Brooks Ecological
Grounded advice

Woolley Colliery Road, Darton

Preliminary Ecological Appraisal Report

Report Ref. ER-8088-01

28/11/2024

MJ Gleeson PLC

Report reference	**ER-8088-01 – Preliminary Ecological Appraisal Report**
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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

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Summary

This report is produced to inform MJ Gleeson PLC of potential ecological constraints associated with their proposed development site and the need for further reporting or output to support a planning application.

This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in November 2024, as well as information collected during previous walkover surveys of the Site in May 2022 and July 2023.

Key Findings

The Site encompasses part of the former Woolley Colliery, which has been left un-remediated and unmanaged since the pit's closure. The Site now supports a mix of semi-natural habitats including neutral grassland, reedbed, mixed scrub, broadleaved woodland and open mosaic habitats.

A suite of detailed ecological surveys was completed in 2022, to support of an outline planning application. The detailed Invertebrate Survey assessed the Site as being of District Level importance for this group, due to the presence of six important species, including dingy skipper and small blue. Suitable mitigation for these species will be required. A small common lizard population was also identified on-Site.

Biodiversity Net Gain

Details on measurement of the Site's biodiversity and the implications of complying with the requirement to provide a net gain for biodiversity are provided in our separate report, ER-8088-02.

Further surveys

To gather up-to-date baseline information for the Site, surveys are recommended for invertebrates, reptiles, bats (activity) and badger.

Introduction

1. Brooks Ecological Ltd was commissioned by MJ Gleeson PLC to carry out a Preliminary Ecological Appraisal (PEA) of land at Woolley Colliery Road, Darton, grid reference SE312107 (northern parcel) and SE311104 (southern parcel).
2. The survey encompasses land within the red and blue line boundaries, as shown in Figure 1 opposite.
3. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

Purpose of a PEA

4. A PEA is an *initial assessment* of the baseline for a proposed development site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
5. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a site is not complex or constrained, and no additional ecological input is necessary, the PEAR *may* be sufficient and suitable to support a planning application.
6. Biodiversity Accounting metrics are used separately to quantify the value of a Site in Biodiversity Units, which helps in the later stage of assessing the ecological impacts of the proposed development. This process is set out separately in the Biodiversity Gain Report which accompanies this PEAR.

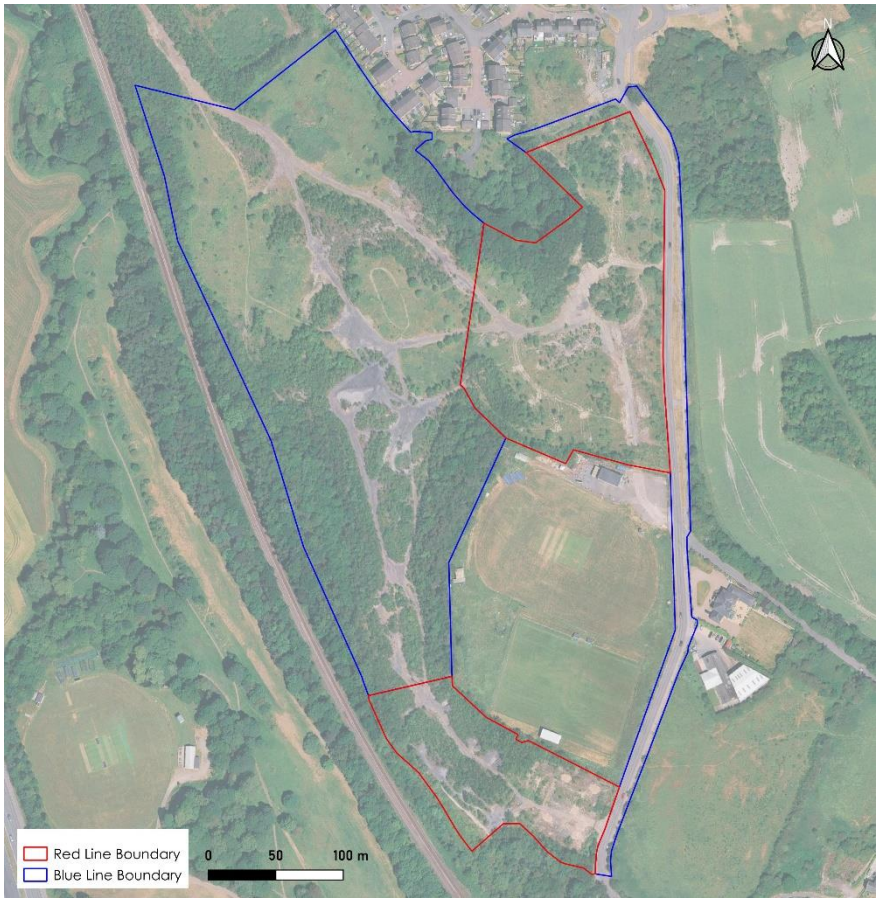
Proposals/Reason for PEA

7. The PEA has been commissioned to inform proposals to develop land within the two red line boundaries for residential use.

The Site

8. The application site 'the Site' encompasses part of the former Woolley Colliery in Darton, Barnsley. For the purposes of metric calculations, the Site area has been measured using GIS against the provided red line boundary as 4.19ha, with a further 8.13ha of land within the blue line boundary.

Figure 1 The Site (red line boundary).



Desk Study

Landscape

9. The Site is located to the northwest of Barnsley, with the villages of Darton and Mapplewell to the southeast and Kexbrough to the southwest.

10. The Site encompasses what remains of the former Woolley Colliery, which has in parts been developed for residential use. The Site is surrounded by a railway line to the west, farmland to the east, and residential development to the north and south.

11. The former colliery, together with woodland blocks, railway embankments, and the River Dearne, provide the best habitat features locally.

12. Being part of a former colliery, the Site is likely to have a fairly complex superficial geology, with elements of coal waste mixed with inert materials and crushed aggregates. This gives rise to localised patches of acid, neutral and calcareous soil conditions.

Wildlife Corridors

13. An active railway line and the River Dearne both pass within proximity of the Site's western boundary, moving through the landscape roughly northwest to southeast; see figure opposite.

14. These provide strong 'landscape-scale' linear features, which may be of value for the dispersal of certain faunal species/groups.

15. The Site can be considered functionally linked to both features, through proximity and the presence of good connecting habitat.

Figure 2 Analysis of wildlife corridors and structured habitat visible on mapping in relation to the Site.

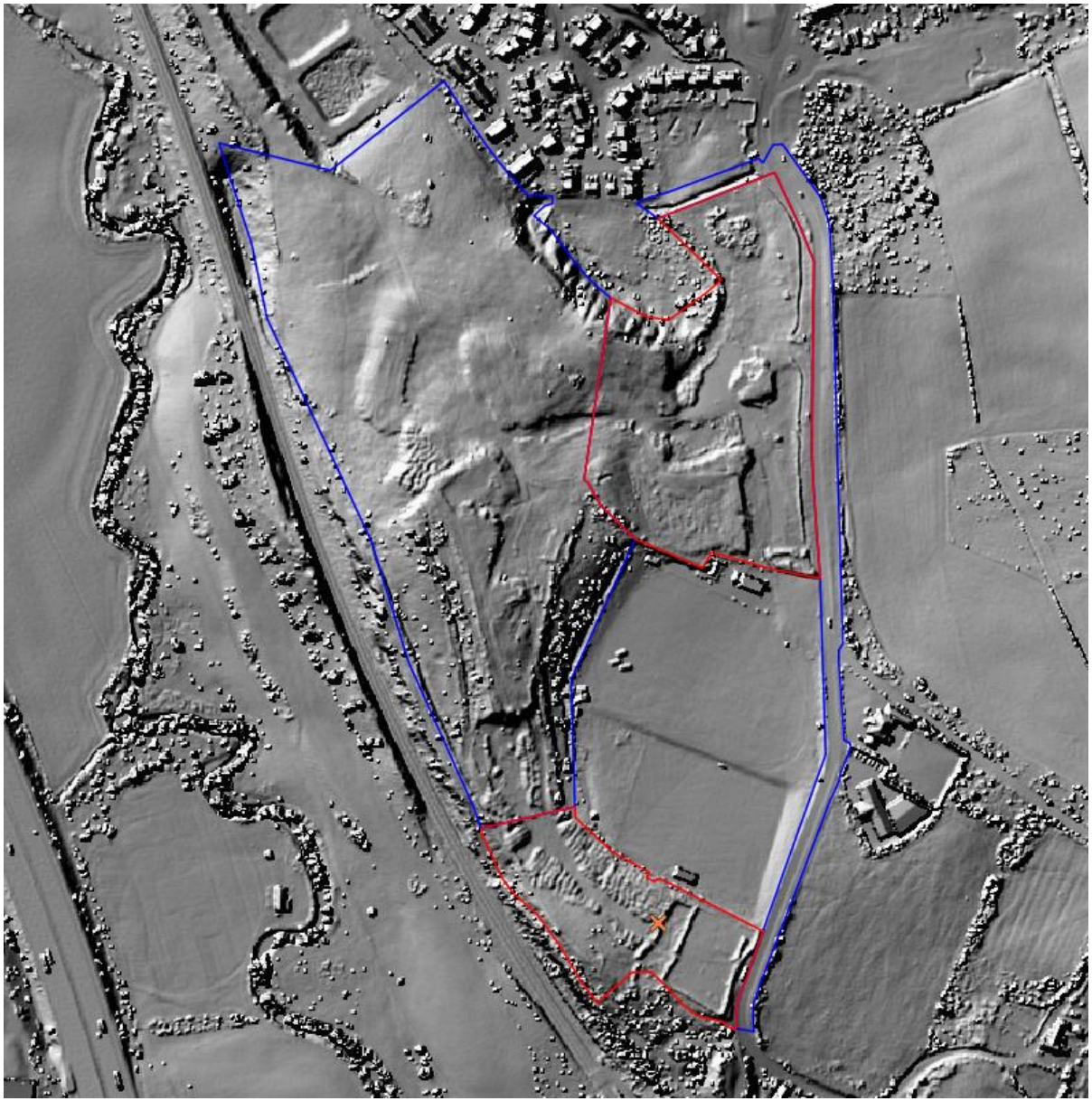
Site Topography/Lidar

16. The Site has a varied and complex topography, owing to its historic land use. To aid in visualization of the Site's layout, a Lidar plan is provided in the figure opposite, which shows more clearly the Site's landforms.

17. The lowest points are found along the eastern boundary, along Woolley Colliery Road. Land is then relatively level within much of the red line boundaries, raising higher to the north and west.

18. The highest point is found towards the centre of the blue line land, with land often falling rapidly in many places, including within the woodland to the west of the cricket pitch, and along the railway embankments to the west.

Figure 3 General topography of the Site; contains Government Open Data.



Designations

19. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

Statutory Designations

20. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated Sites.

Site Name	Distance from Site	Designation	Summary Interest
Denby Grange Colliery Ponds	5.6km NW	Special Area of Conservation (SAC)	Great crested newts (GCN)

21. The Site is beyond the zone of influence for the above SAC. Direct and indirect impacts on Denby Grange Colliery Ponds SAC, as a result of this development, are therefore considered unlikely due to the Site's separation and distance.

SSSI Impact Risk Zones (IRZs)

22. The Site lies within the outermost IRZ for the Seckar Wood and Denby Grange Colliery Sites of Special Scientific Interest (SSSIs), but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

Non-Statutory Designations

23. The Site lies adjacent to the Barnsley/Wakefield (West Yorkshire) regional boundary, and thus records were gathered from both the Barnsley Biological Records Centre (BBRC) and West Yorkshire Ecology (WYE).

WYE data

24. There are no Wakefield Local Wildlife Sites (LWSs) in the search area (see Figure 4 overleaf).

BBRC data

25. Two Barnsley LWSs lie within the 2km search area (see Figure 5 overleaf), these being:
    - Mapplewell Tip (62), situated c. 1km SE; and,
    - Daking Brooks (17), situated c. 1.4km S.
26. Neither of these LWSs are functionally linked to the Site and are sufficiently distant that direct and indirect impacts from the Site's development are considered unlikely.

Nature Improvement Area

27. The Site is not within any Nature Improvement Area.

Local Nature Recovery Strategy (LNRS)

28. A LNRS has not yet been published for Barnsley.

Granted EPSM Licences

29. There are no granted European Protected Species Mitigation (EPSM) licences shown within 1km of the Site.

Mapped Ancient Woodland and Trees

30. There is no mapped ancient woodland (AW) or Plantation on an Ancient Woodland Site (PAWS) within 15m of the Site.

Figure 4 Records of designated sites and notable species within 2km of the Site; West Yorkshire Ecology.

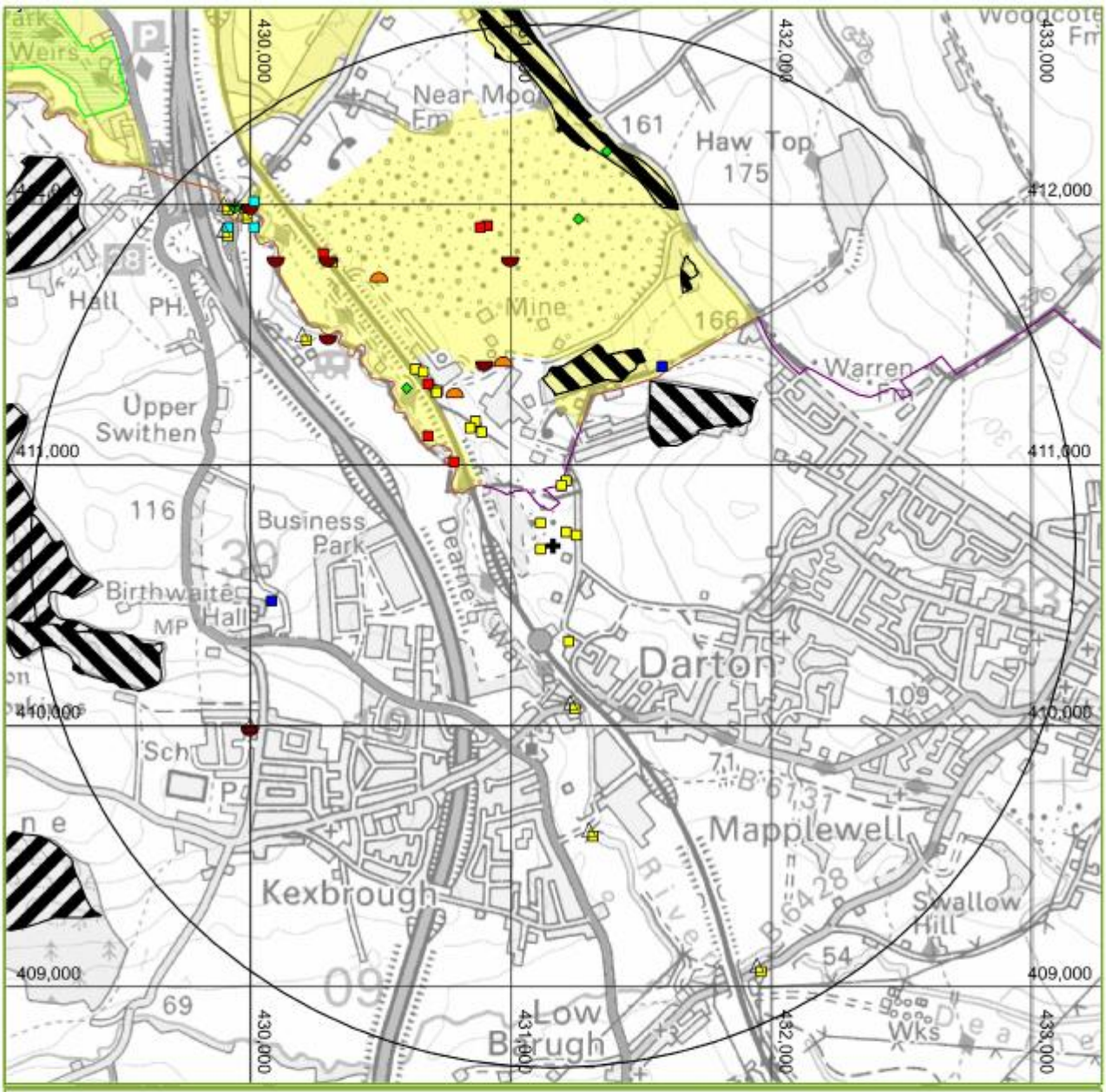
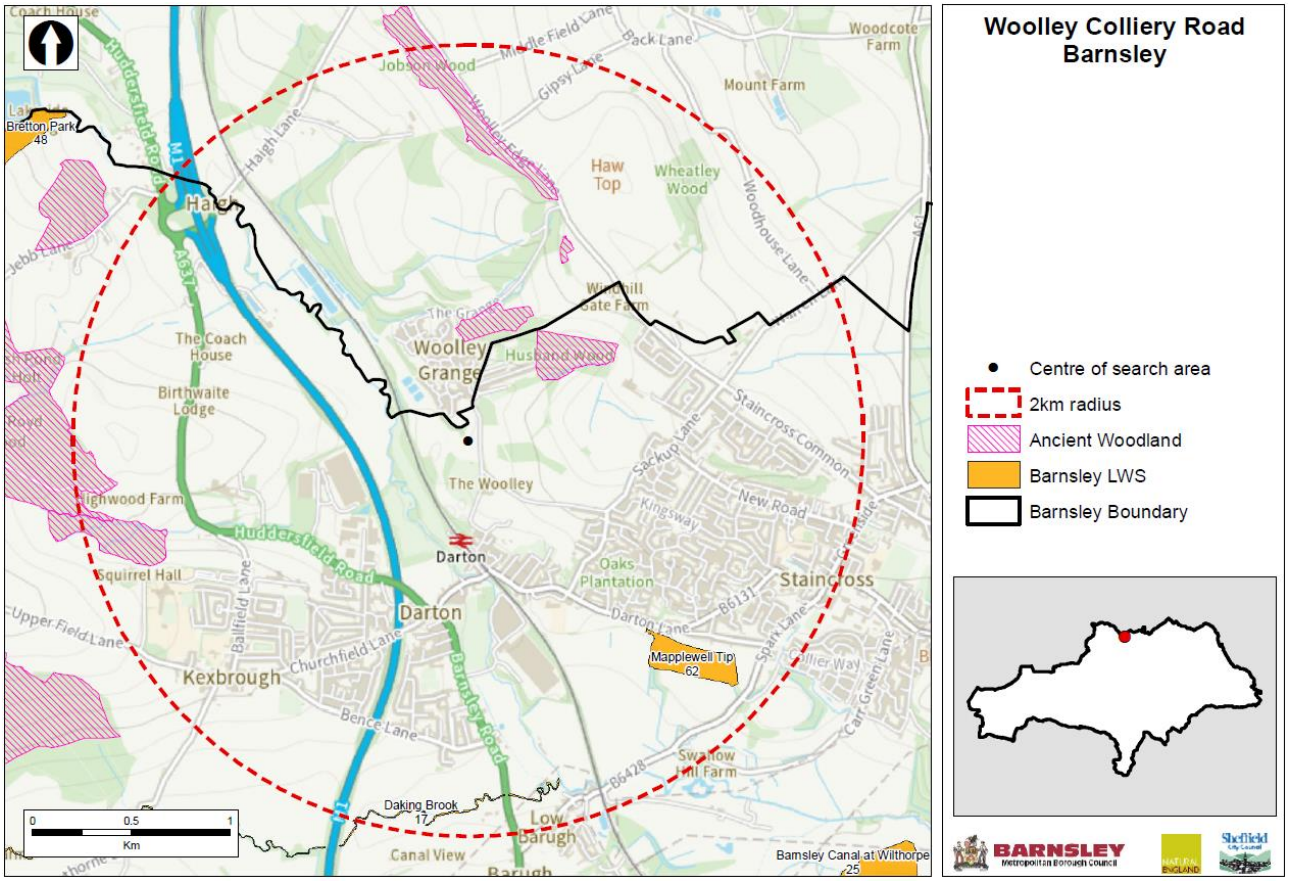


Figure 5 Records of designated sites and notable species within 2km of the Site; Barnsley MBC.



Survey

31. The most recent walkover survey was carried out during November 2024[1]; however, the Site has been extensively surveyed across 2022/2023, with the timing of these surveys meaning that it has been possible to confidently classify the type and condition of habitats present on this Site.

32. Whilst most of the Site was accessible, at least 30% of the Site was inaccessible due to very dense vegetation, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

Habitat Appraisal

33. The Site's habitats are described in order on the following pages. In line with the requirement to provide information on Biodiversity Net Gain (BNG), habitats are named in accordance with the UK Habitats classification system. We have used the UK Habitats v2.01 guidance in identifying habitats. Habitat descriptions are divided into the 'distinctiveness' categories used in the calculations presented in the Biodiversity Gain Assessment, with more weight being afforded the more distinctive/important habitats.

34. Generally, the following apply to each tier of distinctiveness, although some authorities might highlight some lower distinctiveness habitats as having a higher importance locally. Where relevant we have highlighted these.

Very Low Distinctiveness Habitats

35. Habitats of little or no habitat value, i.e., lacking any significant native vegetation, but could still provide supporting habitat for protected or notable fauna such as birds or bats. In the context of BNG, their areas are included in calculations, but mitigation or compensation is not required.

Low Distinctiveness Habitats

36. Habitats which are ubiquitous, often which have been created or modified intentionally. They tend to lack diversity of species and structure. They are unlikely to support notable flora but could still provide supporting habitat for protected or notable fauna. In the context of BNG, they are included in calculations, but compensation/mitigation needs only to provide habitat of similar or higher distinctiveness.

Medium Distinctiveness Habitats

37. Habitats which are common but provide a higher level of structural and species diversity. Though unlikely to support more notable assemblages, species of interest could be present here and they are more likely to be important supporting habitat to fauna. In the context of BNG, mitigation needs to provide habitat of the same broad habitat type, or that of higher distinctiveness.

High Distinctiveness Habitats

38. Habitats which are more natural and contain more important assemblages of plants and potentially species which are rare in their own right. They will provide good habitat for fauna. These habitats are likely to be targeted as conservation priorities and will be the subject of additional policy guidance or legislation. In the context of BNG, whilst mitigation or compensation for loss or damage is possible, provision of more of the same type of habitat would be required, which (with a few exceptions) is likely to be difficult.

Very High Distinctiveness Habitats

39. These are the UK's rarest/best habitats. They will be present in very particular locations and a range of rare or important plant and animal species will depend on the particular conditions they provide. These habitats will be the subject of restrictive policy guidance or legislation. Whilst the BNG metric does not preclude mitigation or compensation in respect of these habitats, creation of the same habitat type would be required, and this would range between very difficult/expensive and impossible.

Irreplaceable Habitats

40. These are habitats of high biodiversity value, which are so difficult to recreate that it would be impossible to achieve the requirement to increase biodiversity on top of no net loss. These habitats have significant protection in the NPPF; any impacts from development require a strong justification and will flag as unacceptable in the Biodiversity Metric. Bespoke compensation for any loss of these habitats must be agreed with the LPA.

41. Each habitat is mapped and an area for each type is provided in the format of the Statutory Biodiversity Metric Calculation Tool. The areas can be used to quantify the impacts of development in an Ecological Impact Assessment if this is required by the Local Planning Authority.

[1] This Report has been prepared during November 2024 following a visit to the Site in November 2024, and our findings are based on the conditions of the Site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation, or deviation from the Site conditions which affect the conclusions set out in this report.

Habitats of Low/Very Low Distinctiveness

Figure 6 Approximate location and extent of these habitats.

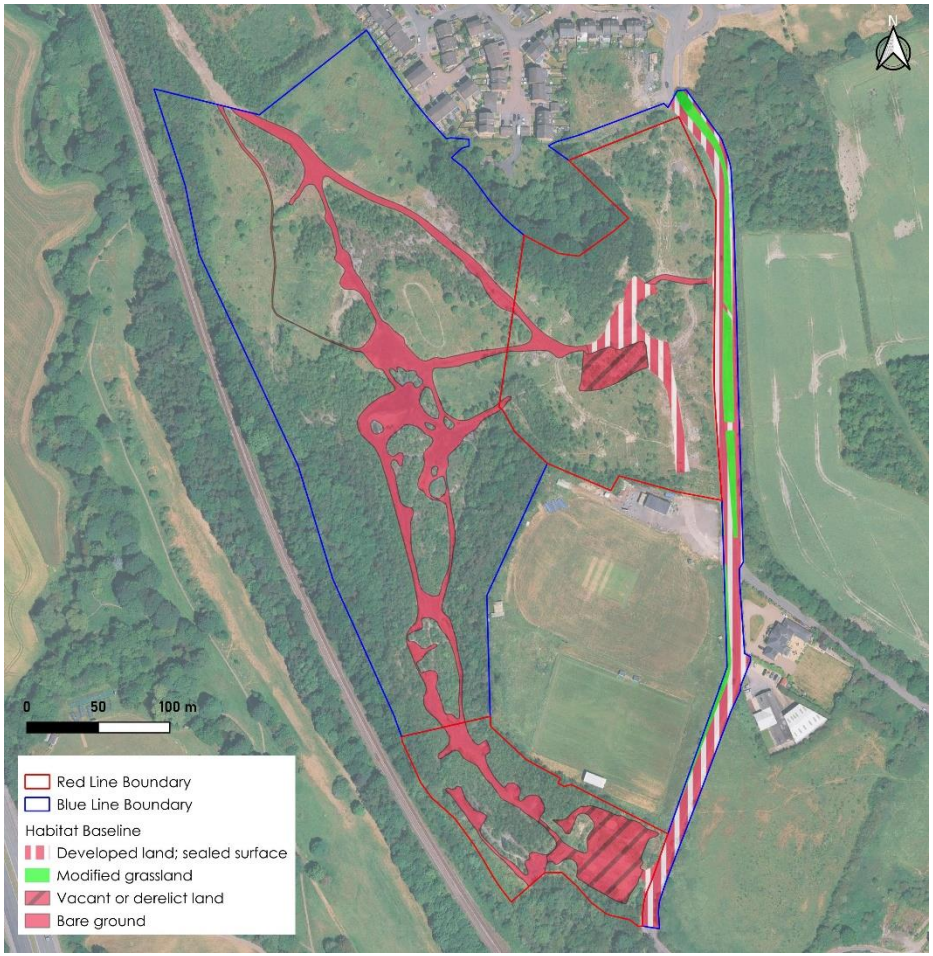


Table 2 Summary – Habitats of Low/Very Low Distinctiveness.

UK Habitats	Summary Description
Developed land; sealed surface	Concrete hardstanding; remnants of the former colliery infrastructure. Short ephemeral vegetation has colonised cracks, but are of a scale that cannot be mapped. Tarmacadam roads and footpaths.
Vacant or derelict land	Northern parcel – an area of loose boulders, with short ephemeral vegetation (notably kidney vetch) and birch scrub growing in amongst. Southern parcel – a small compound, comprising of concrete hardstanding, crushed aggregate, and earth bunds. Colonised by a similar suite of grasses and forbs as described in the grassland section below.
Bare ground	Areas of bare ground created from recreational pressure; these have steadily increased in size over recent years. Exposed soils include a mix of remediated coal-waste and other aggregates exposed and compacted through excessive trampling.
Modified grassland	Typical roadside verges, seeded with perennial ryegrass mix, and managed intensively to create a uniform short sward, which is species-poor.

Habitats of Medium Distinctiveness

Figure 7 Approximate location and extent of these habitats.

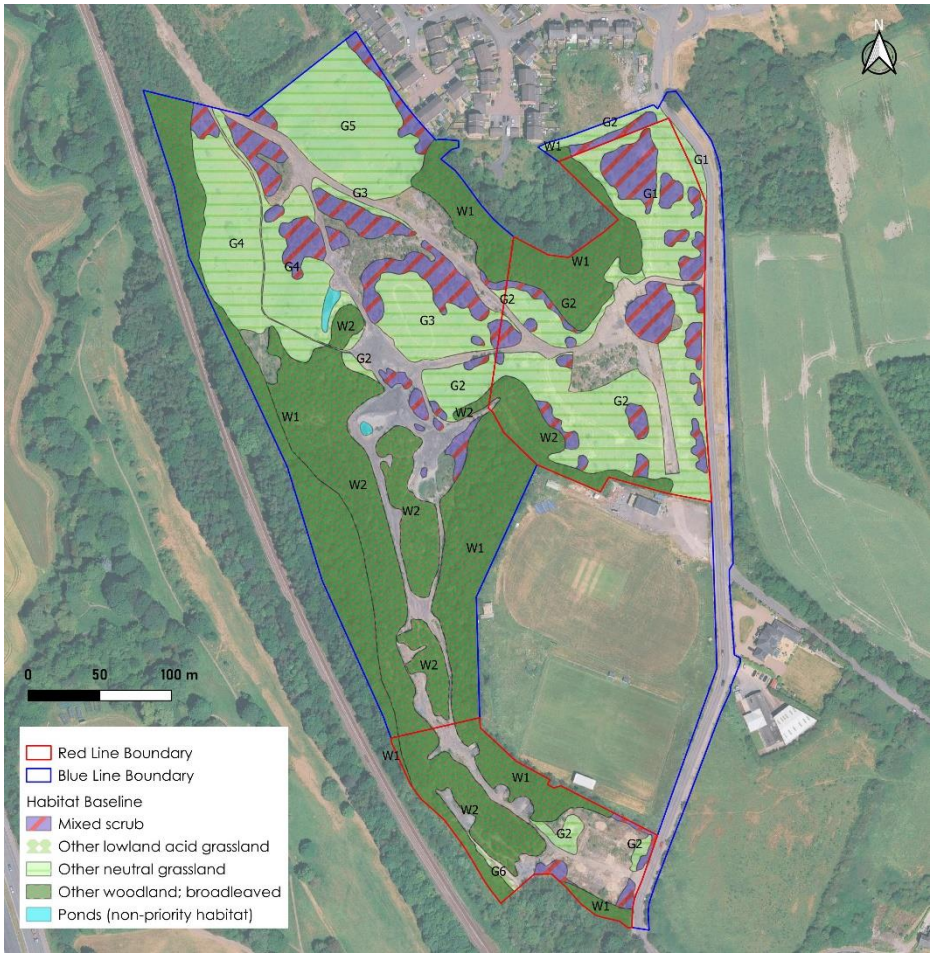


Table 3 Summary of Medium Distinctiveness habitats.

UK Habitats	Label Ref	Summary Description
Other neutral grassland		Following the closure of the colliery, the Site was left un-restored and unmanaged, allowing it to vegetate naturally on a substrate of nutrient-poor soils and crushed coal/rubble. As such, much of the Site is currently occupied by a rough grassland sward, which is moderately diverse and predominantly neutral. The grassland has never been managed, and other than low-level rabbit grazing areas and informal access/dog walking, the grassland is left undisturbed. The encroachment of scrub is now the main threat to the grassland interest, with the accumulation of thatch/nutrients being a secondary issue. The grassland can be split into five general areas, based on species composition and levels of disturbance. These are shown in the figure opposite and described below.
	G1	This includes the grassland fronting Woolley Colliery Road and an area of grassland to the far northern end of the Site. This area is subject to rabbit grazing, and higher levels of disturbance (roadside and trampling). Here, species noted include false oat grass, tufted hair grass, creeping bent, common knapweed, creeping cinquefoil, teasel, oxeye daisy, ribwort plantain, hairy tare, bee orchid, yarrow, creeping thistle, common centaury, mugwort, willowherbs, red fescue, nipplewort, common hogweed, dandelion, cock's-foot, curly dock, broad-leaved dock, common bird's-foot trefoil, meadow buttercup, square-stemmed St. John's-wort, spear thistle, cow parsley, meadow vetchling, creeping buttercup, cleavers, gladiolus (garden escape), perennial sow-thistle, rosebay willowherb, common vetch, Yorkshire fog, coltsfoot, Michaelmas daisy, selfheal, hop trefoil, glaucous sedge, mouse-ear hawkweed, red clover, common ragwort, cat's ear, rough hawkweed and tufted vetch. Within the basin of the dry ditch, greater willowherb, soft rush, hard rush, common reed and bulrush are also noted. Throughout the grassland, scrub is abundant (>5%) and included bramble, alder, dog rose, goat willow, silver birch, hawthorn, broom, and saplings of ash and oak.
	G2	This includes the grassland within the northern site, which is found growing on the gentle east-facing slope up to the wider colliery land. This grassland is slightly less diverse and has a thicker thatch layer. Other than a single informal path, this area is relatively undisturbed. Species present here include false oat grass, coltsfoot, common ragwort, cow parsley, tufted vetch, ribwort plantain, common sedge, hop trefoil, teasel, curly dock, common

UK Habitats	Label Ref	Summary Description
		centaury, creeping thistle, tall melilot, meadow vetchling, white clover, hairy tare, common vetch, yellow rattle, dandelion, black medick, rosebay willowherb, red bartsia, common mouse-ear, red clover, common hogweed, spear thistle, common bird's-foot trefoil, hawkweed, perforate St. John's-wort, hoary ragwort and false brome. Again, scrub is well distributed across this area, and includes bramble, dog rose, goat willow, silver birch, alder and saplings of oak, ash and sycamore.
	G3	This grassland is found on a plateau within the blue line land, and again is relatively undisturbed and supports less scrub cover. This area supports all the species listed in G2, along with oxeye daisy and goat's beard.
	G4	This occupies a gentle west facing slope, down to the woodland bordering the railway. Scrub is again a significant component, with dog rose, silver birch, gorse, goat willow and bramble being the main constituents. Species noted within the grassland include false oat grass, creeping bent, red fescue, common bird's-foot trefoil, ribwort, common knapweed, common ragwort, white and red clover, hoary ragwort, hop trefoil, curly dock, perforate St. John's-wort, hairy tare, creeping buttercup, red bartsia, yellow rattle, common sedge, yarrow, common vetch, creeping thistle, common centaury, Yorkshire fog, selfheal, broad leaved willowherb, perennial ryegrass and tall melilot. There has also been a recent proliferation of yellow rattle – likely introduced to the Site through a seed mix.
	G5	This grassland is notably less diverse than the rest of the Site, and more homogeneous in its height and composition. Species here include false oat grass, cock's-foot, common ragwort, creeping thistle, rosebay willowherb, common nettle, hairy tare, bramble, elder and dog rose.
Other lowland acid grassland	G6	Small pockets of species-poor acid grassland are scattered throughout the Site, primarily along the banks of soil piles and the edges of spoil/aggregate paths. These are generally too small in extent to map, and thus have been grouped with the other neutral grassland habitat. These pockets of grassland generally comprise 40-50% bare ground, with common acrocarpous mosses and mouse-ear hawkweed being the dominant vegetation, with smaller components of wavy hair grass and hawkweed. To the southwest corner, sloping down towards the railway line, is a steep bank vegetated with a thin strip of slightly more diverse acid grassland. Species here include wavy hair grass, sheep's fescue, mouse-ear hawkweed, sheep's sorrel, wood sage, common centaury, and hawkweed.
Mixed scrub	-	Where scrub within the grassland has become dense and impenetrable, it has been mapped separately as 'mixed scrub'. The dominant scrub species are those already listed in the grassland, namely dog rose, hawthorn, silver birch, goat willow, bramble, and saplings of oak, ash and sycamore. Rough neutral grassland is found growing along the edges of the scrub.
Other woodland; broadleaved	The woodland can be split into two main types, based on the age of the canopy and the woodland's structure. The older, mature woodland (W1) was likely present when the colliery was active, whilst the younger birch woodland (W2) has only recently established through natural succession.	
	W1	Across all of the W1 woodland, the canopy comprises oak, silver birch, sycamore, alder, goat willow, Scots pine and wych elm, whilst the understorey comprises dense young regeneration of these species, together with rowan, hawthorn, and dog rose. To the north, the ground layer comprises primarily bramble and nettle, whilst to the centre (blue line land) the ground layer is sparser and includes many of the species listed in the grassland section, as well as bramble, male fern, nettle, red fescue, common vetch and wood sage.
	W2	W2 was previously mapped as mixed scrub, but has now been remapped as woodland. In reality, these areas comprise almost entirely dense, young silver birch, measuring up to 5m high. They support few other species within the canopy, and the ground layer is sparsely vegetated due to low light levels.
Ponds (non-Priority Habitat)	-	Several small waterbodies are present on-Site. These are ephemeral in nature, only holding water over winter, and during periods of heavy or persistent rainfall. For the majority of the year, these are either in various stages of drying or hold no water. The pools are largely devoid of vegetation or have small stands of bulrush. One of the pools near the centre of the blue line land is dominated by rushes, including common spike rush, bullrush, hard rush, jointed rush and common club rush. The pools have formed on compacted, un-remediated coal spoil, and thus water quality is assumed to be poor.

Habitats of High Distinctiveness

Figure 8 Approximate location and extent of these habitats.

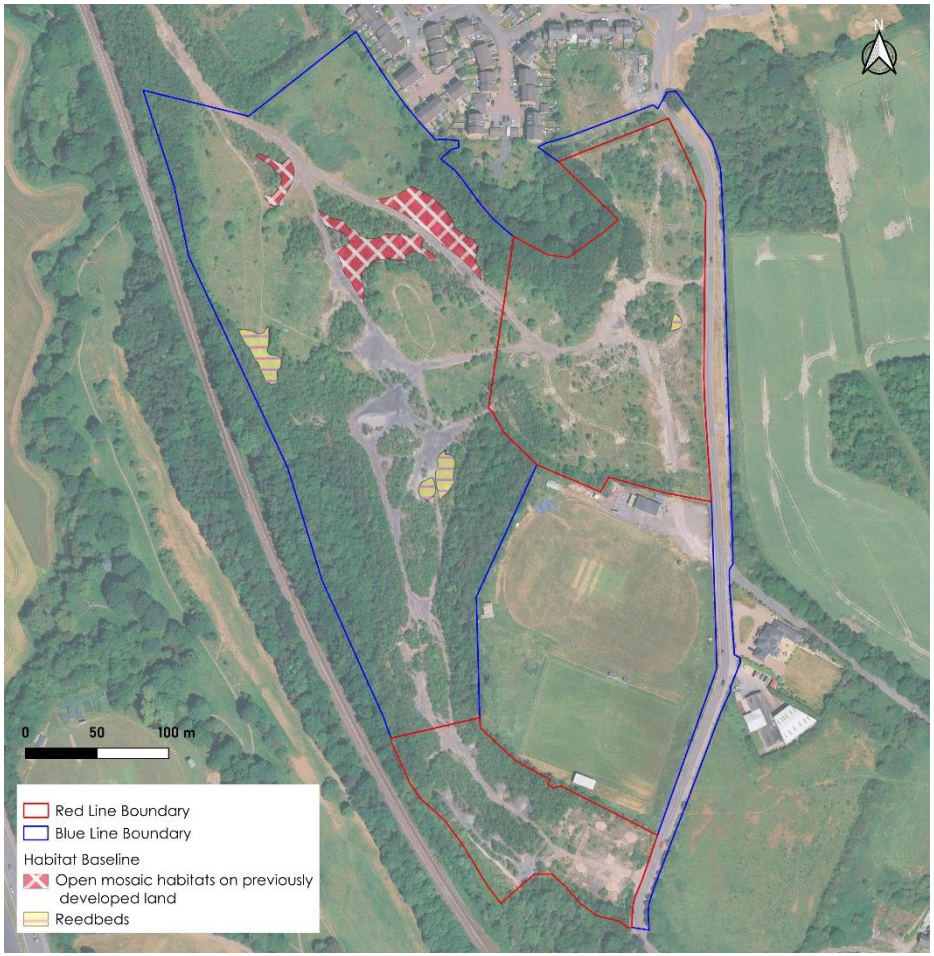


Table 4 Summary of High Distinctiveness habitats.

UK Habitats	Summary Description
Open mosaic habitat on previously developed land (OMHPDL)	Most of the former colliery is mapped as this Priority habitat on MAGiC, and it is assumed that for the many years after the colliery ceased operation, large parts of the Site (red and blue line boundaries) will have met the criteria for inclusion in this habitat type. However, this habitat is ephemeral by its very nature and has since been lost from most of the Site through natural succession to grassland, scrub and young birch woodland. Now, only a few small fragments of habitat remain that could still be considered to fulfil the definition of open mosaic habitat. These support a mix of bare substrate, bryophytes and low-growing forbs adapted to extreme conditions. Additional areas still resemble OMHPDL, but given the abundance and density of scrub, these areas are now mapped as that habitat – but could quite easily be restored back to the priority habitat.
Reedbed	Several small, dense blocks of common reed have developed on-Site, in areas that are naturally wet due to compacted ground. Along with common reed, other species noted include compact rush, greater bird's-foot trefoil, coltsfoot, marsh woundwort, hard rush and field horsetail.

Faunal Appraisal

42. The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the Site.

Amphibians

Desk evidence

43. There are no (permanent) ponds on-Site and none are shown on mapping within a 250m radius of the Site boundary. A number of ephemeral pools are noted within the wider colliery; however, these do not provide suitable breeding habitat for species like great crested newt (GCN).

44. BBRC hold six amphibian records for the area, covering common frog (2), common toad (1), smooth newt (2) and GCN (1). The latter dates to 1995 for a pond at Birthwaite Hall Farm, c. 900m west, on the opposite side of the M1.

45. WYE hold a further three amphibian records, these being of GCN (1) and smooth newt (2). The GCN record relates to the same pond as the BBRC search, and also dates to 1995.

Field Evidence

46. No suitable breeding habitat is present on-Site or within a 250m radius of the boundary.

47. The Site provides suitable terrestrial habitat for this group, with the rough grassland, scrub and woodland providing good foraging habitat, and the rubble piles providing areas of shelter/resting places.

Summary Evaluation

48. Despite the Site providing suitable terrestrial habitat, the absence of potential breeding habitat and lack of local records means the likely absence of GCN from Site can be reasonably concluded.

Further Surveys and Recommendations

49. No further surveys or precautions are considered necessary.

Bats

Desk evidence

50. Within the BBRC search, records have been returned for common pipistrelle, soprano pipistrelle and noctule.

51. Dedicated activity surveys were completed in summer (July) and autumn (September) 2022 (see Brooks Report ER-6218-02A). Bat activity across the two red line boundaries was limited, and did not indicate that these areas were of importance to any local bat populations. At least five species of bat were recorded (possibly seven); however, only soprano pipistrelle was recorded at any meaningful level. Other species recorded include common pipistrelle, noctule, brown long eared, and at least one mytoid bat, but possible up to three (whiskered, Brandt's and Daubenton's).

Field Evidence (Roosting)

52. No buildings are present on-Site.

53. Most of the trees growing on-Site are young and do not appear to have features suitable for roosting. However, a detailed inspection of all woodland trees was not undertaken.

Field Evidence (foraging and commuting)

54. The mix of grassland, scrub and woodland habitat within the red line boundaries provides suitable habitat for foraging bats and lies in proximity to strong linear features (railway line and River Dearne). The Site (red line) is therefore likely to be of value to local populations as a foraging resource.

Summary Evaluation

55. The Site, and wider colliery, is of at least local value to foraging bats, in particular soprano pipistrelle.

Further Surveys and Recommendations

56. Further survey is recommended to collect up-to-date information on the Site's baseline use by this group. Surveys should comprise of seasonal transects and monthly monitoring.

57. Any woodland trees scheduled for removal as part of the proposals should be subject to a pre-commencement check for bat roost suitability.

Birds

Desk Evidence

58. An extensive list of bird records has been returned for the search area by BBRC. This includes a number of BAP species, Schedule One birds, and species listed on the Red and Amber list.

Field Evidence

59. A typical suite of common garden and farmland edge species were recorded flying over the Site during the walkover survey.

Summary Evaluation

60. The Site supports a mix of grassland, scrub and woodland habitats, which offer suitable foraging and nesting habitats for common garden birds; however, this is small in extent and surrounded by large swathes of similar or higher value habitat. As such, the Site is considered unlikely to be of significance to any rare or notable species and is unlikely to be of more than site level importance for this group.

Further Surveys and Recommendations

61. No further surveys are considered necessary to demonstrate current baseline in respect of birds.

62. Standard precautions apply in respect of restrictions on clearing vegetation during the nesting season.

Badgers

Desk evidence

63. Two badger record have been returned for the 2km search area. Of these, only one is of relevance to the Site, this being of a suspected badger field sign (partially raided bee nest) off-Site to the east, recorded in 2016. The validity of this record is unknown.

64. A dedicated badger survey was completed in September 2022 (see Brooks Report ER-6218-04), encompassing all land within the Site's red line boundaries, as well as all accessible land within a 30m radius. This found no evidence of badger activity.

Field Evidence

65. No evidence of badger activity was identified on-Site, however, much of the dense scrub habitat and woodland was inaccessible for survey.

Summary Evaluation

66. The woodland and scrub habitats present on-Site provide suitable habitat for sett building, whilst the Site as a whole provides good foraging habitat.

67. The Site is also bordered by large areas of woodland and scrub habitat, as well as well-vegetated railway embankments.

Further Surveys and Recommendations

68. Although no badger activity has been recorded on-Site, the likely absence of badgers from site cannot be reasonably concluded. A dedicated badger survey is therefore recommended during the next winter period, when vegetation has died back, in order to keep survey data up to date.

Reptiles

Desk evidence

69. BBRC and WYE have returned five records for reptiles within the search area; these all relate to common lizard recorded in summer 2019, on an off-Site section of the Former Woolley Colliery c. 540m–1.1km north (see figure opposite).

70. A dedicated Reptile Survey was undertaken at the Site by ECUS Environmental Consultants Ltd. in June to September 2019 (Report Ref. 13165). This survey confirmed the likely absence of reptiles from the two red-line boundary areas at this time.

71. A dedicated Reptile Survey was undertaken by Brooks Ecological in 2022 (see Report ER-6218-03B); this found a single common lizard within the southern red line boundary.

Field Evidence

72. The Site provides good reptile habitat, with a mosaic of bare ground, grassland, scrub and woodland edge habitats providing foraging resources, shelter and basking spots.

Summary Evaluation

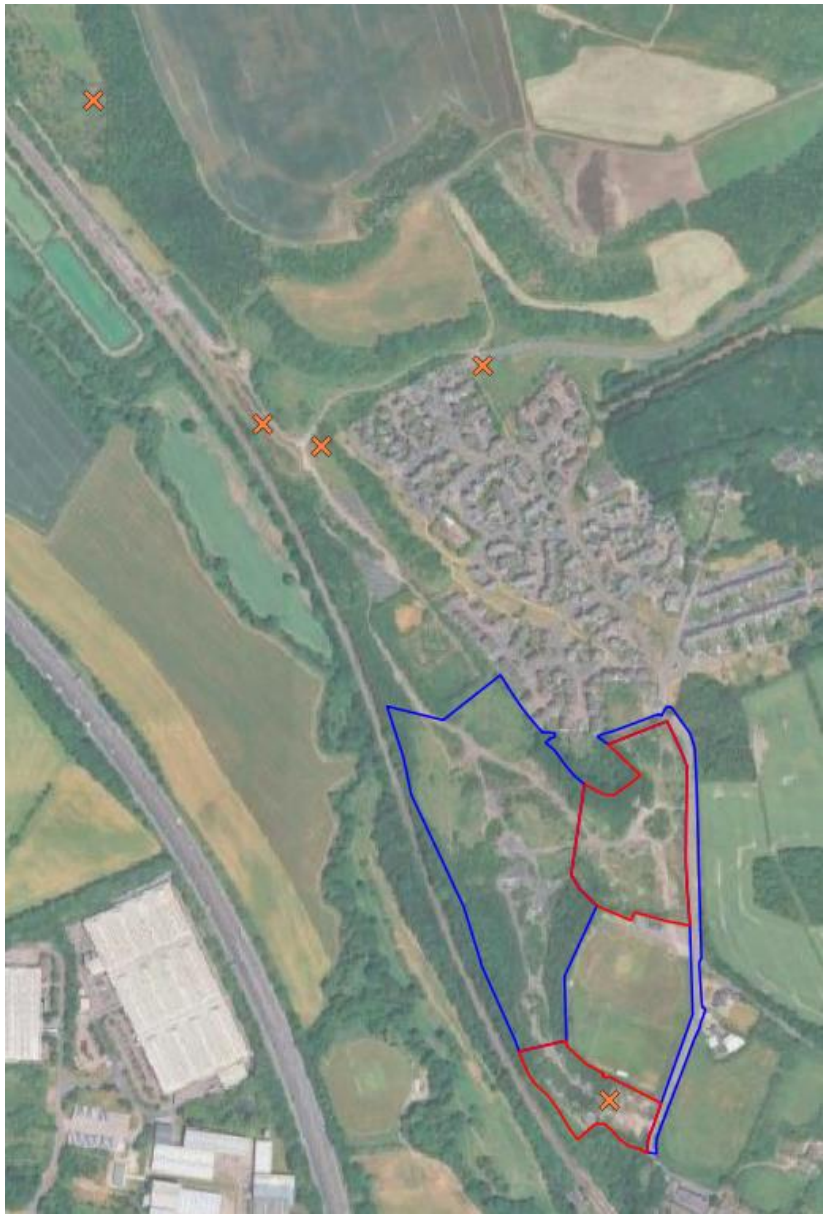
73. The Site continues to provide good reptile habitat and is well connected to a known common lizard population within the same colliery site, c. 0.5-1km north.

74. The presence of a very small common lizard population on-Site (red and blue line) can be assumed.

Further Surveys and Recommendations

75. An updating reptile survey is recommended, to confirm the status of common lizard on-Site and to inform mitigation. This should encompass both blue and red line land.

Figure 9 Common lizard records (orange cross)



Invertebrates

Desk evidence

76. BBRC and WYE have returned records for cinnabar moth, dingy skipper butterfly, latticed heath moth, shaded broad-bar moth, small heath butterfly and wall butterfly.

Field Evidence

77. A detailed Invertebrate Assessment was undertaken at the Site in 2019, by Conops Entomology Ltd. (report ref. 27.19). The survey identified six 'important' species associated with the Site and recorded during these surveys. These species are alder leaf beetle (*Agelastica alni*), a leaf beetle (*Longitarsus dorsalis*), a fruit fly (*Acanthiophilus helianthi*), dingy skipper (*Erynnis tages*), small heath (*Coenonympha pamphilus*), and small blue (*Cupido minimus*). Two of these (alder leaf beetle and *A. helianthi*), however, do not warrant their current status and are likely to be downgraded.

78. A second Invertebrate Assessment was made in 2023 (May-September) by Entomologist Andy Godfrey. A total of 309 invertebrate taxa were recorded on-Site, including one Red Data Book species, one Data Deficient, one Nationally Rare, two Nationally Scarce, one Nationally Scarce, one Notable, two Section 41 Priority species and three S41 Priority species. Taken together, the species of interest suggest that both the proposed development (red-line) area and the mitigation (blue-line) area are attractive for a wide variety of invertebrates and support a number of uncommon species, including at least one nationally rare species (the cranefly *Tanyptera nigricornis*).

Summary Evaluation

79. Based on the 2019 and 2023 invertebrate surveys, it is suggested within the report that the Site's key features should be considered to be of at least District importance.

80. The Site is considered to be of District importance owing to the limited number of significant species recorded during the surveys and also the overall and reasonably poor lists of species from both compartments. However, the lists do include two significant butterfly species (small blue and dingy skipper) and, to a lesser extent, the small heath butterfly (on the northern compartment only). The Site is part of a much larger area of a former colliery that has a large population of small blue butterflies further afield and is likely to hold other species that are also recorded from the Site.

Further Surveys and Recommendations

81. An updating survey is recommended in 2025, in order to collect up to date information on this group, which will then inform mitigation.

82. Mitigation measures outlined in the Conops Entomology Ltd report should be implemented as part of the scheme, either within the Site boundaries or the wider Woolley Colliery site.

Mitigation measures

83. A summary of the proposed mitigation is provided below. Full details would need to be agreed with the council under a Biodiversity Management Plan (BMP):

- Creation of open mosaic swards on low-fertility calcareous soils. Bare ground to comprise 50% of habitat mosaic. Other 50% to comprise bespoke seed mix for target invertebrates.
- Creation of invertebrate banks using low-fertility calcareous material. Constructed to have south facing aspect, in crescent shape. At least 10m in length, and range in height from 1 to 3m. Minimum of three features. Seeded with bespoke mix.
- Creation of flower-rich tall sward. Seeded with bespoke mix or plug planted.
- Creation of a scrub fringe, including apple, blackthorn, cherry plum, field maple, hawthorn, plums, rowan and willows.
- Creation of deadwood features (standing and fallen).

Invasive Non-Native Species (INNS)

84. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild.

85. None were noted during the survey[2].

Survey constraints

86. Although no INNS have been identified in this preliminary survey it is not always possible to conclude absence from preliminary survey alone due to factors such as season, accessibility, 3rd party attempts to hide evidence or undisclosed treatment programmes. For this reason, this report should not be relied upon as definitive evidence of absence of INNS.

87. This site presents a medium-small risk of supporting undetected INNS based on the following factors:

- Areas of site inaccessible to survey
- Proximity to nearby potential sources of infection (railway line)
- Potential for tipping of material

88. Should further assurances be needed in relations to INNS, a dedicated Invasive Weed Survey should be commissioned.

[2] Whilst our ecologists are trained in the identification of invasive species this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not possible through preliminary survey alone. As the presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints

Habitat Value

89. The usual approach to development is to minimise any net loss of biodiversity towards a gain in biodiversity value where this is possible on-Site. Our separate report on Biodiversity Gain sets out the position of the Site in terms of measured biodiversity.

90. Irrespective of the Biodiversity Gain process, development should still seek to retain what is best about the Site.

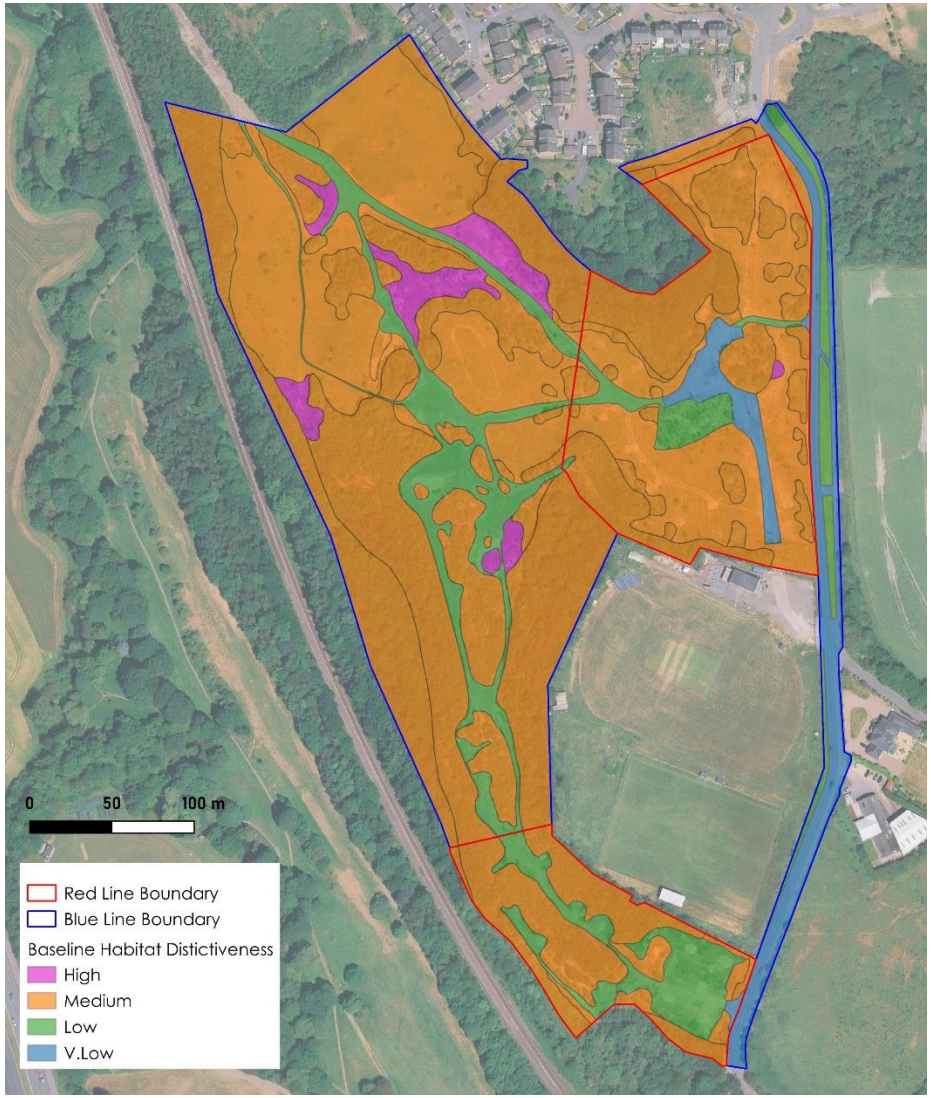
91. The plan opposite shows the Site in the context of mapped habitat distinctiveness with the aim of informing the design of any layout. It shows that most of the development Site (red line) is occupied by habitats of medium distinctiveness. In line with the BNG Mitigation Hierarchy, impacts on habitats of medium and higher distinctiveness should be avoided where possible, and ideally retained and enhanced within the layout. This is clearly not possible here, and as such, the scheme should seek to minimise the loss of medium distinctiveness habitats and put in place mitigation for any losses within blue line land. The project benefits from the availability of blue line land, which can be available for biodiversity offsetting.

92. A single small parcel of high distinctiveness habitats (reedbed) is present on-Site; this is not worthy of retention (due to size) and could be compensated either on-Site (within the SUDS basin), or on blue line land.

Faunal constraints

93. Based on previous surveys of the Site, terrestrial invertebrates and to a lesser extent reptiles (common lizard), have been identified as potential constraints to the Site's development. Mitigation for both of these groups will need to be embedded into the proposals, making use of blue line land.

Figure 10 Habitat distinctiveness.



Ecological Opportunities

94. The key ecological opportunities here relate to enhancing existing habitats within the blue line boundary so as to maximise BNG uplift and secure a net gain for the scheme.

95. Off-Site land will also need to be used to provide enhancements for groups such as reptiles (common lizard) and notable invertebrates. This could take the form of creating grassland mosaics (acid/neutral/calcareous), with food plants for dingy skipper and small blue, and creating hibernacula for common lizard.

96. At time of writing, informal access is causing extensive damage to the baseline habitats. Formalising access and providing 'made' footpaths within the blue line land will help to reduce this damage and allow habitats to recover.

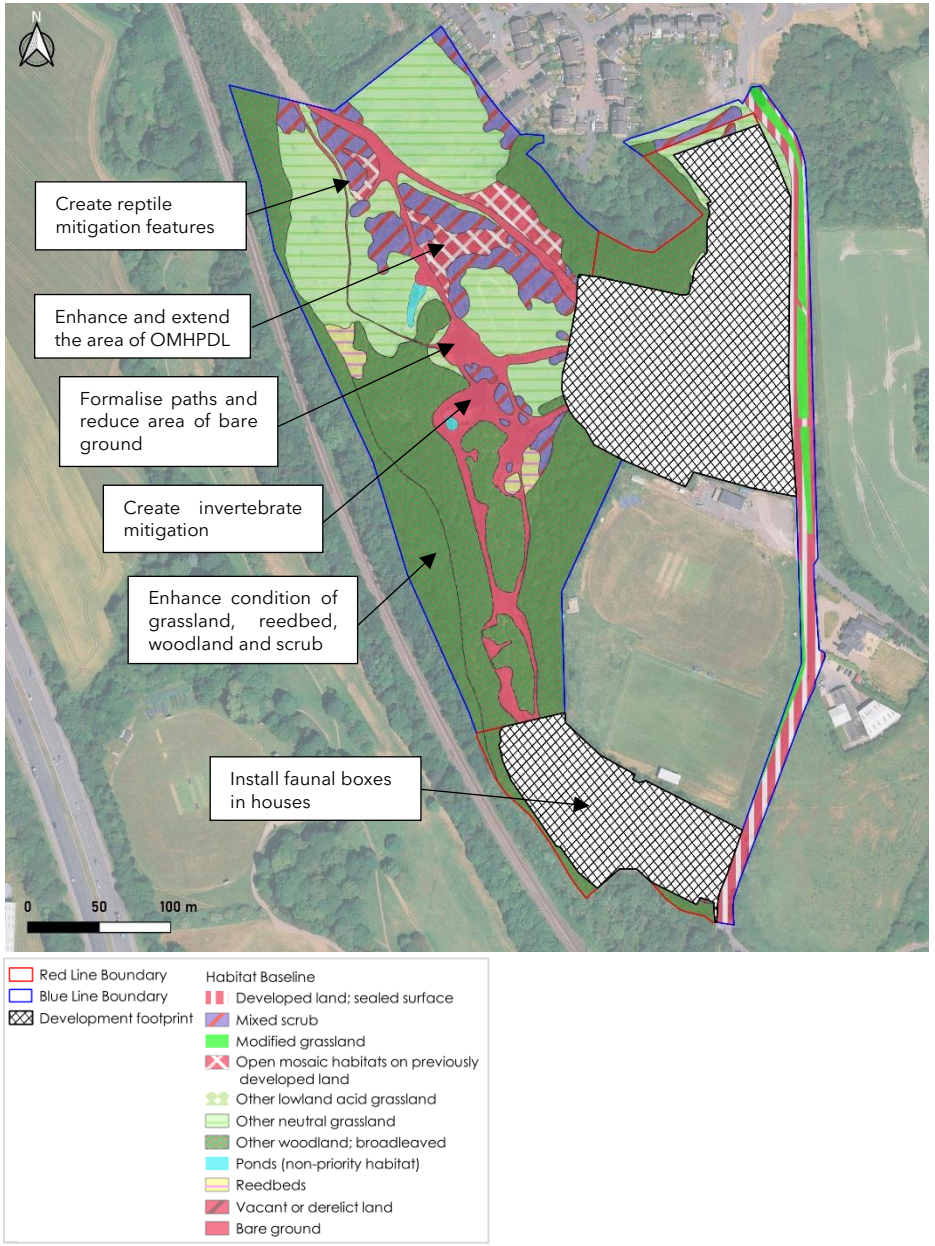
97. OMHPDL is currently a diminishing resource, which could be enhanced and increased through sensitive management, including scrub removal and regular disturbance to reset natural succession.

98. Retained habitat within the red line boundaries could be entered into a more ecologically sensitive management regime, to improve their condition score, or change the habitat type into one of a higher distinctiveness.

99. Installing roosting or nesting features within new buildings will also be beneficial for bats and hole-nesting birds, especially in areas where these overlook retained boundary vegetation.

100. A Biodiversity Management Plan would be useful in defining these enhancements and can be secured by standard condition.

Figure 11 Ecological Opportunities.



Conclusions and Recommendations

Planning considerations		
Recommendation	**Rationale**	**When**
R1 Additional surveys	Badger Reptile Bat Activity Terrestrial Invertebrate Assessment	November to March April to September April to October May to September
R2 Produce a layout which minimises loss of biodiversity	Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage. The proposals will need to consider the NPPF hierarchy of Avoid–Mitigate–Compensate in minimising any loss of biodiversity. Biodiversity Net Gain (BNG) policy mandates a minimum 10% Net Gain in Biodiversity Units, and the LPA may request additional gains. Your layout may need to change to accommodate your findings from R1 surveys.	During the design process
R3 Design	Make sure your design team follows ecological advice to and make sure there are no design conflicts. Produce a habitat retention plan at an early stage which can be used to inform BNG and maximise scores. A habitat retention plan should identify areas which can be excluded from any impacts of clearance and construction. In producing a plan you should consider the need to provide (amongst other things) Site compounds, to store and move materials, to install drainage, flood storage, access and services, all with suitable easements. Decide on the extent of red-line vs blue-line land. Minimising the extent of your red line can limit exposure to BNG, but can also leave you needing separate legal agreements to use off-Site land for BNG delivery. Work out at an early stage what is right for your project. Your planning consultant should be able to help with this decision.	During the design process
R4 Biodiversity Net Gain (BNG)	Carry out a BNG Assessment using the Statutory Biodiversity Metric Calculation Tool and accompanying Condition sheets produced by Defra.	During the design process
R5 Ecological Impact Assessment (EcIA)	This report summarises all survey findings and assesses the impacts of the scheme in respect of these. Due to the scale of this development and the potential issues at hand it would seem an unlikely requirement, but may be requested by the LPA.	Prior to submission, after a fixed design is agreed and all key additional surveys are completed
R6 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on-Site and to show how habitats incorporated will be managed.	Delivery report Suitable for planning condition
R7 Produce a CEMP (Biodiversity)	To show how the Site will be built without affecting surrounding habitats and minimising risk of affecting protected or notable fauna. The CEMP will detail the following protection measures: • Location of Biodiversity Protection zones or fences • Dealing with known or discovered invasive species • Pre- or during- clearance ecology checks for protected species • Protected/notable species method statements where licensing is not needed • Nesting bird management	Delivery report Suitable for planning condition

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Appendix 5 Legislation (where not stated above)

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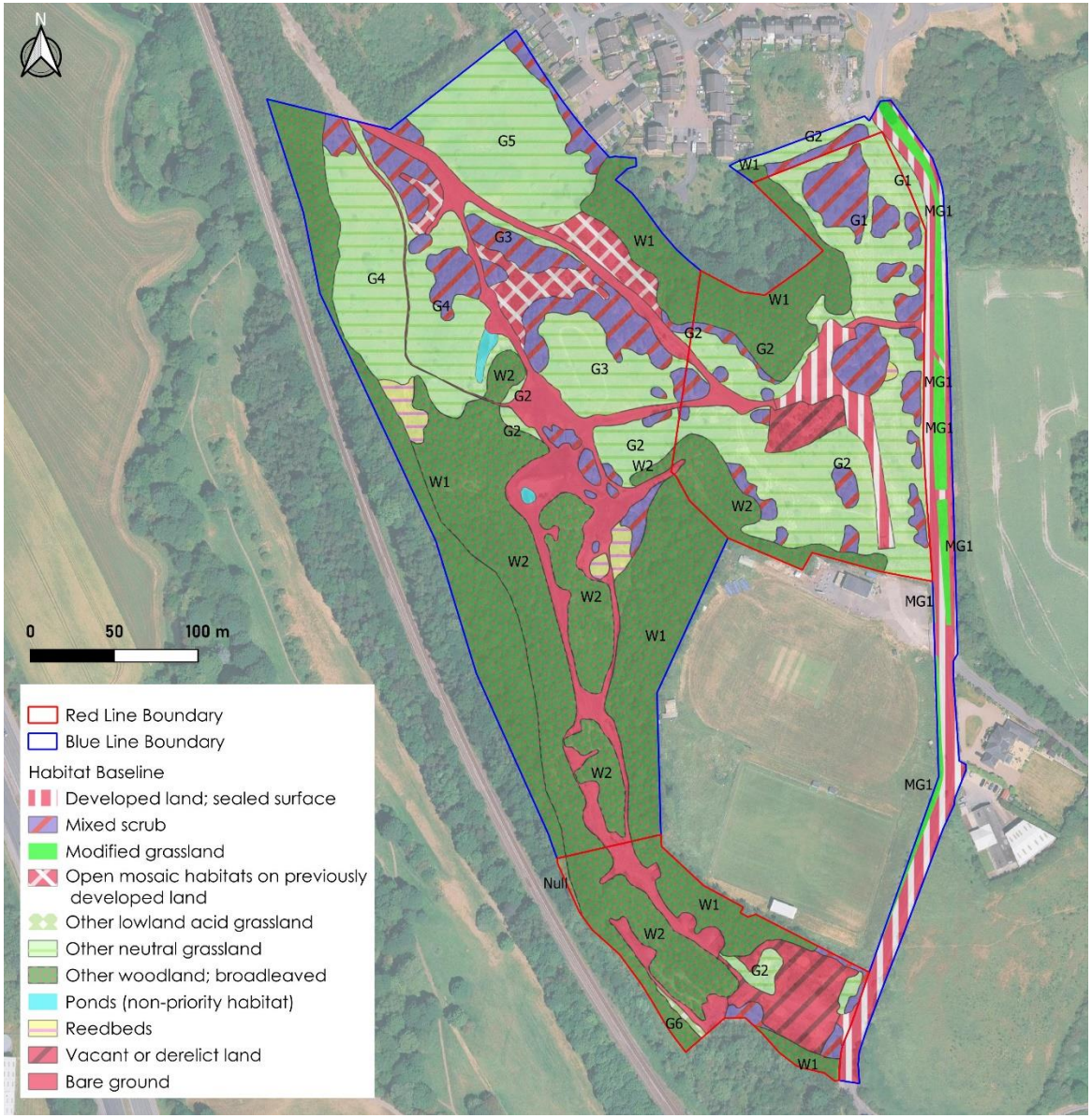
Appendix 1 Habitats and Ecological Features



Appendix 2 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the Site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application-Site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSIs]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as:

- Hydrological links – is the Site upstream downstream, or could ground water issues affect it?
- Physical links – is the Site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links – do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links – is the Site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones' of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the Site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on-Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce, or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2023).

Bat Roosting Suitability of Buildings

Suitability	Criteria
None	No habitat features on-Site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features on-Site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. 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 and not a classic cool/stable hibernation-Site, but could be used by individual hibernating bats).
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 (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure 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. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation-Site.

Bat Roosting Suitability of Trees

Suitability	Criteria
None	Either no PRFs in the tree, or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present within the tree.
PRF-I	Potential roost feature suitable to support individual or low numbers of bats.
PRF-M	Potential roost feature suitable to support multiple bats and possibly be used by a maternity colony.

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as:

- the baseline presented above,
- the Site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the Site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 3 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration/protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration/protection of important bird populations and the Sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes the EC Habitats Directive into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on-Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP/LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation/development in the proximity of setts.

Protected Sites

Statutory EU/International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist – all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests – whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended.

Lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: Himalayan balsam (*Impatiens glandulifera),* Japanese knotweed (*Reynoutria japonica*), and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy/Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was updated in December 2023. The most relevant paragraphs from the NPPF are set out below.

The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system – the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should "protect and enhance our natural, built and historic environment", including "improving biodiversity". P10 sets out the Framework's presumption in favour of sustainable development.

Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should "take opportunities to achieve net environmental gains – such as developments that would enable new habitat creation" and should "recognise that some undeveloped land can perform many functions, such as for wildlife" (P124).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be "protecting and enhancing valued landscape [and] sites of biodiversity […] value", "recognise the intrinsic character and beauty of the countryside" and contribute to conserving and enhancing the natural environment and reducing pollution (P180). Allocations of land for development should, "allocate land with the least environmental or amenity value, where consistent with other policies in this Framework" and "take a strategic approach to maintaining and enhancing networks of habitats" (P181).

The Framework sets out ways to minimise the impacts on biodiversity through plans which "identify, map and safeguard components of local wildlife rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity" and promote the "conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity" (P185).

It is made clear in P186 that local planning authorities should apply a set of principles when determining planning applications. Planning permission should be refused "if significant harm to biodiversity resulting from development cannot be avoided […], adequately mitigated, or, as a last resort, compensated for". Development should not normally be permitted where an adverse effect on a SSSI is likely, and "opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity".

UK Biodiversity Indicators 2023; update to Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services

The UK Biodiversity Indicators 2023 provide updates to the indicators set out in Biodiversity 2020 including new species abundance targets as set out in the Environment Act 2021. Biodiversity 2020 builds on the Natural Environment White Paper (June 2011) – Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP/Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System
Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity – Code of Practice for Planning and Development

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.