

Agroforestry in Practice

A first-hand account of establishing
productive nut agroforestry over 200
hectares of farmland in East Anglia, UK

Archie Ruggles-Brise

Spains Hall Estate

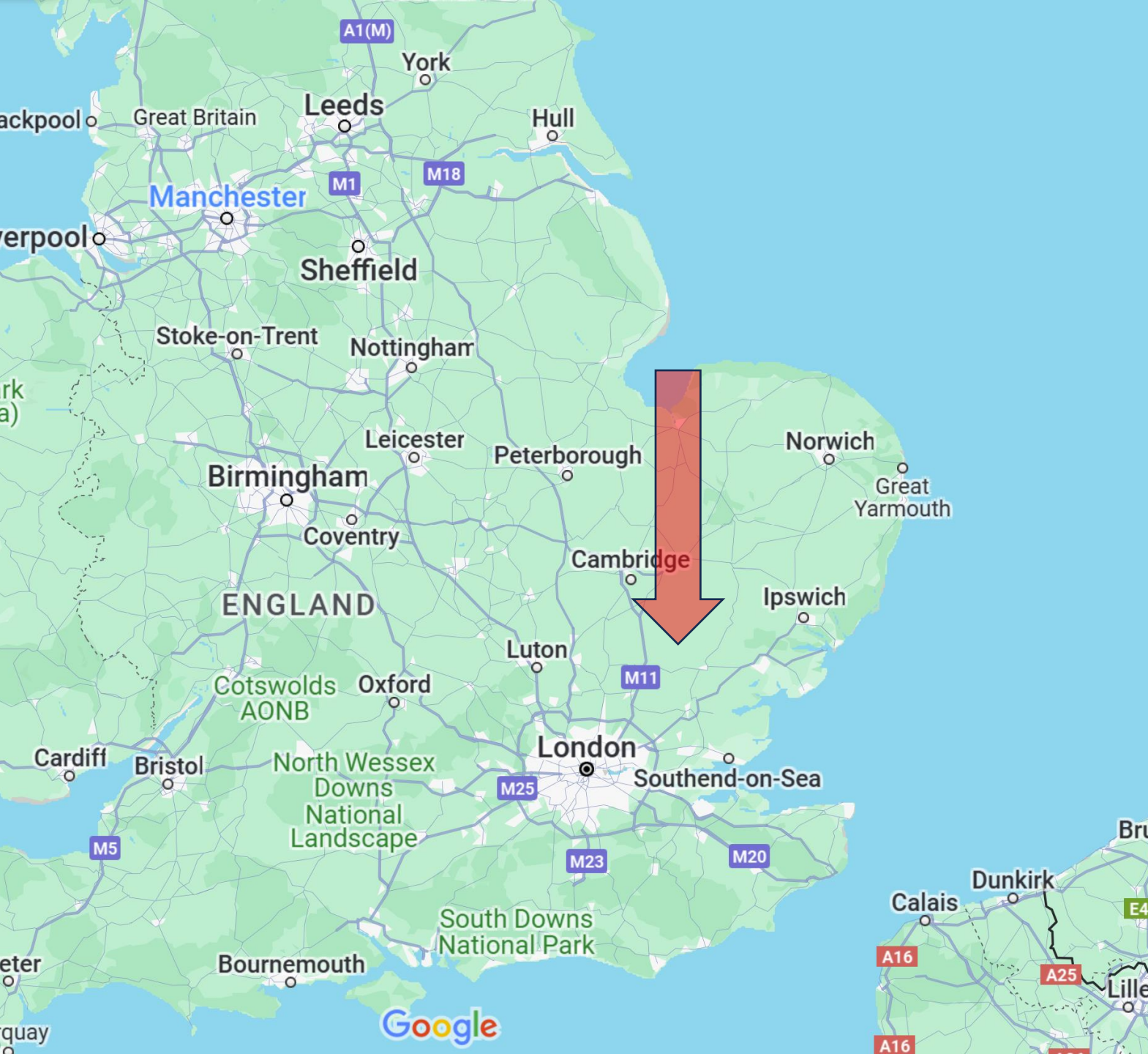
Finchingfield, Essex. UK

www.spainshallestate.co.uk

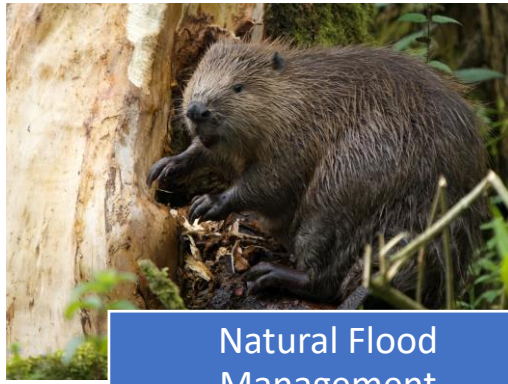
Spains Hall Estate

Essex, UK

- 2000 acres (830 hectares)
- 630ha cropland
- 80ha grassland / wetland
- 80ha woodland (forest)
- 19ha hedges
- ~10ha wood pasture / cricket bat willows



Agroforestry is only part of the story...



Natural Flood
Management



Nut production



Nature recovery /
Biodiversity credits



Woodlands /
carbon credits



People



Water potential on our farm...



+5-10%
Additional summer river flow



-15-30%
Peak flood flow reduction

Water



Research

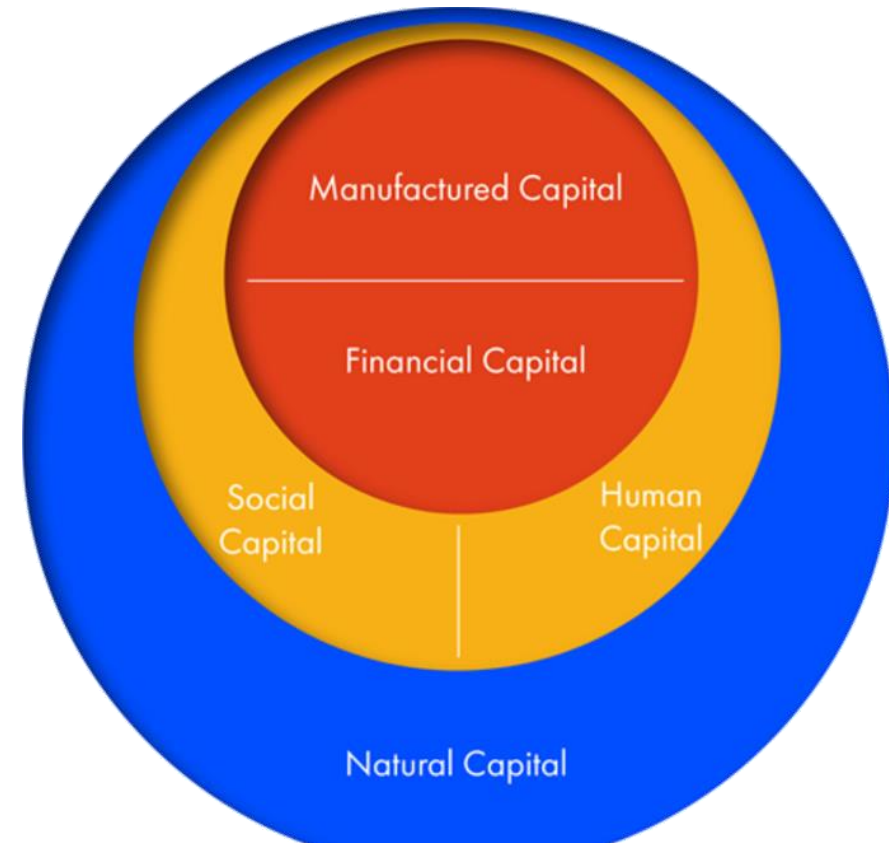
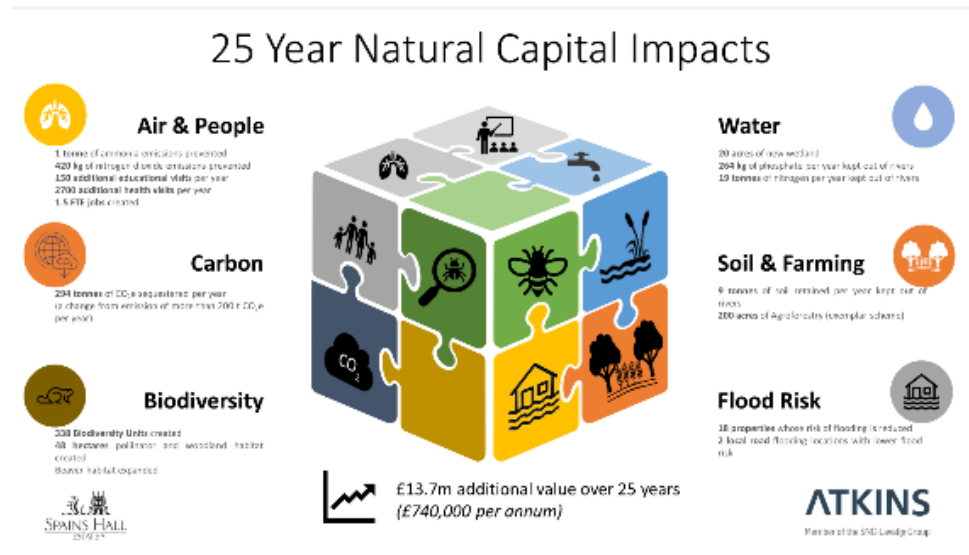


Wild food

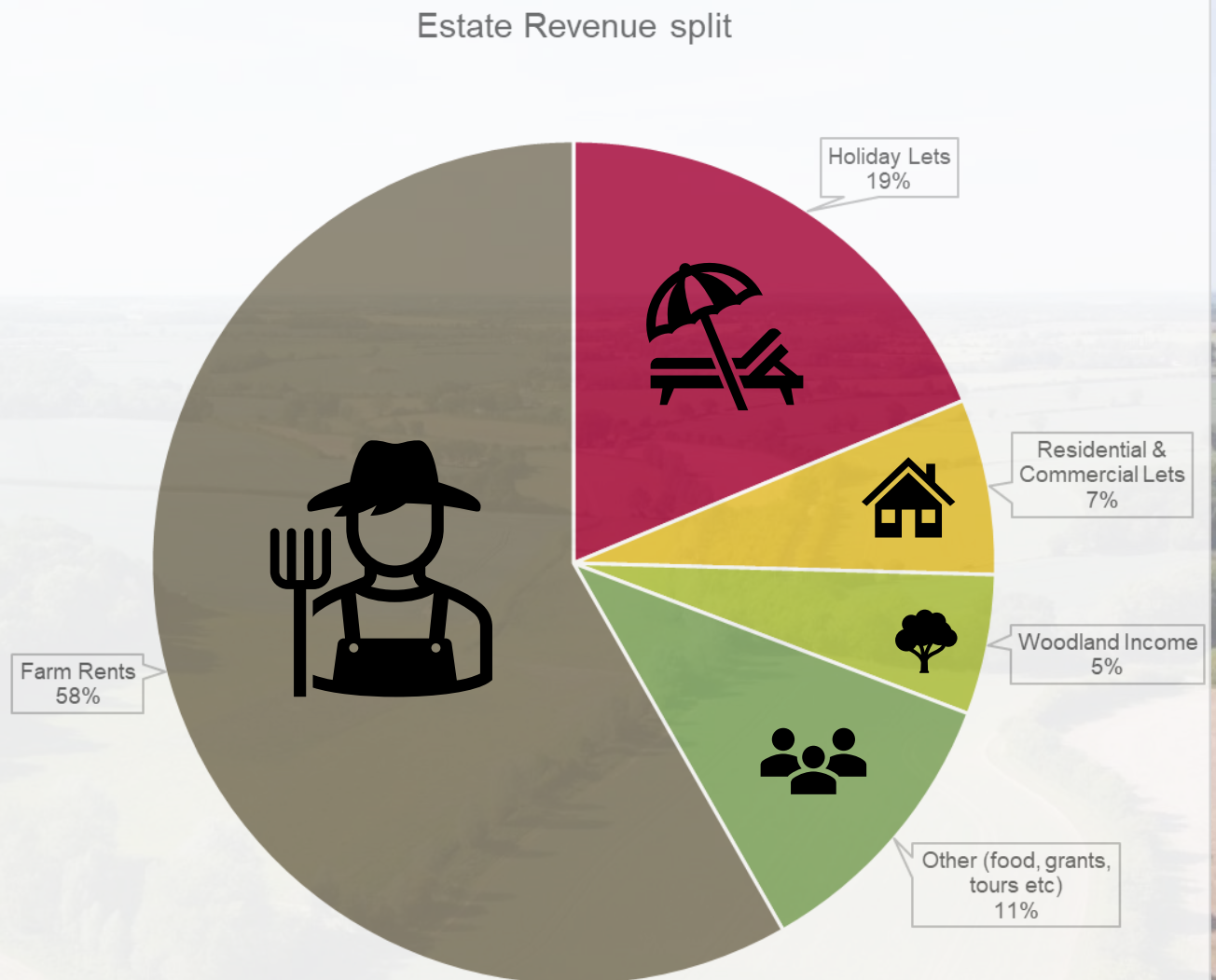


Influencing policy

Natural Capital approach



*Financial
exposure*



Environmental exposure



9T
SOIL LOSS



19T
NITROGEN LOSS /YR



260KG
PHOSPHATE LOSS /YR



1/3RD LESS
RAINFALL / YR

System design principles

Integration with nature-based and nature-recovery system

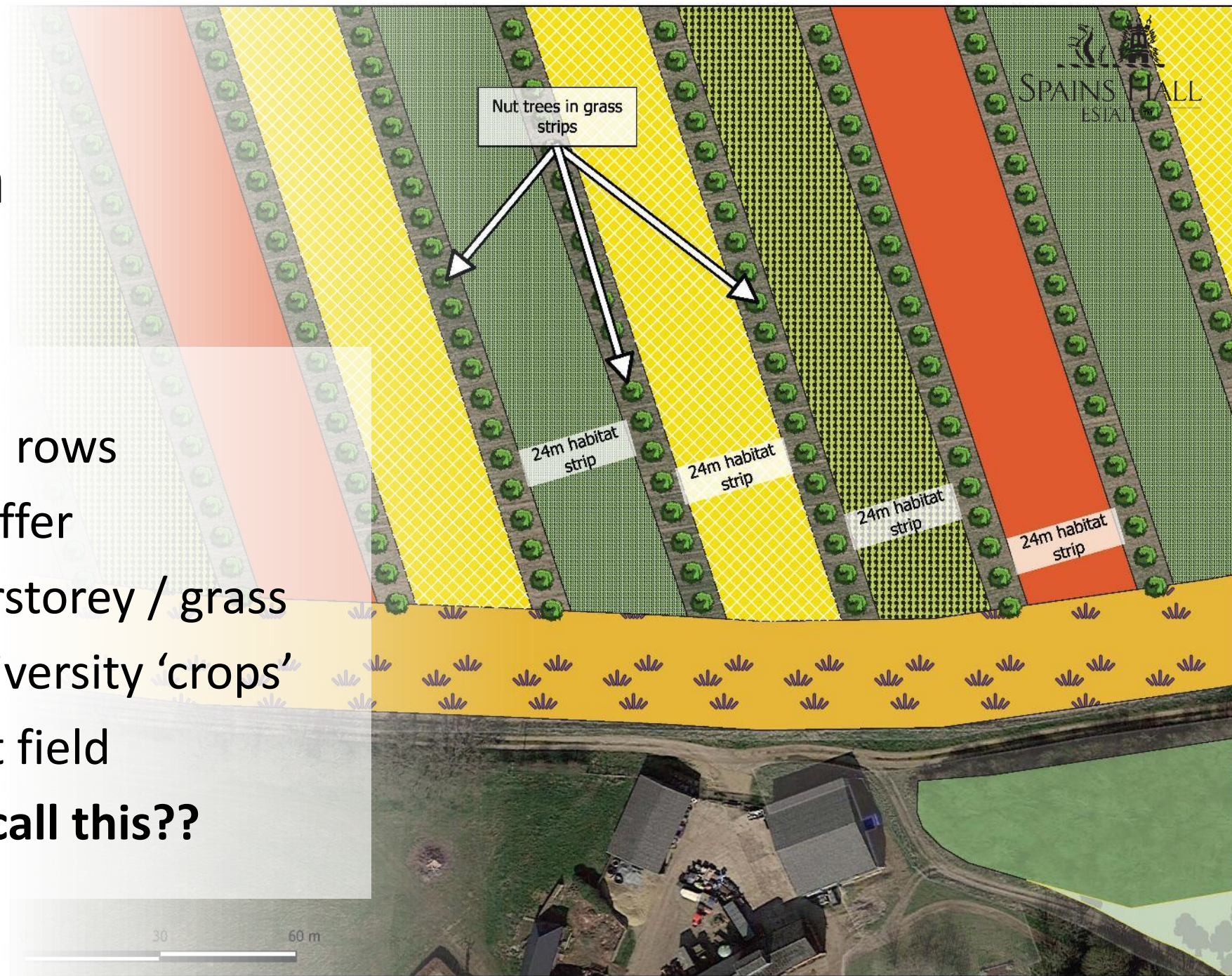
Nut agroforestry as backbone for ag-system change

Operating principles

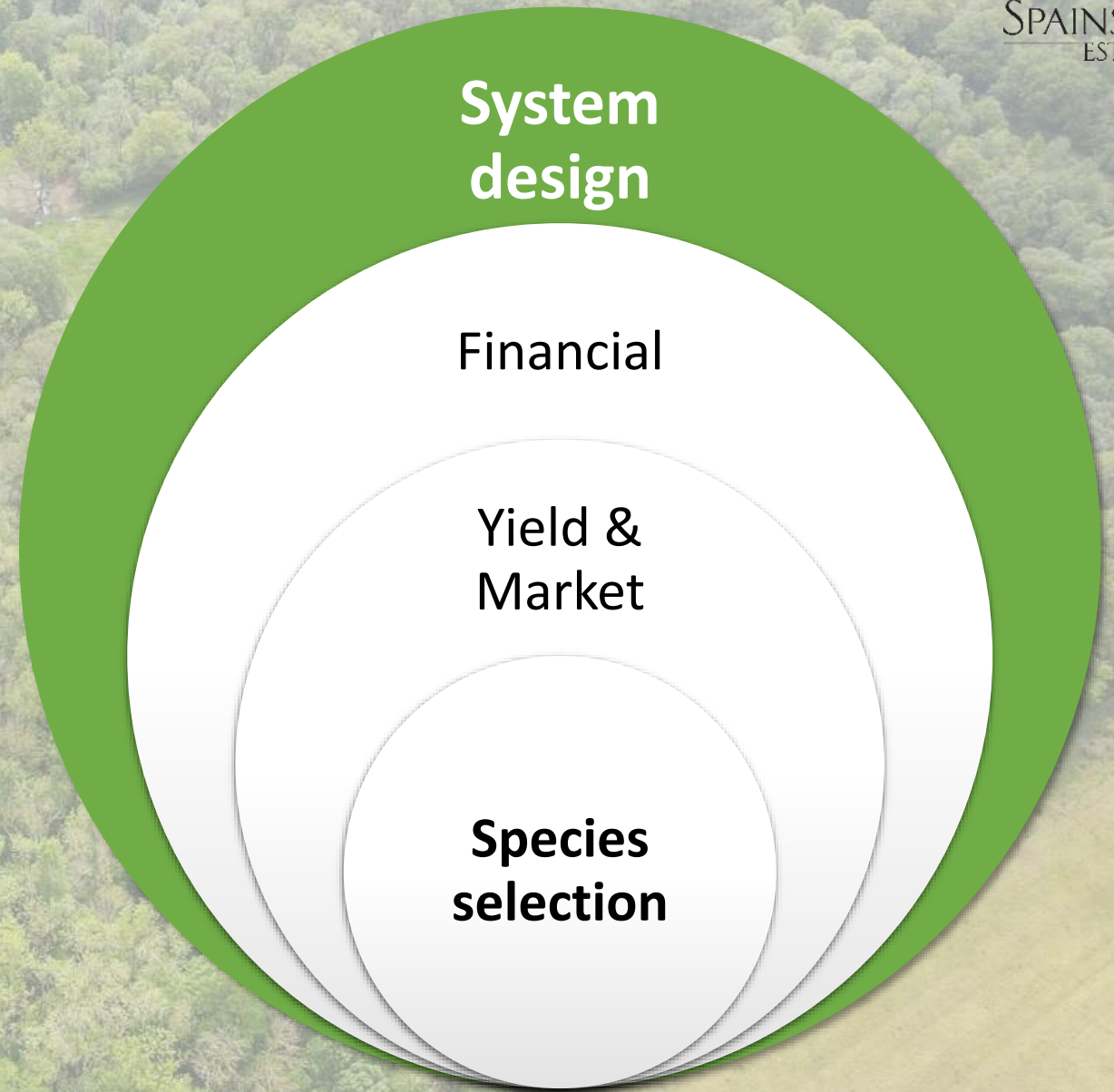
- Mechanisation
- Low agronomic risk
- Flexibility

System design

- 32m row spacing
 - 3.5 - 7m within rows
- 24 - 27m outer buffer
- 8m working understorey / grass
- 24m 'alley' – biodiversity 'crops'
- Orientation to suit field
- **What would you call this??**



Agroforestry - Business case elements



Financing agroforestry

- No government grants in the UK (until recently)
- Ad hoc grants from NGOs & other organisations
 - £40,000 (€47,000)
- **Own funds**
 - £60,000 planning / advice
 - £150,000 capital
 - £210,000 (~€245,000)





Species selection

- Low disease risk
- High degree of suitability for UK now & in future
- Robust fruit / simple handling & storage
- Human edible

Compromise between profitability & risk



Yield & Markets

Data severely
lacking

Based on
intensive
systems

No
conversions
for AF systems

Required
costly bespoke
expert advice

Tree procurement

Grant restrictions – e.g. UK & Ireland Sourced and Grown

- Mostly targeting timber / biodiversity trees

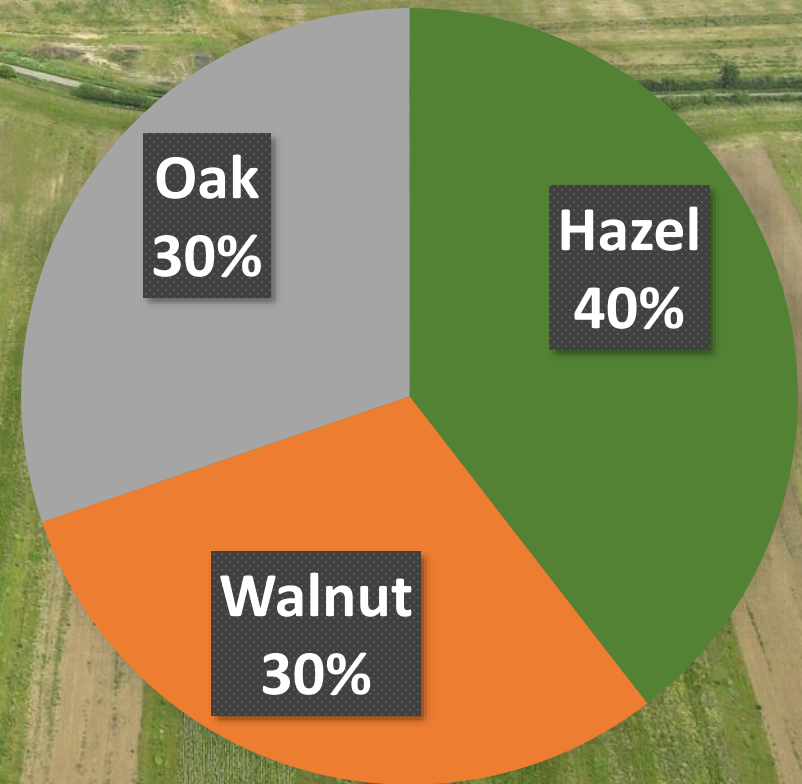
Cultivar suitability

European sources

Transport & logistics

Nut alley cropping

- 167ha – field area alley cropping
- ~ 6000 trees
- Ave density ~ 37 trees/ha



Planting, Protection & management



- Hand planting
- Logistics
- Pests
- Watering & mulching

Planting, Protection & management



Planting, Protection & management





Planting, Protection &
management



Planting, Protection & management



2021



2051 and beyond



Challenges for the research community...

1. Terminology...is 'Agroforestry' actually a helpful term?
2. Shared data utility is key – if it's not valuable at farm level, it won't get used
3. Help us measure & report across all OUTCOMES, including yields
 - Help us articulate sustainability (marketing)
4. Help us develop markets (revenue is king)
5. Research scale system change – **go big or go home**

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