Appendix 7

Species Recovery Assessment for the Derbyshire Local Nature Recovery Strategy

Species Recovery Assessment for the Derbyshire Local Nature Recovery Strategy – the species Long List and Priority Species

To assess species for inclusion in the Derbyshire LNRS species were identified in accordance with the guidance and advice set out by Natural England (*reference Species Recovery within Local Nature Recovery Strategies, Advice for Responsible Authorities, Version 1: August 2023*). Our goal was to try and identify threatened and other locally significant species relevant to the strategy area and determine which of these species should be prioritised for recovery action. A group of species experts was convened to assist with the process (see Appendix 1 for full list) and species data was gathered from local individuals, natural history groups, Derbyshire Biological Records Centre and on-line data platforms including National Biodiversity Network, Botanical Society of Britain and Ireland and species recording schemes.

We initially identified 757 species, but subsequently excluded 279 of these from the Long List for one or more of the following reasons: -

i. they failed to meet Natural England's guidance advice for inclusion
ii. there was insufficient information to confirm their status in the County and / or record/s were erroneous or unconfirmed
iii. conservation measures in Derbyshire not needed or unlikely to make a difference

The Long List

After excluding these species, we were left with a Long List of 477 species (a full species list is provided in Appendix 2: Table 6). These species were then refined to create a more manageable list of species priorities that the LNRS can best support. To assist with this process species on the Long List were assigned to categories as advised by Natural England (see Table 1).

Table 1: Species Recovery Categories

Category	Description	Benefit from LNRS?	Suitable LNRS species priorities?	No. of species assigned to this category
A: Needs more / bigger / better-connected habitat	Species likely to markedly benefit from general creation, expansion, and improved connectivity of good quality habitats in the strategy area Species with high recovery potential that do not require specific or targeted recovery measures	Yes	Probably not – species are likely to benefit from LNRS measures generally and do not need to be singled out for specific LNRS measures	188
B: Needs targeted habitat management	Species with specific requirements for habitat quality, structure, conditions, or processes above and beyond category A Species may require specific configurations or complexes of connected or nearby habitat/s, either at site level or across large areas / multiple sites. This may include habitat connectivity measures for	Yes	Yes	146

	species needing support to track climate change. Causes of decline can be addressed with new or improved management practices			
C: Needs improvements in environmental quality	Species primarily limited by one or more pressures beyond site level that can be mitigated at LNRS scale or wider scales through collaboration with neighbouring RAs For example, better catchment water quality, improved spatial planning of air pollution sources, mitigation of recreational disturbance	Yes	Yes	9
D: Needs bespoke conservation action/s	Species requiring additional, tailored measures which can be spatially indicated on the local habitat map Species may need multiple coordinated actions to bring about recovery, including combinations of local actions and national actions, where LNRS could address the former	Yes	Yes	42

	Examples of bespoke, spatially targetable local actions include conservation translocations (such as assisted colonisation for climate change adaptation), control of invasive species, and localised surveys.			
E: Needs better evidence base / on-the-ground action is not a priority	Species for which there is insufficient evidence or understanding regarding drivers of decline, required recovery actions, and range / population levels Species for which the current priority is other than on-the-ground action, for example research or ex-situ conservation	Unknown	No	63
F: Needs action outside England	Species with low (or very low) recovery potential due to factors constraining recovery beyond English borders Evidence shows that action in England is highly unlikely to improve species' prospects This category is likely to apply only to migratory species (e.g., Afro-	No	No	0

	Palearctic migratory birds affected by hunting)			
G: Vagrants / occasional visitors	Species currently outside their normal breeding or wintering range or normal migration route, without an extant population in the strategy area, and which are not suitable for conservation translocation	No	No	31

A total of 199 species (41.7%) were assessed as most closely meeting the requirements for either categories B, C or D and these were taken forward as the species priorities list. These species are the ones that the strategy can potentially benefit the most. Species assigned to categories E, F or G require actions for recovery that are beyond the scope of the LNRS. Species assigned to category A have also been scoped out of the final priorities list as these species are likely to benefit from general actions and measures set out in the LNRS.

A breakdown of how species from different taxonomic groups were treated as part of this process is shown in Table 2.

Table 2: No. of species within different taxonomic groups included n the Long List and within each category.

Group	No of species on Long List	Category A	Category B, C, D	Category E, F, G
Higher Plants	125	49	36	40
Lower Plants	8	0	7	1
Lichens	8	2	6	0
Fungi	34	3	25	6
Invertebrates	190	97	58	36
Fish	7	0	6	1
Herptiles	6	1	3	2

Birds	82	31	49	2
Mammals	17	3	9	5
Total no. of species	**477**	**186**	**199**	**93**

Assemblages

The ecology and habitat requirements of the 199 species assigned to categories B, C or D were considered in relation to the identification of species habitat assemblages. Initially 20 broad assemblages were identified, and these were subsequently refined further after consideration of existing generic measures for habitats that will be included in the LNRS. This resulted in 7 species assemblages as listed below in Table 3. 128 of the 199 species on the priorities list are present within one or more of the 7 final assemblages.

Table 3: Proposed assemblages and the no. of species included in each one.

Proposed assemblage	No. of species included in each assemblage	Description
Deadwood species assemblage	18	This assemblage is dominated by insects including 8 beetles and 6 flies. There is also 1 fungus and 3 lichens included. The assemblage occurs to varying extents in old parklands and ancient woodland. There are several exceptional sites including Calke Park, Haddon Hall and Chatsworth. Many less threatened taxa are also associated with these sites and the deadwood habitats present.
Grassland fungi	20	This assemblage is dominated by waxcaps with club and coral fungi, pinkgills and earthtongues. It is usually associated with nutrient poor acid grasslands, heaths and commons.

Threatened grassland flora and fauna	34	This assemblage includes threatened plants and animals that are dependent on grassland habitats for their survival. Many of these species are rare or in steep decline. The assemblage occurs to varying extents in locations cross the County.
Farmland wader assemblage	4	This assemblage is focussed on a small number of wading birds that breed on farmland in the Peak District especially close to the moorland fringe.
Threatened wetland flora and fauna	24	This assemblage includes threatened plants and animals that are dependent on wetland habitats for their survival. Many of these species are rare or in steep decline. The assemblage occurs to varying extents in locations across the County.
Mixed farming bird and plant assemblage	26	These species are dependent on sympathetic management of farmland including extensive and traditional management as well as measures designed as part of agri-environment agreements. The assemblage is commonest in the south, east and north-east of the County.
Landscape mosaic assemblage	22	This assemblage includes a range of invertebrates, birds, mammals and reptiles and will benefit from management, enhancement and expansion of areas of land that already form landscape habitat mosaics e.g. Abney Clough, Netherthorpe and Norbriggs Flash or number of brownfiled sites like Glapwell Void in Bolsover. It

		also opens the door to the creation of habitat mosaics through changes in land management and opportunities offered through Biodiversity Net Gain and Nutrient Neutrality.
Total number of species included in an assemblage	128 (c.64% of the priority species listed)	

The evolution of the thinking on assemblages is described in Table 4.

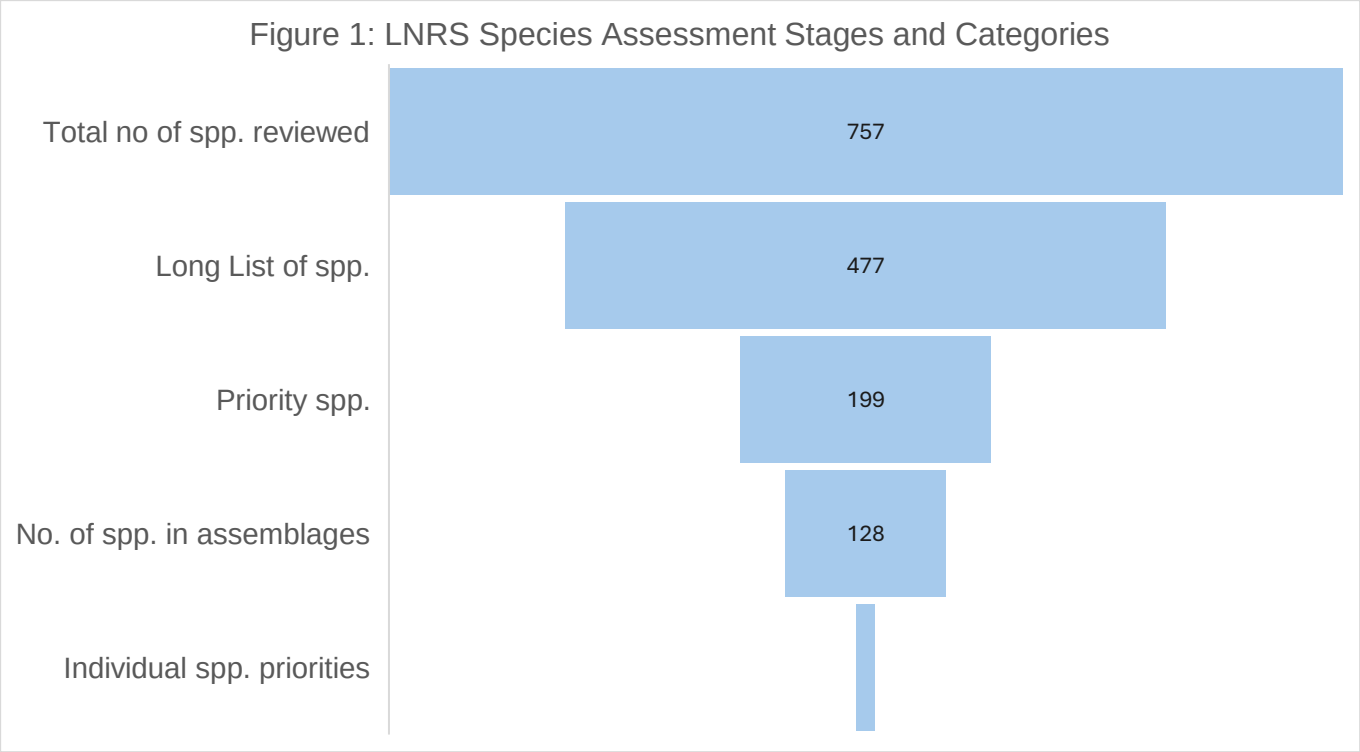
Table 4: Species assemblages and recommendations

Provisional assemblage	**Assessment / notes**	**Recommendation and proposed final assemblage**
Woodland / scrub - upland	Measures already identified as core part of the LNRS	No specific assemblage taken forward.
Woodland / scrub - lowland	Measures already identified as core part of the LNRS	No specific assemblage taken forward.
Wet woodland / floodplain woods	Measures already identified as core part of the LNRS	No specific assemblage taken forward.
Wood-pasture and parks	Some measures already identified as core part of the LNRS. Specialist deadwood species require a separate assemblage.	Deadwood species assemblage proposed
Hedgerows and walls (linear habitats)	Measures already identified as core part of the LNRS	Partially covered under Mixed farming bird and plant assemblage
Upland mosaic habitats (moorland, blanket bog, fen, mire, acid grassland, scrub and woodlands)	Some measures already identified as core part of the LNRS. Measures for threatened grassland species and for waders required separately.	Threatened grassland flora and fauna assemblage, farmland wader assemblage and the Landscape mosaic assemblage all capture elements of this initial assemblage.
Limestone rock / scree substrate (lichens and mosses and higher plants)	A detailed understanding of what measures would be needed and the level of threat the species in the habitat are under requires further work.	Assemblage should be the focus of further survey and assessment and reviewed accordingly.

Gritstone rock / substrate (lichens, mosses and some higher plants)	A detailed understanding of what measures would be needed and the level of threat the species in the habitat are under requires further work.	Assemblage should be the focus of further survey and assessment and reviewed accordingly.
Heathland - scrub - woodland mosaics (rare habitat in lowland Derbyshire)	Some measures already identified as core part of the LNRS. Overlap with other assemblages.	Landscape mosaics assemblage addresses the need of a similar mix of species.
Flower rich calcareous grasslands, rock outcrops, scree, boulder and lead workings	Some measures already identified as core part of the LNRS. But rare and threatened flora and fauna are still considered to require additional action.	Threatened grassland flora and fauna.
Hay meadows and pastures	Measures already identified as core part of the LNRS. A small number of species (flora and fauna) may require additional measures.	Threatened grassland flora and fauna.
Grassland fungi	Assemblage reviewed and considered to require additional measures.	Grassland fungi assemblage.
Ponds, ditches, seepages and canals	Most measures are already identified in the core part of the LNRS. Overlaps with other wetland assemblages. Some additional measures needed for specific taxa.	Threatened wetland flora and fauna assemblage to address additional measures as required.
Reedbed, swamps, fens and mires (Marshland)	Most measures are already identified in the core part of the LNRS. Overlaps with other wetland assemblages. Some additional measures needed for specific taxa.	Threatened wetland flora and fauna assemblage to address additional measures as required.
Rivers and streams	Most measures are already identified in the core part of the LNRS. Overlaps with other wetland assemblages. Some additional measures needed for specific taxa.	Threatened wetland flora and fauna assemblage to address additional measures as required.

Reservoirs and lakes	Most measures are already identified in the core part of the LNRS. Overlaps with other wetland assemblages. Some additional measures needed for specific taxa.	Threatened wetland flora and fauna assemblage to address additional measures as required.
Farmland	Some measures are already identified in the core part of the LNRS. Overlaps with annuals and pioneers of disturbed ground. Some additional measures are needed to address all species needs.	Mixed farming bird and plant assemblage. Farmland wader assemblage.
Annuals and pioneers of disturbed ground	Some measures are already identified in the core part of the LNRS. Overlaps with Farmland assemblage. Some additional measures needed for specific taxa.	Mixed farming bird and plant assemblage.
Brownfield and former quarries, sandpits, collieries, ironworks, sidings, waste ground.	Some measures are included in the core part of the LNRS. There is an overlap with several other assemblages.	Landscape mosaic assemblage and Threatened grassland flora and fauna assemblage include some of the same species.
Man-made environments including buildings, parks and gardens.	Measures already identified as core part of the LNRS	No specific assemblage proposed.

A summary of the stages described above is provided in Figure 1. The number of species that the LNRS will aim to target for recovery measures is 128 in assemblages and 15 as individual species. However, species assigned to Category E (where there is currently insufficient understanding of distribution or habitat requirements) should also be subject where possible to further assessments and surveys to try and address these gaps.



Appendix 1: LNRS Species Recovery Consultation Group

Table 5: LNRS Species Recovery Consultation Group

Name	**Organisation / expertise**
Alan Wragg	Derbyshire Bat Group
Beverley Rhodes	Fungi Recorder
Carole Boon	Derbyshire Biological Records Centre
Chris Monk	Derbyshire Amphibian and Reptile Group
Danielle Greaves	Natural England
Dave Mallon	Mammal and Butterfly expert
Dave Richardson	Derbyshire Ornithological Society
Derek Whitely	Sorby Natural History Society
Dr Alan Willmot	Derbyshire County Plant Recorder
Kelvin Lawrence	Derbyshire Amphibian and Reptile Group
Ken Orpe	East Midlands Butterfly Conservation
Kieron Huston	Derbyshire Wildlife Trust
Nick Brown	Local Bird Expert

Phil Gilbert	Derbyshire and Nottinghamshire Entomological Society
Rachel Bennett	Derbyshire Wildlife Trust
Rob Foster	Sorby Natural History Society
Sarah Bird	Peak District National Park
Steve Price	Sorby Natural History Society
Steve Thorpe	Derbyshire Ornithological Society
Tom French	Derbyshire County Council
Trevor Taylor	Fungi Recorder

Appendix 2: LNRS Species Long List Assessment Outcomes

The table below lists the species qualifying for selection for the LNRS Long List and the outcomes of the assessments in terms of categories, species priority lists and whether it was included in one of the 7 selected habitat assemblages or prioritised for individual action.

Table 6: LNRS Species Long List and the results of the assessment for each species in terms of categories, assemblages and individual priorities.

Scientific name	Common name	Category each species was assigned to in the species Recovery Assessment	Included in priority species list (i.e. categories B,C,D)	Included in one or more of the proposed species assemblages	Individual Species Priorities (N.B these species are not included in assemblages)
Invertebrates					
Araneae (Spiders)					
Agyneta mollis	Thin Weblet	E	No	n/a	No
Diplocephalus protuberans	a spider	A	No	n/a	No
Enoplognatha oelandica	a spider	A	No	n/a	No
Erigone welchi	a spider	D	Yes	No	No
Coleoptera (beetles)					
Ancistronycha abdominalis	Blue Soldier Beetle	B	Yes	Yes	No

Aromia moschata	Musk Beetle	B	Yes	Yes	No
Athous subfuscus	a click beetle	E	No	n/a	No
Bembidion fluviatile	a ground beetle	E	No	n/a	No
Bembidion nigricorne	a ground beetle	E	No	n/a	No
Carabus monilis	Necklace Ground Beetle	E	No	n/a	No
Carabus nitens	a ground beetle	A	No	n/a	No
Coccinella magnifica	Scarce Seven-spot Ladybird	E	No	n/a	No
Corticeus unicolor	a darkling beetle	B	Yes	Yes	No
Cryptocephalus bipunctatus	a leaf beetle	A	Yes	Yes	No
Cryptocephalus hypochaeridis	a leaf beetle	A	No	n/a	No
Dasytes virens	*a soft-winged flower beetle*	*B*	*Yes*	*Yes*	*No*
Hydnobius spinipes	a rove beetle	E	No	n/a	No
Hydraena palustris	a water beetle (moss beetle)	E	No	n/a	No
Hydrochus elongatus	a water beetle	B	Yes	Yes	No
Hydroporus longicornis	a water beetle	E	No	n/a	No
Ischnomera cyanea	A flower beetle	A	No	n/a	No
Lampyris noctiluca	Glow-worm	B	Yes	Yes	No
Longitarsus nigrofasciatus	a leaf beetle	A	No	n/a	No
Meloe violaceus	Violet Oil-beetle	B	Yes	Yes	No
Mycetochara humeralis	a darkling beetle	B	Yes	yes	No
Mycetophagus populi	A darkling beetle	B	Yes	Yes	No
Oreodytes davisii	a water beetle	E	No	n/a	No
Plateumaris braccata	a leaf beetle	A	No	n/a	No
Polydrusus marginatus	a weevil	A	No	n/a	No
Pyropterus nigroruber	a net-winged beetle	E	No	n/a	No
Quedius balticus	a rove beetle	E	No	n/a	No
Rhizophagus aeneus	Rhizophagidae	B	Yes	Yes	No
Saperda scalaris	Ladder-marked longhorn beetle	B	Yes	Yes	No

Stictonectes lepidus	a water beetle	A	No	n/a	No
Timarcha goettingensis	Lesser Bloody-nosed beetle	B	Yes	Yes	No
Trachys minutus	a jewel beetle	A	No	n/a	No
Decapoda (Crustacea)					
Austropotamobius pallipes	White-clawed Crayfish	D	Yes	No	Yes
Diptera (flies)					
Calliphora loewi	Long-horned Bluebottle	B	Yes	Yes	No
Cistogaster globosa	Bishop's-mitre Parasite Fly	A	No	n/a	No
Cteniphora pectinicornis	Tipulidae (Craneflies)	B	Yes	Yes	No
Dactylolabis sexmaculata	Tipulidae (Craneflies)	B	Yes	Yes	No
Dactylolabis transversa	Tipulidae (Craneflies)	A	No	n/a	No
Dicranomyia (Limonia) ornata	Tipulidae (Craneflies)	B	Yes	Yes	No
Dicranomyia aperta	a cranefly	E	No	n/a	No
Dicranomyia pallida (Limonia mitis- tufa sp., sensu Stubbs)	Tipulidae (Craneflies)	E	No	n/a	No
Erioptera verralli	Tipulidae (Craneflies)	E	No	n/a	No
Idioptera linnei	a cranefly	E	No	n/a	No
Leptarthrus brevirostris	Slender-footed Robberfly, Asilidae (Robberflies)	B	Yes	Yes	No
Limonia nigropunctata	Tipulidae (Craneflies)	A	No	n/a	No
Mallota cimbiciformis	a hoverfly	B	Yes	Yes	No
Melangyna barbifrons	a hoverfly	A	No	n/a	No
Molophilus czizeki	Tipulidae (Craneflies)	E	No	n/a	No
Nemozoma elongatum	Trogossitidae	B	Yes	Yes	No
Opomyza punctella	A fly	A	No	n/a	No
Orimarga virgo	Reddish Narrow-wing Crane	C	Yes	yes	No
Parallelomma paridis	A housefly	E	No	n/a	No
Parasyrphus nigritarsis	a hoverfly	A	No	n/a	No

Platyparea discoidea	Banded Bellflower Fly	E	No	n/a	No
Pocota personata	a hoverfly	D	Yes	Yes	No
Prionocera pubescens	a cranefly	E	No	n/a	No
Psilota anthracina	a hoverfly	D	Yes	Yes	No
Rhipidia (Limonia) uniseriata	Tipulidae (Craneflies)	B	Yes	Yes	No
Solva marginata	Drab Wood-soldierfly	B	Yes	Yes	No
Spilogona litorea	A housefly	A	No	n/a	No
Syntormon macula	A long-legged fly	A	No	n/a	No
Tanyptera nigricornis	Tipulidae (Craneflies)	B	Yes	Yes	No
Tipula alpina	Tipulidae (Craneflies) - Limestone Long-palp	E	No	n/a	No
Tipula cheethami	Tipulidae (Craneflies)	B	Yes	Yes	No
Tipula grisescens	Tipulidae (Craneflies)	A	No	n/a	No
Tipula holoptera	Tipulidae (Craneflies)	B	Yes	Yes	No
Trypeta zoe	a fruit fly	A	No	n/a	No
Ephemeroptera (Mayflies)					
Ephemera lineata	A mayfly	E	No	n/a	No
Siphlonurus armatus	A mayfly	C	Yes	Yes	No
Heteroptera (true bugs)					
Elasmucha ferrugata	Bilberry Shieldbug	G	No	n/a	No
Hymenoptera (bees, wasps and ants)					
Andrena tarsata	Tormentil Mining Bee	E	No	n/a	No
Bombus humilis	Brown-banded Carder Bee	G	No	n/a	No
Bombus monticola	Bilberry Bumblebee	B	Yes	No	No
Carria paradoxa	An ichneumon wasp	E	No	n/a	No
Epeolus cruciger	Red-thighed Epeolus	B	Yes	No	No
Formica lugubris	Hairy Wood Ant	A	No	n/a	No
Formicoxenus nitidulus	Shining Guest Ant	A	No	n/a	No
Lasius flavus	Yellow Meadow Ant	B	Yes	Yes	No

Philanthus triangulum	Bee Wolf	A	No	n/a	No
Isopoda (Crustacea)					
Armadillidium pictum	Picture Pill Woodlouse	E	No	n/a	No
Lepidoptera (butterflies and moths)					
Acronicta psi	Grey Dagger	A	No	n/a	No
Acronicta rumicis	Knot Grass	A	No	n/a	No
Adscita geryon	Cistus Forester	B	Yes	Yes	No
Adscita statices	Forester	B	Yes	Yes	No
Agrochola lychnidis	Beaded Chestnut	A	No	n/a	No
Allophyes oxyacanthae	Green-brindled Crescent	A	No	n/a	No
Amphipoea oculea	Ear Moth	A	No	n/a	No
Amphipyra tragopoginis	Mouse Moth	E	No	n/a	No
Anchoscelis helvola	Flounced Chestnut	A	No	n/a	No
Anchoscelis litura	Brown-spot Pinion	A	No	n/a	No
Apamea anceps	Large Nutmeg	A	No	n/a	No
Apamea remissa	Dusky Brocade	A	No	n/a	No
Apatura iris	Purple Emperor	A	No	n/a	No
Aplasta ononaria	Rest Harrow	G	No	n/a	No
Aporophyla lutulenta	Deep-brown Dart	A	No	n/a	No
Arctia caja	Garden Tiger	A	No	n/a	No
Aricia agestis	Brown Argus (Peak District race)	D	Yes	Yes	No
Asteroscopus sphinx	Sprawler	A	No	n/a	No
Atethmia centrago	Centre-barred Sallow	D	Yes	No	No
Brachylomia viminalis	Minor Shoulder-knot	A	No	n/a	No
Callophrys rubi	Green Hairstreak	B	Yes	Yes	No
Caradrina morpheus	Mottled Rustic	A	No	n/a	No
Celaena haworthii	Haworth's Minor	A	No	n/a	No
Ceramica pisi	Broom Moth	A	No	n/a	No
Chesias legatella	The Streak	A	No	n/a	No
Chiasmia clathrata	Latticed Heath	B	Yes	Yes	No
Cirrhia gilvago	Dusky-lemon Sallow	E	No	n/a	No

Cirrhia icteritia	The Sallow	A	No	n/a	No
Coenonympha pamphilus	Small Heath	B	Yes	Yes	No
Cosmia diffinis	White-spotted Pinion	B	Yes	N	No
Cossus cossus	Goat Moth	A	No	n/a	No
Cupido minimus	Small Blue	E	No	n/a	No
Cymatophorina diluta	Oak Lutestring	A	No	n/a	No
Dasypolia templi	Brindled Ochre	A	No	n/a	No
Diarsia rubi	Small Square-spot	A	No	n/a	No
Diloba caeruleocephala	Figure of Eight	A	No	n/a	No
Ecliptopera silaceata	Small Phoenix	A	No	n/a	No
Ennomos erosaria	September Thorn	A	No	n/a	No
Ennomos fuscantaria	Dusky Thorn	A	No	n/a	No
Ennomos quercinaria	August Thorn	A	No	n/a	No
Entephria caesiata	Grey Mountain Carpet	A	No	n/a	No
Epirrhoe galiata	Galium Carpet	A	No	n/a	No
Erynnis tages	Dingy Skipper	B	Yes	Yes	No
Ethmia quadrillella	Comfrey Ermel (a micro moth)	A	No	n/a	No
Eugnorisma glareosa	Autumnal Rustic	A	No	n/a	No
Eulithis mellinata	Spinach	B	Yes	No	No
Eupithecia egenaria	Pauper Pug	B	Yes	No	No
Eupithecia lariciata	Larch Pug	A	No	n/a	No
Eupithecia linariata	Toadflax Pug	A	No	n/a	No
Euxoa nigricans	Garden Dart	A	No	n/a	No
Graphiphora augur	Double Dart	A	No	n/a	No
Helotropha leucostigma	Crescent	A	No	n/a	No
Hemistola chrysoprasaria	Small Emerald	A	No	n/a	No
Hepialus humuli	Ghost Moth	A	No	n/a	No
Hoplodrina blanda	Rustic	A	No	n/a	No
Hydraecia micacea	Rosy Rustic	A	No	n/a	No
Lasiommata megera	Wall	A	No	n/a	No
Leucania comma	Shoulder-striped Wainscot	A	No	n/a	No
Limenitis camilla	White Admiral	E	No	n/a	No
Litoligia literosa	Rosy Minor	A	No	n/a	No
Lycia hirtaria	Brindled Beauty	A	No	n/a	No

Lygephila pastinum	Blackneck	A	No	n/a	No
Macaria wauaria	The V-moth	B	Yes	No	No
Malacosoma neustria	Lackey	A	No	n/a	No
Martania taeniata	Barred Carpet	B	Yes	No	No
Melanchra persicariae	Dot Moth	A	No	n/a	No
Melanthia procellata	Pretty Chalk Carpet	E	No	n/a	No
Mniotype adusta	Dark Brocade	A	No	n/a	No
Mompha jurassicella	A micro moth	E	No	n/a	No
Orthonama vittata	Oblique Carpet	A	No	n/a	No
Orthosia gracilis	Powdered Quaker	A	No	n/a	No
Pelurga comitata	Dark Spinach	B	Yes	No	No
Perizoma albulata albulata	Grass Rivulet	B	Yes	Yes	No
Polychrysia moneta	Golden Plusia	B	Yes	No	No
Pyrausta cingulata	Siver-barred Sable	B	Yes	Yes	No
Pyrgus malvae	Grizzled Skipper	D	Yes	Yes	No
Rheumaptera hastata	Argent & Sable	B	Yes	Yes	No
Rhizedra lutosa	Large Wainscot	A	No	n/a	No
Satyrium w-album	White-letter Hairstreak	D	Yes	No	Yes
Scopula marginepunctata	Mullein Wave	A	No	n/a	No
Scotopteryx bipunctaria cretata	Chalk Carpet	B	Yes	Yes	No
Scotopteryx chenopodiata	Shaded Broad-bar	A	No	n/a	No
Speyeria aglaja	Dark Green Fritillary	B	Yes	Yes	No
Spilosoma lubricipeda	White Ermine	A	No	n/a	No
Spilosoma lutea	Buff Ermine	A	No	n/a	No
Stilbia anomala	Anomalous	A	No	n/a	No
Synanthedon culiciformis	Large Red-belted Clearwing	A	No	n/a	No
Syngrapha interrogationis	Scarce Silver Y	A	No	n/a	No
Tholera cespitis	Hedge Rustic	A	No	n/a	No
Tholera decimalis	Feathered Gothic	A	No	n/a	No
Timandra comae	Blood-vein	A	No	n/a	No
Trichiura crataegi	Pale Eggar	A	No	n/a	No

Tyria jacobaeae	Cinnabar	A	No	n/a	No
Watsonalla binaria	Oak Hook-tip	A	No	n/a	No
Xanthorhoe decoloraria	Red Carpet	A	No	n/a	No
Xanthorhoe ferrugata	Dark-barred Twin-spot Carpet	A	No	n/a	No
Xestia agathina	Heath Rustic	A	No	n/a	No
Xestia castanea	Neglected Rustic	A	No	n/a	No
Odonata (dragonflies and damselfies)					
Coenagrion mercuriale	Southern Damselfly	A	No	n/a	No
Coenagrion pulchellum	Variable Damselfly	A	No	n/a	No
Ischnura pumilio	Scarce Blue-tailed Damselfly	A	No	n/a	No
Plecoptera (Stoneflies)					
Protonemura montana	a stonefly	C	Yes	Yes	No
Rhabdiopteryx acuminata	a stonefly	A	No	n/a	No
Pulmonata (Mollusca)					
Malacolimax tenellus	Lemon slug	E	No	n/a	No
Trichoptera (Caddisflies)					
Glossosoma intermedium	Small Grey Sedge	A	No	n/a	No
Zelotherses unitana	Northern Grey Twist	E	No	n/a	No
Higher Plants					
Allium oleraceum	Field Garlic	A	No	n/a	No
Anacamptis morio	Green-winged Orchid	B	Yes	Yes	No
Antennaria dioica	Mountain Everlasting	B	Yes	Yes	No
Anthemis cotula	Stinking Chamomile	G	No	n/a	No
Apium inundatum	Lesser Marshwort	B	Yes	Yes	No
Arctostaphylos uva-ursi	Bearberry	B	Yes	No	No
Baldellia ranunculoides	Lesser Water-plantain	G	No	n/a	No
Blysmus compressus	Flat-sedge	A	No	n/a	No

Bromopsis benekenii	Lesser Hairy-brome	E	No	n/a	No
Buglossoides arvensis	Field Gromwell	D	Yes	Yes	No
Callitriche truncata	Short-leaved Water-starwort	A	No	n/a	No
Campanula patula	Spreading Bellflower	G	No	n/a	No
Cardamine impatiens	Narrow-leaved Bitter-cress	A	No	n/a	No
Carex digitata	Fingered Sedge	A	No	n/a	No
Carex elata	Tufted-sedge	G	No	n/a	No
Carex ericetorum	Rare Spring-sedge	B	Yes	Yes	No
Carex montana	Soft-leaved Sedge	B	Yes	Yes	No
Carex ornithopoda	Bird's-foot Sedge	A	No	n/a	No
Carex vesicaria	Bladder-sedge	A	No	n/a	No
Catabrosa aquatica	Whorl-grass	A	No	n/a	No
Chenopodium bonus-henricus	Good King Henry	B	Yes	Yes	No
Clinopodium acinos	Basil Thyme	B	Yes	Yes	No
Comarum palustris	Marsh Cinquefoil	B	Yes	Yes	No
Cynoglossum officinale	Hound's-tongue	B	Yes	Yes	No
Dactylorhiza incarnata	Early Marsh-orchid	A	No	n/a	No
Dactylorhiza viridis	Frog Orchid	B	Yes	Yes	No
Daphne mezereum	Mezereon	A	No	n/a	No
Dianthus deltoides	Maiden Pink	D	Yes	Yes	No
Draba muralis	Wall Whitlowgrass	A	No	n/a	No
Dryopteris submontana	Rigid Buckler-fern	E	No	n/a	No
Eleocharis acicularis	Needle Spike-rush	A	No	n/a	No
Epipactis atrorubens	Dark-red Helleborine	B	Yes	Yes	No
Epipactis dunensis	Dune Helleborine	E	No	n/a	No
Epipactis palustris	Marsh Helleborine	B	Yes	No	No
Epipactis phyllanthes	Green-flowered Helleborine	A	No	n/a	No
Euphorbia exigua	Dwarf Spurge	B	Yes	Yes	No

Euphrasia officinalis	Euphrasia officinalis	A	No	n/a	No
Euphrasia officinalis subsp. anglica	English Sticky Eyebright	A	No	n/a	No
Euphrasia officinalis subsp. pratensis	Rostkov's Eyebright	A	No	n/a	No
Filago germanica	Common Cudweed	A	No	n/a	No
Galeopsis angustifolia	Red Hemp-nettle	B	Yes	Yes	No
Galeopsis speciosa	Large-flowered Hemp-nettle	A	No	n/a	No
Genista anglica	Petty Whin	B	Yes	Yes	No
Genista tinctoria	Dyer's Greenweed	B	Yes	Yes	No
Gentianella campestris	Field Gentian	D	Yes	No	No
Geranium sylvaticum	Wood Crane's-bill	G	No	n/a	No
Glebionis segetum	Corn Marigold	G	No	n/a	No
Groenlandia densa	Opposite-leaved Pondweed	E	No	n/a	No
Gymnocarpium robertianum	Limestone Fern	B	Yes	Yes	No
Helleborus foetidus	Stinking Hellebore	A	No	n/a	No
Hieracium brittanicum	British Hawkweed	E	No	n/a	No
Hieracium dalense P.D.Sell	Dales Hawkweed	E	No	n/a	No
Hieracium naviense	Derby Hawkweed	E	No	n/a	No
Hordelymus europaeus	Wood Barley	A	No	n/a	No
Hornungia petraea	Hutchinsia	A	No	n/a	No
Hottonia palustris	Water-violet	B	Yes	Yes	No
Hyoscyamus niger	Henbane	B	Yes	No	No
Hypericum montanum	Pale St John's-wort	A	No	n/a	No
Hypopitys monotropa	Yellow Bird's-nest	A	No	n/a	No
Jasione montana	Sheep's-bit	A	No	n/a	No
Juncus compressus	Round-fruited Rush	A	No	n/a	No
Lepidium latifolium	Dittander	G	No	n/a	No
Limosella aquatica	Mudwort	A	No	n/a	No
Linum perenne	Perennial Flax	G	No	n/a	No

Logfia minima	Small Cudweed	E	No	n/a	No
Luronium natans	Floating Water-plantain	G	No	n/a	No
Lycopodium clavatum	Stag's-horn Clubmoss	A	No	n/a	No
Mentha pulegium	Pennyroyal	G	No	n/a	No
Myriophyllum verticillatum	Whorled Water-milfoil	G	No	n/a	No
Neotinea ustulata	Burnt Orchid	B	Yes	Yes	No
Neottia nidus-avis	Bird's-nest Orchid	A	No	n/a	No
Nepeta cataria	Cat-mint	G	No	n/a	No
Noccaea caerulescens	Alpine Penny-cress	B	Yes	Yes	No
Oenanthe fistulosa	Tubular Water-dropwort	A	No	n/a	No
Omalotheca sylvatica	Heath Cudweed	G	No	n/a	No
Ononis spinosa	Spiny Restharrow	A	No	n/a	No
Ophrys insectifera	Fly Orchid	B	Yes	Yes	No
Parnassia palustris	Grass-of-Parnassus	A	No	n/a	No
Pedicularis palustris	Marsh Lousewort	B	Yes	No	No
Persicaria minor	Small Water-pepper	G	No	n/a	No
Pinguicula vulgaris	Common Butterwort	A	No	n/a	No
Platanthera chlorantha	Greater Butterfly-orchid	B	Yes	Yes	No
Polemonium caeruleum	Jacob's-ladder	A	No	n/a	No
Polygonatum odoratum	Angular Solomon's-seal	A	No	n/a	No
Populus nigra ssp. betulifolia	Black Poplar	D	Yes	No	Yes
Potamogeton alpinus	Red Pondweed	E	No	n/a	No
Potamogeton compressus	Grass-wrack Pondweed	B	Yes	Yes	No
Potamogeton friesii	Flat-stalked Pondweed	G	No	n/a	No
Potamogeton praelongus	Long-stalked Pondweed	G	No	n/a	No

Potentilla argentea	Hoary Cinquefoil	B	Yes	Yes	No
Potentilla crantzii	Alpine Cinquefoil	A	No	n/a	No
Potentilla verna	Spring Cinquefoil	A	No	n/a	No
Pyrola rotundifolia subsp. rotundifolia	Round-leaved Wintergreen	G	No	n/a	No
Ranunculus arvensis	Corn Buttercup	G	No	n/a	No
Ribes alpinum	Mountain Currant	A	No	n/a	No
Roemeria argemone	Prickly Poppy	G	No	n/a	No
Rubus durescens	Rubus durescens	E	No	n/a	No
Sabulina tenuifolia	Fine-leaved Sandwort	E	No	n/a	No
Sabulina verna	Spring Sandwort	A	No	n/a	No
Salix repens	Creeping Willow	A	No	n/a	No
Saxifraga hypnoides	Mossy Saxifrage	A	No	n/a	No
Scandix pecten-veneris	Shepherd's-needle	G	No	n/a	No
Scleranthus annuus	Annual Knawel	G	No	n/a	No
Sesleria caerulea	Blue Moor-grass	A	No	n/a	No
Silene nutans	Nottingham Catchfly	A	No	n/a	No
Sorbus rupicola	Rock Whitebeam	B	Yes	No	No
Sorbus torminalis	Wild Service-tree	E	No	n/a	No
Spergula arvensis	Corn Spurrey	B	Yes	Yes	No
Stachys arvensis	Field Woundwort	B	Yes	Yes	No
Stellaria palustris	Marsh Stitchwort	G	No	n/a	No
Teesdalia nudicaulis	Shepherd's Cress	G	No	n/a	No
Thelypteris palustris	Marsh Fern	A	No	n/a	No
Tilia platyphyllos	Large-leaved Lime	A	No	n/a	No
Trichomanes speciosum	Killarney Fern	E	No	n/a	No
Trifolium fragiferum	Strawberry Clover	E	No	n/a	No

Triglochin palustre	Marsh Arrowgrass	A	No	n/a	No
Trollius europaeus	Globeflower	B	Yes	Yes	No
Turritis glabra	Tower Mustard	G	No	n/a	No
Valeriana dioica	Marsh Valerian	A	No	n/a	No
Valerianella dentata	Narrow-fruited Cornsalad	G	No	n/a	No
Veronica scutellata	Marsh Speedwell	A	No	n/a	No
Vicia lutea	Yellow Vetch	G	No	n/a	No
Viola canina subsp. canina	Heath Dog-violet	A	No	n/a	No
Viola tricolor subsp. tricolor	Wild Pansy	B	Yes	Yes	No
Wahlenbergia hederacea	Ivy-leaved Bellflower	A	No	n/a	No
Lower Plants - Bryophytes					
Anomodon longifolius	Long-leaved Tail-moss	B	Yes	No	No
Conardia compacta	Compact Feather-moss	B	Yes	No	No
Didymodon tomaculosus	Sausage Beard-moss	B	Yes	No	No
Endogemma caespiticia	Delicate Flapwort	B	Yes	No	No
Seligeria brevifolia	Dwarf Rock-Bristle	B	Yes	No	No
Syntrichia princeps	Brown Screw-moss	B	Yes	No	No
Targionia hypophylla	Orobus-seed Liverwort	B	Yes	No	No
Tortula cernua	Flamingo Moss	G	No	n/a	No
Fungi					
Boletus aereus	Bronze Bolete	E	No	n/a	No
Boletus pinophilus	Pine Bolete	E	No	n/a	No
Clavaria zollingeri	Violet Coral	B	Yes	Yes	No
Cuphophyllus colemannianus	Toasted Waxcap	B	Yes	Yes	No
Cuphophyllus lacmus	Grey Waxcap	B	Yes	Yes	No
Cuphophyllus lepidopus	Scalyfoot Waxcap	B	Yes	Yes	No
Entoloma bloxamii (s.l.)	Big Blue Pinkgill	B	Yes	Yes	No

Entoloma griseocyaneum	Felted Pinkgill	B	Yes	Yes	No
Entoloma porphyrophaeum	Lilac Pinkgill	A	No	n/a	No
Entoloma prunuloides	Mealy Pinkgill	B	Yes	Yes	No
Gliophorus europerplexus	Butterscotch Waxcap	B	Yes	Yes	No
Gliophorus reginae	Jubilee Waxcap	B	Yes	Yes	No
Gloioxanthomyces vitellinus	Glistening Waxcap	B	Yes	Yes	No
Hygrocybe citrinovirens	Citrine Waxcap	B	Yes	Yes	No
Hygrocybe ingrata	Dingy Waxcap	B	Yes	Yes	No
Hygrocybe ovina	Blushing Waxcap	B	Yes	Yes	No
Hygrocybe punicea	Crimson Waxcap	B	Yes	Yes	No
Hygrocybe spadicea	Date Waxcap	B	Yes	Yes	No
Hygrocybe splendidissima	Splendid Waxcap	B	Yes	Yes	No
Lanmaoa fragrans	Fragrant Bolete	A	No	n/a	No
Leccinum duriusculum	Slate Bolete	E	No	n/a	No
Microglossum atropurpureum	Dark Purple Earthtongue	B	Yes	Yes	No
Microglossum olivaceum s.l.	Olive Earthtongue	B	Yes	Yes	No
Neohygrocybe nitrata	Nitrous Waxcap	B	Yes	Yes	No
Phylloporus pelletieri	Golden-gilled bolete	A	No	n/a	No
Piptoporus quercinus (syn. Buglossoporus quercinus; B. pulvinus)	Oak Polypore	B	Yes	No	No
Podoscypha multizonata	Zoned Rosette	B	Yes	No	No
Porphyrellus porphyrosporus	Dusky Bolete	E	No	n/a	No
Porpolomopsis calyptriformis	Pink Waxcap	B	Yes	No	No
Pseudotricholoma metapodium	Mealy Meadowcap	B	Yes	No	No
Rhodotus palmatus	Wrinkled Peach	B	Yes	No	No

Strobilomyces strobilaceus	Old Man of the Woods	E	No	n/a	No
Tremellodendropsis tuberosa	Ashen Coral	B	Yes	No	No
Trichoglossum walteri	Short-spored Earthtongue	E	Yes	Yes	No
Lichens					
Anaptychia ciliaris	Eagle's Claws	D	Yes	No	No
Cladonia luteoalba		A	No	n/a	No
Fuscidea austera		B	Yes	No	No
Hertelidea botryosa		B	Yes	Yes	No
Lecanora campestris subsp. dolomitica		A	No	n/a	No
Lecanora impudens		B	Yes	Yes	No
Lecanora sublivescens		B	Yes	Yes	No
Thalloidima sedifolium (Toninia sedifolia)		B	No	n/a	No
Birds					
Acanthis cabaret	Lesser Redpoll	A	No	n/a	No
Accipiter gentilis	Goshawk	A	No	n/a	No
Accipiter nisus	Eurasian Sparrowhawk	A	No	n/a	No
Actitis hypoleucos	Common Sandpiper	A	No	n/a	No
Alauda arvensis	Skylark	B	Yes	Yes	No
Alcedo atthis	Kingfisher	C	Yes	Yes	No
Anthus trivialis	Tree Pipit	B	Yes	Yes	No
Apus apus	Swift	D	Yes	no	No
Asio flammeus	Short-eared Owl	B	Yes	Yes	No
Asio otus	Long-eared Owl	A	No	n/a	No
Aythya ferina	Pochard	A	No	n/a	No
Aythya marila	Scaup	A	No	n/a	No
Botaurus stellaris	Bittern	B	Yes	Yes	No
Bucephala clangula	Goldeneye	A	No	n/a	No
Calidris alpina	Dunlin	B	Yes	no	No
Caprimulgus europaeus	Nightjar	B	Yes	Yes	No
Charadrius dubius	Little Ringed Plover	B	Yes	Yes	No
Charadrius hiaticula	Ringed Plover	A	No	n/a	No
Chloris chloris	Greenfinch	D	Yes	Yes	No
Cinclus cinclus	Dipper	C	Yes	no	No

Circus aeruginosus	Marsh Harrier	A	No	n/a	No
Circus cyaneus	Hen Harrier	D	Yes	No	Yes
Coccothraustes coccothraustes	Hawfinch	A	No	n/a	No
Corvus frugilegus	Rook	A	No	n/a	No
Coturnix coturnix	Quail	B	Yes	Yes	No
Crex crex	Corncrake	D	Yes	No	No
Cuculus canorus	Cuckoo	A	No	n/a	No
Delichon urbicum	House Martin	D	Yes	No	No
Dryobates minor	Lesser Spotted Woodpecker	D	Yes	No	No
Emberiza calandra	Corn Bunting	D	Yes	Yes	No
Emberiza citrinella	Yellowhammer	B	Yes	Yes	No
Emberiza schoeniclus	Reed Bunting	A	No	n/a	No
Falco columbarius	Merlin	D	Yes	No	No
Falco peregrinus	Peregrine	D	No	No	No
Falco subbuteo	Hobby	A	Yes	No	No
Ficedula hypoleuca	Pied Flycatcher	B	Yes	No	No
Gallinago gallinago	Snipe	B	Yes	Yes	No
Gallinula chloropus	Moorhen	A	No	n/a	No
Grus grus	Crane	D	Yes	Yes	No
Lanius collurio	Red-backed Shrike	D	No	No	Yes
Larus argentatus	Herring Gull	A	No	n/a	No
Linaria cannabina	Linnet	B	Yes	Yes	No
Linaria flavirostris	Twite	D	Yes	Yes	No
Locustella naevia	Grasshopper Warbler	A	No	n/a	No
Lullula arborea	Woodlark	A	No	n/a	No
Luscinia megarhynchos	Nightingale	D	Yes	Yes	No
Lyrurus tetrix	Black Grouse	D	Yes	No	Yes
Mergellus albellus	Smew	A	No	n/a	No
Mergus serrator	Red-breasted Merganser	A	No	n/a	No
Motacilla cinerea	Grey Wagtail	A	No	n/a	No
Motacilla flava	Yellow Wagtail	B	Yes	Yes	No
Muscicapa striata	Spotted Flycatcher	B	Yes	Yes	No
Numenius arquata	Curlew	D	Yes	Yes	No
Pandion haliaetus	Osprey	D	Yes	No	No
Passer domesticus	House Sparrow	B	Yes	Yes	No
Passer montanus	Tree Sparrow	B	Yes	Yes	No
Perdix perdix	Grey Partridge	B	Yes	Yes	No

Pernis apivorus	Honey-buzzard	A	No	n/a	No
Phoenicurus ochruros	Black Redstart	A	No	n/a	No
Phoenicurus phoenicurus	Redstart	B	Yes	No	No
Phylloscopus sibilatrix	Wood Warbler	B	Yes	No	No
Podiceps grisegena	Red-necked Grebe	B	Yes	No	No
Podiceps nigricollis	Black-necked Grebe	B	Yes	No	No
Poecile montanus	Willow Tit	D	Yes	No	Yes
Poecile palustris	Marsh Tit	B	Yes	Yes	No
Prunella modularis	Dunnock	A	No	n/a	No
Pyrrhula pyrrhula	Bullfinch	A	No	n/a	No
Saxicola rubetra	Whinchat	B	Yes	No	No
Scolopax rusticola	Woodcock	B	Yes	Yes	No
Spatula querquedula	Garganey	A	No	n/a	No
Sterna hirundo	Common Tern	A	No	n/a	No
Streptopelia turtur	Turtle Dove	D	Yes	Yes	No
Strix aluco	Tawny Owl	A	No	n/a	No
Sturnus vulgaris	Starling	B	Yes	Yes	No
Tadorna tadorna	Shelduck	A	No	n/a	No
Tringa ochropus	Green Sandpiper	A	No	n/a	No
Tringa totanus	Redshank	B	Yes	Yes	No
Turdus philomelos	Song Thrush	A	No	n/a	No
Turdus torquatus	Ring Ouzel	D	Yes	No	Yes
Turdus viscivorus	Mistle Thrush	A	No	n/a	No
Tyto alba	Barn Owl	B	Yes	Yes	No
Vanellus vanellus	Lapwing	B	Yes	Yes	No
Mammals					
Arvicola amphibius	Water Vole	D	Yes	No	Yes
Barbastella barbastellus	Western Barbastelle	E	No	n/a	No
Castor fiber	Beaver	D	Yes	No	Yes
Eptesicus serotinus	Serotine	A	No	n/a	No
Erinaceus europaeus	Hedgehog	D	Yes	No	Yes
Lepus europaeus	Hare	B	Yes	Yes	No
Lepus timidus	Mountain Hare	B	Yes	No	No
Lutra lutra	Otter	C	Yes	Yes	No
Martes martes	Pine Marten	D	Yes	Yes	Yes
Micromys minutus	Harvest Mouse	E	No	n/a	No
Muscardinus avellanarius	Hazel Dormouse	D	Yes	Yes	No

Nyctalus leisleri	Leisler's Bat	B	Yes	Yes	Yes
Nyctalus noctula	Noctule Bat	A	No	n/a	No
Pipistrellus nathusii	Nathusius's Pipistrelle	E	No	n/a	No
Pipistrellus pygmaeus	Soprano Pipistrelle	E	No	n/a	No
Plecotus auritus	Brown Long-eared Bat	A	No	n/a	No
Rhinolophus hipposideros	Lesser Horseshoe Bat	E	No	n/a	No
Fish					
Acipenser sturio	Sturgeon	E	No	n/a	No
Anguilla anguilla	European Eel	D	Yes	No	No
Cobitis taenia	Spined Loach	C	Yes	No	No
Lota lota	Burbot	D	Yes	No	No
Salmo salar	Atlantic Salmon	D	Yes	No	No
Salmo trutta	Brown/Sea Trout	C	Yes	No	No
Salmo trutta subsp. fario	Brown Trout	C	Yes	No	No
Amphibians and Reptiles					
Anguis fragilis	Slow-worm	E	No	n/a	No
Bufo bufo	Common Toad	D	Yes	No	Yes
Natrix helvetica	Grass Snake	B	Yes	Yes	No
Triturus cristatus	Great Crested Newt	A	No	No	No
Vipera berus	Adder	D	Yes	No	Yes
Zootoca vivipara	Common Lizard	E	No	n/a	No

Appendix 3: LNRS Species and Assemblage Measures

Priority	Practical Measures
Black Poplar Increase the population of black poplar through regeneration within Trent Valley. Where possible expand the range of Black Poplar into the Dove, Derwent and Erewash Valleys.	Bespoke actions: • Identify, safeguard and monitor existing trees, bringing them into positive management, including control of pests and diseases • Map opportunities to expand and connect wet wooded habitat, including floodplain trees, and increase planting of black poplar in the mapped locations, using locally appropriate source stock, whilst seeking to improve the genetic variability in newly planted trees. • Register black poplar stands on Forest Reproductive Materials (FRM) register • Establish tree nurseries for the provision of local provenance trees taken from registered FRM sites
White-clawed Crayfish Protect WCC by creating a network of ARK sites in Derbyshire	Bespoke actions: • Survey watercourses to identify extant populations of White Clawed Crayfish and assess threats and options • Manage and monitor ARK sites to ensure translocated populations are maintained • Protect in-situ populations and prioritise their habitat needs by achieving consistent, steady flows of good or very good quality water. • Manage riverbanks to offer numerous natural or artificial 'refuges' which offer opportunities to hide from predators. • Take suitable effective actions to exclude American Signal Crayfish if effective techniques emerge Identify new ARK sites and translocate WCC to new ARK sites
White-letter Hairstreak Increase the resilience and number of breeding populations of WLH	Bespoke actions: • Identify suitable locations for the planting of disease resistant elm trees suited to the needs of WLH. • Establish nursery for disease resistant elm trees • Monitor the use of disease resistant elm trees by the butterflies to ensure colonies can be sustained throughout the lifecycle. • Retain existing elm trees and do not fell where possible • Allow Elm suckers to grow where they appear. • In areas where scrub or woods show evidence of Dutch Elm disease, coppice elms on a 7 – 14-year cycle.

	• Manage hedgerow shelterbelts that contain elm and avoid cutting edges where new elm suckers appear. • Connect habitats with hedgerows containing Wych Elm (Ulmus glabra) as a hedging plant and disease resistant elms as hedgerow trees. •
Willow Tit	Bespoke actions: • Restore and create wet woodlands with young birch, elder, willow and alder. • Retain and create a supply of deadwood, such as tall snags, stumps, fallen trees, within and around wet woodland and scrub • Create structural diversity and promote dense scrub growth near Willow Tit nesting sites through selective felling or the reintroduction of coppicing within damp woodlands. • To improve the stability of Willow Tit populations, link up suitable habitats by creating or retaining scrub lined river corridors and mature hedgerows.
Water Vole	Bespoke measures: • Identification, monitoring and safeguarding of key remaining population strongholds and breeding areas. • Reduce and where possible eradicate pressure from introduced predators (Mink) • Manage riverside banks, canals, ditches, and watercourses to create areas of sunny shallow water margins with bankside vegetation but avoid overshadowing of the water from scrub or trees. • Restore more natural riverbanks, in appropriate locations, and reduce invasive species. • Improve water quality by reducing point source and diffuse pollution. • Avoid trampling and intensive grazing along the watercourse edge.
Adder	Bespoke measures: • Ensure core sites are sympathetically managed for adder. • Safeguard key basking sites, maternal birthing sites and summer foraging areas[1] • Identify areas where adder could expand or disperse to and manage and enhance key habitat corridors. See attached restoration of range map

[1] **Migrations and Seasonal Patterns of Habitat Use in the Adder (*Vipera berus*): Implications for the Conservation and Management of Local Populations, Bauens D & Claus Katja.**
Herpetological Conservation and Biology 2024 19(2):325–335.

	• Use controlled reintroduction from healthy populations to establish adders in previously occupied sites as necessary • Raise awareness about threats to adders. • Reduce disturbance to adder from recreation, grazing and other damaging management activities. • Identify measures to reduce the threat of fire.
Common Toad	Bespoke measures: • Identify and map breeding ponds and toad road crossing points • Improve signage for toad crossings • Ensure new development include measures such as dropped kerbs, amphibian ladders, toad tunnels and fencing for mitigating impacts on toads • Ensure new ponds are created to meet the needs of toads • Enhance habitat and connectivity around key ponds • Biosecurity to minimise and address risks of disease
Leisler's Bat	Bespoke measures: • Retain and conserve roost sites in buildings and mature trees wherever possible. • Install and monitor specified bat boxes in known locations to • mitigate and encourage roost sites in across strategic areas. • Avoid felling mature trees, especially parkland trees where roosting opportunities are present. • Map distribution and roosts
Hedgehog	Bespoke measures: • Create hedgehog highways that connect green space and gardens within urban areas including gaps between new gardens in residential development • Restore and plant new hedgerows, scrub and grasslands in rural areas • Leave field margins and headlands • Encourage installation of hibernacula in gardens
Hen Harrier	Bespoke measures: moorland measures cover habitat requirements, should be included but not deliverable as persecution out of scope of LNRS. But predator control is in scope and if this is the case persecution should also be in scope.

Ring Ouzel	Bespoke measures: Reducing disturbance and recreational pressure Increasing scrub and small tree cover on moorland edge to create mosaics of moorland edge

Reintroductions The following species are included in the LNRS as they have been identified as potential reintroductions	
Beaver	Bespoke actions: • Undertake feasibility studies into the reintroduction of beaver to Trent/Derwent and other catchments • Raise awareness about the benefits of beaver reintroduction • Develop a plan for addressing concerns and negative impacts from beaver • Reintroduce beaver to the wild once Government approved.
Pine Marten	Bespoke actions: • Undertake a feasibility study into the reintroduction of pine marten in Derbyshire • Establish a network of partners and landowner supporters and stakeholders • Develop a reintroduction program for pine marten • Raise awareness about the benefits of pine marten reintroduction • Reintroduce pine marten to suitable areas within 5 years
Black Grouse	Bespoke actions: • Undertake a feasibility study into the reintroduction of black grouse in Derbyshire • Establish a network of partners and landowner supporters and stakeholders • Develop a reintroduction program for black grouse • Reintroduce black grouse to suitable areas within 5 years
Red-backed shrike	Bespoke actions: • Undertake a feasibility study into the reintroduction of red-backed shrike in Derbyshire • Establish a network of partners and landowner supporters and stakeholders • Develop a reintroduction program for red-backed shrike

	• Reintroduce red-backed shrike to suitable areas within 5 years if feasible

Species Habitat Assemblages	
1) Deadwood species assemblage (18 species)	Bespoke actions: • Survey key sites to establish an up-to-date baseline of species occurrence and range • Identify key features for deadwood invertebrates, fungi and lichens at key sites/landscapes • Retain mature and over-mature trees, standing and fallen deadwood within the key sites and in the surrounding countryside. • Create artificial rot holes to increase breeding opportunities for insects • Increase floristic diversity within parks and wood-pastures • Ensure supply of deadwood through tree regeneration, ring-barking younger trees where suitable.
2) Grassland fungi (20 species)	Bespoke actions: • Identification, safeguarding and monitoring of important remaining sites. • Landowner and land manager engagement and support. • Enhance and appropriately manage remaining semi-natural grasslands with fungi assemblages • Avoid use of pesticides, herbicides and fertilisers • Graze sites extensively but ensure short thatch free swards by autumn. • Showcase successful grassland management and encourage awareness of the value of grassland fungi
3) Threatened grassland flora and fauna (34 species)	Bespoke measures: • Identify and map extant locations for all threatened plants and insects • Ensure sympathetic habitat management at these locations • Identify threats • Seek opportunities to expand and increase abundance and range of species along corridors, stepping stone sites and newly created/enhanced sites • Reintroduce plant species where appropriate e.g. Maiden Pink. • Monitor species assemblage

4) Threatened wetland flora and fauna (24 species)	Bespoke actions: • Confirm current distribution and abundance for wetland species • Ensure monitoring is in place for key species • Create new wetlands in strategic locations to benefit these species • Improve/protect water quality and habitat to benefit key species (stonefly, mayfly, cranefly) • Ensure rivers are navigable for migratory fish species
5) Farmland wader assemblage (curlew, snipe, lapwing, redshank)	Bespoke actions: • Encourage extensive grazing and avoid cutting and grazing during nesting periods • Encourage habitat heterogeneity for moorland edge and grassland and restore ditches and wet features including scrapes within fields • Discourage intensification and drainage
6) Mixed farming bird and plant assemblage (26 species)	Bespoke actions: • Ensure late autumn, winter and early spring seed sources are available • Avoid mowing or crop harvesting during periods where nests will be impacted. • Grow and maintain multi-species cover crops, and cut later in the year, to provide food and cover over the winter. • Avoid / minimise use of insecticides on grassland and crops. • Set aside dedicated patches of unmanaged or uncropped areas with tall grasses, along field boundaries and margins, field corners or less productive areas, particularly where they will connect. • Leave arable margins • Encourage organic and regenerative farming methods. • Install nestboxes for target species • Restore / create native hedgerow / scrub habitat • Supplementary feeding stations over the winter (targeted). • Create or restore farm ponds
7) Landscape mosaic assemblage (22 species)	Bespoke measures: • Create large areas of scrub, open grassland and wetlands and manage through naturalistic grazing and natural processes to benefit existing species and encourage colonisation from outside the County.

Assemblages and species lists

1) Deadwood specialists

Deadwood species assemblage (18 species)	Bespoke actions: • Survey key sites to establish an up-to-date baseline of species occurrence and range • Identify key features for deadwood invertebrates, fungi and lichens at key sites/landscapes • Retain mature and over-mature trees, standing and fallen deadwood within the key sites and in the surrounding countryside. • Create artificial rot holes to increase breeding opportunities for insects • Increase floristic diversity within parks and wood-pastures • Ensure supply of deadwood through tree regeneration, ring-barking younger trees where suitable.

Taxa	Common name	Organism description	Conservation status	Notes
Aromia moschata	Musk Beetle	Coleoptera (beetle)	Nationally Scarce	Associated with veteran and pollarded willows in Trent Valley.
Cteniphora pectinicornis	Tipulidae (Craneflies)	Diptera (flies)	Nationally Notable / Scarce	Miller's Dale, Broadoak Wood (nr Alport Heights). Larvae in decaying wood in broad-leaved woodland
Corticeus unicolor	a darkling beetle	Coleoptera (Beetles)	Nationally Scarce	Underneath young bracket fungus and behind bark. Calke Park, Derbyshire. Potentially benefit from measures to promote, create and protected deadwood habitats. Derbyshire also Walton Woods probably more widespread.

Dasytes virens	a soft-winged flower beetle	Coleoptera (Beetles)	Near Threatened	9 records but outside of normal range. Records need checking (none on the NBN). Larvae predate larvae of other saproxylic insects and pupate under bark. In the UK it is very local and generally scarce in south east and Central England and South Wales.
Mallota cimbiciformis	Rot-hole dronefly (a hoverfly)	Diptera (flies)	Nationally Scarce	This is a woodland and parkland species associated with over-mature trees with water-filled rot-holes. The larva develops in water-filled rot -holes in trees such as Beech and Horse Chestnut. Only recorded from Calke Park in Derbyshire.
Mycetochara humeralis	a darkling beetle	Coleoptera (beetle)	Nationally Scarce	Calke Park, Derbyshire 1986 - 1 record (DaNES). Also recorded from Kedleston on NBN.
Mycetophagus populi	Tenebrionoidea	Coleoptera (Beetles)	GB RL - VU, Nationally Rare	Calke Park, Derbyshire. Invertebrate Site Register. They usually occur under loose bark and among decaying damp wood in hollows on stumps, standing and fallen trunks and fallen branches and they sometimes appear at sap in the spring. They have been recorded from a wide range of trees including elm (Ulmus L.), poplars (Populus L. including P. tremula L.), willows (Salix L.), alder (Alnus glutinosa (L.) and

				A. incana L.)), sycamore (Acer pseudoplatinus L.), oak (Quercus L.) and various cultivated fruit trees,
Nemozoma elongatum	Trogossitidae	Coleoptera (Beetles)	GB RL - VU, RDB3	Calke Park, Derbyshire. Invertebrate Site Register.
Pocota personata	A hoverfly	Diptera (flies)	Nationally Scarce	The larva is found in rot-holes in various trees, but most frequently Beech Fagus sylvatica and Poplar Populus sp. Larval development probably takes a number of years and larvae of different size classes can be found together in the same rot-hole. Adults are good bumblebee mimics and are seldom found, but can sometimes be seen visiting flowers, especially Hawthorn Crataegus sp. blossom, near larval habitat. They have also been observed hovering about the entrances to rot-holes. Ancient trees, rot holes, Haddon Estate. Project running. Project at Haddon Hall and records from 2004 at Kedleston and Calke.
Psilota anthracina	a hoverfly	Diptera (flies)	Nationally Scarce	Ancient trees, Calke Park, Derbyshire. Larve probably assoiated with rotting wood, root holes etc.

Rhipidia (Limonia) uniseriata	Tipulidae (Craneflies)	Diptera (flies)	RDB3 (awaiting further assessment)	Scattered records through central and southern Derbyshire. Associated with rot holes and large rotting logs.
Rhizophagus aeneus	Rhizophagidae	Coleoptera (Beetles)	Nationally Rare	Possibly just one site in Derbyshire - Calke Park. Lives under bark and feed on bark beetles.
Saperda scalaris	Ladder-marked longhorn beetle	Coleoptera (Beetles)	Nationally Notable A	Deadwood species
Tanyptera nigricornis	Tipulidae (Craneflies)	Diptera (flies)	Status unclear. But rare in Derbyshire.	Very rare in Derbyshire with just a handful of sites. Deadwood specialist. Reported as widespread by Stubbs (2021).
Piptoporus quercinus (syn. Buglossoporus quercinus; B. pulvinus)	Oak Polypore	Fungi	RL - VU	Very Rare in Derbyshire, known from three parkland sites (Chatsworth, Kedleston and Calke Park). Declining.
Hertelidea botryosa		Lichen	RL - NT	Occurs on lying oak ‘hulks’. Only non-Scottish records from Chatsworth and Sherwood Forest. Vulnerable to shading by re-planting around the hulks and to development of vigorous herbs and shrubs.
Lecanora impudens		Lichen	Nationally Rare	Occurs on the trunks of basic barked trees. The UK records, except 2, are from Derbyshire (1 in Notts and 1 in Hampshire). Vulnerable to shading by herbs and shrubs and ivy growth on wayside and woodland-edge trees.

Lecanora sublivescens		Lichen	RL - NT	Occurs on bark of basic barked parkland / wood pasture veteran trees. Haddon Park holds the most significant concentration of this lichen away from its more southerly distribution.

2) Grassland fungi assemblage

Grassland fungi (20 species)	Bespoke actions: • Identification, safeguarding and monitoring of important remaining sites. • Landowner and land manager engagement and support. • Enhance and appropriately manage remaining semi-natural grasslands with fungi assemblages • Avoid use of pesticides, herbicides and fertilisers • Graze sites extensively but ensure short thatch free swards by autumn. • Showcase successful grassland management and encourage awareness of the value of grassland fungi

Taxa	**Common name**	**Conservation Status**	**Comments**
Clavaria zollingeri	Violet Coral	VU (European)	Very Rare and decreasing. Edale Vallley, Alport Dale (NT), Longclough (DWT). Low nutrient grassland.
Cuphophyllus colemannianus	Toasted Waxcap	VU (European)	Decreasing and rare with only two sites in Derbyshire. Longshaw (NT) Harpur Hill. Low nutrient grassland.
Cuphophyllus lacmus	Grey Waxcap	VU (European)	Uncommon and decreasing. Alport Dale (NT). Low nutrient grassland.

Cuphophyllus lepidopus	Scalyfoot Waxcap	VU (European)	Very Rare and declining. Alport Dle (NT). Low nutrient grassland.
Entoloma bloxamii (s.l.)	Big Blue Pinkgill	Annexe	Very rare only two sites known in Derbyshire Longshaw Estate and Crich Chase Meadows. As complex E bloxamii s.l. -Alport Dale (NT), Derwent Village (NT), Dove Dale(NT), Bradwell Dale. Low nutrient grassland.
Entoloma griseocyaneum	Felted Pinkgill	VU (European)	Rare. In Derbyshire only two recent records (Longshaw Estate and Mam Tor Castleton). Declining. Low nutrient grassland.
Entoloma prunuloides	Mealy Pinkgill	VU (European)	Rare. In Derbyshire only three recent records (Longshaw, Alport Valley and Forbes Hole). Declining. Low nutrient grassland.
Gliophorus europerplexus	Butterscotch Waxcap	VU (European)	Very rare and declining. Ashop Valley (NT), Longclough (DWT). Low nutrient grassland.
Gliophorus reginae	Jubilee Waxcap	VU (European)	Very rare and declining. Alport Dale (NT), Ashop Valley, Longclough (DWT). Low nutrient grassland.
Gloioxanthomyces vitellinus	Glistening Waxcap	EN (European)	Very Rare and declining. In Derbyshire only a few recent records (Longshaw, Hurst Clough, Bamford). Edale Valley, Ashop Valley(NT), Ladybower Reservoir. Low nutrient grassland.
Hygrocybe citrinovirens	Citrine Waxcap	VU (European)	Rare / Declining. In Derbyshire known from a handful of sites Longshaw, Alport Valley, Ashop Valley,, Edale Valley, Baslow,

			Chatsworth and Shipley Country Park). Low nutrient grassland.
Hygrocybe ingrata	Dingy Waxcap	VU (European)	Very Rare. In Derbyshire, occurs at Edale, Alport Dale (NT), Derwent Reservoir (NT). Declining. Low nutrient grassland.
Hygrocybe ovina	Blushing Waxcap	VU (European)	Very rare / declining. Ladybower Reservoir (NT), Longclough (DWT), Harpur Hill. Low nutrient grassland.
Hygrocybe punicea	Crimson Waxcap	VU (European)	Uncommon/Local. Declining. Several sites in Peak District. Low nutrient grassland.
Hygrocybe spadicea	Date Waxcap	VU (European)	Very rare. Declining. Ashop Valley (NT), Derwent Reservoiir (NT), Bradwell Dale, Wetton Mill (NT). Low nutrient grassland.
Hygrocybe splendidissima	Splendid Waxcap	VU (European)	Rare. In Derbyshire, only known from Alport Dale (NT), Ashop Valley (NT), Ladybower Reservoir, Longshaw and Crich Chase. Declining. Low nutrient grassland.
Microglossum atropurpureum	Dark Purple Earthtongue	VU (European)	Very Rare. Declining. Alport Dale (NT), Ashop Valley (NT), Longclough DWT. Low nutrient grassland.
Neohygrocybe nitrata	Nitrous Waxcap	VU (European)	Rare. Declining. Alport Dale (NT), Longshaw (NT). Low nutrient grassland.
Porpolomopsis calyptriformis	Pink Waxcap	VU (European)	Uncommon/Local. Declining. Alport Dale (NT) Longshaw (NT) Ladybower Reservoir etc. Low nutrient grassland.

Pseudotricholoma metapodium	Mealy Meadowcap	EN (European)	Very rare. Declining. Alport Dale (NT), Edale Valley. Low nutrient grassland.

3) Threatened grassland flowers and insects

Threatened grassland flora and fauna (34 species)	Bespoke measures: • Identify and map extant locations for all threatened plants and insects • Ensure sympathetic habitat management at these locations • Identify threats • Seek opportunities to expand and increase abundance and range of species along corridors, stepping stone sites and newly created/enhanced sites • Reintroduce plant species where appropriate e.g. Maiden Pink. • Monitor species assemblage

Taxa	**Common name**	**Conservation status**	**Organism description**	**Notes**
Adscita geryon	Cistus Forester	Nationally Scarce	Lepidoptera - moth	White Peak supports nationally significant populations.
Adscita statices	Forester	BAP, S41	Lepidoptera - moth	Significant decline nationally and in Derbyshire. Tends to be on lowland sites that are extensively managed with good grassland diversity and structure.
Chiasmia clathrata	Latticed Heath	BAP, S41, RL - NT	Lepidoptera - moth	Localised in White Peak grasslands, quarries, and brownfield sites in lowland Derbyshire as well as some grasslands.

Coenonympha pamphilus	Small Heath	BAP, RL-VU, S41	Lepidoptera - butterfly	43% decline in distribution since 1976. Loss of suitable grasslands and habitat fragmentation. Stable in last 10 years. Large fluctuations. In abundance from year to year. Parts of Derbyshire are a stronghold for the species.
Erynnis tages	Dingy Skipper	BAP, RL-NT, S41	Lepidoptera - butterfly	Quite widespread in White Peak and more scattered in lowlands usually associated with brownfield sites. Stable in Peak District but still threatened in lowland Derbyshire. Needs active management of brownfield sites if key populations are to persist.
Lampyris noctiluca	Glow-worm	NT in Europe, Local, Iconic	Coleoptera (Beetles)	Decreasing across range. Some work has been undertaken in Derbyshire to expand the range through targeted introductions.
Lasius flavus	Yellow Meadow Ant	Iconic	Hymenoptera (Bees, Wasps and Ants)	Yellow meadow ants can form significant landscape features (‘antscapes’). These features deserve protection. They are susceptible to levelling in the interests of grassland management and to undergrazing. They are best managed by extensive grazing.
Leptarthrus brevirostris	Slender-footed Robberfly, Asilidae (Robberflies)	Iconic	Diptera (flies)	Restricted to White Peak where it is considered to be an iconic species. However, the species is not threatened nationally.
Meloe violaceus	Violet Oil-beetle	BAP, S41, Nationally Scarce	Coleoptera (Beetles)	Very restricted distribution in Dark Peak around Ladybower Reservoir. Associated with acid grassland / dwarf shrub mosaic on the moorland edge.

Perizoma albulata albulata	Grass Rivulet	BAP, S41	Lepidoptera - moth	97% decline nationally
Pyrgus malvae	Grizzled Skipper	BAP, RL-VU, S41	Lepidoptera - butterfly	Considered to be extinct in County, but one unofficial introduced population is thought to occur on the Magnesian Limestone. Another reintroduction at Ticknall Limeyards failed. Protection of suitable sites for this species and possible reintroduction desirable.
Scotopteryx bipunctaria cretata	Chalk Carpet	BAP, S41	Lepidoptera - moth	Limestone grassland in the dales of the White Peak. Derbyshire is the main stronghold for the northern population.
Speyeria aglaja	Dark Green Fritillary	RL - NT	Lepidoptera - butterfly	33% decline in occurrence in GB. Some sites may need to be managed to avoid local declines e.g. Abney Clough, Hopton Quarry.
Aricia agestis	Brown Argus (Peak District race)	Iconic	Lepidoptera - butterfly	A unique race of Brown argus butterfly only found in the Peak District. The foodplant (common rock-rose) differs from the Brown argus found in lowland Derbyshire.
Callophrys rubi	Green Hairstreak	Iconic	Lepidoptera - butterfly	Moorlands and calcareous grasslands and brownfield. Locally abundant in parts of the Peak District. Very rare in lowland Derbyshire. Iconic species for the dales and moorlands.
Timarcha goettingensis	Lesser Bloody-nosed beetle	Iconic	Coleoptera (Beetles)	White Peak supports important regional populations, and the beetle is listed as an iconic species for the Peak District.
Pyrausta cingulata	Siver-barred Sable	Nationally Scarce	Lepidoptera - moth	Occurs at a few locations in White Peak e.g. Hartington Meadows and Longstone Edge. Generally local to chalky / limestone areas.
Anacamptis morio	Green-winged Orchid	CITES-B, DRDL, RL-NT	Higher Plant	Very rare - only one recent location. However, more

				common further south in England.
Antennaria dioica	Mountain Everlasting	DRDL, RL-NT	Higher Plant	Marked decline in lowland regions of Britain. Requires very infertile, free-draining basic to mildly acidic soils. Restricted to a few locations in White Peak such as Cressbrook Dale and north of Brassington.
Carex ericetorum	Rare Spring-sedge	BAP, DRDL, RDB-NS, RL-NT, RL-VU, S41	Higher Plant	Only found at Hollinhill and Markland Grips SSSI on the Southern Magnesian Limestone.
Carex montana	Soft-leaved Sedge	DRDL, RDB-NS	Higher Plant	Only found at Hollinhill and Markland Grips SSSI on the Southern Magnesian Limestone
Cynoglossum officinale	Hound's-tongue	DRDL, RL-NT	Higher Plant	Only one location Calke Park, though formerly more widespread.
Dactylorhiza viridis	Frog Orchid	BAP, DRDL, RL-NT, RL-VU, S41	Higher Plant	Declining at GB level especially in central England / East Anglia. Possibly 'most rapidly declining orchid in GB' (Plant Atlas 2020). Should be sustained in Dales with management but some sites are scrubbing up and further losses possible.
Dianthus deltoides	Maiden Pink	DRDL, RDB-NS, RL-NT	Higher Plant	Rare only in White Peak - recently introduced to several sites. Many colonies suffer from overgrazing and nutrient enrichment, or under grazing and scrub encroachment. Derbyshire colonies contribute significantly to the UK.
Epipactis atrorubens	Dark-red Helleborine	DRDL, RDB-NS	Higher Plant	Declining in Derbyshire, though more stable at a GB level. Occurs in scrubby grassland in several dales.
Genista anglica	Petty Whin	DRDL, RL-NT	Higher Plant	Very rare undershrub recorded recently in 4 or 5 sites in Dark Peak and Mercaston Marsh. Dramatic decline nationally in lowland

				regions of England in particular.
Genista tinctoria	Dyer's Greenweed	DRDL, RL-NT	Higher Plant	Declined considerably in the second half of the 20th century, mainly through the destruction or agricultural improvement of old meadows and pastures. Undergrazing or neglect, and also overgrazing by sheep, have contributed to further losses since 2000, and it is now a rare sight in many counties, and possibly only abundant in unimproved chalk grasslands in southern England. Locally declining in Derbyshire with at least two lowland sites now unlikely to support the species or threatened.
Neotinea ustulata	Burnt Orchid	BAP, CITES-B, DRDL, RDB-NS, RL-EN, RL-NT, S41	Higher Plant	Very rare or localised now at GB level having undergone spectacular national decline. Middleton Moor is possibly the highest GB site and the population there has declined in recent years due to problems with management.
Noccaea caerulescens	Alpine Penny-cress	DRDL, RDB-NS	Higher Plant	Rare with a restricted distribution on lead mine workings. Threatened by decline and loss of lead spoil substrates.
Ophrys insectifera	Fly Orchid	BAP, DRDL, RL-NT, RL-VU, S41	Higher Plant	Extreme decline nationally especially in East Anglia, central England and East Midlands. 17 out of 25 10km squares in East Midlands no longer support this species. Very rare in Derbyshire with possibly only one viable population at Hopton Quarry.
Platanthera chlorantha	Greater Butterfly-orchid	DRDL, RL-NT	Higher Plant	Rare with a scatter of sites across the Peak District and Peak Fringe. Threatened by

				changes in management and agricultural improvement.
Trollius europaeus	Globeflower	DRDL	Higher Plant	A perennial herb of cool, damp habitats, including hay meadows, wet mountain pasture, streamsides and riverbanks, lake margins, and diverse open woodland and rock ledge habitats. It prefers nutrient-poor, basic soils, and is often associated with limestone. In Derbyshire it is at the edge of its range and Locally Declining. More stable further north and west. Iconic species for the limestone dales.
Clinopodium acinos	Basil Thyme	BAP, DRDL, RL-NT, RL-VU, S41	Higher Plant	Very rare. Rock outcrops and arable.
Gymnocarpium robertianum	Limestone Fern	DRDL, RDB-NS	Higher Plant	Occurs in limestone dales on rocky / scree slopes within calcareous grassland.

4) Threatened wetland flora and fauna

Threatened wetland flora and fauna (24 species)	Bespoke actions: • Confirm current distribution and abundance for wetland species • Ensure monitoring is in place for key species • Create new wetlands in strategic locations to benefit these species • Improve/protect water quality and habitat to benefit key species (stonefly, mayfly, cranefly) • Ensure rivers are navigable for migratory fish species

Hydrochus elongatus	a water beetle	GB – RL-NT	Coleoptera (Beetles)	Marshy pond edges - Shipley CP (Parkers Pond) and Mapperley area. Potentially this species might benefit from the creation of new ponds in the Erewash and Trent valleys.
Protonemura montana	a stonefly	Nationally Scarce	Plecoptera (Stoneflies)	Derbyshire appears to be important for this species in England. Records from River Wye.
Rhipidia (Limonia) uniseriata	Tipulidae (Craneflies)	RDB3 (but current status unclear)	Diptera (flies)	Scattered records through central and southern Derbyshire. Associated with rot holes and large rotting logs.
Orimarga virgo	Reddish Narrow-wing Crane (Craneflies)	Data deficient or unassessed. Very rare in Derbyshire.	Diptera (flies)	Dovedale only. Associated with seepages. Water quality.
Calliphora loewi	Long-horned Bluebottle	Nationally Notable, Iconic species	Diptera (flies)	Associated with upland Sphagnum bogs and breeds in carrion. Recorded at Crowden Clough, Fox Clough and Edale Moor.
Siphlonurus armatus	A mayfly	Nationally Rare	Ephemeroptera (Mayflies)	2 records held by DBRC, several for general area on NBN. Nymphs of this species typically live in the pools and margins of rivers and streams, or in standing waters. The large nymphs are good swimmers and typically swim in short, darting bursts. They feed by gathering or collecting fine particulate organic detritus from the sediment. There is probably one generation a year, which overwinters as eggs (Landa, 1968) and emerges between May and August (Elliott and Humpesch, 1989). Emergence of the adults

				typically takes place during daylight hours and males of this species can be found swarming at dawn and dusk.
Dactylolabis sexmaculata	Tipulidae (Craneflies)	Nationally Notable / Scarce	Diptera (flies)	Limestone outcrops and sheltered limestone valleys in Peak District
Dicranomyia (Limonia) ornata	Tipulidae (Craneflies)	Nationally Notable / Scarce	Diptera (flies)	A wide distribution and associated with butterbur in river valleys. The White Peak is noted as one of the best areas for this species.
Solva marginata	Drab Wood-soldierfly	Diptera (flies)	RL - VU, Nationally Scarce	Appears to be LC at a GB level. However, Derbyshire does have a number of records and locations for this species. At least 6 locations on NBN. At least one record on ORCA is unconfirmed but species is probably present. It clearly favours willows and poplars at many sites and can occur in association with scattered riverside trees as well as woodland and thickets, especially those associated with wetlands.
Tipula cheethami	Tipulidae (Craneflies)	Nationally Notable / Scarce	Diptera (flies)	Most usually found on open moorland where sheltered wet moss occurs by streams, as along rocky gullies. Limestone areas in Peak District support notable populations fo this species.
Tipula holoptera	Tipulidae (Craneflies)	Nationally Notable / Scarce	Diptera (flies)	Very local species of boggy ground, plentiful in some districts. A species of wet mossy ground found around Sheffield.
Apium inundatum	Lesser Marshwort	DRDL, RL-NT	Higher Plant	Considerable decline due to loss of shallow water bodies. Locally declining in Derbyshire.
Comarum palustris	Marsh Cinquefoil	DRDL, RL-NT	Higher Plant	Locally Declining. Sites have been lost due to lack of management.

Hottonia palustris	Water-violet	DRDL, RL-NT, RL-VU	Higher Plant	Very rare with just a few locations in Derbyshire. Nationally and locally declining. Low nutrient clear water bodies such as ditches, ponds in lowlands especially floodplains.
Potamogeton compressus	Grass-wrack Pondweed	BAP, DRDL, RDB-NS, RL-EN, RL-NT, S41	Higher Plant	Only known from three localities in Derbyshire after significant decline.
Botaurus stellaris	Bittern	BAP, BDir1, Bern2, RL-NT, RL-VU, S41, UKBA, WBA, WCA1.1	Bird	A scarce autumn and winter visitor that has recently started breeding in the County.
Charadrius dubius	Little Ringed Plover	WCA(I), Bern(III), Bonn(II), AEWA	Bird	LRP reliant on gravel pits and waste ground such as Barrow GP and the (now covered over) Chaddesden Sidings/Pride Park.
Gallinago gallinago	Snipe	BDir2.1, Bonn2, RL-NT, UKBA, WBA	Bird	Wintering and summer breeding species. Likely to benefit from more extensive wetland habitats in winter.
Motacilla flava	Yellow Wagtail	BAP, Bern2, RL-NT, S41, UKBR, WBR	Bird	Breeding visitor to mixed farmland where presence of wetlands likely to be beneficial.
Numenius arquata	Curlew	BAP, BDir2.2, Bonn2, RL-EN, S41, UKBR, WBR	Bird	Mainly confined to the uplands as a breeding bird. Should benefit from less intensive land use and possibly habitat restoration elsewhere.
Poecile palustris	Marsh Tit	BAP, Bern2, RL-VU, S41, UKBR, WBR	Bird	Declining species associated with wet woodlands, parks etc
Lutra lutra	Otter	BAP, Bern2, CHS2, CITES-A, HDir2, HDir4, S41, WCA5	Mammalia	Widespread but population is still quite low. Larger more connected wetlands and floodplains will benefit this species.
Natrix helvetica	Grass Snake	BAP, Bern3, S41, WCA5	Reptile	Widespread, but mostly in the north, east and south of the County. Likely to have

				declined to some extent due to development pressure. Larger wetlands would be beneficial.

5) Farmland Waders

Farmland wader assemblage (curlew, snipe, lapwing, redshank)	Bespoke actions: • Encourage extensive grazing and avoid cutting and grazing during nesting periods • Encourage habitat heterogeneity for moorland edge and grassland and restore ditches and wet features including scrapes within fields • Discourage intensification and drainage

Taxa	**Common name**	**Conservation Status**	**Comments**	
Gallinago gallinago	Snipe	BDir2.1, Bonn2, RL-NT, UKBA, WBA		
Numenius arquata	Curlew	BAP, BDir2.2, Bonn2, RL-EN, S41, UKBR, WBR		
Vanellus vanellus	Lapwing	BAP, BDir2.2, Bonn2, RL-EN, RL-VU, S41, UKBR, WBR		
Tringa totanus	Redshank	BDir2.2, Bonn2, RL-NT, RL-VU, UKBA, WBA		

6) Mixed Farming Flora and Fauna

Mixed farming bird and plant assemblage (26 species)	Bespoke actions: • Supplementary feeding stations over the winter. • Ensure late autumn, winter and early spring seed sources are available • Avoid mowing or crop harvesting during periods where nests will be impacted. • Grow and maintain multi-species cover crops, and cut later in the year, to provide food and cover over the winter. • Avoid / minimise use of insecticides on grassland and crops. • Set aside dedicated patches of unmanaged or uncropped areas with tall grasses, along field boundaries and margins, field corners or less productive areas, particularly where they will connect. • Leave arable margins • Encourage organic and regenerative farming methods. • Install nestboxes for target species • Restore / create native hedgerow / scrub habitat • Create or restore farm ponds

Taxa	**Common name**	**Conservation Status**	**Comments**	
Coenonympha pamphilus	Small Heath	BAP, RL-VU, S41	Lepidoptera - butterfly	
Buglossoides arvensis	Field Gromwell	DRDL, GBNNSIP, RL-EN, RL-NT	Higher Plant	
Chenopodium bonus-henricus	Good King Henry	England Red List	Higher Plant	

Euphorbia exigua	Dwarf Spurge	CITES-B, DRDL, GBNNSIP, RL-NT, RL-VU	Higher Plant	
Galeopsis angustifolia	Red Hemp-nettle	BAP, DRDL, GBNNSIP, RDB-NS, RL-CR, RL-NT, S41	Higher Plant	
Potentilla argentea	Hoary Cinquefoil	DRDL, RL-NT	Higher Plant	
Spergula arvensis	Corn Spurrey	DRDL	Higher Plant	
Stachys arvensis	Field Woundwort	DRDL, GBNNSIP, RL-NT	Higher Plant	
Viola tricolor subsp. tricolor	Wild Pansy	DRDL, RL-NT	Higher Plant	
Alauda arvensis	Skylark	BAP, BDir2.2, S41, UKBR, WBA	Bird	
Chloris chloris	Greenfinch	Bern2, GB RL-EN (Breeding)	Bird	
Coturnix coturnix	Quail	BDir2.2, UKBA, WBA, WCA1.1	Bird	
Emberiza calandra	Corn Bunting	BAP, RL-NT, S41, UKBR, WBR	Bird	
Emberiza citrinella	Yellowhammer	BAP, Bern2, S41, UKBR, WBR	Bird	

Linaria cannabina	Linnet	BAP, Bern2, RL-NT, S41, UKBR, WBR	Bird	
Linaria flavirostris	Twite	BAP, Bern2, S41, UKBR, WBR	Bird	
Motacilla flava	Yellow Wagtail	BAP, Bern2, RL-NT, S41, UKBR, WBR	Bird	
Muscicapa striata	Spotted Flycatcher	BAP, Bern2, Bonn2, S41, UKBR, WBR	Bird	
Numenius arquata	Curlew	BAP, BDir2.2, Bonn2, RL-EN, S41, UKBR, WBR	Bird	
Passer domesticus	House Sparrow	BAP, S41, UKBR, WBA	Bird	
Passer montanus	Tree Sparrow	BAP, RL-VU, S41, UKBR, WBR	Bird	
Perdix perdix	Grey Partridge	BAP, BDir2.1, GBNNSIP, RL-VU, S41, UKBR, WBR	Bird	
Streptopelia turtur	Turtle Dove	BAP, BDir2.2, CITES-A, RL-CR, S41, UKBR, WBR	Bird	
Vanellus vanellus	Lapwing	BAP, BDir2.2, Bonn2, RL-EN, RL-VU, S41, UKBR, WBR	Bird	
Sturnus vulgaris	Starling	BAP, BDir2.2, RL-VU, S41, UKBR, WBR	Bird	
Lepus europaeus	Hare	BAP, S41	Mammalia	

7) Landscape mosaic habitat assemblage

The creation, enhancement and maintenance of large areas of scrub, grassland and wetland habitats will benefit a wide range of species and potentially provide habitat that is missing from the County. Species currently rare or absent from the County could benefit, for example, turtle dove and nightingale.

Landscape mosaic assemblage (22 species)	Bespoke measures: • Create and encourage the development of large areas of scrub, open grassland and wetlands and manage through naturalistic grazing and natural processes to benefit existing species and encourage colonisation from outside the County. • Maintain and enhance existing areas of mosaic habitats through a combination of grazing and natural processes.

Taxa	Common name	Conservation status	Organism description	Comments
Ancistronycha abdominalis	Blue soldier beetle	Nationally Scarce	Invertebrate (beetle)	Restricted distribution in Peak District. Only 3 records on NBN in last 30 years, though SORBY may have more. One record from Abney Clough in May 2004 by Bob Merritt. 2 records from inaturalist and transferred to NBN. Validation of the records is unconfirmed for one at least. A species of open upland woods.
Rheumaptera hastata	Argent & Sable	BAP, S41, Nationally Scarce (Notable B)	Lepidoptera (moth)	Very local in Derbyshire. Coppiced deciduous woodland, boggy moorland with birch and sometimes willow. Requires regeneration of birch either through

				coppicing or self set saplings.
Carabus monilis	Necklace Ground Beetle	BAP, RDB-NS, RL-EN, S41	Coleoptera (Beetles)	Occurs in a variety of habitats. Declined due to habitat loss and fragmentation. Distribution in Derbyshire appears to be the Derwent Valley from Derby area north and the White Peak e.g. Youlgreave, Middleton Moor and Wirksworth.
Cryptocephalus bipunctatus	a leaf beetle	Nationally Scarce	Coleoptera (Beetles)	Localised distribution in Great Britain with some losses nationally. The species has a very restricted occurrence at a handful of Derbyshire sites - recent records from Hopton Quarry (3), Hay Dale (1) and Monk's Dale (1). Associated with hazel scrub or coppice. Likely to benefit from scrubby margins to woodland with regenerating hazel at various stages of growth.
Anthus trivialis	Tree Pipit	BAP, Bern2, S41, UKBR, WBA	Bird	
Asio flammeus	Short-eared Owl	BDir1, Bern2, CITES-A, RL-EN, UKBA, WBR	Bird	
Caprimulgus europaeus	Nightjar	BAP, BDir1, Bern2, S41, UKBA, WBA	Bird	

Gallinago gallinago	Snipe	BDir2.1, Bonn2, RL-NT, UKBA, WBA	Bird	
Grus grus	Crane	BDir1, Bern2, Bonn2, CITES-A, RL-VU, UKBA, WCA9	Bird	Creation of landscape mosaics in some areas of the County could provide the conditions required by cranes.
Motacilla flava	Yellow Wagtail	BAP, Bern2, RL-NT, S41, UKBR, WBR	Bird	
Muscicapa striata	Spotted Flycatcher	BAP, Bern2, Bonn2, S41, UKBR, WBR	Bird	
Numenius arquata	Curlew	BAP, BDir2.2, Bonn2, RL-EN, S41, UKBR, WBR	Bird	
Perdix perdix	Grey Partridge	BAP, BDir2.1, GBNNSIP, RL-VU, S41, UKBR, WBR	Bird	
Poecile palustris	Marsh Tit	BAP, Bern2, RL-VU, S41, UKBR, WBR	Bird	
Scolopax rusticola	Woodcock	BDir2.1, Bonn2, RL-VU, UKBR, WBA	Bird	
Streptopelia turtur	Turtle Dove	BAP, BDir2.2, CITES-A, RL-CR, S41, UKBR, WBR	Bird	
Tyto alba	Barn Owl		Bird	

Vanellus vanellus	Lapwing	BAP, BDir2.2, Bonn2, RL-EN, RL-VU, S41, UKBR, WBR	Bird	
Sturnus vulgaris	Starling	BAP, BDir2.2, RL-VU, S41, UKBR, WBR	Bird	
Luscinia megarhynchos	Nightingale	Bern2, RL-VU, UKBR	Bird	Though absent from the County the creation of large areas of habitat mosaic could benefit this species in the future.
Lepus europeaus	Brown Hare	BAP, S41	Mammal	This species has been adversely affected by intensive agriculture and urbanisation and although a full understanding of its current status in Derbyshire is unclear it would benefit from the creation of landscape mosaics.
Natrix helvetica	Grass Snake	BAP, Bern3, S41, WCA5	Reptile	Though widely distributed in Derbyshire this species is impacted by habitat loss and fragmentation particularly in the east and north-east of the County.