

The Biodiversity Audit: Priorities and evidence base for conservation

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Networks – of what, for what?

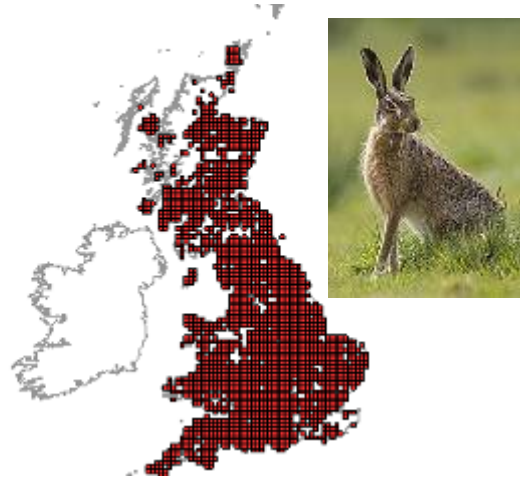


What Biodiversity?

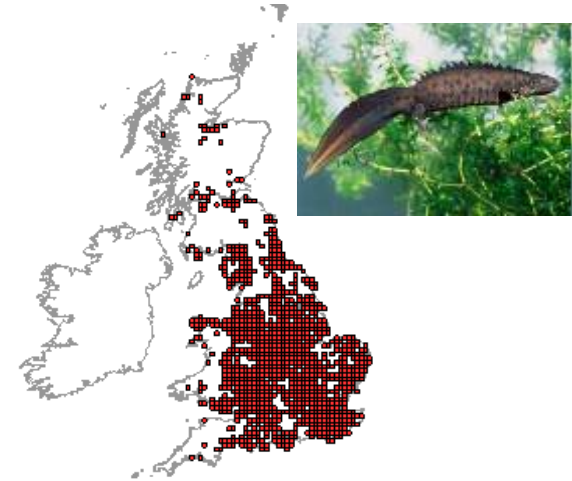
How do we define objective priorities on a regional basis?



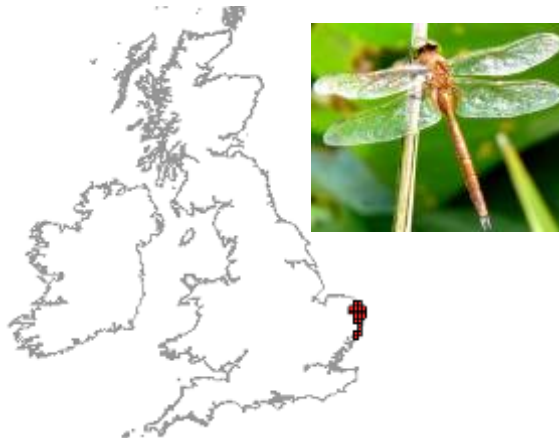
Brown hare



Great Crested Newt



Norfolk Hawker



Clubiona rosserae



UK Biodiversity Action Plan

1150 species + 65 habitats
'priorities for conservation action'



What Biodiversity?

Breckland 1,020 km², 40 % SSSI

Broadland 301 km², 25 % SSSI

12,845 species

**2,149 priority
species**
(BAP or Rare)

**28% of all UK
BAP species**

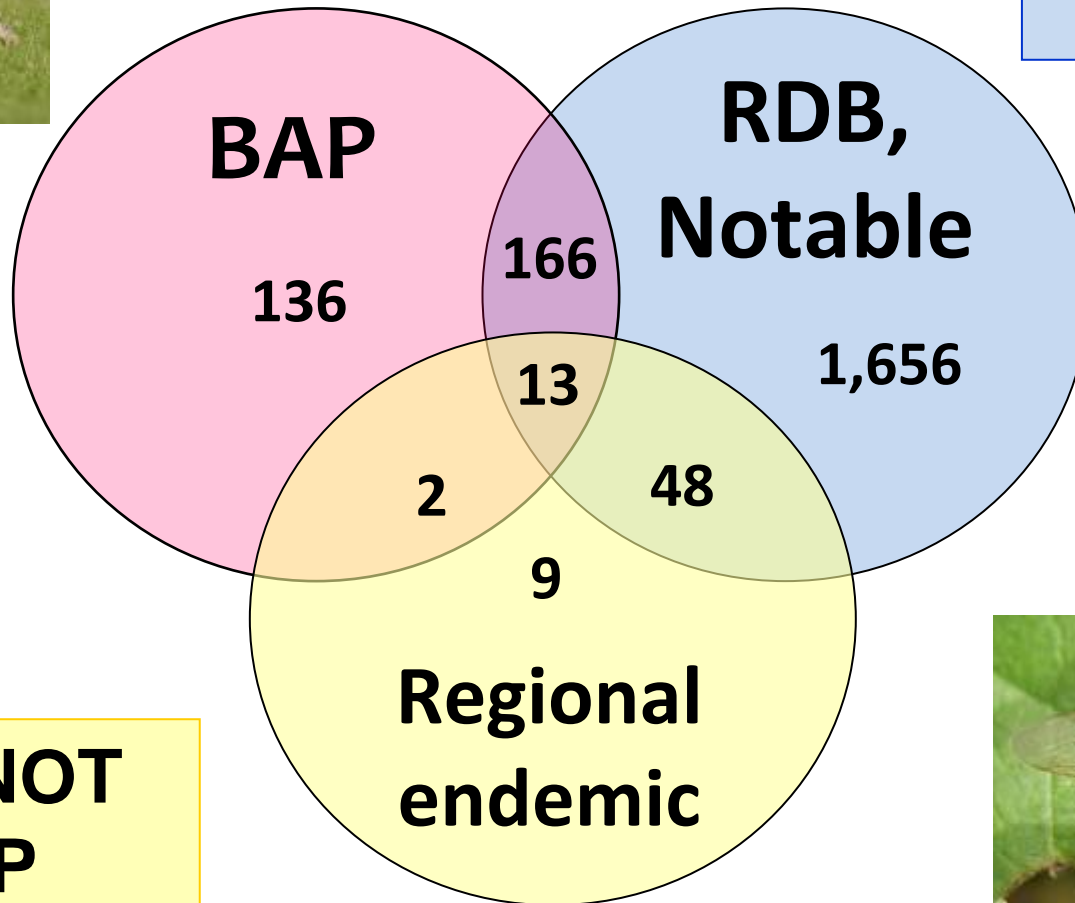
12,333 species

**1,672 priority
species**
(BAP or Rare)

Does the UK BAP represent Biodiversity?



**84% NOT
BAP**



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**79% NOT
BAP**



To conserve biodiversity we manage habitats



But habitats don't deliver

Of 2,149 priority
species
Only 14%
associated with a
single habitat



Species need structures and processes

- 48 micro-habitats / structures
- 28 ecological processes
- Focus on management actions



Ecological succession



		OPEN (e.g. arable, heath)	OPEN + SCRUB	OPEN + WOODLAND	WOODLAND	
Veteran/ Deadwood				VETERAN 3	VETERAN 48	
			DEAD WOOD 27		DEAD WOOD 95	
?Grazing ?Dist			O + S 23	O + W 85	WOODLAND 156	
NO GRAZING	PHYSICAL DISTURBANCE	NO DIST + NO GRAZING 54	NO DIST + NO GRAZING 8	NO GRAZING 3		
		DIST + NO GRAZING 135	DIST + NO GRAZING 9			
		DIST + ?GRAZING 76		DIST 9		
	GRAZING	DIST + GRAZING 136	DIST + GRAZING 13		GRAZING	
		NO DIST + GRAZING 81	NO DIST + GRAZING 2		8	
Grazing Flux		SWARD MOSAIC 62	SWARD MOSAIC 7			
LANDSCAPE COMPLEXITY		JUXTAPOSITION 54	JUXTAPOSITION 7			
		WIND BLOWN SAND 9				
		WET + OPEN + WOODLAND 68				
		OPEN + WOODLAND 60				

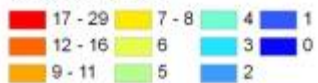
Physical disturbance + intense grazing of dry vegetation

149, 38 (BAP)

Disturbance and Grazing Guild



Number of species



Arenocoris waltli RDB2



Physically disturbed UNGRAZED conditions

144, 37 (BAP)





Fen, pools & pingos: shaded or open?



Wet wood: 98 (22 RDB)

Wet open: 446 (166 RDB)

Match & Mis-match in delivery

		OPEN (e.g. arable, heath)	OPEN + SCRUB	OPEN + WOODLAND	WOODLAND
Veteran/ Deadwood				VETERAN 3	VETERAN 48
			DEAD WOOD 27		DEAD WOOD 95
?Grazing ?Dist			O + S 23	O + W 85	WOODLAND 156
	NO GRAZING	NO DIST + NO GRAZING 54	NO DIST + NO GRAZING 8	NO GRAZING 3	
PHYSICAL DISTURBANCE		DIST + NO GRAZING 134	DIST + NO GRAZING 1		
	?	DIST + GRAZING 76		DIST 9	
GRAZING		DIST + GRAZING 136	DIST + GRAZING 13		GRAZING
		NO DIST + GRAZING 81	NO DIST + GRAZING 2		8
Grazing Flux	SWARD MOSAIC 62	SWAMP MOSAIC 1			
LANDSCAPE COMPLEXITY	JUXTA POSITION 54	JUXTA POSITION 7			
	WIND BLOWN SAND 9				
	WET + OPEN + WOODLAND 68				
	OPEN + WOODLAND 60				

144 species

81

439 species

82% species requirements NOT delivered by current management

£ 4.2 Million for just 4 SSSI's



SSSI – Condition Assessment



Inappropriate prescriptions



Priority biodiversity damaged



Delivers just 7% of 1,237 priority terrestrial species

Biodiversity Audit



Evidence-based delivery



Importance of nested heterogeneity



Sward mosaics: 69, 3 BAP

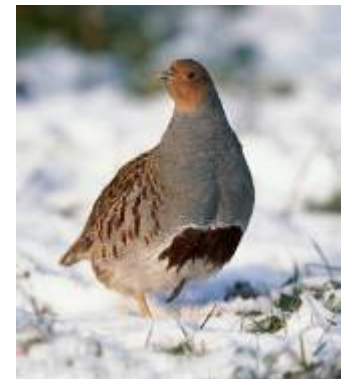


Juxtaposition: 61, 10 BAP



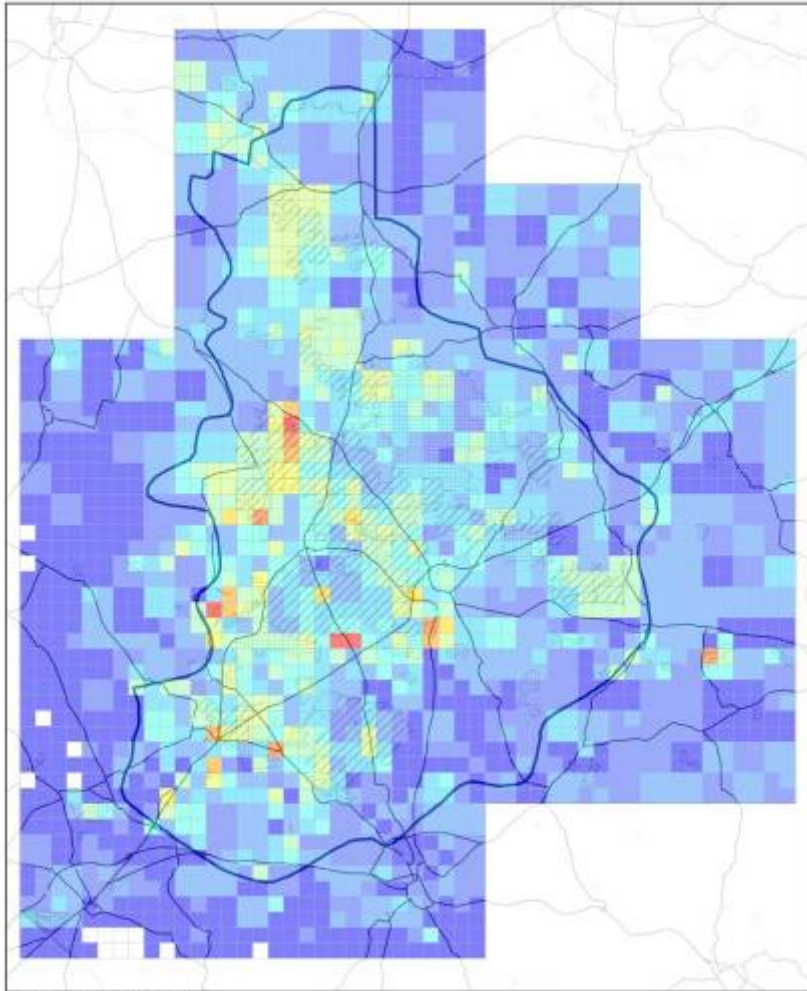
Species BAP for Biodiversity?

- Most guilds have at least one BAP representative
- But do they occur in the same places?
- Problem of reconciling competing BAPs, unless guild approach taken
- Some important guilds NOT represented (esp. wetlands)
- Regional specialists poorly represented by BAP
- Micro-habitats over-looked by habitat approach

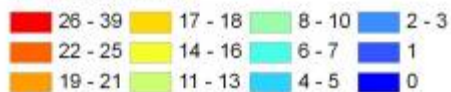


Targeting Landscape-scale Delivery

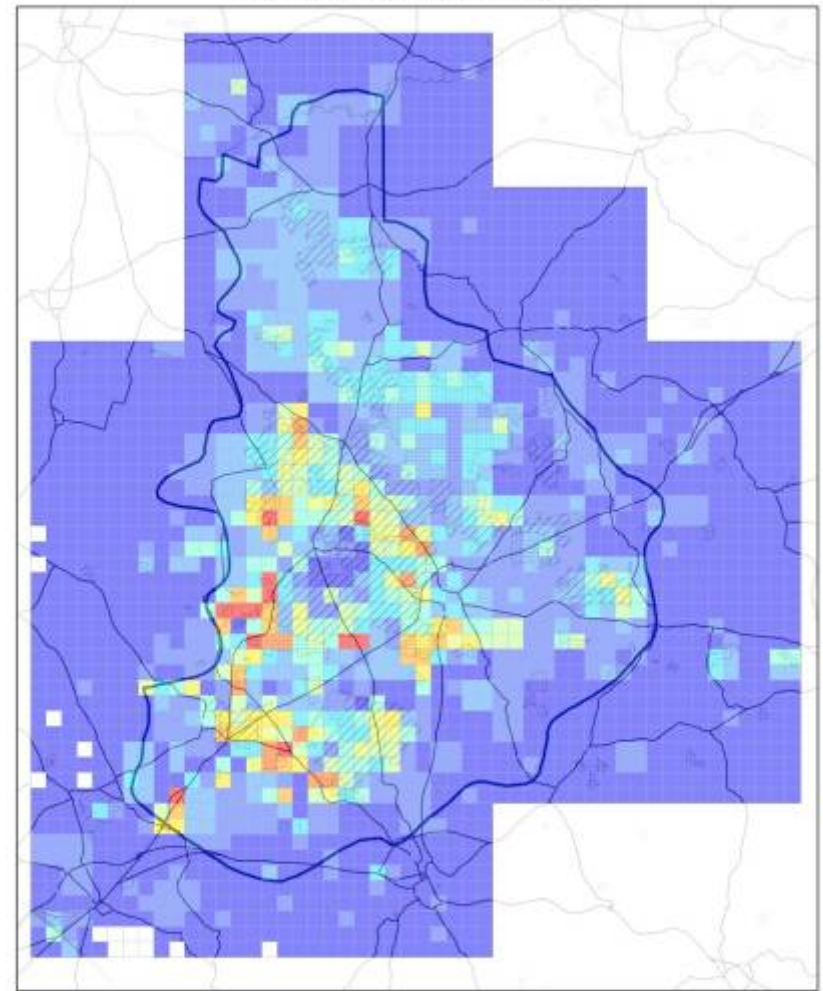
Disturbance and No/Light Grazing Guild



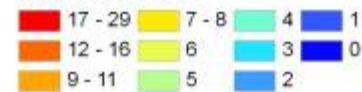
Number of species



Disturbance and Grazing Guild



Number of species



Creating Landscape-scale Connectivity



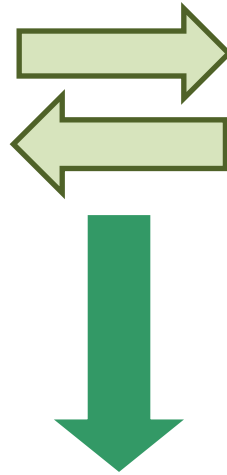
Partnership Approach

NE, FC Norfolk and Suffolk Biodiversity Partnerships, UEA, Brecks Partnership
NBIS, SBRC, , Plantlife, County Wildlife Trusts, RSPB. Butterfly conservation, Buglife

80+ expert amateurs

Species audit

Tested current priorities
Identified requirements



Solutions audit

Tested delivery
Maximised outcomes

Implementation

Targeting
Research at
Evidence gaps

Method adopted
elsewhere:
Fens IBDA, Broadland
Audit

Integrated into
Local Authority
Planning
guidance

NE Regional
Script – guide
advisers

FC Creating Connectivity
Networks

Plantlife
Grantscape project

Anglian Water
project

The Biodiversity Audit approach

What

What biodiversity are we trying to deliver?
Regional distinctiveness

How

Evidence based
Integrated, cross-taxa guilds
Avoiding multiple spp. studies and plans
Cost effective

Where

Target interventions in the landscape

This work is funded by



£ 4.2 Million for just 4 SSSI's
Delivers **just 7%** of 1,237 priority terrestrial species



SSSI – Condition Assessment:

Biodiversity objectives not understood

Inappropriate prescriptions
Weak HLS agreement

Priority biodiversity damaged

Biodiversity Audit
Quantified, Prioritised

Evidence-based delivery
via generic prescriptions

