



Surrey
Wildlife Trust

Space4Nature Project

Andrew Jamieson
Surrey Wildlife Trust

Space4Nature Project



- **Research/Technology**
- **Habitat Creation/Restoration**
- **Engagement**

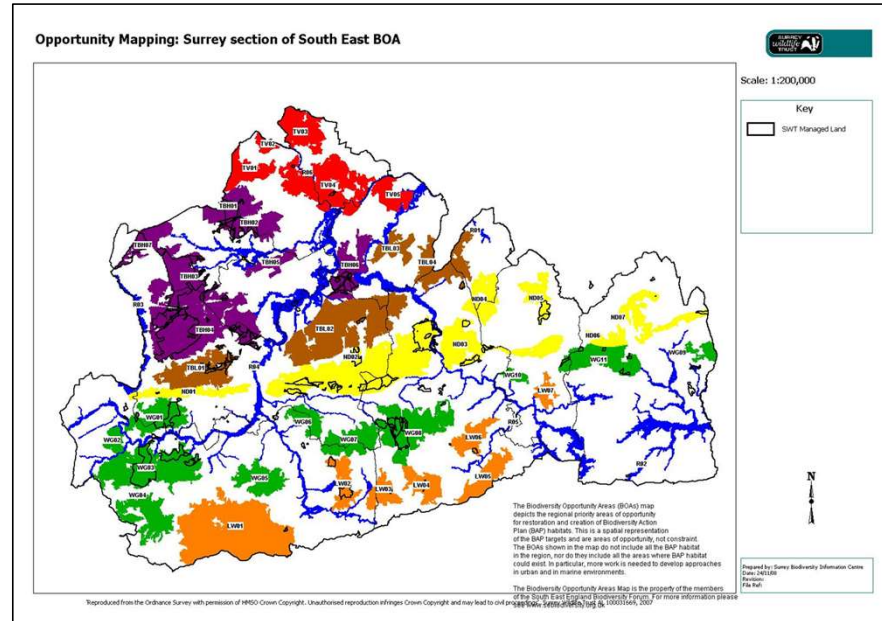




The State of Surrey's Nature



Surrey Nature Partnership
Healthy Environment | Healthy People | Healthy Economy

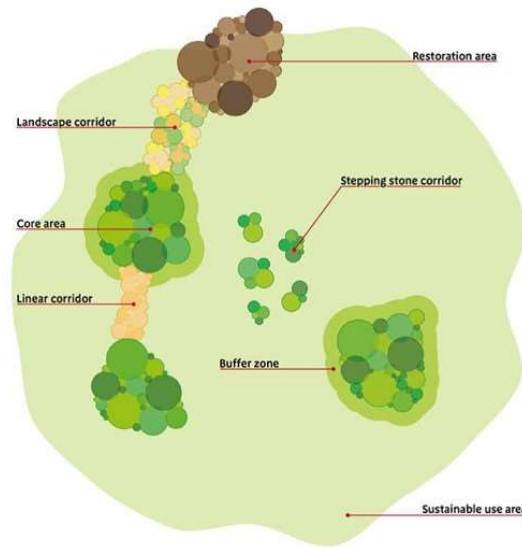


The State of Surrey's Nature

of **4,242** species reviewed



How a Nature Recovery Network is developed



Uses the “Lawton principles”:
bigger, better, more & joined

Illustration from:
Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H.,
Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M.,
Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne,
G.R. (2010) Making Space for Nature: a review of England's wildlife
sites and ecological network. Report to Defra.

**How do we plan, deliver and monitor a functioning Nature Recovery Network?
and how do we do this at scale?**

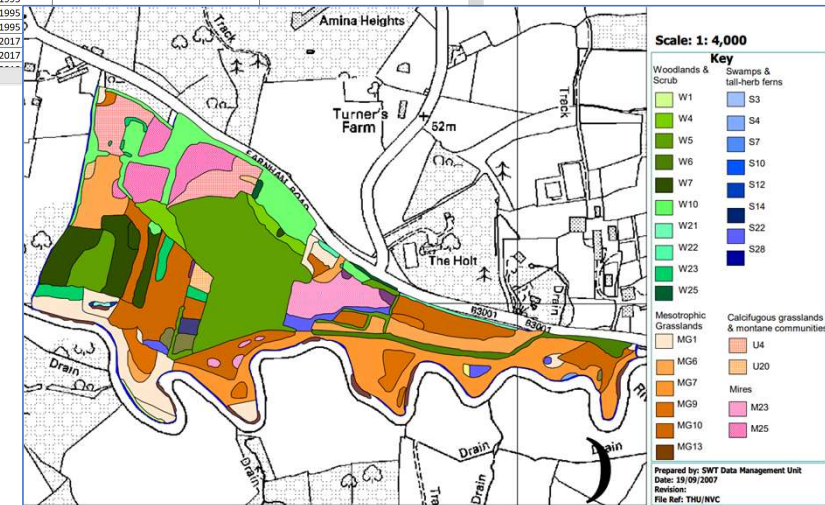
In an ideal world.....

- 1000's of expert ecologists, recorders and surveyors
- Gathering high quality up to date and historical habitat data



Chinthurst Hill Species List 20200919

Recommended Common Name	Recommended Taxon Name	Sample Year	SBIC UK Protected Species - Short Names	SBIC European Protected Species - Short Name
Moss				
Juniper Haircap	<i>Polytrichum juniperinum</i>	2010		
Silky Forklet-moss	<i>Dicranella heteromalla</i>	2010		
Swan's-neck Thyme-moss	<i>Mnium hornum</i>	2010		
Many-fruited Thyme-moss	<i>Plagiommium affine</i>	2010		
Common Feather-moss	<i>Kindbergia praelonga</i>	2010		
Hair-pointed Feather-moss	<i>Cirriophyllum piliferum</i>	2010		
	<i>Hypnum cupressiforme</i>	2010		
Vascular Plant				
Field Maple	<i>Acer campestre</i>	1995		
		1995		
		2010		
		2018		
		1995		
		1995		
		2017		
		2017		



Article

Earth Observation for Monitoring, Reporting, and Verification within Environmental Land Management Policy

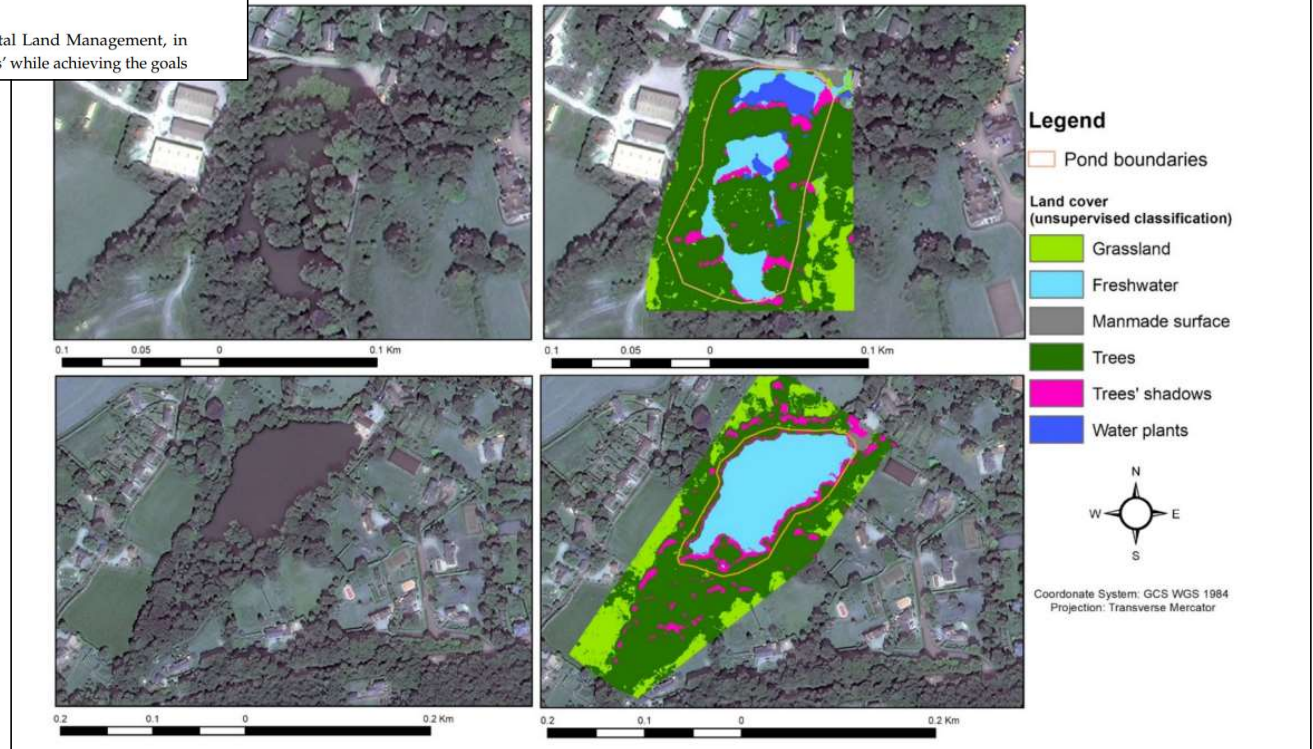
Ana Andries ^{*}, Richard J. Murphy, Stephen Morse and Jim Lynch

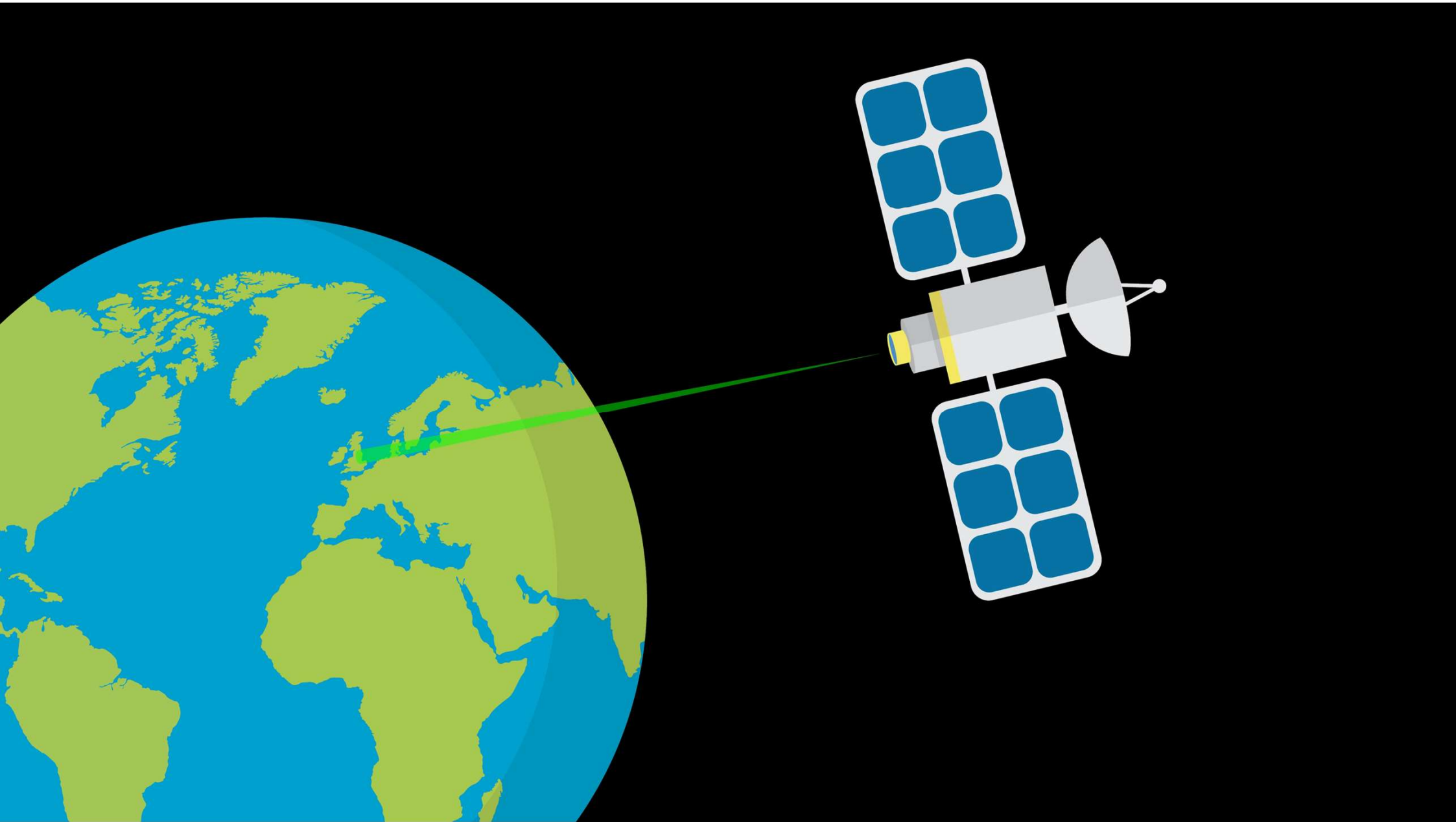
Centre for Environment and Sustainability, Faculty of Engineering and Physical Sciences, University of Surrey, Guildford GU2 7XH, UK; rj.murphy@surrey.ac.uk (R.J.M.); s.morse@surrey.ac.uk (S.M.); j.lynch@surrey.ac.uk (J.L.)
^{*} Correspondence: a.andries@surrey.ac.uk

Abstract: The main aim of the new agricultural scheme, Environmental Land Management, in England is to reward landowners based on their provision of ‘public goods’ while achieving the goals



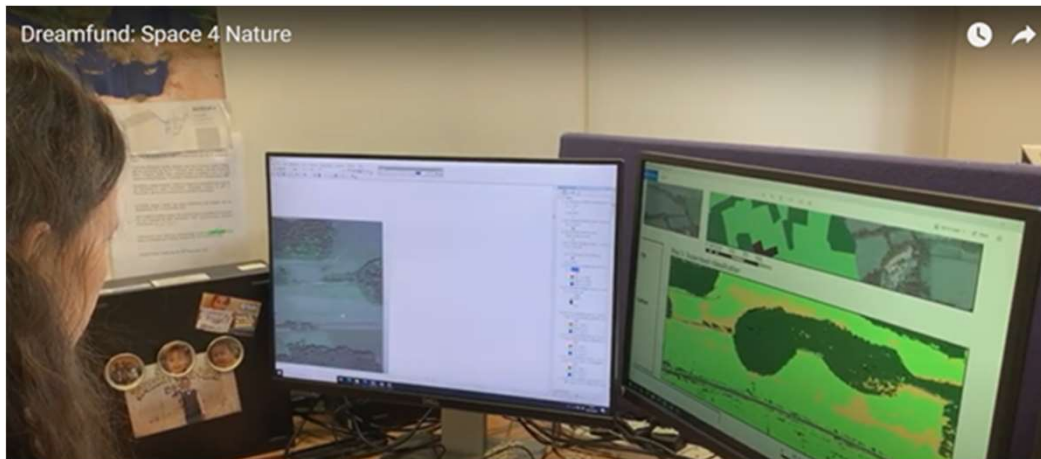
flies and damselflies—Step 3 VHR habitat assessment, intensive study Site 1, visual interpretation.





S4N and RESEARCH

- Mapping from Earth Observation satellite imagery
- Very High Resolution data collection
- Ground-truthed through field survey work
- Development of Automation and A.I
- Paleo-ecology baselining techniques
- Outputs to support targeted habitat restoration

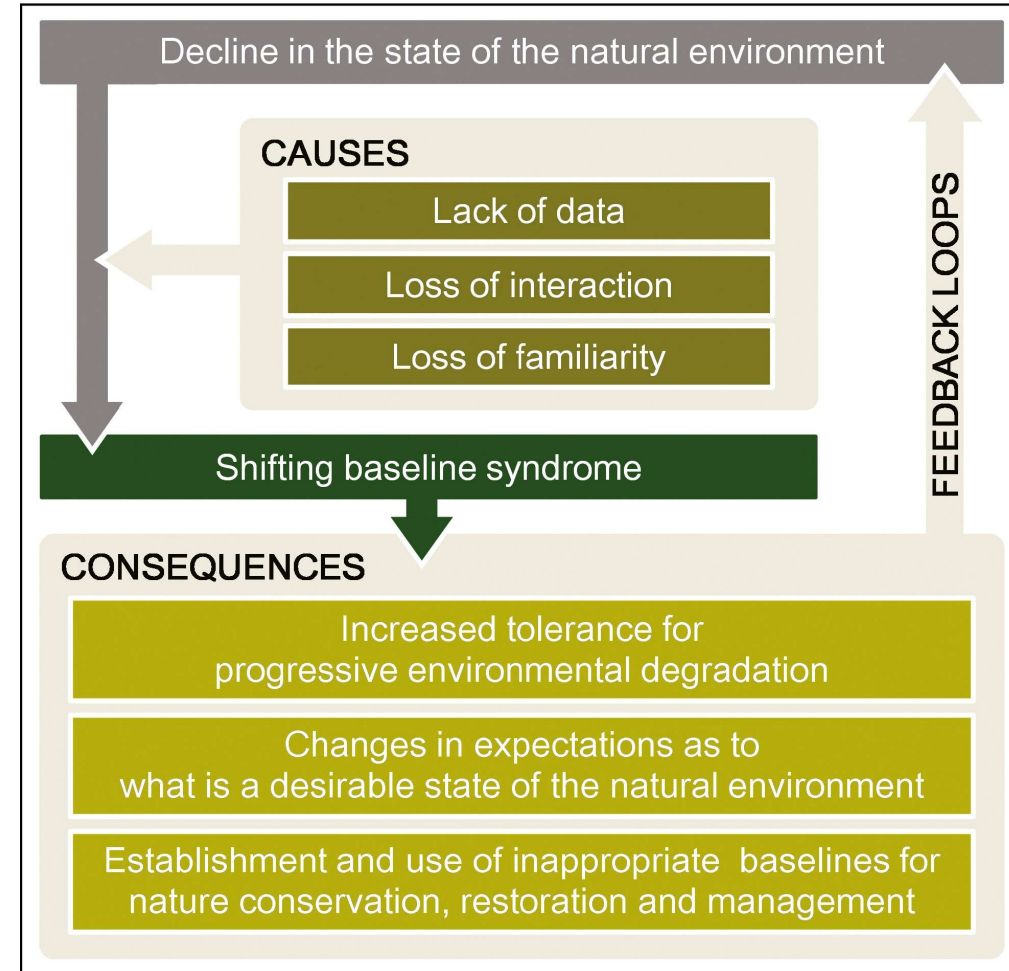


Space4Nature PhD research

- Paleo-ecology baselining techniques
- How rich in biodiversity should Surrey be, in the absence of human influence?
- Where do we set our baseline for nature recovery in Surrey?

Shifting Baseline Syndrome

a gradual change in the accepted norms for the condition of the natural environment due to lack of past information or lack of experience of past conditions.



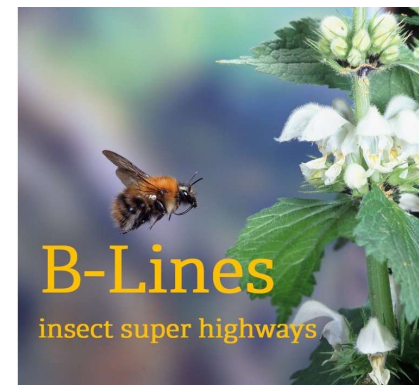
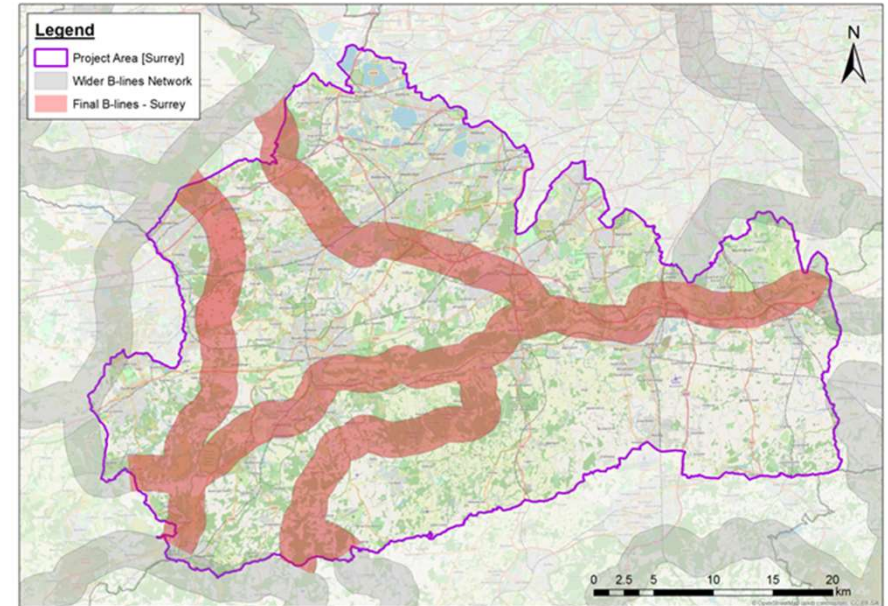
***S4N* Sites**

**For testing and developing the technology
For pollinator habitat restoration/creation**



S4N and Habitat Restoration

- Buglife *S4N* Conservation Officer
- 30ha of pollinator habitat to be created/restored in Surrey B-Lines
- Promote action for pollinators – landowners, communities
- Support *S4N* citizen science activity
- *S4N* as tool for prioritising/monitoring B-Lines delivery



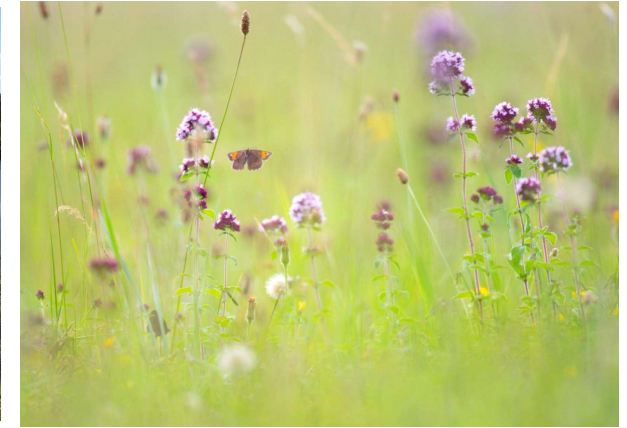
***S4N* and PEOPLE**

- Engagement with landowners, communities, recorders, schools, volunteers
- To ground truth, test and inspire
- *S4N* Schools and Citizen Science Programmes



S4N Project Outcomes?

- A useable tool to plan, deliver and monitor Surrey's NRN
- Platform for habitat restoration - strategic/site based
- 30ha habitat restoration within B-Lines
- Raised awareness of need for habitat connectivity
- A new generation of champions and recorders



Scaling up...

- More test sites, different habitats
- Land App/OS - national applications
- Link in to government agencies
- B-lines programme nationally
- Wildlife Trusts nationally, other NGO's
- Further research, further refinements
- Complementary technologies

