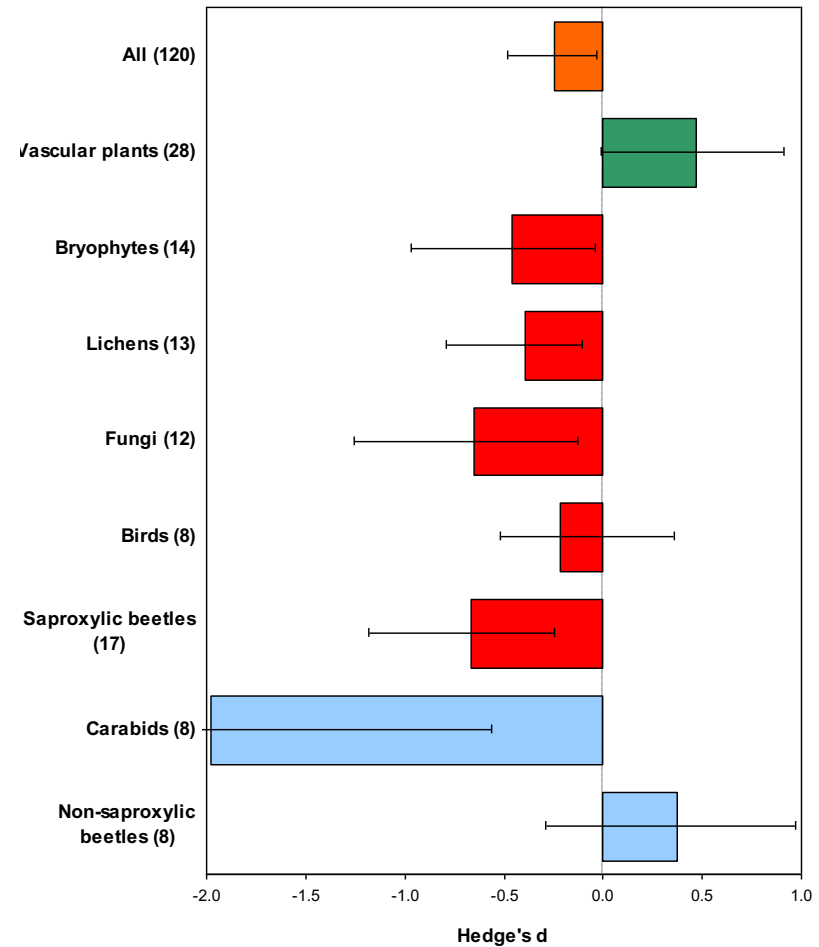
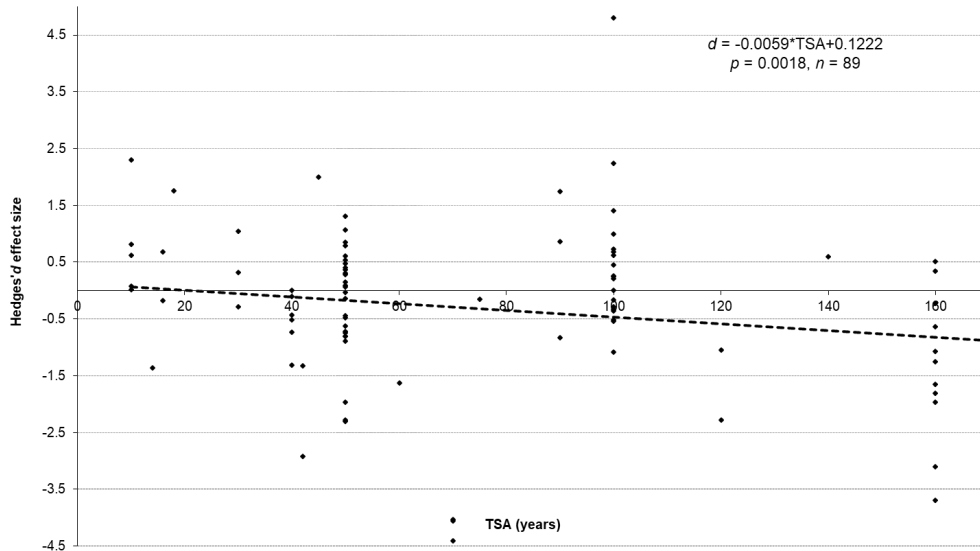
➤ Why setting aside formerly managed forests?

For many reasons! A focus on biodiversity conservation

Management abandonment is overall beneficial for biodiversity (~+7% in unmanaged forests)

but differently affects taxa [-13; +30%]

Recovery of species is slow... but effective





**‘rewilding’ in forests:
merging segregation with integration**

Experiences from Belgium

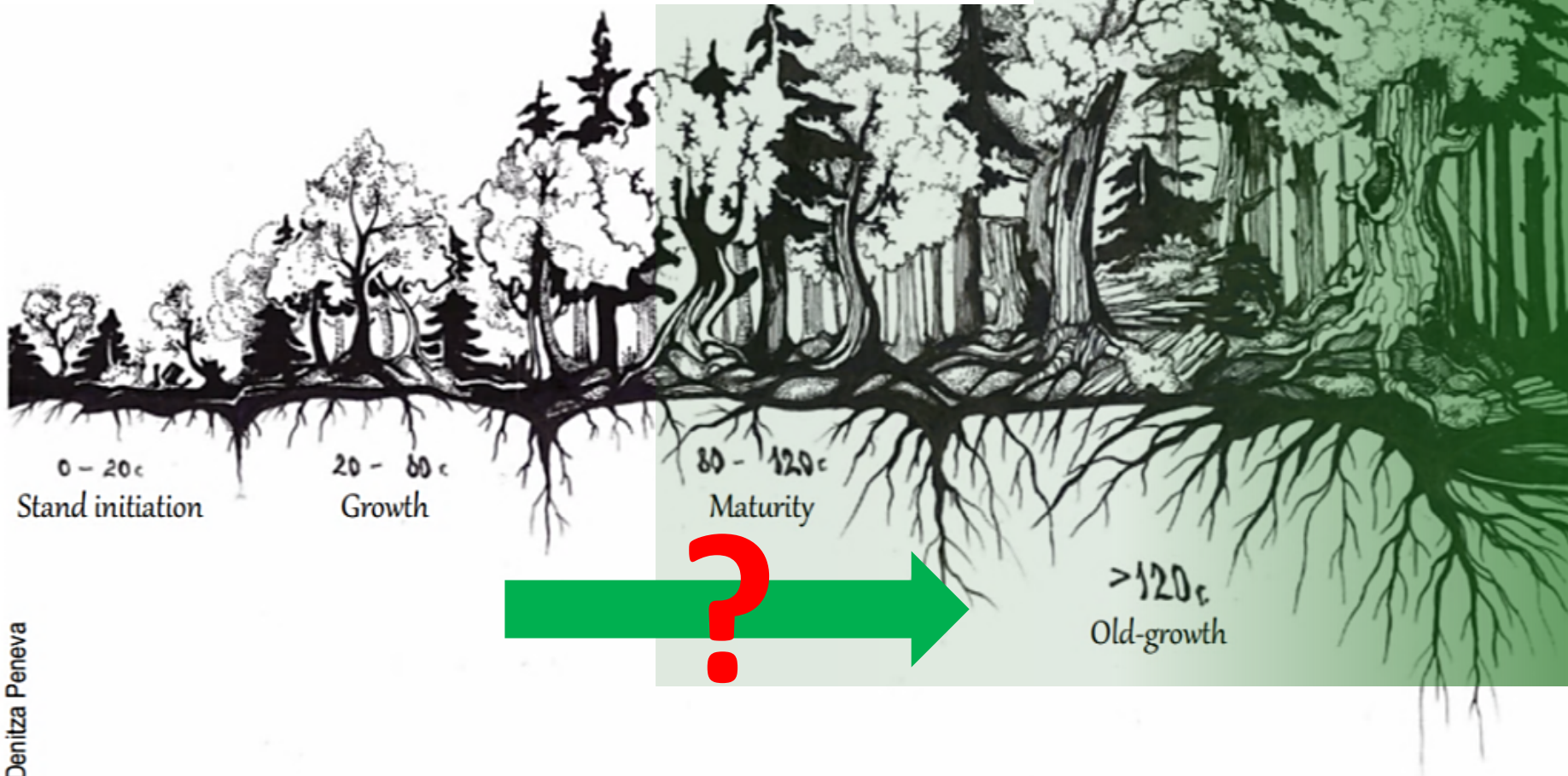
Kris Vandekerkhove – INBO (Belgium)

INTEGRATE workshop/webinar – 08/09/2020



Reservation towards reserves

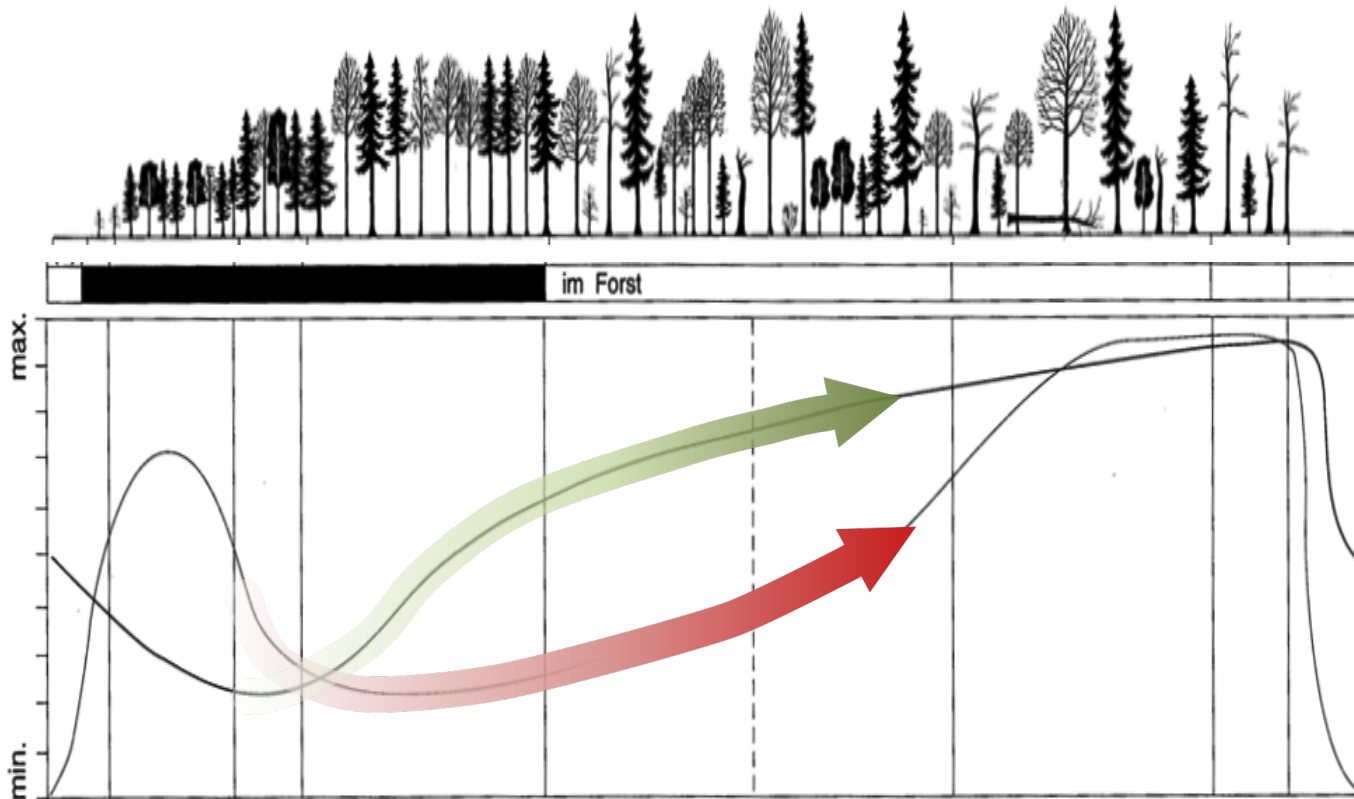
- Wilderness is popular (among city people)
- Motion of 'distrust' towards managers
- Motion of 'distrust' towards nature !



Wu wei : the (difficult) art of doing nothing

Resistance/hesitation to non-intervention among conservationists :
Tradition of 'predetermination and control'
fear of the dark, fear of the unknown





VASCULAR PLANTS :

'Forest affinity classes' (Schmidt et al.2011)

1.1 = closed canopy forest; 1.2 = gaps and edges in forests; 2.1 = forest as well as open countryside;
2.2 = also in forests, but mainly open countryside; 0 = no forest affinity, species of open countryside

	Everzwijnbad		Jansheideberg		Pruikenmakers		Terrijst		All sites	
survey	1	2	1	2	1	2	1	2	1	2
Class 1.1	28	26	22	22	30	27	27	23	37	37
Class 1.2	3	2	3	1	4	2	4	2	8	3
Class 2.1	14	10	11	5	23	18	23	16	33	21
Class 2.2	2	0	2	1	1	1	3	1	4	2
Class O	1	0	0	0	1	0	2	0	3	0
All	49	38	39	29	59	43	60	47	86	64



Photos : field team forest ecology - INBO

Overall improvement for
late-successional species (integration)
Reserves = 'outposts' for recolonisation
of demanding species



Structural features : waiting for Godot ?

it's a **slow process**, but depends on the starting point:

Deadwood buildup: 0.1 vs. 20 m³/ha.y

Old trees : growing older and larger than you think



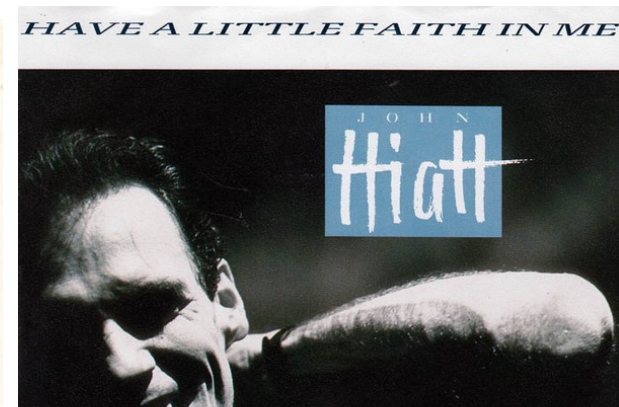
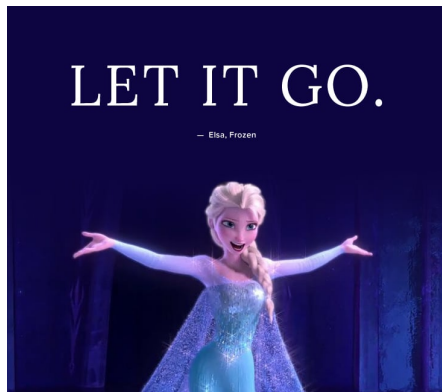
'Just one more tiny little (intervention)...'

Spruce - Pine : just let go (if you are allowed - phytosanitary risks) :
e.g. Black forest (Wilder see), Bayerischer wald

Potentially invasive species : Black cherry/ Red oak : context dependent

Speed it up ? (time limit!)

Open up the canopy? Assisted migration? (Vandalise trees?)
but in the end, nature will also do so



If I had 25.000 ha to select...

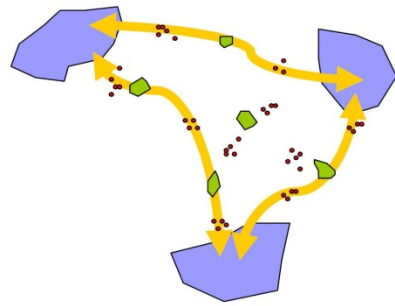
SLoSS (single large or several small) ??

SLaSS (single large AND several small) !!

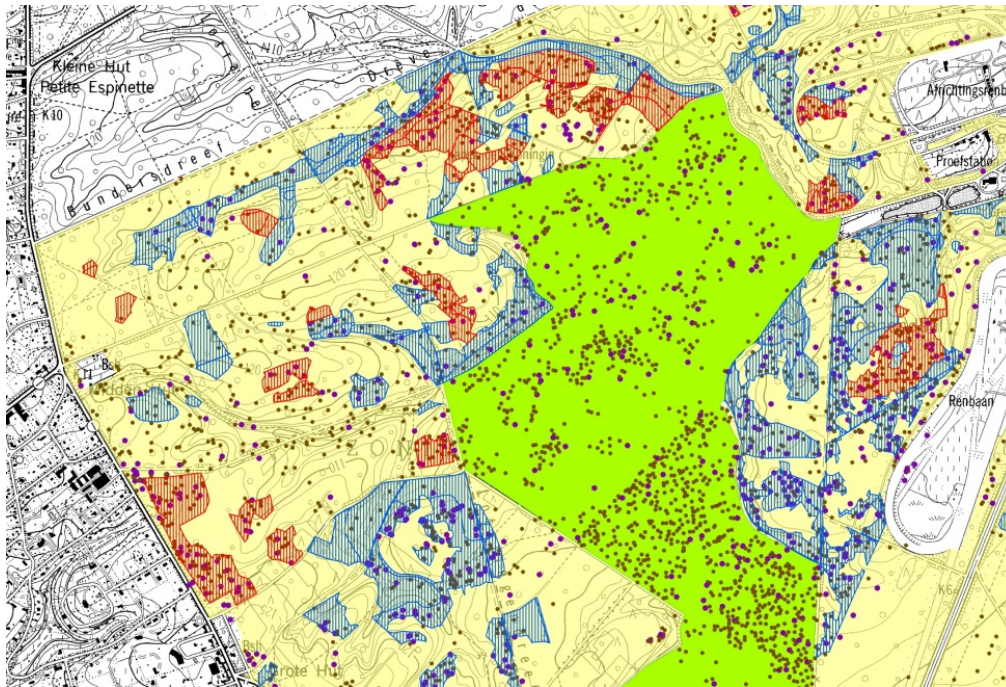
- **large areas** (>1000 ha): focus on 'rewilding', wilderness species, no explicit expectations for highly demanding species: nature may surprise us
- **Smaller areas** (20-200 ha) : relic species and high quality ('cherry picking')
 - Ancient woodland sites, long continuity of OG-characteristics; indicator species of relic sites
 - Don't include ancient wood pastures and other hotspots for thermophylic/light demanding species
- **combined with 'integration'** management



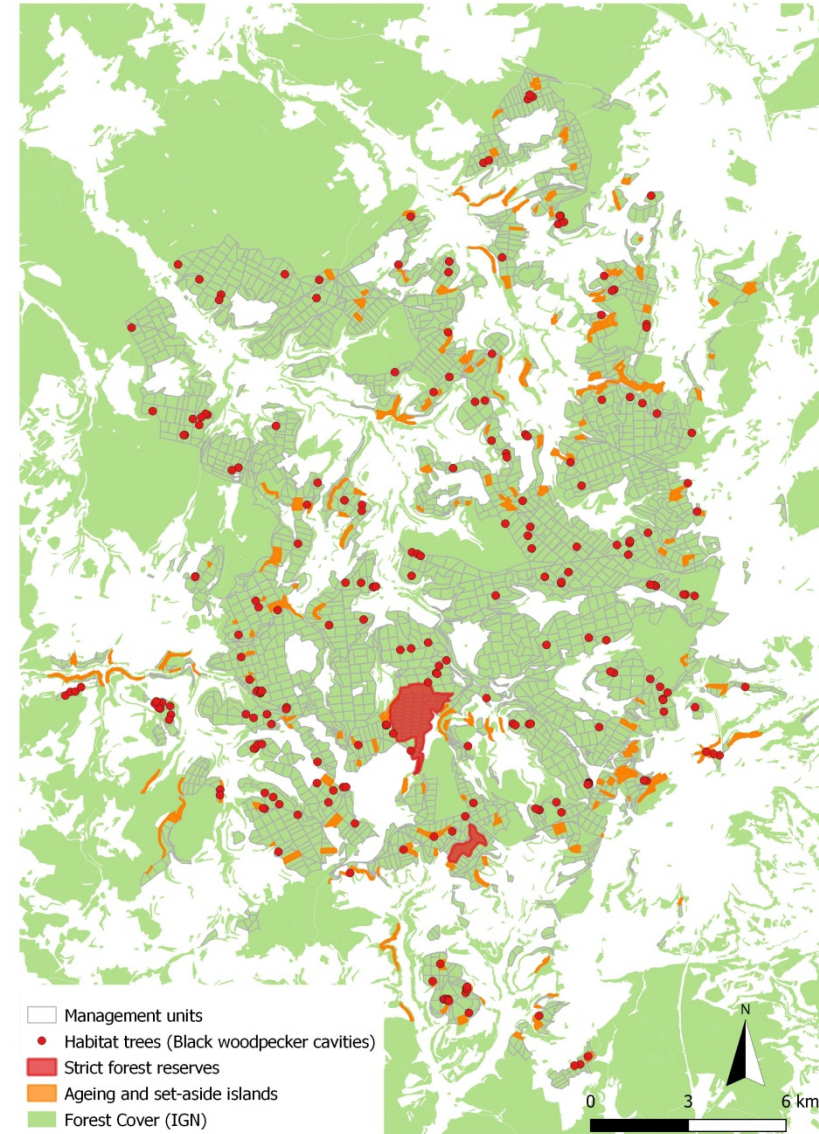
Yes, we can !



Sonian Forest (B)



Auberive (F)





**THIS IS A
MANAGED FOREST**



**THIS IS AN
UNMANAGED FOREST**



ANY QUESTIONS ?