

Brooks Ecological
Grounded advice

Preliminary Ecological Appraisal Report

Land of Lindley Moor Road, Huddersfield

Martin Walsh Architectural

Report Reference: ER-4823-01A

21/10/2020

Report Title:	Preliminary Ecological Appraisal Report Land of Lindley Moor Road, Huddersfield
Report Reference:	ER-4823-01A
Written by:	Josh Birchall BSc (Hons) GradCIEEM Ecologist
Technical Review:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
QA:	David Lovett MBiolSci (Hons), ACIEEM Ecologist
Approved for Issue:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
Date:	21/10/2020

Brooks Ecological Ltd has prepared this report for the sole use of Martin Walsh Architectural. The information which we have prepared and provided is in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice. The report is in accordance with the agreement under which our services were performed. No warranty, express or implied, is made as to the advice in this report or any other service provided by us. This report may not be relied upon by any other party except the person, company, agent or any third party for whom the report is intended without the prior written permission of Brooks Ecological Ltd. This report presents a snapshot of the site at the date it was surveyed; the conditions and the species recorded present, or likely absent, can change rapidly. Resurvey is recommended to any third-party seeking reliance on this report. The content of this report may, in part, be based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third party has not been independently verified by Brooks unless otherwise stated in the report. This report is the copyright of Brooks Ecological Ltd. Unauthorised reproduction or usage by any person is prohibited.

Brooks Ecological
Grounded advice

Unit A, 1 Station Road, Guiseley,
Leeds, LS20 8BX
01943 884451
admin@brooks-ecological.co.uk
www.brooks-ecological.co.uk
Registered in England Number 5351418

CIEEM REGISTERED PRACTICE 2020-2021
smas WORKSAFE
Constructionline Gold Member

Contents

Introduction **1**
Desk Study **2**
Designated Sites **3**
Survey **5**
Habitat Appraisal **5**
DEFRA Metric (Baseline) **10**
Faunal Appraisal **11**
Ecological Constraints **16**
Ecological Opportunities **16**
Conclusions and Recommendations **17**
Appendix 1 Habitats and Ecological Features 19
Appendix 2 Explanatory Notes and Resources Used 20
Appendix 3 Bat Activity Survey Rationale 23
Appendix 4 Wildlife Legislation, Policy and Guidance 24

Summary

This report is produced to inform Martin Walsh Architectural of potential ecological constraints associated with the proposed development site.

Methodology

The 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 September 2020.

Findings - Key Points

- The site has been assessed as having an Ecological Baseline score of 12.95 Habitat Units and 0.64 Hedgerow Units. Proposals will need to consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. Efforts should be made to achieve this on Site but where this is not feasible the LPA could request that a contribution is made to address any residual shortfall in biodiversity gain, off-Site.
- Overall, the site appears to be of limited ecological value and no species-specific surveys have been recommended.

Introduction

1. Brooks Ecological Ltd was commissioned by Martin Walsh Architectural to carry out a Preliminary Ecological Appraisal (PEA) of land at Land of Lindley Moor Road, Huddersfield.
2. 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.
3. In anticipation of the adoption of DEFRA's Biodiversity Metric 2.0 we have used the UK Habitat Classification descriptions rather than the long established JNCC codes. These habitat classifications and 'the metric' are work in progress and could be subject to future change.

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 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.
7. Biodiversity Units can help to inform avoidance, or on-Site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-Site) is required. Please be aware that they *can* significantly impact on costs and viability.

The Site

8. The application site 'the Site' comprises three pasture fields on the northern periphery of Huddersfield.
9. 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.

Figure 1 The Site boundary - red line



Desk Study

Landscape

10. The Site occupies an exposed hill-top location on a thin strip of undeveloped land sandwiched between suburban development associated with the northern periphery of Huddersfield and the M62. Immediately to the south and east are residential areas whilst to the west is a commercial/ light industrial estate and to the north another small field lies in between the site and M62.
11. The site has a mixed underlying geology primarily associated with various sandstone beds and the Lower Pennine Coal Measures. This may lend itself to supporting locally acidic soil.

Wildlife Corridors

12. There are no obvious wildlife corridors running through the area. The M62 cutting east – west through the area will form a sever barrier to wildlife movements across it.
13. A network of small woodlands represents higher value habitats these are often enclosed by development but along with open space and gardens will likely act as a steppingstone for some species through the area.

Waterbodies

14. There are no waterbodies shown on mapping within 500m of the site.

Figure 2 Analysis of wildlife corridors and higher value habitat in relation to the Site



Designated Sites

Statutory Designations

15. 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
South Pennine Moors	c.8km	SAC/ SPA/ SSSI	Annex 1 habitats include European Dry Heath, Upland sessile oak woodland and blanket bogs. Breeding bird populations of Golden Plover, Short Eared Owl and Merlin.
Elland Bypass Cuttting	c.1.5km	SSSI	This area is designated based on its geological interest.

16. Impacts upon the South Pennine Moors protected areas would be considered highly unlikely due to distance from this area and the nature of the site, being flanked by roads on three sides and with adjacent housing developments.

17. Impacts upon Elland Bypass are beyond the scope of this report.

SSSI Impact Risk Zones (IRZs)

18. The Site lies within the IRZ for the South Pennine Moors SSSI 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

19. A single local Wildlife Site (LWS) is shown in the search area. Grimescar Wood local wildlife site (LWS). With an additional two Local geological site (LGS), these being Old Lindley Moor and Elland Bypass Cutting. Of these none are of potential relevance to the site due to a lack of functional links and as such impacts as a result of this development are considered unlikely.

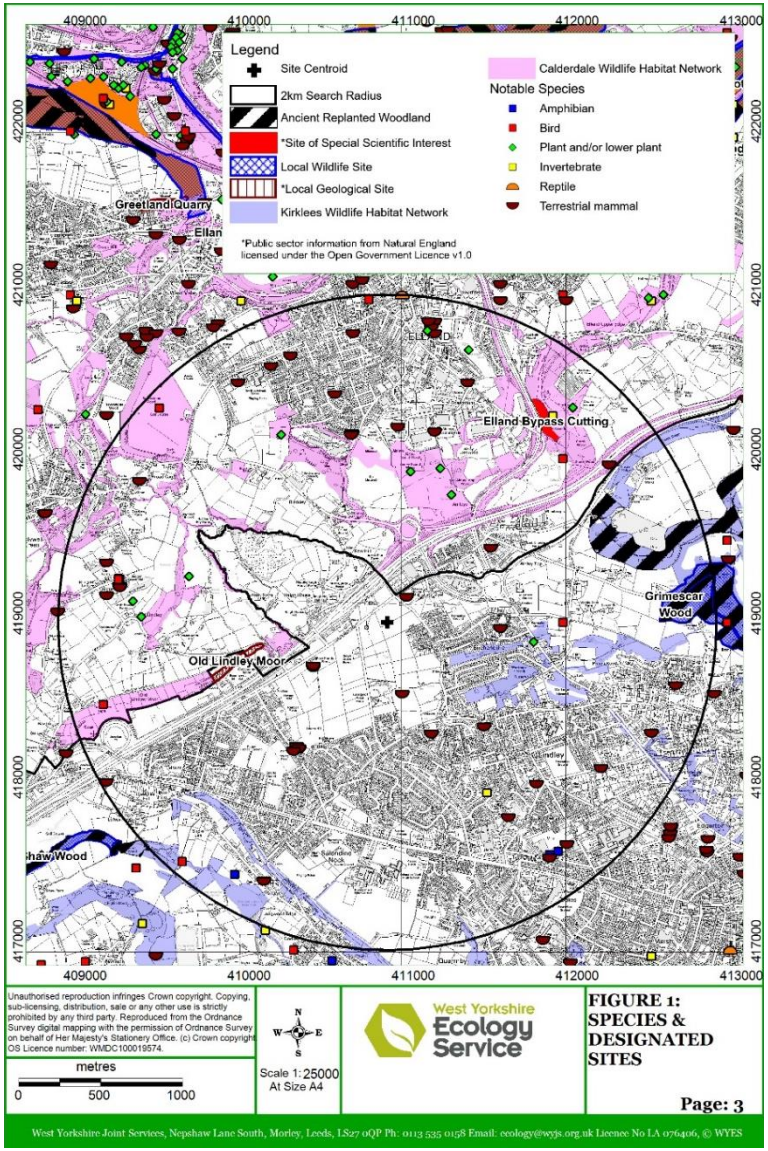
Kirklees Wildlife Habitat Network

20. The site is not located within, adjacent to otherwise functionally linked to any areas located within the Kirklees Wildlife Habitat Network.

Granted EPSM Licenses

21. No granted licenses show up within 1km of the Site.

Figure 3 West Yorkshire Ecology; Species and Designated Sites.



Survey

Method

22. The survey was carried out during September 2020[1] and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

Limitations

23. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

24. Whilst the majority of the Site was accessible, around 5% of the Site was inaccessible due to being fenced off or within roadside locations, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

Habitat Appraisal

Habitats identified

25. The Site supports of the following habitats:

- Modified Grassland
- Bare Ground
- Trees
- Native Hedgerow

26. Each habitat is discussed in the following pages and the estimated area of these listed[2]. 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.

Condition Assessment

27. Our condition assessment for each habitat described references where available the criteria set out in The Biodiversity Metric 2.0 auditing and accounting for biodiversity TECHNICAL SUPPLEMENT Beta Edition.

Habitats Summary Evaluation

28. The habitats are ascribed our own qualitative value, based on their plant community make up. This evaluation is independent of faunal value which is considered in later sections.

[1] This Report has been prepared during October 2020 following a visit to the site in September 2020 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.

[2] The location and areas of habitats in this report are estimated and should not be relied on as a definite location and extent of any habitat or feature.

G4 Modified Grassland

Area estimate: 6.4152 ha

Figure 4 Approximate location and extent of habitat



29. The sward is dominated by a number of common grasses with cocksfoot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*) and perennial rye grass (*Lolium perenne*) amongst the most abundant grasses. More occasionally noted species include; common bent (*Agrostis capillaris*), timothy (*Phleum pratense*), Yorkshire fog (*Holcus lanatus*) and crested dogs tail (*Cynosurus cristatus*). Soft rush (*Juncus effusus*) and meadow grasses (*Poa* sp.) were noted more rarely.

30. A limited number of common forbs are also noted occasionally including several indicative of nutrient enrichment, these include; white clover (*Trifolium repens*), nettle (*Urtica dioica*), broad leaved dock (*Rumex obtusifolius*), creeping butter cup (*Ranunculus repens*) and thistles (*Cirsium arvense* & *C. vulgare*).

Summary Evaluation

31. The Site appears to have been three individual, smaller pastures but now functions as a large single field with only a remnant, defunct hedgerow left. As such the fields all appear to be of the same character with some previous agricultural improvement likely and are currently similarly well grazed.

32. This is a highly disturbed and agriculturally improved pasture with low species diversity and unlikely to support any scarce or notable species.

Figure 5 Typical structure and composition of this habitat





Defra Metric Condition Assessment ***Poor***

33. Meets 2 out of 6 criteria

	Condition Assessment Criteria Grassland habitat type	Meets criteria?
1	Clearly and easily recognizable as a good example of this type of habitat.	No
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	No
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	No
4	Undesirable species and physical damage is below 5% cover.	No
5	Cover of bare ground greater than 10%	No
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	**Yes**

1170 Trees

Area estimate: 0.0224 ha

Figure 6 Approximate location and extent of habitat



34. A small number of young self-set ash (*Fraxinus excelsior*) are present along the periphery of the east corner of the Site.

Summary Evaluation

35. The trees are young and being adjacent to a roadside area highly disturbed. They are considered to be of limited value.

Figure 7 Typical structure and composition of this habitat



Defra Metric Condition Assessment ***Moderate***

36. There is no condition assessment available for this habitat within the technical supplement and its condition is already pre-determined as above.

351 Bare Ground

Area estimate: 0.0157 ha

Figure 8 Approximate location and extent of habitat



37. A small area of recently cleared ground was noted, with a variety of temporary cabins associated with nearby construction works.

38. No notable vegetation cover was observed.

Summary Evaluation

39. The area has recently had the soil and vegetation cover removed, and now supports highly disturbed bare ground of minimal ecological value.

Figure 9 Typical structure and composition of this habitat





Defra Metric Condition Assessment ***Poor***

40. Meets 1 out of 4 criteria

	Condition Assessment Criteria Urban habitat type	Meets criteria?
1	Known history of disturbance or evidence that soil has been removed or severely modified. Extraneous materials may have been added.	No
2	The Site contains some vegetation; early successional communities consisting of mainly stress-tolerant species.	No
3	The Site contains unvegetated, loose bare substrate and pools may be present and desirable.	**Yes**
4	The Site shows spatial variation, forming a mosaic of one or more of the early successional communities (a)-(h) above plus bare substrate or pools.	No

HR8 Native Hedgerow

Length estimate: 0.319 km

Figure 10 Approximate location and extent of habitat



41. A defunct hedgerow entirely consisting of hawthorn (*Crataegus monogyna*) with large gaps and now more reminiscent of a line of individual plants.

42. There is no distinct understory within the grassland continuing through the field layer of the hedgerow.

Summary Evaluation

43. This habitat is in very poor condition owing to a lack of maintenance over an extended period of time. The individual hawthorns are well established and will be of some value when compared to the rest of the Site but ultimately this would appear to be limited.

Figure 11 Typical structure and composition of this habitat





Defra Metric Condition Assessment ***Poor***

44. Meets 3 out of 8 criteria

	Favorable condition attributes and criteria: Hedgerows		
A1	Height	>1.5m average along length	**Yes**
A2	Width	>1.5m average along length	No
B1	Gap – hedge base	Gap between ground and base of canopy <0.5m for >90% length	No
B2	Gap – hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m	No
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least	No
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground	No
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species	**Yes**
D2	Current damage	>90% of hedgerow of undisturbed ground is free of damage caused by human activities	**Yes**

DEFRA Metric (Baseline)[3]

45. This metric sets out the baseline for the Site - proposals should seek to achieve at least a 'no net loss' situation through **Avoiding** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation. The Local Planning Authority *may* require you to **Compensate** any residual loss elsewhere - either through direct works or an off-setting contribution.

	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Grassland	Grassland - Modified grassland	6.4152	Low	Poor	Low	Area/compensation not in local strategy/ no local	Same distinctiveness or better habitat required	12.83
2	Urban	Urban - Street Tree	0.0224	Low	Moderate	Low	Area/compensation not in local strategy/ no local	Same distinctiveness or better habitat required	0.09
3	Urban	Urban - Vacant/derelict land/ bareground	0.0157	Low	Poor	Low	Area/compensation not in local strategy/ no local	Same distinctiveness or better habitat required	0.03
4									
5									
6									
7									
8									
		Total site area ha	6.43					Total Site baseline	12.95

	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Ecological baseline
Baseline ref	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Total hedgerow units
1		Native Hedgerow	0.319	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness	0.638
2									
3									
4									
5									
6									
		Total Site length/KM	0.32					Total Site baseline	0.64

[3] Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk.

Faunal Appraisal

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

Records

46. No records of great crested newt (GCN) have been returned for the area.

47. A total of 44 records of common frog and common toad have been returned for the area but not the site, all being over 1km away from the Site.

Field Evidence

48. No ponds are shown on mapping within 500m of the Site. The Site itself is somewhat isolated from surrounding areas by roads running along three sides.

Summary Evaluation

49. The Site appears unlikely to be of anything other than limited value to this group.

Further Surveys

50. No further surveys or precautions are considered necessary.

Bats

Records

51. A total of 58 bat records have been returned for the area, none of which are centred on the Site. These are predominantly of pipistrelle or general bat records with lower numbers of noctule, whiskered, brown long-eared and a single leisler's bat record.

52. Of these 15 are roost records. The nearest being centred over 500m from the Site and being transitional pipistrelle roost recorded in 2019.

Field Evidence

Potential Roost sites

Buildings: A single, small prefabricated modular type building appears to have been recently setup as a site office but does not appear to offer any suitable features for use by roosting bats.

Trees: The hawthorns within the defunct hedgerow have occasional small areas of flaking bark or shallow wounds. However, given the open nature of many of these features and their small size, alongside the small size of the trees, these do not appear to offer anything other than *Negligible* bat roost suitability.

Foraging and commuting habitat

53. The Site is very open and lacks the structures or diversity that would normally be used by foraging or commuting bats.

Summary Evaluation

54. The Site appears to be of very limited value to this species.

Further Surveys

55. Further surveys in respect or rooting bats or bat activity are not recommended.

Birds

Records

56. No significant bird records exist for the site or the developments sphere of influence with only 50 records being returned in total all of which are centred over 1km from the Site.

Field Evidence

57. A small number of common bird species were noted during the survey none of which appeared to have any particular affinity with the Site, such as carrion crow and starling.

Summary Evaluation

58. The Site occupies a location which is exposed to the prevailing weather conditions and flanked by roads, with housing also nearby. As such it a presents a disturbed location, unlikely to be of any particular value to notable bird species or assemblages.

Further Surveys

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

60. Standard precautions apply in relation to pre-clearance.

Badger

Records

61. There are no badger records within the search area.

Field Evidence

62. The Site is open with good visibility and/or access into most areas with no evidence of badger activity noted.

Summary Evaluation

63. The grassland and defunct hedgerows will be of some value to badgers for foraging but if present badger would be very unlikely to have any specific reliance upon it.

Further Surveys

64. No evidence of badger was noted and, given the site is flanked by roads and not well linked to other areas of better badger habitat, alongside a lack of local records for this species, it appears highly unlikely they are present on Site.

65. Further survey in relation to this species is not recommended.

Hedgehog

Records

66. A total of six hedgehog records have been returned for the area but not the Site.

Field Evidence

67. No evidence of hedgehogs was found on Site.

Summary Evaluation

68. The Site provides suitable habitat for this species and measures to allow them to access gardens should be a consideration going forward.

Further Surveys

69. Presence assumed no further surveys are considered necessary.

Reptiles

Records

70. A single grass snake record has been returned for over 1.9km from the Site and dated from 1932.

Field Evidence

71. No field evidence was found.

72. The Site presents poor habitat for grass snake and reptiles in general lacking shelter, connections to other areas of suitable or better habitat and good foraging opportunities.

Summary Evaluation

73. A lack of any more recent records in closer proximity to the Site alongside the poor habitat present on Site would suggest a likely absence of grass snake and other reptiles from the site.

Further Surveys

74. No further surveys or precautions are considered necessary.

Invasive Non-Native Species (INNS)

75. 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. No species were noted within the confines of the Site, with *Montbretia* noted within adjacent gardens to the south[4]:.

Survey constraints

76. 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.

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

- Suboptimal survey season
- Potential for recent earthworks or management which may have obscured viable material
- Proximity to nearby potential sources of infection
- Potential for tipping of material

78. Should further assurances be needed in relations to INNS you should commission a dedicated Invasive Weed Survey.

[4] 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

79. The Site does not appear to pose any significant constraints related to ecology.

80. Where possible site proposals should aim to retain a single/ smaller number of larger areas for ecological enhancement rather than many smaller areas as this will be more beneficial for ecological enhancement in the long term. This will contribute to mitigating the loss of habitat units.

81. Any proposals should seek to retain and enhance the existing hedgerow or otherwise provision new native hedgerows to mitigate the loss of hedgerow units.

82. Some standard precautions would be required for nesting birds, these measures could be secured by standard condition.

Ecological Opportunities

83. The key ecological opportunity in this area, which is largely surrounded by disturbed, low value habitats, would be to create habitats which can provide long term, low maintenance enhancements. These could function as stepping-stones for any wildlife in the area.

84. To this end, creating a block of tree planting, focusing on a semi-natural planting scheme should be considered. The habitat 'Upland Oak Woodland' is mentioned within the Kirklees Local BAP and could be a theme for planting, featuring species such as sessile oak (*Quercus. petraea*) and silver birch (*Betula pendula*) with an understory of rowan (*Sorbus aucuparia*), holly (*Ilex aquifolium*) and hazel (*Corylus avellana*). Any tree planting should seek to incorporate 'edge' habitats to buffer trees which could consist of dense scrub and more open rough grassland type areas.

85. Though proposals outline the development of much of the site they will also lead to the creation of more varied landscaping and ornamental tree planting on a site that is currently largely devoid of valuable vegetation. These could be enhanced by featuring native shrubs and trees, including fruit bearing species. A SUDS area is included within the design, this could be sown with a suitable wetland flora mix to further enhance its ecological value.

86. Installing roosting, nesting or hibernation features for fauna will also be beneficial. In this location bird nesting opportunities are likely to be most suitable.

87. Any walls or fences around the site should be permeable so that hedgehogs can have access through the Site.

Conclusions and Recommendations

88. The site supports a limited number of lower value habitats in a fairly disturbed location adjacent to roads, residential and commercial development and with the M62 also nearby. As such the site appears to be somewhat degraded by agricultural practices and more recent developments and is considered to be of limited ecological value.

89. No further species-specific surveys have been recommended in relation to planning application for the site.

Planning considerations		
Recommendation	**Rationale**	**When**
R1 Produce a layout which minimises loss of biodiversity	The site has been assessed as having an Ecological Baseline score of 12.95 Habitat Units and 0.64 Hedgerow Units. Proposals will need to consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage.	During the design process
R2 Produce a Landscape and Ecological concept design	To help balance the biodiversity calculations, a landscape ecological concept design for the site should be produced that is ecologically driven and seeks to maximise the use of native habitat types.	During the design process
R3 Ecological Impact Assessment (EcIA) to include Calculated final biodiversity impact score.	Using DEFRA metric to quantity net gain/loss of biodiversity.	Prior to submission.
R4 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on site and to show how habitats will be maintained in the condition that the Biodiversity Calculations were based on.	Suitable for planning condition.

Other considerations (managing legal or financial risks)		
Issue	**Rationale**	**When**
R5 Nesting bird management	As with most sites the standard precaution in relation to birds would apply: To prevent the proposed works impacting on nesting birds, any clearance of vegetation will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance required during the breeding bird season should be preceded by a nesting bird survey to ensure that the law is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development. Nesting management can be set out in the CEMP if one is produced.	Pre- and during - clearance

References

The Biodiversity Metric 2.0 auditing and accounting for biodiversity TECHNICAL SUPPLEMENT, Beta Edition 29th July 2019

The UK Habitat Classification Habitat Definitions Version 1.0 UK Habitat Classification Working Group May 2018

Andrews H. L. (2011) *A habitat key for the assessment of potential bat roost features in trees.*

Bat Conservation Trust (2016) *Bat Surveys For Professional Ecologists – Good Practice Guidelines*

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

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*.

English Nature (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

English Nature (2001) *Great Crested Newt Mitigation Guidelines.* http://www.naturalengland.org.uk/Images/GreatCrestedNewts_tcm6-21705.pdf

Fay N. (2007) *Defining and Surveying Veteran and Ancient Trees* https://www.treeworks.co.uk/about-treework/publications

Gent T and Gibson S, 2003, *Herpetofauna Workers' Manual*, JNCC

Hill et al. 2005, *Handbook of Biodiversity Methods*. Cambridge

JNCC (2004) *The Bat Workers Manual*. 3rd Edition.

Ministry of Housing, Communities and Local Government (July 2018) *National Planning Policy Framework*

Ratcliffe, D.A. (1977) *A Nature Conservation Review*, Cambridge University Press

Appendix 1 Habitats and Ecological Features



Site Boundary

g4 - modified grassland

1170 - street tree

351 - vacant derelict ground bare ground

Native Hedgerow

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 [SSSI's]) 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').

Records of notable species supplied from a 2km area of search by West Yorkshire Ecology are used to inform this appraisal.

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.

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Kirklees Biodiversity Project'.

Priority Species	Priority Habitats
Floating water plantain	Semi-natural pasture
Great crested newt	Lowland and upland meadows
Marsh helleborine	Lowland dry acid grassland
Northern wood ant	Blanket bog
Twite	Upland heathland
Water vole	Upland flushes
White-clawed crayfish	Lowland heathland
	Upland oak woodland
	Lowland deciduous and other woodland
	Upland mixed ashwoods
	Wet woodland
	Arable field margins
	Hedgerows
	Rivers, riverine corridors and associated habitats
	Reedbeds
	Scrub and habitat mosaics on previously developed land

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
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 a larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used 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 - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
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, protections, conditions and surrounding habitats.

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 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;

- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines -

> *'The Guidelines do not aim to either override of replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement. '*

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the Site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

The Site presents an open and windswept location, lacking features which are usually considered valuable for supporting bat activity. Furthermore, the defunct nature of the hedgerows, surrounding roads and nearby M62 will further reduce the likelihood that bats will be present on Site or otherwise be commuting through it. Given the very low value of the site for bat activity, it is considered that the Site will support only low or negligible bat activity and further survey in support of this would seem disproportionate.

Appendix 4 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 1) 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 (*Fallopia japonica*) and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF):
The National Planning Policy Framework was updated in February 2019. 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 "*contribute to protecting and enhancing our natural environment*" and "*help to improve 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 functions for wildlife*" (P118).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be "*protecting and enhancing 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 (P170). Allocations of land for development should, "*prefer land of lesser environmental value, where consistent with other policies in this Framework and take a strategic approach to maintaining and enhancing networks of habitats*" (P171).

The Framework sets out ways to minimise the impacts on biodiversity through "*identifying, mapping and safeguarding 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 the "*conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and (the need to) identify and pursue opportunities for securing measurable net gains for biodiversity*" (P174).

It is made clear in P175 that local planning authorities should apply principles when determining planning applications. Planning permission should be refused "*if significant harm to biodiversity resulting in 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 incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*".

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.
This strategy 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.