LAND ADJACENT TO BATTLE AND LANGTON COE SCHOOL, KNOWN AS THE 'AMENITY FIELD'

Addressing

Ecological & Biodiversity Assessment



The main part of the Amenity Field

By Dr John Feltwell FRSB, FLS, FLLA, Dip EC Law, Wildlife Matters, Battle, TN33 9BN



Jane de Garston
Assistant to Town Clerk
Battle Town Council (BTC)
01424 772210

1.0 EXECUTIVE SUMMARY

- The site is biodiverse around the edges, not within the central body of the site.
- Over 40 species of flowering plants and ferns were recorded.
- One invasive species was recorded: snowberry
- Nine species of tree were recorded around the edges of the site.
- No evidence of protected badgers breeding was seen on site.
- No evidence of any protected newts breeding on site was seen on site (lack of ponds).
- No evidence of protected bats roosting on site was recorded.
- No evidence of protected brown hares on site was recorded.
- No evidence of protected otter, water vole or native crayfish was recorded along the eastern ditch.
- Two birds 'Red-listed' by RSPB for their declining populations: were found: Herring Gull and Starling.
- Both these species are Biodiversity Action Plan (BAP) species.
- One bird species is 'Amber-listed' by the RSPB, meaning that their national populations are declining significantly: Common gull.
- Overall it was considered that the site was of medium conservation value.
- Enhancements are proposed.
- Management is recommended.

2.0 Instructions and proposal

2.1 Wildlife Matters was instructed on 12 October 2023 to carry out a survey of the Amenity Field.

Proposal

- 2.2 The proposal is to make a record in time of Battle Town Council's land with regard to its habitat assets and biodiversity value.
- 2.3 There is no proposal for any building or development on site.

3.0 Site Visits

3.1 The site visit was made on 23 October 2023 when the weather was 15°C, 8/8 oktas of cloud cover with no wind i.e. within limits to investigate habitats, flora and fauna. A second visit was made on 27 October 2023.

4.0 Location and description of the site

- 4.1 The site is in located in the parish of civil parish of Battle at Ordnance Survey location TQ 74321576, Post Code TN33 0HQ.
- 4.2 The site is within the High Weald Area of Outstanding Natural Beauty (HWAONB).
- 4.3 The site shares two curtilages with the Battle and Langton Church of England Primary School, in the north and western sectors separated from it by a high wire fence.
- 4.4 The east curtilage of the site follows a stream that flows southwards.
- 4.5 The whole site slopes to the south, with the entrances in the north east being the highest points adjacent to one of the car parks off Abbey Way.
- 4.6 The site is predominantly a grassy site, managed as an amenity.
- 4.7 The wide entrance from the north-east is a grassy path which opens out into a large open area of grass. The open area is regularly mown as evidenced by piles of cuttings around the edges. The site is reasonably well sheltered with mature woodland around the edges of the open area, and vegetation along the curtilage with the school.

4.8 The biodiversity is clearly around the edges of the site, not in the open area which has been managed to create uniform multi-purpose amenity green grass.

4.9 The site is thus used by dog-walkers, walkers, and those on off-road electric bicycles (two seen).

5.0 Legal and permitted rights of access

- 5.1. The site is open access as befits a site called an Amenity Field.
- 5.2 There are regular pedestrian accesses in four major areas, north-west, north-east (2) and south-east.
- 5.3 There is a vehicular access in the north-east.
- 5.4 It is worth pointing out that the site is listed (BA GS09) as one of the 24 Local Green Spaces (LGS) in Battle, as per: ¹ The adjacent Manser's Shaw (BA GS10) to the west is also proposed.

	9:777 F:77 T:7777777777777777777777777777	
BA GS09	Battle & Langton CP School, playing field	South and east of school compound
BA GS10	Mansers Shaw (full extent south-west to be confirmed)	Between Recreation Ground & 1066 Country Walk

5.5 The access to the site by the school is a bit of a mess, with a vandalised sign (not pointing downhill into the site, but eastwards down footpath BAT.82/1.



5.6 The access to the site further east is at an intersection of four public footpaths, BAT/82/1 from the west, BAT/83/1 from the north east, BAT/84/1to the south east and BAT/87/1 which is the one that is goes through the Amenity Field.

_

¹ Battle Neighbourhood Plan https://battleneighbourhoodplan.co.uk/wp-content/uploads/2018/07/battle-np-green-spaces-analysis-v5-20180615.pdf (accessed 26 Oct 2023)



This sign at the east end of the site does not direct walkers through the site towards the 1066 Country Walk.

6.0 Methodology

6.1 The following lists the various methodologies employed to check for flora and fauna on site.

Flora

6.2 Angiosperms were surveyed by sector over the site. Their specific names are according to Dony et al., 1986 with verification to species level with Rose, 1981. Abundance was scored according to the DAFOR scale, where D =dominant, A= Abundant, F = Frequent, O = Occasional and R = rare. Grasses and Ferns were verified in, and are according to Fitter & Fitter, 1984. Grasses were also verified in Hubbard, 1976, Thomas & Davies, 1965.

Fauna

- 6.3 Birds were assessed visually and with binoculars. Characteristic signs of birds were checked for, such as song thrush anvils, predatory remains, owl pellets (both inside buildings and outside). Characteristic bird song was listened for. Nests and feathers were also sought. Bird names are according to Fitter et al.,1972.
- 6.4 Reptile methodology was to check for suitable habitats on site. This involved looking for good basking spots on logs, on ant hills, on wooden palings, in fact anywhere that warms up fast in the sun and provides suitable sites for Common Lizards (*Zootoca vivipara*). Checks were made for long grass, grass tussocks, compost heaps and adjacent light woodland in which slow worms (*Anguis fragilis*) could be found. So far as the grass snakes (*Natrix natrix*) and adders (*Vipera berus*) were concerned suitable hot grassy sites were sought. All reptile species are protected by UK and EU law (Technical Appendix WM01).
- 6.5 Amphibian methodology for newts, frogs, toads was to look out for their aquatic breeding places (ponds, water-filled ditches with no water movement including all ephemeral water bodies, lakes) as well as their terrestrial habitats such as light woodland and hedges.

6.6 Bats were checked for by looking for likely places for roosting and entry points. Their characteristic droppings were sought on the ground where they might be roosting or feeding, such as in large trees or buildings if present. All bats in the UK are protected (Technical Appendix WM02).

- 6.7 Badgers were checked for by looking for 1) typical spoil heaps (old ones grassed-over) or new ones recently excavated, 2) large holes (as opposed to the smaller ones created by rabbits), 3) the characteristic smell of badgers emanating from within if badgers present, 4) the typical, well-worn runs (uni-directional) through vegetation or over ground, 5) their claw marks on mud, excavated rocks or on tree bark, 6) their black and white hairs caught on wire and / or bramble thorns, 7) their typical latrine areas, whilst being wary of the less uniform tracks of foxes, their untidy setts, their abandonment of old food items, and rusty-coloured hairs on wire and brambles. Further information on badgers is at Technical Appendix WM03).
- 6.8 Hazel Dormouse methodology was checked according to criteria in *The Dormouse Conservation Handbook* (Technical Appendix WM04).
- 6.9 Water Vole methodology was to survey for any of the following six characteristics: Burrows (4-8cm wide burrows), 'Lawns' (of well-grazed vegetation around burrow entrances), Droppings (8-12mm long by 4-5mm wide), Characteristic footprints in mud, Feeding stations by the water's edge (looking for neat piles of nibbled vegetation) and Latrines (in regular spots on boundaries and close to burrows).
- 6.10 Mammal names are according to Van Den Brink, 1967.
- 6.11 Species found on site were checked against those listed in the Red Data Books (Batten et al., 1990, Bratton, 199, Collar & Andrew, 1988, Lucas et al 1978, Perring & Farrell, 1983, Shirt, 1987, Wells et al. 1983, World Conservation Monitoring Centre, 1990).
- 6.12 Invertebrates were identified from various sources including Feltwell, 1984.
- 6.13 Freshwater crayfish, *Austropotamobius pallipes*, which is the UK's only native crayfish which is UK protected, were checked by looking for the individuals in moving freshwater (if present) and for discarded pieces of carapaces, legs and claws discarded by avian predators.
- 6.14 Bumblebees were identified from Feltwell, 2006.

7.0 RESULTS AND DISCUSSION

7.1 The following main UK and EU protected species have been evaluated as being potential ecological constraints:

Table WM01 UK and EU protected species:

Table Willer Off and Le prote		
Species	UK protected	EU protected
Badger	yes	
Bats (all species)	yes	EU protected
Brown Hare	yes	
Common Toad	yes	
European Hedgehog	yes	
Hazel Dormouse	yes	EU protected
Nesting birds (general)	yes	
Slow Worm	yes	
Viviparous Lizard	yes	
Grass snake	yes	
Great-crested Newt (GCN)	yes	EU protected
Palmate and Common newt	yes	
Native Freshwater Crayfish	yes	
Otter	yes	EU protected
Water vole	yes	

NB. Six species (highlighted in light blue) are dependent upon aquatic habitats

Table WM02 Habitat Classification according to JNCC (1990):

Habitat Description	Classification under JNCC				
Hedgerow – intact, with	J2.3.1				
trees, species rich					
Hedgerow – intact, with	J2.3.2				
trees, species poor					
Improved grassland	B4				
Scrub	A2				
Running Water	G2				

8.0 Results: Wildlife

8.1 Over 70 taxa of wildlife were found on site (Technical Appendix WM06).

Wildflowers and Trees

8.2 Over 40 species of flowering plants were recorded on site. None of these species were protected by law in the UK. Just one species was found that was in invasive species (snowberry).

- 8.3 The list of flowering plants (see Technical Appendix WM06) included nine species of tree. The trees were all around the edge of the site, none in the main body of the site which was grassland. The range of tree species was good to excellent and reflected the native tree species that are typical of the area, and in ancient woodlands, with hornbeam and field maple particularly common.
- 8.4 There was NO evidence of the introduced and invasive
 - Japanese Knotweed Reynoutria japonica recorded.
 - Giant Hogweed Heracleum mantegazzianum recorded.
 - Buddleia Buddleia davidii.
- 8.5 Ferns were abundant along the ditch (watercourse) that runs to the left (east) of the main access off the car park to the north. This area which is not visible behind the length of brambles is particularly biodiversity because of the high humidity, and is an area or particularly interesting biodiversity.

9.0 Fauna

Mammals

Mammals: Badger Meles meles

9.1 A thorough check of the boundaries for the signs of badgers, viz. badger holes, excavated materials (of greater or lesser extent), trails, hairs on barbed wire, latrines, foraging areas, pieces of hair following tussles proved negative.

Mammals: Bats

- 9.2 No evidence of bats was recorded on site.
- 9.3 The main part of the site does not have any buildings or trees that would support a bat roost.
- 9.4 The marginal areas are wooded with mature trees, and one would expect that areas adjacent to Saxon Wood would support bats.
- 9.5 The large open field would produce insects during the spring and summer for bats to forage over, but they would roost elsewhere.
- 9.6 Also, the wooded curtilages of the site would provide commuting and foraging routes along the woodland edges that would be useful in supporting bats.

Mammals: Hedgehog Erinaceus europaeus BAP

9.7 There was no evidence in the form of characteristic droppings to suggest the presence of hedgehog.

Mammals: Otter Lutra lutra BAP

9.8 Although there is the presence of a small amount of water trickling down the east curtilage of the site, the amount of water was small and the surrounding habitat not dense enough for it to be optimal to support otter. Thus no evidence of otter was recorded on site.

Mammals: Brown Hare Lepus europaeus BAP

9.9 The main open space of the site, though open, was not enough open or connected to other open fields to support brown hare. The main area of grass is about 17,140sqm. The range of the Brown Hare is 20-190ha (and can be double at night), and they can commute up to 1.7km, so a brown hare would not be dependent upon this relatively small site, having their three litters a year between February and September.

Mammals: Hazel Dormouse Muscardinus avellanarius

9.10 No evidence of Hazel Dormouse was recorded, since the major elements of its habitat were absent in the main body of the site, i.e. no light woodland, and an abundance of hazel, *Corylus avellana*. According to the checklist of criteria in *Conservation Handbook*, the site lacked the necessary habitat structure, viz: a lack of 'linked canopies' (there are no woodlands in the middle of the site), no 'newly-cut coppice woodlands', no 'coppice stools and brushwood' and no 'woodlands as small as 2ha. Furthermore, field surveys did not reveal any winter or summer nests. There were no discarded hazel nuts to check for characteristic dormouse teeth marks.

Mammals: Water Vole Arvicola terrestris

- 9.11 No evidence of Water vole was recorded on site. Although there is a trickle of water down the east curtilage, there was no indication of their presence.
- 9.12 The water vole prefers watercourses with suitable banks and marginal land on which to graze. None of this is provided by the proposed development site, or its immediate adjacent land, so it was no surprise to find an absence of evidence of these protected mammals along the ditch.

Herptiles (Reptiles and Amphibians)

Reptiles

9.13 The main body of the site did not have suitable habitat for reptiles (grass snakes, slow worms, common lizards, adders) and no evidence of reptiles was seen.

- 9.14The large patch of open grassland is currently managed as a uniform block of grass. There is no cover or potential resting place for reptiles if there were present, no bushes, stone piles or scrub for them to live away from predators.
- 9.15 The curtilages however have more optimal habitats for reptiles, for there are many deposits of grass cuttings around the edges in amongst the brambles. These are likely to be warmer areas for reptiles to colonise (they are cold-blooded, and so they need places to warm up to become active). So the presence of reptiles is likely around the edges of the site and in the adjacent wood-edge habitats.

Amphibians

9.16 There are no suitable water bodies on site in which amphibians might breed, i.e. there are no permanent ponds, ephemeral ponds, ditches or backwaters with non-moving water that might support amphibians. Amphibians do not breed in moving water, such as the ditch on the east.

Birds

- 9.17 Fourteen species of bird were recorded on site (Technical Appendix WM06).
- 9.18 Two species are 'Red-listed' by RSPB for their declining populations: Herring Gull and Starling.
- 9.19 Both these species are Biodiversity Action Plan (BAP) species.
- 9.20 One species is 'Amber-listed' by the RSPB, meaning that their national populations are declining significantly: Common gull.
- 9.21 Eleven species are 'Green-listed' by the RSPB, where their national populations are presently not under threat.
- 9.22 One predator was assumed present, the sparrowhawk, as its kill remains of a pigeon indicated that it frequents the site.
- 9.23 There were no 'Schedule 1 Birds' present. These might have included Fieldfare, *Turdus pilaris*, Redwing, *Turdus iliacus* (both winter migrant species) and Barn Owl, *Tyto alba*.

9.24 No species of 'no status' were recorded such as the Parakeet or Pheasant both introduced species which are now considered as pests.

<u>Invertebrates</u>

9.25 A small number of invertebrates was recorded on site, none protected.

9.26 The presence of the stream on the east curtilage necessitated a survey for the presence of the native crayfish (UK protected) but no evidence of its presence was found. The water flow and quantity was not optimal to support its presence.

9.27 As the site is an improved grassland it is not likely to support any rare or notable invertebrates. October is not the best time to survey for invertebrates but the site is a species-poor habitat. If surveys were conducted in spring through to summer and autumn a good selection of invertebrates would be evident. However, as the open habitat is not optimal for invertebrates there is little chance that rare or protected invertebrates would be found. Only common and widespread species would be present, such a small and large white butterflies, *Pieris rapae* and *P. brassicae* respectively, and a few true-flies and hoverflies, and a few dragonflies and damselflies. Most of these would be overflying the site on local movements and would not be dependent upon any particular habitats or plant species on site.

10.0 Appropriately Managed?

- 10.1 Battle Town Council asked whether the site was being managed appropriately.
- 10.2 The answer is yes, for now.
- 10.3 It is worth pointing out the ownership of the land, as it is reflected in who is ultimately responsible for management and funding.

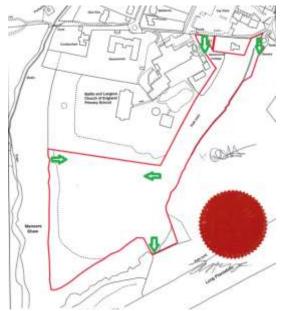
10.4 As I understand it:

- East Sussex County Council own the land
- The Battle Town Council has a Tenancy of Land until 25 December 2025
- The dead elms on site (by school entrance) were felled in 2021 by Rother District Council (RDC).
- Manser's Shaw (adjacent but connected to site) is owned by BTC (as part of George' Meadow to east of site, off-site.

11.0 Recommendations

11.1 Natural Assets to be protected: the green open space, the marginal tree lines, and the ditch habitat following the drain down the east entrance which is particularly unusual and biodiverse.

- 11.2 These recommendations are made on the basis that Rother District Council committed to the Climate Emergency in 2019, whereby 'well-being' was part of that commitment. Well-being is promoted via walking. Access to the countryside by the public is important, and indeed more important when this site is particularly biodiverse.
- 11.3 This consultant has to declare an interest with regard to footpaths since he is Chair of Battle Ramblers, but it does not take away any issue of biodiversity, or enjoyment thereof, or open access to the general public via any public access to the site from any direction.
- 11.4 It would appear that access to the site and beyond to the 1066 County Walk would be improved with more signage.
- 11.5 It is surprising that no visitors are directed to the 1066 Country Walk from the car park to the north where some may be expected to park.
- 11.6 Thus, five oak fingerposts are recommended to be erected in the following locations.
 - 1 & 2 Fingerposts at both entrances to the Amenity Field. Both showing 1066 Country Walk.
 - 3. Fingerpost at the bottom of the field which points through Long Plantation to BAT/86/2
 - 4. Fingerpost directing to Manser's Shaw to the west.
 - 5. Fingerpost directing from Manser's Shaw to the east



Five locations for fingerposts

- 11.7 The current management seems to be mowing the access route down from the car park and mowing the whole of the large green space.
- 11.8 This mowing regime seems to be effective to maintaining a green space for the use of the general public as a multi-use recreational amenity area for the following: (as evidenced)

Walkers – use the site, and connect to other adjacent routes
Joggers – use the well-used grass circuit
Ramblers – pass through using the footpaths to connect elsewhere
Dog-walkers – use the access routes and main field
Bikers (electric bikes) - come and go over site
Just a space to sit down and relax in - as seen.

- 11.9 The management does not need to be changed if the object of the Council is not to change the status quo.
- 11.10 The large open green space is a public asset that could be used for gatherings (rented out) for local groups etc. and thus it could be managed as such. It looks like an 'event' site, and is ideally placed with a car park for visitors to the north.
- 11.11 Historic management regarding drainage is evidenced on site with underground drainage from the school grounds (corner of their site) to the ditch where a brick outfall brings water from the school grounds.

On-going management

Brambles

It is clear that encroachment by brambles on all sides of the large open space, and down the main entrance occurs. In a way, the bramble thickets are good defining the curtilages and preventing access to adjacent habitats. The open space is large enough for the brambles not to be an ecological issue diminishing biodiversity of the whole site at present, and they do have some biodiversity benefit.

Action: The brambles adjacent to the school wire fence should be strimmed off (not the other side of the entrance strip).

Action: The issue of brambles needs to be reviewed every five years.

Dead Ash trees

However the dead ash trees that surround the site (at least 20 semi-mature ash) on all curtilages is an issue that needs to be addressed.

Action: As a precautionary measure it would be prudent to have a tree surgeon assess the curtilage trees. One local person is Tim Laddiman Associates, with a view of taking recommended appropriate action.

The maintenance work involving the dead ash trees will not affect the biodiversity value of the edges of the site.

Action: Numerous log piles can be set into the margins of the site to benefit invertebrates, reptiles and amphibians.

Some of the dead ash are within the school curtilage and limbs overhang the access route to the site by 10m. There is a risk that dead limbs from the trees could fall on visitors.

Action: The school needs to be advised of their risk.

Table WM03 Recommendations and 5-year rolling plan.

	TABLE OF RECOMMENDATIONS FOR BAP SPECIES PRESENT, AND BAPS TO BE ENCOURAGED, AS WELL AS ENHANCING OVERALL BIODIVERSITY Management for 5-year rolling plan
	BAP species recorded on site
1	BAP species present on site – HERRING GULL - although this species was recorded over the site, it is not entirely dependent on the site for breeding (for instance). As the species is associated with people (eating left over food) its association with Battle (chip shop particularly) will continue, with nothing that management can do on site.
2	BAP species present on site – STARLING - this protected was also found on site. The species was eating sloes from the hedgerows on site, and it will continue to do so. Any and all new plantings around the site must include berried-fruits such as sloe and hawthorn. SEE BELOW Table 4 The six berried-trees and shrubs for this site are in BOLD.
	BAP species NOT recorded on site, but should be encouraged :
	TOAD BAP - log piles
	STAG BEETLE BAP - see Technical Appendix WM07 for details
	HEDGEHOG BAP - see Technical Appendix WM07 for details
	··
	Other species to encourage biodiversity
	Birds – bird boxes - see Technical Appendix WM07 for details
	Bats – bat boxes see Technical Appendix WM07 for details
Year	Management for 5-year rolling plan
2024	Continue with annual mowing Advise School of overhanging trees, particularly dead ash trees
2025	Continue with annual mowing
2026	Continue with annual mowing
2027	Continue with annual mowing
2028	Continue with annual mowing Re-assess growth of brambles on site

The benefits of enhancements proposed will feed into the B-Lines initiative and the National Pollinator Strategy, as described in Technical Appendix WM07.

Table WM04 British native trees and shrubs

Table Willow British halive trees and shirabs						
British Native Trees	Scientific names					
Alder	Alnus glutinosa					
Apple, Crab	Malus sylvestris					
Aspen	Populus tremula					

Cherry, Wild	Prunus avium
Elm, Wych	Ulmus glabra
Hazel	Corylus avellana
Hawthorn	Crataegus monogyna
Holly	llex aquifolium
Maple, Field	Acer campestre
Oak, Common	Quercus robur
Poplar, Black	Populus nigra
Sloe or Blackthorn	Prunus spinosa
British Native Shrubs	Scientific names
British Native Shrubs Buckthorn	Rhamnus catharticus
Buckthorn	Rhamnus catharticus
Buckthorn Buckthorn, Sea	Rhamnus catharticus Hippophae rhamnoides
Buckthorn Buckthorn, Sea Dog Rose	Rhamnus catharticus Hippophae rhamnoides Rosa canina

Plants should be

- sourced only from a local nursery, and
- should originate from local provenance (i.e. no imported plant material).
- Five plants (whips) of each of the species listed to be planted.
- Planting should take place between late autumn and February.
- Irrigation and rabbit guards should be fitted.

Technical Appendix WM01 Reptiles and the law

Common Lizards - Grass snake - Adders - Slow worms







These reptiles are all now Biodiversity Action Plan (BAP) species

The I aw

Common lizards, grass snakes, adders and slow worms are protected under the Wildlife and Countryside Act 1981 (as amended) as Schedule 5 species, 'in respect of section 9 (5) only', where it is unlawful to sell 'any live or dead animal, or any part of, or anything derived from, such an animal.' or 'publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things' shall be guilty of an offence. They are also protected under part of Schedule 5 Section 9(1) against 'intentionally' killing or injuring any wild animal on the list2; These animals are also protected via the Countryside and Rights of Way Act 2000 (CRoW, 2000) against any 'reckless' behaviour that might endanger the life of these reptiles.

"Q: Do I need a licence to survey for common lizards, adders, grass snakes and slow worms?

A licence is not required to disturb, handle or move them" .. though it is strongly recommended that you seek advice from Natural England's Regional Team if you propose to translocated (move) them. 3 "For adder, grass snake, slow-worm and common lizard you do not need a licence to capture or disturb them or to damage their habitats."

Survey work - only if present.

Although reptiles 'should not normally removed from a development site before a planning application is made' the developer should ensure that every reasonable effort to safeguard these animals is put in place. A site survey should be carried out to establish to size and status of the population and to put it into a local and regional context. Natural England 'expects high standards to be maintained in all mitigation.'

Mitigation

Mitigation methods are determined by the results of the survey work and how large the population is. It will also have as its aim to enhance the habitat for reptiles, whilst moving the animals temporarily out of the way to a safe area whilst ensuring that the impacts of the development will be minimal. It is prudent to prepare a Method Statement (that can also be part of a planning application) so that the above matters are explained. A suitably-sized area for reptiles to be re-located to, on site, will have to be identified, such as a Public Open Space (POS). It should also have suitable feeding areas for reptiles, and suitable underground hibernation sites (hibernacula). It should not also be full of reptiles such that any new reptiles introduced would exceed the 'carrying capacity' of the release area and be out-competed for food. If reptiles are not present in the proposed receptor area the reason should be sought, and the habitat made suitable if not.

Work to be carried out:

- 1. Erect plastic fence (dug into the ground) around area to hold the reptiles (the Receptor site) .
- 2. Erect plastic fence around area to be cleared of reptiles (the Donor site). A large field can be divided into separate areas; when one area is declared free of reptile construction can start. Where reptiles are around the periphery of a site (often the case, next to compost heaps of houses), the central area can be destructively searched (allow one month).
- 3. Put out a variety of devices to 'catch' reptile (tin trays, carpets etc). Allow 3 months to clear each area. Five negative results from all traps on suitable days declares the area free.

Allow 4 months for all work to be completed, from March (the earliest for starting when the reptiles come out of hibernation). NB. October cannot always be relied upon to find reptiles, as the onset of cold weather puts the animals into hibernation. Similarly March can be cold.

J	F	M	Α	M	J	J	Α	S	0	N	D
Scrub	Scrub	mitigation	mitigation	mitigation	mitigation	mitigation	mitigation	mitigation	mitigation	Scrub	Scrub
clearance	clearance									clearance	clearance
Reptiles in hibernation	Reptiles in hibernation	Too cold??			Last period to start					Reptiles in hibernation	Reptiles in hibernation
No surveys	No surveys	Surveying	Surveying	Surveying	Surveying	, 3	Surveying ? too hot	Surveying	Surveying		

² Gent, T. & Gibson, S. 1998. Herpetofauna Workers Manual, 1998. JNCC.

Natural England, Species Licensing, on-line, accessed 4 Sept 2007

English Nature, Reptiles: quidelines for developers. English Nature 2004 – downloaded from their website accessed 24.8.07).

Technical Appendix WM02Bat legislation in UK and EU





UK and EU law protects all 17 species of bats in England and Wales. Applicable legislation includes the:

- 1. Wildlife and Countryside Act 1981 (as amended)
- 2. The Countryside and Rights of Way Act 2000 (Crow)
- 3. The Conservation (Natural Habitats, &.) Regulations 1994 (known as the Habitats Directive)
 The Habitats Directives implements the EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora.

All bats are European Protected Species (EPS) to which both EU and UK law is applicable.

Under these regulations it is an offence

- to intentionally kill, injure or take a bat.
- to intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection. This includes a bat roost, whether it is currently occupied or not.
- to intentionally or recklessly to disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- to offer or expose for sale, or possess or transport for the purposes of sale, any live or dead bat, any part of a bat, or anything derived from a bat. It is also an offence to publish or offer for sale or buy bats or anything derived from bats.

In summary all bats and where they live (= roost) (even if bats are not physically there) are protected. i.e. a house with bat droppings, or evidence of bats, but no bats actually present, is protected. It would be unlawful to demolish a house with such a bat roost. It would then be necessary to get a professional opinion as to whether the droppings were historic or recent.

Surveying for bats without a LicenceThe *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (Bat Conservation Trust, 3rd Edition 2016) refers to the good practice guidelines in BS42020, and the Bat Workers Manual (2004) as a continuing source of guidance. The Manual states in Para 1.4 that much work can be carried out by without a licence; a licence is only required if deliberate disturbance of bats is likely, i.e. if bats are known to be present before surveying. It is permitted for an ecologist without a bat licence to check a building or tree providing bats are not present, and to carry out emergence of activity surveys as they do not cause disturbance to bats (Licencing para 1.2.2), unless LPAs have their own specific requirements.

The Good Practice Guidelines assess buildings and trees as either 'negligible, low, medium or high' potential to support bats – see below. It states under 4.3.4 that 'If no suitable habitat for bats is found, then further surveys are not likely to be necessary' provided that an adequate assessment has been made, and the rationale of the decision made has been recorded by the 'suitably qualified ecologist'.

Potential	Features as per Good Guidelines	
Negligible	Negligible habitat features on site likely to be used by roosting bats.	
Low	A structure with one or more potential roost sites that could be used	
	by individual bats opportunistically. However, these potential roost	
	sites do not provide enough space, shelter, protection, appropriate	
	conditions and/or suitable surrounding habitat to be used on a regular	
	basis or by larger numbers of bats (i.e. unlikely to be suitable for	
	maternity or hibernation).	
Moderate	A structure with one or more potential roost sites that could be used	
	by bats due to their size, shelter, protection, conditions and	
	surrounding habitat but unlikely to support a roost of high	
	conservation status	
High	A structure or tree with one or more potential roost sites that are	
	obviously suitable for use by larger numbers of bats on a more regular	
	basis and potentially for longer periods of time due to their size,	
	shelter, protection, conditions and surrounding habitat.	

The Bat Conservation Trust (BCT) confirms in 2018 that 'some bat work can be carried out without holding a licence of any kind. Both volunteers and professionals can plan surveys and carry out bat detector activity surveys and emergence counts without requiring a licence. A licence is only needed if there is a possibility of disturbing bats (e.g. by entering a roost).

Bibliography

Bat Surveys for Professional Ecologists, Good Practice Guidelines (Bat Conservation Trust, 3rd Edition 2016) Bat Mitigation Guidelines, Mitchell-Jones. 2006.

Bat Workers' Manual. 2004. 3rd edition. Mitchell-Jones & McLeish. Joint Nature Conservation Committee.

Technical Appendix WM02, continued.... Bat legislation in UK and EU



PLANNING AND PREPARATION OF BAT SURVEYS

This certifies that

John Feltwell

attended the above course in

June 2005

50 Jan L. Suntar Jun Dyma, Bat Communition Dead

Equipment relied upon for surveying for bats:



- Endoscope 'Provision 618' Clulite CB2 Duet Bat Box

- Headphones Leica Ultravid 10x32 Temperature and Humidity Reader Pretzl MYO XP Head band
- Notebook and pencil
- Safety gloves and hat

Technical Appendix WM03 Badger legislation in England



Badgers are protected by the **Badgers Act 1973**, **Badger Act 1991** and **Protection of Badger Act 1992** (as amended), Schedule 7 of the Wildlife & Countryside Act 1981 and the Wildlife & Countryside (Amendment) Act 1985.

Earlier Advices: English Nature (now Natural England), the government body which oversees UK and European Community law where applicable, issued **Guidelines for developers** (English Nature, 1996, 1997), and are responsible for issuing licences under section 10 (1) (d) of the Protection of Badgers Act 1992 to permit interference with a badger sett, in the course of development (which includes building and construction work). Any work that disturbs badgers is illegal without a licence. Under these earlier advices the use of: 'very heavy machinery within 30 metres of any entrance to an active sett, and lighter machinery (particularly used for any digging operation) within 20 metres, or light work such as hand digging operation) within 20 metres, or light work such as hand digging or scrub clearance within 10 metres, all require a licence' (English Nature 1996).

Recent Advices: Natural England have produced further guidance that assist in defining 'disturbance' that has now moved back from their 10, 20, 30m distance advices ('Interpretation of 'Disturbance' in relation to badgers occupying a sett'). They have also produced 'Badgers and Development, A guide to Best Practice and Licensing.' (Version 12/11) and 'Standing Advice Species Sheet: Badgers; all of which are available on line.

Although a lot of badger law was originally drafted as a direct response to badger-baiting (especially **The Badgers Act and Badgers (Further Protection) Act 1991**), it is clear that the law as it stands is directly applicable to anyone who interferes with badgers or their setts, in whatever manner. **The Badgers Act 1973** and its amendments to the 1981 and 1985 Acts refers to the animals themselves regarding taking, injuring or killing of badgers.

The Badgers Act 1991 gives the badger sett protection, and adds to the 1973 Act the following; if any person shall interfere with a badger sett by doing any of the following things, they shall be guilty of an offence, that is to say:

- a) damaging a badger sett or any part thereof
- b) destroying a badger sett;
- c) obstructing access to or any entrance of a badger sett
- d) causing a dog to enter a badger sett: or
- e) disturbing a badger when it is occupying a badger sett:

According to the Badgers Act 1973 with its amendments of 1981 and 1985, licences can be issued to interfere with badgers and their setts for the following purposes: the purpose of any development as defined in section 55(1) of the **Town and Country Planning Act** 1990, for any agricultural or forestry operation, iii) for the purposes of any operation (whether by virtue of the **Land Drainage Act 1976** or otherwise), iv) for preservation or archaeological investigation under section 1 of the **Ancient Monuments and Archaeological Areas Act 1979**, or v) for the purposes of controlling foxes.

Field surveys should determine the status of any badger setts on or adjacent to a site and this field information should be used to inform a mitigation strategy to avoid any 'knowingly or recklessly' causing any disturbance or injury to badgers whilst works are in progress.

Technical Appendix WM04 The Hazel Dormouse - Conservation of an EPS species

(Muscardinus avellanarius)



EU Law

Bern Convention, Appendix 3. & The Conservation (Natural Habitats &c) Regulations ('The Habitats Regulation') 1992 - Dormice as European Protected Species (EPS)

UK Legislation

Wildlife and Countryside Act 1981, Schedule 5, and as amended in 1988.

Conservation (Natural Habitats &c) Regulations 1994.

Hedgerow Regulations 1997.

Biodiversity protection

The Convention on Biological Diversity (The Rio Convention).

Countryside and Rights of Way Act 2000 (Section 74) - having regard to conserving biodiversity

Occurrence

Dormice used to be widespread over most of England and Wales but have now retracted to the southeast and south-west England, East Anglia (but not Norfolk), central England, Wales, but are entirely absent from Scotland. It has become extinct in about half of its former range.

Habitats used by Hazel Dormice

Good habitat for dormice is often provided by what may be considered young growth stands: areas of scrub, early coppice re growth, or young coppice re growth, or young naturally regenerated broadleaved stands. Such early successional woodland is often species-rich (Conservation Handbook p. 31).

- 1. Linked canopies (p. 15 in Conservation Handbook). The following are good habitats:
- 2. Newly-cut coppice woodlands
- 3. Ivy left on trees
- 4. Coppice stools and brushwood (as hibernation locations)
- 5. Woods down to 2ha in size

'Dormice need a diverse woodland with a good variety of fruiting trees and shrubs and an abundance of aerial pathways. Hazel is particularly important food resource during the autumn when the dormice are fattening for hibernation and the species has long been associated with hazel.' (Species Conservation Handbook).

Checks and Tests for Hazel Dormouse

'The Dormouse Conservation Handbook' has four checks and tests for hazel dormice:

- 1. Check whether the site falls within or close to the know range of dormouse.
- 2. Check for the existence of dormouse records with the local biological records centre or on the National Biodiversity Network (NBN).
- 3. Check with the site owner to see if they know whether dormice are present.
- 4. Hazel nut examination ('the best way to establish dormice presence..' p.23)

Examine 10 x 10m square around heavily fruiting hazel; 80% chance of finding dormice present if x 3 such areas are checked for typical gnawed hazel nuts. Collect 100 hazel nuts and examine them ('an alternative way of achieving and adequate sampling intensity (p23).

5. How many of the 20 plant species useful to dormice present on site?

References

Bright, P., Morris, P., & Mitchell-Jones, T., 2006. *The dormouse conservation handbook*. English Nature. Peterborough.

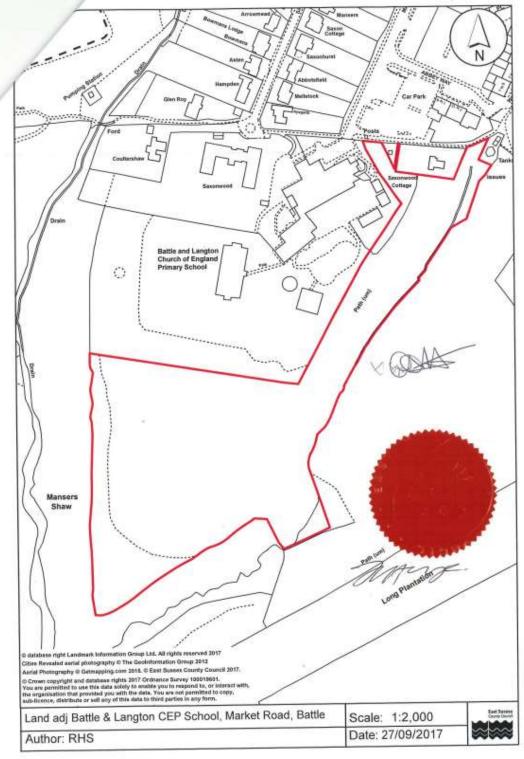
Mitchell-Jones, 1994. Dormice and Commercial Coppice Restoration. In: *Species Conservation Handbook*. English Nature, Peterborough.

Natural England, 2007. *Dormouse: European Protected Species*. Natural England Species Information Note SIN005.

Natural England, 2007. *Dormouse: European Protected Species*. Natural England Species Information Note SIN005.

Technical Appendix WM05

Phase 1 Habitat Survey, as approved by the Nature Conservancy Council (then became English Nature, now Natural England). From 'Handbook for Phase 1 habitat survey, A technique for environmental audit.' NCC, 1990. p.78.



Technical Appendix WM05, continued... Photographs around the site



Entrance by school, with vandalied notice, litter bin and dog faeces bin (but no indication to access Amenity Field, or 1066 Country Walk)



Entrance on the far east, showing showing remains of old gate, and Public Footpath BAT/84/1

Technical Appendix WM05, continued... Photographs around the site



Looking downhill along Public Footpath BAT/87/1 that leads to steps and onwards to the 1066 Country Walk



The main entrance to the site; looking north, with school curtilage on the left (west)

Dead ash overhang the Public Footpath

Technical Appendix WM05, continued... Photographs around the site



The stile and steps that lead down from the Amenity Field into the woodland an onward to the 1066 Country Walk



Mansers Shaw, looking south, which is adjacent to the site on the west, and connects intimately with the site. This is an informal Permissive Path ⁵

⁵ According to Bev Marks, Local Footpaths Officer, for BTC and Battle Ramblers, who has had discussions with BTC, believes that this path should be made formal with the ESCC RoW team.

Technical Appendix WM05, continued... Photographs around the site



Behind the brambles there is an area of ferns beside the ditch. This is an area of high biodiversity. The only enhancement needed hereis a gathering up of fallen wood into



Old brick drainage works, still issuing water from the school

Technical Appendix WM06 Table 1 Angiosperms (Flowering Plants) recorded from site

DAFOR is a way of indicating abundance, for instance D is for Dominant, A Abundant, F Frequent, O Occasional and R is for Rare. Rare does not mean the species is rare, i.e. endangered; it just means it is rare on site (for instance there might only be a single dandelion on site, therefore it is noted as Rare).

SPECIFIC NAME	COMMON NAME	Tree	DAFOR RATING	NOTES Ornamental and introduced plants (that contribute little for
				biodiversity are shown in green)
Acer campestre	Field maple	Т	0	are snown in green)
Acer pseudoplatanus	Sycamore		0	Introduced
Allium ursinum	Wild garlic		0	Along the east ditch
Anthriscus sylvestris	Parsley, Cow		0	Along the east ditch
Artemesia vulgaris	Mugwort		R	
Betula pendula	Silver birch	Т	F	
Carex pendula	Sedge, Pendulous		0	
Carex periodia Carpinus betulus	Hornbeam	Т	F	
Centaurea nigra	Knapweed		R	
Cirsium arvense	Thistle, creeping		0	
	Thistle, Spear		0	
Cirsium vulgare Clematis vitalba	Old Man's beard		R	
Convolulus arvensis	Bindweed, Field		0	
	<u> </u>		0	
Cornus sanguinea	Dogwood			
Corylus avellana Dipsacus fullonum	Hazel Teasel		O R	
Fraxinus excelsior		Т	F	
Geranium robertianum	Ash Herb Robert	<u> </u>	0	
			0	
Heracleum sphondylium	Hogweed			
Lolium perenne	Grass, Rye		A O	
Plantago lanceolata	Plantain, Ribwort Plantain, Greater:			
Plantago major	. , . , ,		O A	
Poa annua	Grass, Meadow			
Potentilla erecta	Tormentil Sloe / Blackthorn	Т	O F	
Prunus spinosa			R	An Invasiva Chasica
Quercus cerris	Oak, Turkey Oak, English	Т	F	An Invasive Species
Quercus robur	Buttercup, Common		F	
Ranunculus repens Rosa canina	Rose, Wild		0	
Rubus complex	Blackberry		A	
			0	
Rumex obtusifolius Rumex sp.	Dock Dock, sorrel		0	
	Sallow	Т	0	
Salix capraea	Willow	'	0	
Salix sp.	Elder	Т		
Sambucus nigra		<u> </u>	O R	
Sonchus asper	Sowthistle, Prickly			Investive en ecies
Symphoricarpos rivularia Snowberry		Т	R F	Invasive species
Ulmus sp. Elm				
Urtica dioica	Nettle		0	
Vicia sativa	Vetch, common		R	
Viola sp.	Violet	l .	R	

Table 2 Pteridophytes (Ferns) recorded from site

SPECIFIC NAME	COMMON NAME
PTERIDOPHYTES (FERNS)	
Asplenium scolopendrium	Hart's Tongue Fern
Athyrium filix-femina	Fern, Lady

Technical Appendix WM06, continued...

Table 3 FUNGI recorded from site

SPECIFIC NAME	COMMON NAME		
Phallus impudicus	Stinkhorn		
Ganoderma sp.	Bracket fungus just off site		

Table 4 Birds recorded from site KEY

Royal Society for the Protection of Birds (RSPB)'s Lists:

. to ya. occioty .	yar deciety for the freedom of Birde (Not B) e Lieter					
Red List	Species that are Globally Threatened, for which there is high conservation concern. The designation is according to the criteria of the IUCN (International Union for the Conservation of Nature). Represents a population decline in the UK during 1800-1995 with 50% decline over last 25 years.					
Amber List	Species showing a moderate decline in the UK over the last 25 years. (from: Royal Society for the Protection of Birds, 1996. Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man. Royal Society for the Protection of Birds, leaflet). Often a rare breeder with 1-300 pairs in the UK, or rare non-breeder with less than 900 pairs.					
Green List	Species that occur regularly in the UK but do not qualify under any of the above criteria.					

WCA 1981 Wildlife & Countryside Act 1981 (as amended)

Scientific Name	Common Name	W&CA, 1981	RSPB	Notes
Accipter nisus	Sparrowhawk		Green	Kill remains seen
Columba livia	Dove, rock, feral pigeon		Green	
Columba palumbus	Woodpigeon		Green	
Corvus corone	Crow, Carrion		Green	
Corvus frugilegus	Rook		Green	
Corvus monedula	Jackdaw		Green	20 seen
Erithracus rubecula	Robin		Green	
Larus argentatus	Gull, Herring		Red	BAP, heard
Larus canus	Gull, Common		Amber	Group of 18 seen
Cyanistes caeruleus	Tit, Blue		Green	
Parus major	Tit, Great		Green	
Pica pica	Magpie		Green	
Sturnus vulgaris	Starling		Red & Defra's Red	BAP, group of six seen
Troglodytes troglodytes	Wren		Green	
Turdus merula	Blackbird		Green	

Table 5 Mammals recorded from site

CLASS MAMMALIA (Mammals)

Latin / Specific Name	Common English Name	Biodiversity Action Plan (BAP) species	Observations
Talpa europeae	Mole		

Table 6 Invertebrates recorded from site

CLASS INSECTA

ORDER LEPIDOPTERA: HETEROCERA) Moths

Latin / Specific Name	Common English Name	Observations
Stigmella aurella	Bramble leaf miner	Tiny moth
CL ASS INSECTA		

CLASS INSECTA
ORDER DIPTERA (TRUE FLIES)

Latin / Specific Name	Common English Name	Observations
Calliphora vomitoria	Bluebottle	

CLASS INSECTA
ORDER HYMENOPTERA (BEES, WASPS, ANTS)

	Common English Name	Observations
CLASS INSECTA Latin / Specific Name		
Latin / Specific Name		

THER ARTHROPODS

CLASS MOLLUSCA (Slugs and Snails)

oraco morroson (orago ana onano)		
Latin / Specific Name	Common English Name	Observations
Arion ater	Slug, Jet or Black Slug	

Technical Appendix WM07 Enhancements – Wildlife Boxes and homes







Typical examples of bird and bat boxes





LEFT above: Tree sparrow terrace for gregarious house sparrows RIGHT above Owl Box





Insect boxes



Hedgehog home Hedgehogs (BAP) need to be encouraged.

Technical Appendix WM07, continued.... Enhancements – Wildlife Boxes and homes

Starling Sturnus vulgaris – BAP Biodiversity Action Plan (BAP) Species





The UK population is augmented by migrants but the population is still declining.

Population Declining: that is why it is RED-LISTED status by the RSPB.

Legal UK Status Protected under the Wildlife & Countryside Act 1981 which makes it illegal to intentionally kill, injure or take a starling, or to take, damage or destroy an active nest or its contents.

Biodiversity Status The Starling is on the UK Priority Species listing by the JNCC (Joint Nature Conservation Committee). Last updated 15/12/2010. (www.jncc.defra.gov.uk), as it has declined 87% over 25 years. Latest UK population is 764,000 birds.

Actions recommended by JNCC Advice is given to house-owners, local planning authorities and developers to consider the needs of starlings in house design, and in management of gardens, green spaces and landscaping projects, i.e. put in bird boxes, and maintain good stands of trees as roosting sites.

Erect a Starling Box i) BUY Starling Nesting Box: e.g. wigglywigglers.co.uk (£35.75 + VAT January 2018 price; Product Code P0995-Bc1)

ii) MAKE YOUR OWN 15mm timber (non-treated), 510 x 155 x 180; with hinged and overhanging lid on sloping top; drill drainage holes in base; mounted on a post about 1.5-1.8m off ground. Entrance hole 45mm. Location: not in direct sun, but north or east, with uninterrupted flight path for birds.



Technical Appendix WM07, continued....

Stag beetles (*Lucanus cervus*) BAP species







Stag beetles (above left) are up to 70mm long – the UK's largest terrestrial beetle Lesser Stag Beetle (*Dorcus parallelipipedes*) Above right

Protection: Now a Biodiversity Action Plan (BAP) species.

Stag beetles are typically found in areas where there are large trees and decaying timber. The numbers of stag beetles have been declining in recent years through loss of habitat. Adult may be seen between May and August, but their larvae burrow in decaying old timbers for up to five years.

What are BAPS?

Species designated as Biodiversity Action Plan species – there are nearly 400 of them.

The Law

Stag beetles are afforded some protection in the UK via the <u>Countryside and Rights of Way Act 2000</u> (CRoW, 2000). There are moves to get them on the WCA 1981 – <u>the Wildlife & Countryside Act 1981</u>. They are also on Annex II of the <u>EC Habitats Directive</u>. (Three SACs – Special Areas of Conservation – have been designated around them). Biodiversity is also addressed as one of Natural England's 'general purposes' under the <u>Natural Environment and Rural Communities Act 2006</u> (NERC, 2006). BAPs are also increasingly protected through local policies. So they have both local and national UK, and EU protection.

Why are they protected?

Stag beetle populations have been declining in recent years and they are now rare, in Europe too. This is probably because their habitat has been declining. They breed in old and rotting timbers, often associated with oak trees, woodland, old stumps and hedgerows. The reduction in the oak woodland and hedgerows with mature trees is likely to have adversely affected their populations.

As the stag beetle larvae feed on old wood for 3-5 years before maturity, the loss of any old timbers from their habitat is likely to have a significant effect on their populations that would be more difficult to recover than a species with an annual turn-over or recruitment.

What you can do

Bury a Bucket of Wood Three steps: i) make holes in the bottom and side of an ordinary bucket, ii) fill the bucket with one quarter soil and the rest woodchips or broken pieces of wood and bark, and iii) dig hole and place bucket with rim flush with surface.







Technical Appendix WM07, continued.... National Pollinator Strategy (NPS)



The National Pollinator Strategy (NPS) was published in 2014.6 The aim of the NPS is to provide feeding areas for bees, solitary bees and bumblebees to address the declining fortunes of these bees that are important in the £100bn health of the food industry that is dependent upon pollinators.

There are at least 1,500 species of insect pollinators in the UK. Many are declining. Of the 26 species of bumblebee, two have disappeared and six are declining nationwide in the last decade or so. Nectar sources for these are vital.

The NPS is mostly aimed at farmers, (for there are large sections in the publication on what farmers can do (for instance buffers around fields – and integrated pest control on arable fields), or the Highways authority (for wildflower verges) or the Ministry of Defence (on their lands) and National Trust (on their lands).

However, there is also an onus of Local Authorities (LPAs) to encourage initiatives in their areas to promote the NPS. Thus, in the building industry there is potential to improve the biodiversity via BREEAM recommendations, and to encourage planting up sensitively for biodiversity on all new sites.

There are opportunities on site which can add to this strategy:

⁶ Department for Environment Food & Rural Affairs (Defra). November 2014. The National Pollinator Strategy: for bees and other pollinators in England. 36pp. Department for Environment Food & Rural Affairs (Defra). November 2014. Supporting document to the National Pollinator Strategy: for bees and other pollinators in England. 40pp.

Technical Appendix WM07, continued....

B-Lines

'Putting rivers of bees, flowers and wildlife back into the countryside' (Buglife - The Invertebrate Conservation Trust)

What are B-Lines?

The intention is to create strips of wildlife habitat which link existing wildlife areas together to create a network of wildflower-rich lines across the countryside. This is an initiative from Buglife -The Invertebrate Conservation Trust, which is pioneering work in Yorkshire, but is being rolled out nationwide.

It is promoted to support pollinating insects (bees, bumblebees, butterflies, true flies etc) that are rapidly declining in Britain at the present time. One in three mouthfuls of food depends on pollinators. The benefits of insect pollinators to the British Economy are valued at £400 million annually.



How B-Lines looks in the UK (From Buglife 2022)

How Developers can help?

Developers already assist in regeneration of sites by planting native tree and shrub species. This helps to augment the biodiversity potential of any site, particularly if sites are adjacent to existing green corridors, such as streams, rivers, canals, railways verges, or road verges. In many cases 'soft' buffers are required by bodies such as the Environment Agency (to allow for flood control) so these areas can be planted up with wildflower seed mixes.

The National Planning Policy Framework (NPPF) (in England) seeks to promote.... ecological networks... wildlife corridors and stepping stones that connect them....

How Local Planning Authorities (LPAs) can help?

LPAs can recognise the existing green corridors in their area and avoid being developed and plan to add to them via the planning process. Town and country sites can help to connect the gaps between existing broken corridors with strips of wildflower planting.

Typical Planting mix

Common Knapweed. Centaurea nigra. Corn Marigold. Chrvsanthemum segetum. Cow Parsley, Anthriscus sylvestris, Meadow Sweet, Filipendula ulmaria, Ragged Robin, Lychnis flos-cuculi, Sanicle, Sanicula europaea,

References

Buglife - The Invertebrate Conservation Trust - two sided flier on B-Lines, 2011 (www.buglife.org.uk) **Bibliography**

Bugs, 2006. (Biodiversity in Urban Gardens in Sheffield) Background: Urban gardens as habitats.

http://www.bugs.group.shef.ac.uk/BUGS1/backgrnd.html (accessed 07/02/2006).

Defra Circular 01/2005 Government Circular: Biodiversity and Geological Conservation - Statutory Obligations and their impact within the planning system. London, Department for Environment, Food and Rural Affairs

English Nature, 2003. Press Release. Plight of the bumblebee. 15 May 2003.

English Nature, 2006. Leaflet 'Gardens and Biodiversity' (January 2006.

Greenspace Information for Greater London (GIGL) 2005. http://www.wildlondon.org.uk/projects 10033.php (accessed 07/02/2006)

Laws, K. 2006. MPs get the point for garden wildlife. http://www.wildlifetrusts.org/index.php?section=news:gardening&i. (accessed 07/02/2006)

Leicester Council (2006) Britain's First Environment City, Leicester: Enhancement

http://www.environmentcity.org.uk/article.asp?ParentID=79&ArticleID=167 (accessed 14/02/2006)

London Wildlife Trust, 2005. Making London Wild, London Wildlife Trust's strategic vision for the Capital. Protecting London's Wildlife for the future. July 2005.

Smith, C., 2011. Why London's gardens matter. Living Landscapes. Natural World, Summer 2011.

Bibliography

Batten, L.A., Bibby, C.J., Clement, P., Elliott, G.D. & Porter, R.F. 1990. Red Data Birds in Britain, Action for rare, threatened and Important Species. The Nature Conservation Council and The Royal Society for the Protection of Birds. pp. 348.

Bratton, J.H. 1991. British Red Data Books: 3. Invertebrates other than insects. Joint Nature Conservation Committee. pp. 253.

Briggs, P.A. (1998) Bats in Trees. Arboricultural Journal Vol. 22 pp. 250-35.

Chinery, M. (1972) A Field Guide to the Insects of Britain and Northern Europe. Collins, London. Pp.352.

Collar, N.J. & Andrew, P. (1988). Birds to Watch, The ICBP World Checklist of Threatened Birds. ICBP Technical Publication No. 8. Smithsonian Institution Press, Washington, D.C. pp. 303.

Conservation of Wild Creatures and Wild Plants Act 1975 (which includes amendment of s.9 of Badgers Act 1973, see Section 16). Her Majesty's Stationery Office, London.

Cox, P.R. (1996) Wildlife on Site. A Guide for Developers & Planners. Babtie Group. 56pp.

Department of the Environment (1997a) The Hedgerows Regulations 1997, 1997 No., 1160. 16pp.

Department of the Environment (1997b) The Hedgerows Regulations Your Questions Answered. Leaflet.

Dony, J.G., Jury, S.L. & Perring, F. (1986) English Names of Wild Flowers. The Botanical Society of the British Isles. pp.117.

EEC (1983) Council Directive of 27 June 1985. on the assessment of the effects of certain public and private projects on the environment.

EEC (1994) The Conservation (Natural Habitats etc) Regulations, 1994. ('The Habitats Directive').

English Nature (1991) Badgers. Initiatives for 1992/3 English Nature November, 1991.

English Nature (1995) Environmental Assessment, English Nature's role and a guide to best practice. Peterborough, English Nature.

English Nature (1997a). Habitat Regulations Guidance Note. 1. The Appropriate Assessment (Regulation 48), The conservation (Natural Habitats &) Regulations, 1994.

English Nature (1997b) Habitat Regulations Guidance Note. 2. Review of existing planning permissions and other consents. The Conservation (Natural Habitats &c) Regulation, 1994.

English Nature (1996) Badgers. Guidelines for Developers. English Nature. 13pp.

English Nature (1999) Map of natural areas. Map ref. 905a110 April 1998.

Feltwell, J. (1985) Doorstep Wildlife, A Guide to the Animals and Plants of Towns, Parks and Gardens. London, Hamlyn. 160pp.

Feltwell, J. (1987) The Naturalist's Garden. London, Ebury Press. 160pp.

Feltwell, J. (1989) A Guide to Countryside Conservation. London, Ward Lock. 160pp.

Feltwell, J. (1994) Meadows, A History and Natural History. Alan Sutton. 205pp

Feltwell, J.(1995) The Conservation of Butterflies in Britain. Wildlife Matters. pp.230.

Feltwell, J. (1997) Stop! Newts on site. Biologist (1997) 44 (5) p. 454-455.

Feltwell, J. (2006) Bumblebees. Wildlife Matters, pp.60

Fitter, R. & Fitter, A. (1984) Collins Guide to the Grasses, Sedges, Rushes and Ferns of Britain and Northern Europe. Collins, London. pp. 256.

Fitter, R.S.R., Heinzel, H., & Parslow, J.L.F. (1972) The Birds of Britain and Europe. Collins, London. pp. 320.

Her Majesty's Stationery Office (1991) Badgers (Further Protection) Act 1991. An act to confer additional powers on a court where a dog has been used in or was present at the commission of certain offences. Her Majesty's Stationery Office. 3pp.

Her Majesty's Stationery Office (1973) Badgers Act 1973 as amended by the Wildlife & Countryside Act 1981, and the Wildlife and Countryside (Amendment) Act 1985. Her Majesty's Stationery Office, London. 6pp.

Her Majesty's Stationery Office (1981) Wildlife & Countryside Act 1981 (as amended). Her Majesty's Stationery Office, London.

Her Majesty's Stationery Office (1991) Badgers Act 1991 An Act to make provision for the protection of badger setts: and for connected purposes. Her Majesty's Stationery Office, London. 4pp.

Her Majesty's Stationery Office (1992) Badgers Act 1992 Her Majesty's Stationery Office, London.

Hill, D., Andrews, J., Sotherton, N. & Hawkins, J. (1995) Farmlands. (pp. 230-266) In. Sutherland, W.J. & Hill, D.A., 1995. Managing Habitats for Conservation. Cambridge University Press. 399pp.

HMSO Steering group, (1996) Government Response to the UK Steering Group Report on Biodiversity. HMSO. 49pp.

Hubbard, C.E. (1976) Grasses. Pelican, London. pp.463.

Institute of Environmental Management & Assessment (IEMA) (2004) Guidelines for Environmental Impact Assessment. Lincoln, Institute of Environmental Management & Assessment.

Institute of Environmental Assessment (IEA) (1995) Guidelines for Baseline Ecological Assessment. London, E & FN Spon.

Jahn, H.M. (1980) Collins Guide to the Ferns Mosses & Lichens of Britain and Northern Europe. Collins, London. pp. 272.

Lucas, G. & Synge, H. (1978) The IUCN Plant Red Data Book. IUCN. pp. 540

Morris, P. & Therivel, R. (2000) *Methods of Environmental Impact Assessment*, 2nd edition. London and New York, E. & FN. Spon.

Nature Conservancy Council. (1990) Handbook for Phase 1 habitat survey, A technique for environmental audit. London, Nature Conservancy Council. (this 1990 title has not yet been reprinted, or surpassed, even though it is a 1990 imprint).

New, T. (1998) *Invertebrates Surveys for Conservation*. Oxford, Oxford University Press. Perring, F.H. & Farrell, L. (1983) Vascular Plants. 2nd Edition. The Royal Society for Nature Conservation. pp.99.

Phillips, R. (1980) Grasses, Ferns, Mosses, & Lichens. Pan Books, London. pp.191.

Pollard, E., Hooper, M.D., & Moore, N.W. (1974) Hedges. Collins, New Naturalist Series. 256pp.

Rodwell, J.S. (1998) British Plant Communities. Volume 1. Woodlands and scrub. Volume 2. Mires and heaths. Volume 3 Grasslands and montane communities. Volume 4 Aquatic communities, swamps and tall-herb fens. Cambridge University Press.

Rose, F. (1981) The Wild Flower Key. Frederick Warne, London. pp.480.

Royal Society for the Protection of Birds, 1996. *Birds of conservation concern in the United Kingdom, Channel Islands and Isle of Man.* Royal Society for the Protection of Birds, Sandy Bedfordshire. Leaflet.

Royal Society for the Protection of Birds, (1998) Wild Birds and the Law. A Plain Guide to Bird Protection Today. Royal Society for the Protection of Birds. Sandy, Bedfordshire. 31pp.

Shirt, D.B. (1987) British Red Data Books: 2. Insects. Nature Conservation Council. pp. 402.

Southwood, T.R.E. & Henderson, (2000) Ecological Methods. 3rd Edition. Oxford, Blackwell Science.

Stace, C. (1999) Field Flora of The British Isles. Cambridge University Press. 736pp. Sutherland, W.J. & Hill, D.A., (1995) Managing Habitats for Conservation. Cambridge University Press. 399pp.

Thomas, J.O. & Davies, L.J. (1975) Common British Grasses and Legumes. Longmans, London. pp.122.

Treweek, J. (1999) *Ecological Impact Assessments*. Oxford, Blackwell Science. Van Den Brink, F.H. (1967) A Field Guide to the Mammals of Britain and Europe. Collins, London. p.221.

Wells, S.M., Pyle, R.M., Collins, N.M. (1983) The IUCN Invertebrate Red Data Book. The

World Wildlife Fund and The United Nations Environment Programme. pp. 632

Wiggington, M.J. (1999) British Red Data Books 1. Vascular Plants. 3rd edition. Joint Nature Conservation Committee. 468pp.

World Conservation Monitoring Centre, (1990) 1990 IUCN Red List of Threatened Animals. IUCN - The World Conservation Union. pp. 192.

Document Audit trail

Acronyms

BAP Biodiversity Action Plan

CCMGWA Convention on Conservation of Migratory Species of Wild Animals (Bonn, 1980)

CNHR Conservation (Natural Habitats &c) Regulations, 1994

CRoW Countryside and Rights of Way Act, 2000

EN English Nature (formerly Nature Conservancy Council)

EU European Union

EUROBATS Agreement on the Conservation of Bats in Europe

GCN Great Crested Newt HAP Habitat Action Plan

JNCC Joint Nature Conservation Committee.

LNR Local Nature Reserve

MAGIC Multi-Agency Geographic Information for the Countryside

NBN National Biodiversity Network NNR National Nature Reserve

Ramsar An international wetland site; a place in Iran where the wetland conference was held

RDB Red Data Book

RSPB Royal Society for the Protection of Birds

SAC Special Area of Conservation

SNCI Site of Nature Conservation Importance

SPA Special Protection Area

SSSI Site of Special Scientific Interest WCA Wildlife and Countryside Act 1981

WHS World Heritage Site

Revision	Date	Report Description	Prepared by
WM1438	30 Oct 2023	Biodiversity Survey	Dr John Feltwell
WM1438.1	11 Nov 2023	Biodiversity Survey	Dr John Feltwell

COPYRIGHT ATTRIBUTIONS 2023

The contents of this document must not be copied or reproduced in whole or part without the written consent of Wildlife Matters. All images in this report are © John Feltwell / Wildlife Matters, unless otherwise stated, e.g. © Her Majesty's Stationery Office Crown Copyright: Wildlife Matters, Marlham, Henley's Down, Battle, East Sussex, TN33 9BN (OS Number AL50016A).

Dr John Feltwell, BSc, PhD, FRSB, FLLA, Dip AFE, Dip EC Law Wildlife Matters Consultancy Unit, Marlham, Henley's Down, Battle, East Sussex, TN33 9BN



ends