
ECOLOGICAL IMPACT ASSESSMENT

Swineherd Lane, Kirkbymoorside

November 2021



Environment & Ecology Ltd

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Status	Date	Approved by:
Final	18-11-2021	Ione Bareau MCIEEM

Site:

Swineherd Lane
Kirkbymoorside,
York

Dates:

Updated walkover survey: 26th October 2021
Walkover survey: 14th February 2018
eDNA survey: 19th April 2018
Bat transect survey: 9th May 2018

Client:

W and W Estates Thornton Dale Ltd
12 Thornton Heights
Thornton le Dale
North Yorkshire
YO18 7QZ

Local Planning Authority:

Ryedale District Council

MAB ref: 18-447

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1 Summary

An updated ecological appraisal of land, comprising a data search and extended Phase 1 Habitat Survey, was undertaken at Swineherd Lane, Kirkbymoorside in 2018. An updated site walkover in October 2021, identified minor habitat changes within section P1.

The development of P1 will result in the loss of unmanaged improved grassland, with areas of scattered tall ruderal and a small section of species poor hedgerow and a mature sycamore.

The unmanaged grassland does provide suitable amphibian terrestrial habitat, and there is a pond within 500m of the site. However, a GCN eDNA confirmed that no GCN are using this pond so the risk of GCN utilising the site is considered negligible.

A bat transect survey was carried out in 2018 on the boundary hedges, focusing on the mature ash trees which exhibited PBRH. No bat roosts were identified within the trees and the hedges were used by low numbers of commuting common and soprano pipistrelle bats. Therefore, mitigation will be designed to ensure that these pathways and foraging habitat remain functional for bats post development.

Mitigation for development of the site includes creation of grassland areas, low level lighting schemes, reprofiling of the ditch along the central boundary, native species planting, hedgerow management, and 2m buffer strips between hedgerows and residential boundaries. Full mitigation information can be found in Section 8. Mitigation is summarised below in Table 1.

To ecologically enhance the site, we recommend that integral bat and bird boxes be installed within **20%** of the proposed properties.

Summary of impacts					
Feature	Impacts	Characterisation of unmitigated impact on the feature	Effect without mitigation	Mitigation	Significance of effects of residual impacts (after mitigation)
Habitats	<p>Direct habitat loss: unmanaged improved grassland</p> <p>Removal of section of native species poor hedgerow.</p>	<p>Loss of unmanaged improved grassland. Loss of seed and nectar source for birds and invertebrates.</p> <p>Loss of small mammal habitat & bird of prey hunting habitat</p> <p>Loss of section of native species poor hedgerow – loss of site connectivity, impact on wildlife corridors.</p>	Negative at site level	<p>Timing of vegetation removal – outside of nesting bird season, or pre works check for nests.</p> <p>Retention/creation of area of grassland which exhibits features currently found on-site</p> <p>Grazing or staged cutting of the improved grassland prior to works.</p> <p>Native landscape planting on-site & incorporation of integral bird boxes into new properties</p> <p>Management of remaining boundary hedgerows. And 2m buffer strip between important hedgerows and garden boundaries.</p>	Loss of habitat will remain a minor impact at site level.
Amphibians	Potential harm to common amphibian species when clearing site	Loss of terrestrial amphibian habitat.	Negative at site level	<p>Reprofiling of ditch to encourage aquatic plant growth and enhancement of aquatic habitat.</p> <p>Retention/creation of area of grassland which exhibits features currently found on-site</p>	Negligible effect
Breeding birds	Potential harm to breeding birds, and destruction of nests.	Unmitigated removal of small section of hawthorn hedge, result in potential impact upon nesting birds, and/or causes damage/ destruction of a nest and/or cause harm to young/eggs.	Minor negative effect at local level; potential legal offence.	Removal of vegetation undertaken outside breeding season (March- August), or nesting bird check immediately prior to works.	Negligible effect.

				<p>Management of boundary hedgerows to retain nesting habitat and food sources.</p> <p>Creation of new hedgerows within development with native hedge species</p>	
Bats	Loss of foraging habitat and potential disruption of commuting habitats.	<p>Loss of foraging habitat.</p> <p>Disruption of site boundaries and ecological functionality of site for commuting bats.</p>	Negative at site level	Low level lighting scheme within development. No lighting of boundary hedgerows.	Negligible effect
Hedgehogs	<p>Loss of foraging habitats</p> <p>Risk of harm to species during construction.</p>	<p>Uncovered trenches and excavations could cause hedgehog harm or death.</p> <p>Loss of hedgehog foraging habitat. Removal of areas of hibernacula habitat.</p> <p>Disruption of movement across the site.</p>	Negative at site level.	<p>Cover trenches overnight or include escape measures. Hedgehog holes in boundary fencing.</p> <p>Holes beneath boundary fencing to allow for movement across the site.</p>	Negligible effect.

Table 1: Summary of effects, mitigation, and residual effects.

2 Introduction

MAB Environment and Ecology Ltd was commissioned by W and W Estates, Thornton Dale Ltd to undertake an Ecological Impact Assessment (EclA) on a 2.8 ha area of land at Swineherd Lane on the outskirts of Kirkbymoorside, North Yorkshire to accompany a planning application for a residential development. Development plans for phase 1 (P1) can be found below in Section 7.

The site comprises a grass field with a mature hedgerow along the eastern boundary, and hedgerows along the remaining boundaries. The site is located at OS Grid Ref: SE702863. The site location is shown on Figure 1.

The objectives of this report are to:

- Identify species and habitats on site, with particular reference to protected and notable species.
- Assess the potential impact of the proposed development on habitats and protected or notable species.
- Identify potential opportunities for biodiversity enhancement.
- To outline any necessary or recommended mitigation and compensation proposals.

Ecologists from MAB Environment and Ecology Ltd are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's Code of Professional Conduct when carrying out ecological work.

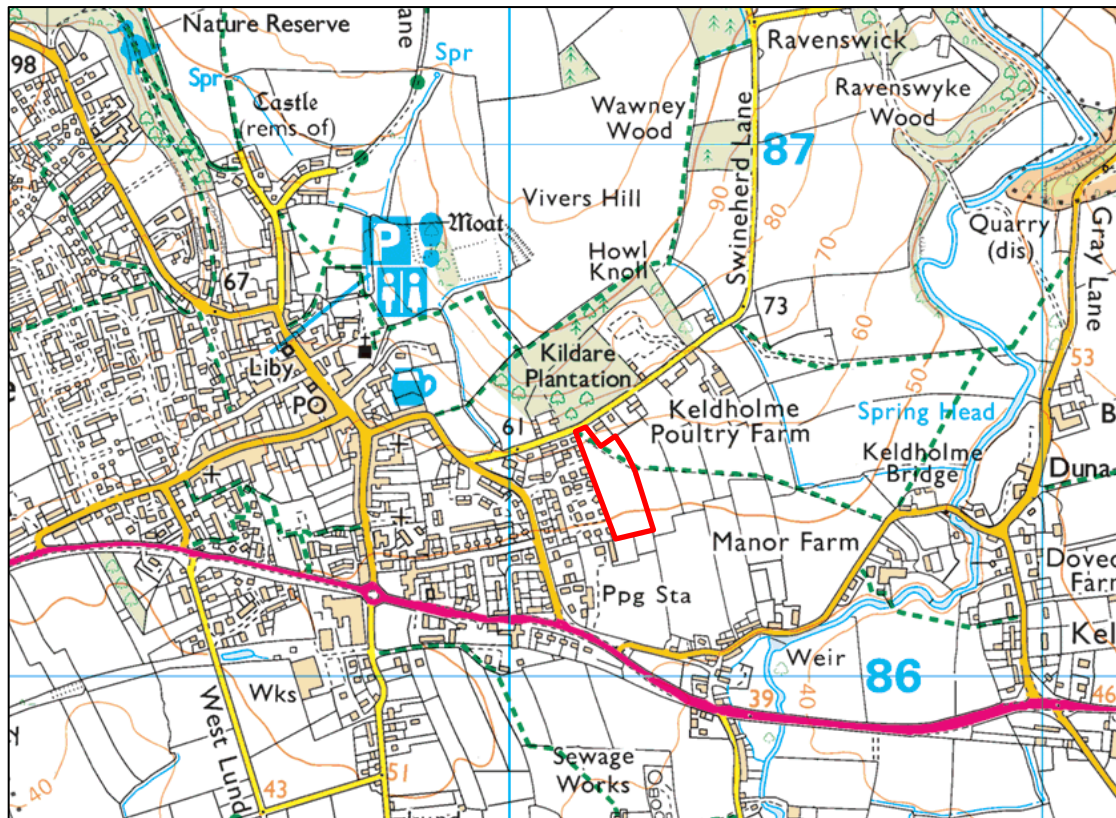


Figure 1: Site location 1:25,000, outlined in red.



Figure 2: Aerial showing development site area.

3 Methodology

3.1 Desktop study

3.1.1 North and East Yorkshire Ecological Data Centre (NEYEDC) were commissioned to provide records of protected or notable species within 2km of the site. The search was extended to include any statutory, non-statutory sites and notable habitats.

3.1.2 DEFRA's interactive MAGIC map was used for a baseline assessment of available environmental information of over 300 datasets including Priority Habitats & Species inventories, Designations, Environmental & Historic Landscape Agreements, SSSI impact zones, and Wildlife Licenses.

3.1.3 Aerial imagery from Google Earth and government websites 'MAGIC' and were used to search for ponds within 250m of the site.

3.2 Field survey

3.2.1 The site was surveyed in 2018 by Ione Bareau MCIEEM, a director of MAB Environment & Ecology Ltd since 2006. Ione holds a Class Survey Licence WML CL15 (volunteer bat roost visitor Level 1) and WML CL18 (Bat Survey Level 2) – registration number 2015-13361-CLS-CLS. Ione is licensed by Natural England to survey for GCNs (CL08 Great Crested Newt Class 1, Registration number 2015-19109-CLS-CLS).

3.2.2 An updated site Walkover was undertaken in October 2021 by Jake Walker, He has worked for MAB since 2020. Jake holds a Class Survey Licence WLM-A34 (Bat Survey Level 1) registration number 2021-51430-CLS-CLS and is a qualifying member of CIEEM.

3.2.3 A Phase 1 Habitat Survey was conducted following standard published guidelines (JNCC 2010). This involved a walkover of the site, mapping all habitats present and noting species proportions where possible using the DAFOR scale where D is dominant, A is abundant, F is frequent, O is occasional and R rare. The survey was extended to include records of protected or notable fauna and the habitats were

evaluated for their potential to support such fauna. Any invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act were also recorded.

3.2.4 Hedgerows within or forming the external boundaries to the site which have a continuous length of or exceeding 20m were surveyed in accordance with the Hedgerow Regulations 1997. Survey results were used to determine whether any of the hedgerows meet criteria listed in Part II of Schedule 1 and would therefore be deemed an 'important' hedge under the regulations. Hedgerows forming the boundary of the curtilage of a dwelling-house are not covered by the regulations and were not surveyed. Hedgerow assessment criteria are appended.

3.2.5 Trees marked for removal or directly affected by the development scheme were assessed during the day from the ground using close focusing binoculars and a halogen torch (500,000 candle power). Features such as woodpecker holes, splits, cracks, rot holes, dense ivy, and peeling bark were looked for which are commonly used by bats for roosting and for shelter. Any features were then inspected for any signs of bat use, including scratches or staining around potential access points, bat droppings bats, and the sounds / smells of bat roosts.

3.2.6 Other trees within the site and areas of vegetation were also assessed for value to bats and birds, and their importance as foraging and commuting habitat.

3.2.7 The location of the site and the surrounding habitat were also assessed for value to bats. This includes proximity of the site to good bat foraging habitat such as woodland and water bodies and if the site is linked to such habitats by linear features like hedgerows, woodland edges or rivers which bats use to commute around the environment.

3.2.8 A bat transect survey was carried out on 9th May 2018. The activity survey took the form of a point count survey which involved stopping at selected points throughout the site and recording bat activity for three minutes at each location. Listening points were spaced along each route to include a range of habitats present within the site and to cover as much of the site as possible. The routes were then reversed. A note was also taken of bat passes observed when walking between points. The survey began 15 minutes before sunset and lasted two hours. Recorded

bats were then labelled on a site map to represent and compare bat activity throughout the site and within the different habitats. Surveyors were:

- Sarah Emerson Grad CIEEM (SE) has worked as an ecologist since 2015 and holds a Class Survey Licence WML-A34 (Bat Survey Level 2) registration number: 2016-26716-CLS-CLS.
- Sam Newton (SN) a biology graduate and bat surveyor, who has carried out bat surveys for MAB since 2017.

3.2.9 All signs of breeding bird activity were looked for.

3.2.10 The site was surveyed for evidence of badgers. Field signs include setts (noting number of entrances and evidence/level of recent activity); latrines; well-worn pathways; footprints; snuffle holes; hairs caught in boundary fences; scratching posts; smells.

3.2.11 19th April 2018 for qPCR analysis of great crested newt environmental DNA (eDNA). A single visit was made to Pond 1, water sample collection followed the field protocol adopted by Biggs et al. Great crested newt (GCN) presence/absence surveys.

3.2.12 Habitat evaluation for reptiles was undertaken focusing on potential areas for reptile basking in sheltered locations. Potential refugia such as rabbit burrows, brash piles, cracks and gaps in rocks, stone piles etc were noted. Throughout the walkover survey, the site was walked slowly looking out for reptiles and listening for any rustles in the undergrowth.

3.2.13 Habitat evaluation for hedgehogs was undertaken; hedgehogs may seek shelter in vegetation under hedges, and some hedgerows may be suitable habitats for summer breeding nests and winter hibernacula. Field signs (e.g., tracks, droppings) were also looked for.

4 Constraints

There were no constraints.

5 Baseline ecological conditions

5.1 Designated sites

5.1.1 Statutory sites

Statutory Sites

The following data resources were searched:

Sites of Special Scientific Interest
Special Protection Areas
National Parks
National Nature Reserves

Special Areas of Conservation
Ramsar sites
Areas of Outstanding Natural Beauty
Local Nature Reserves

We do not hold full details of statutory sites therefore if you require further information you should contact Natural England. Their website is at:

<http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/default.aspx>.

Statutory Sites

The following Statutory site was found within the search area, and is shown on the enclosed map.

Designation	Name or location of site	Grid Reference
National Park	North York Moors	SE 712 877

Local Nature Reserves:

There were no Local Nature Reserves found in the search area.

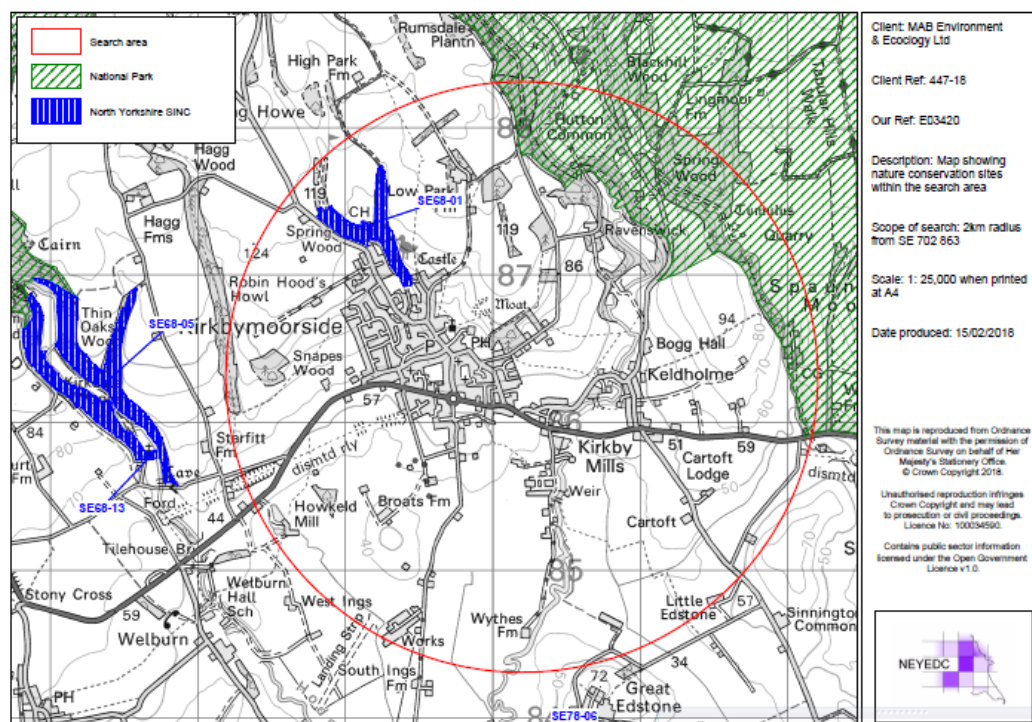


Figure 3: Statutory sites within search area.

5.1.2 Non-statutory sites

Local Wildlife Sites:

Local Wildlife Sites are known in North Yorkshire as SINC (Sites of Importance for Nature Conservation). A leaflet explaining about SINC is available to download from the NEYEDC web site: <http://www.neyedc.org.uk/wp-content/uploads/2015/01/SINC-leaflet.pdf>

The following sites were found to be within (or partly within) your search area and their locations are shown on the enclosed map:

Site Code	Site Name	Grid Reference	SINC status
SE68-01	Manor Vale	SE 691 873	SINC

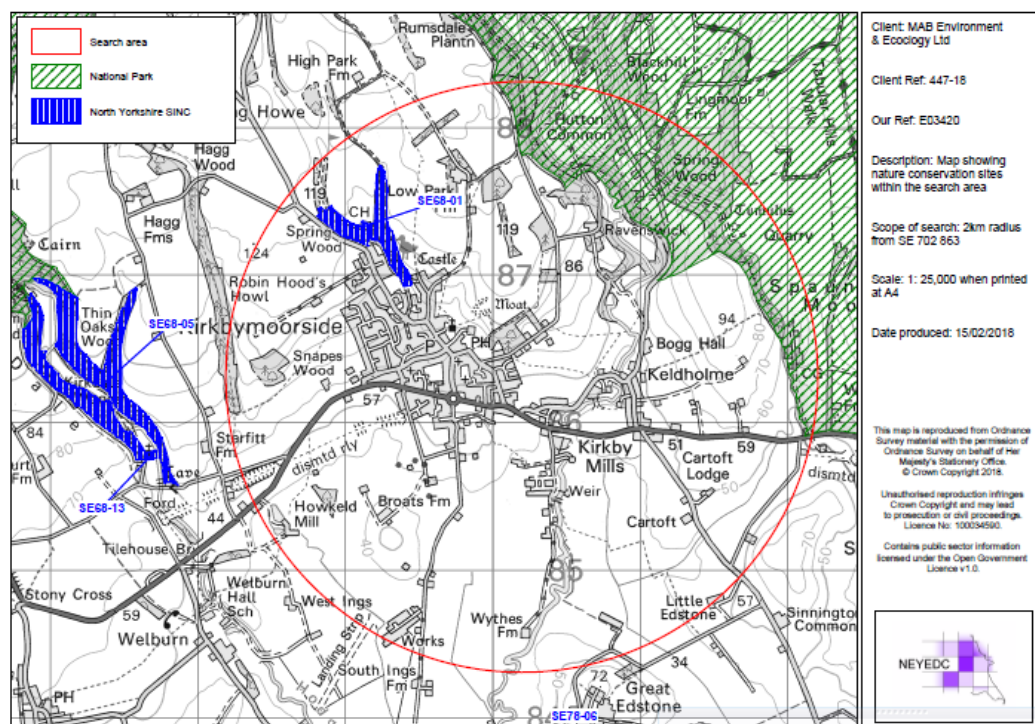


Table 2: Map showing locally designated non-statutory sites within the search area.

Aerial imagery



Figure 5: Aerial view of the site and surrounding area.

Ponds

There is one pond within 500m radius of the site. Pond 1 is approximately 444m from the edge of the development site. The pond is separated from the development site by an extensive tract of broadleaved woodland and other permanent grassland and hedgerows. There is connectivity to the site via hedgerows and woodlands.



Figure 6: OS map showing location of ponds within the local area and 500m search area.



Figure 7: Aerial view of site and ponds within 500m.

An eDNA test on Pond 1 in 2018 found that it was negative for GCN eDNA. Full results are found at Appendix 1.

5.3 Habitats on site.

5.4 October 2021 updated site walkover results

An updated site walkover conducted in October 2021 found no significant habitat changes within section P2. The improved grassland continues to be managed, however, there is no evidence of cattle grazing (poaching), therefore, it is likely that management has been undertaken through regular mowing.

The updated visual walkover of section P1 identified changes within the management of the grassland. Lack of management of the area of improved grassland has resulted in the grassland reverting to MG1 *Arrhenatherum elatius*, *Festuca rubra* grassland. With features typical of these grasslands including thick tussocky swards and diverse height structures. This area of grassland will be of ecological value for several faunal species. Patches of tall ruderal, dominated by common nettle (*Urtica dioica*) are present along the boundaries of the grassland.

Despite the changes in management of P1, the primary habitats of both section P1 and P2 are the same as what was surveyed in 2018. Therefore, the 2018 phase one map (Figure 8) still portrays an accurate representation of the habitats on-site. Photos 1- 8 show the site as of 2021, and updated species notes can be found below.



Photo 1: Area P1 of the site.



Photo 2: Structure of improved grassland, P1



Photo 3: Example of sward within improved grassland; P1



Photo 4: Small mammal hole within grassland, P1



Photo 5: Section of ruderal dominated by nettle.



Photo 6: P1, boundary hedgerow and grassland.



Photo 7: P2.



Photo 8: P2.

5.4.1 Habitats

Habitats on-site within P2 are the same as what was surveyed in 2018, except for a change in management (cattle grazing to mowing).

The grassland within P1 has been unmanaged and as a result has become more ecologically valuable for several species. However, species composition of the sward is the similar to 2018; species poor, dominated by false oatgrass and other palatable grasses, with low abundances of flowering forbs.

5.4.2 Birds

Habitats of value for birds on-site are generally similar to the 2018 survey. Suitable nesting habitat for birds is available within the mature hedgerows. Bullfinch and siskin were noted foraging during the 2018 walkover survey. Due to lack of management, the improved grassland within P1 will be of value for hunting/foraging birds of prey and hunting barn owls.

Use of the site by ground nesting birds is still considered unlikely. Both P1 and P2 are still in heavy use by dog's walkers, which preclude ground nesting birds utilising the grassland to nest.

5.4.3 Bats

Habitats on-site will be of similar value for bats. The unmanaged improved grassland may provide higher quality foraging habitat, however, use of the site is likely to be

limited to foraging and commuting by low numbers of bats – as what was recorded during the 2018 transect surveys.

5.4.4 Herptiles

The area of unmanaged improved grassland within P1 will be of value for amphibian species. The sward structure was thick, damp, and tussocky, offering suitable terrestrial amphibian habitat. However, Pond 1 was tested for great crested newts (GCN) in 2018 and was negative as a result the risk of GCN utilising the site is considered negligible. However, ubiquitous amphibian species (common frogs) may be present within the grassland.

5.4.5 Other mammals

Evidence of use of the grassland within P1 by small mammals was identified during the walkover survey (burrows) ([Photo 4](#)). These likely belonged to field mice or field voles, utilising the grassland as nesting/foraging habitat.

Hedgehogs are likely to be utilising the grassland within both P1 and P2 as foraging and commuting habitat. Also, the boundary hedgerows may provide suitable hedgehog nesting and hibernacula habitat. Hedgehogs are a Species of Principle importance under the 2006 NERC Act and therefore are scoped into this assessment.

6 2018 Survey results

Phase 1 survey

The habitats found on site are highlighted within the Phase 1 habitat plan (**Error! Reference source not found.**). Target notes (TN) are included in 3, which gives more detailed information about the habitats present, along with species lists.

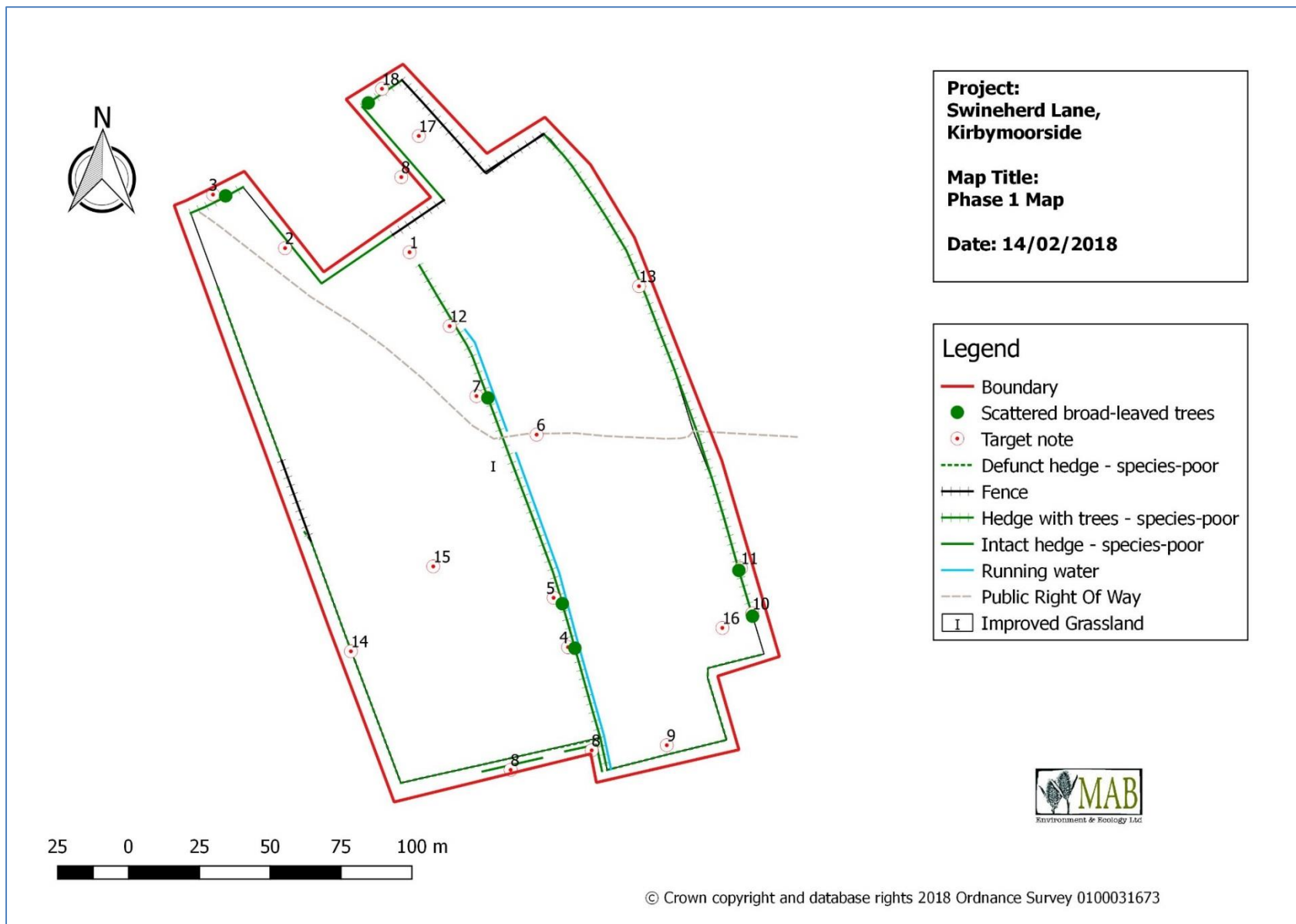


Figure 8: Phase 1 habitat map.

Target note	Description	Notes on potential faunal /habitat value	Enhancement
1	Ditch from culvert in garden into fields; damp but heavily poached by cattle for water. Hoary willowherb (<i>Epilobium hirsutum</i>) (R). Photos 1 and 2 .	Limited as heavily cattle poached	Flora could be allowed to develop if take out cattle and fence off
2	Beech hedge (in garden ownership).	Bird nesting habitat	
3	Species-poor hawthorn (<i>Crataegus monogyna</i>) hedge with <i>Rosa</i> sp., ash (<i>Fraxinus excelsior</i>), ivy (<i>Hedera helix</i>) and mature sycamore (<i>Acer pseudoplatanus</i>). Lords and ladies (<i>Arum maculatum</i>) in hedge bottom.	No potential bat roost habitat (PBRH) in sycamore.	
4	Mature ash tree – dead limb Photo 6	Low to moderate PBRH	
5	Mature ash tree – splits where branch falling Photo 7	Low to moderate PBRH	
6	PROW heavily used by dog walkers		
7	Mature ash tree- knots and splits Photo 8	Low to moderate PBRH	
8	Short-cut species-poor hawthorn hedge with gaps (also elder (<i>Sambucus nigra</i>) and bramble(<i>Rubus fruticosus</i> agg.) with sections of leylandii behind. Ground flora herb Robert (<i>Geranium robertianum</i>), ground ivy (<i>Glechoma hederacea</i>) and cow parley (<i>Anthriscus sylvestris</i>) Photo 4 .	Bird nesting habitat but limited to short height.	Potential to enhance by gapping.
9	Gappy mature hawthorn hedge with holly (<i>Ilex aquifolium</i>), elder and sloe (<i>Prunus spinosa</i>). Poached under hedge; little ground flora.	Bird nesting habitat and foraging	Potential to enhance by renovation and gapping up.
10	Mature ash with large bole. Photo 12	Low PBRH	
11	Mature ash with lots of knot holes and splits.	Moderate PBRH	
12	Mature hawthorn hedge with holly and field maple and 3 mature ash trees (TN 4,5 and 7) with shallow ditch alongside Photos 5 and 14 . Hedge not species-rich; Lords and ladies in ground flora.	Bird nesting habitat. Siskins and bullfinch feeding at time of survey. Ditch too shallow for any aquatic species or water vole.	Ditch could be reprofiled. Some gapping up.
13	Mature, very gappy hawthorn hedge with elder, holly, apple	Bird nesting and foraging habitat.	Gapping up

	(<i>Malus sylvestris</i>), ash and field maple	Not species-rich (< 5 species within 30m length).	
14	Hawthorn hedge with elder, ivy, bramble and honeysuckle; part of garden, some areas of fence. Clipped. <i>Vinca</i> sp, snowdrop, lords and ladies in ground flora. Photo 3 .	Limited bird nesting due to gaps and short height	
15	Cattle-grazed, improved grassland, very short sward, with lesser celandine (<i>Ranunculus ficaria</i>), dandelion (<i>Taraxacum officinalis</i>), common mouse ear (<i>Cerastium fontanum</i>), cocksfoot (<i>Dactylis glomerata</i>), creeping bent (<i>Agrostis stolonifera</i>), pignut (<i>Conopodium majus</i>) (R), germander speedwell (<i>Veronica chaemadrys</i>) (R), broad leaved dock (<i>Rumex obtusifolius</i>)(O), red fescue (<i>Festuca rubra</i>) (O), nettle (<i>Urtica dioica</i>)(O), creeping buttercup (<i>Ranunculus repens</i>)(F), white clover (<i>Trifolium repens</i>)(F), Yorkshire fog (<i>Holcus lanatus</i>) Very heavily used by dog walkers. Photo 16	Presence of pignut may reflect the fact that hasn't been ploughed BUT cattle poaching and enrichment by dog faeces has created a species poor sward.	
16	Shaded area under tree with cow parsley, dead nettle, herb Robert, hogweed (<i>Heracleum sphondylium</i>) and broad-leaved dock.		
17	Area of cattle poaching by gateway to site. Cow parsley (F), nettle (F), cocksfoot (F) Photo 11		
18	Gappy hedge with ivy covered sycamore. Photo 9 .	Bird nesting and foraging habitat. Low PBRH.	Gap up

Table 3: Target notes.

Site photographs:



Photo 9: TN 1 poached area where ditch comes out from culverted area.



Photo 10: poached area TN1



Photo 11: View of site from south-eastern corner.



Photo 12: TN8 hawthorn hedge with leylandii hedge behind.



Photo 13: Hedge with ditch TN 4.



Photo 14: Mature ash.



Photo 15: Mature ash with split.



Photo 16: Mature ash with knot holes.



Photo 17: Sycamore TN18.



Photo 18: View of site.



Photo 19: Area of poaching by entrance TN 17.



Photo 20: TN10 ash tree.



Photo 21: TN9 mature hawthorn hedge.



Photo 22: Ditch.



Photo 23: View of site.



Photo 24: Sward.

6.1 Species and species groups

Full results of the ecological data search for species records within 2km of the site are appended.

6.1.1 Herptiles

The data search returned 3 records for great crested newt (GCN):

Triturus cristatus	Great Crested Newt	amphibian	Kirkbymoorside	SE695847	neyeds.org.uk	Natural England Great Crested Newt Licence Returns	Victoria Telford	April 2016 - May 2016	7 Count of Individuals
Triturus cristatus	Great Crested Newt	amphibian	Kirkbymoorside	SE694860	neyeds.org.uk	Ecological Consultant Survey Data: Quanta Environmental	Thomas McQuillan	06/08/2015	
Triturus cristatus	Great Crested Newt	amphibian	Kirkbymoorside	SE69498604	neyeds.org.uk	Ecological Consultant Survey Data: Miscellaneous Records	Lorna Bousfield	11/06/2006	15 Count of Female; 36 Count of Male
Triturus cristatus	Great Crested Newt	amphibian	Kirkbymoorside	SE69498604	neyeds.org.uk	Miscellaneous Species Records	Lorna Bousfield	11/06/2006	51 Count

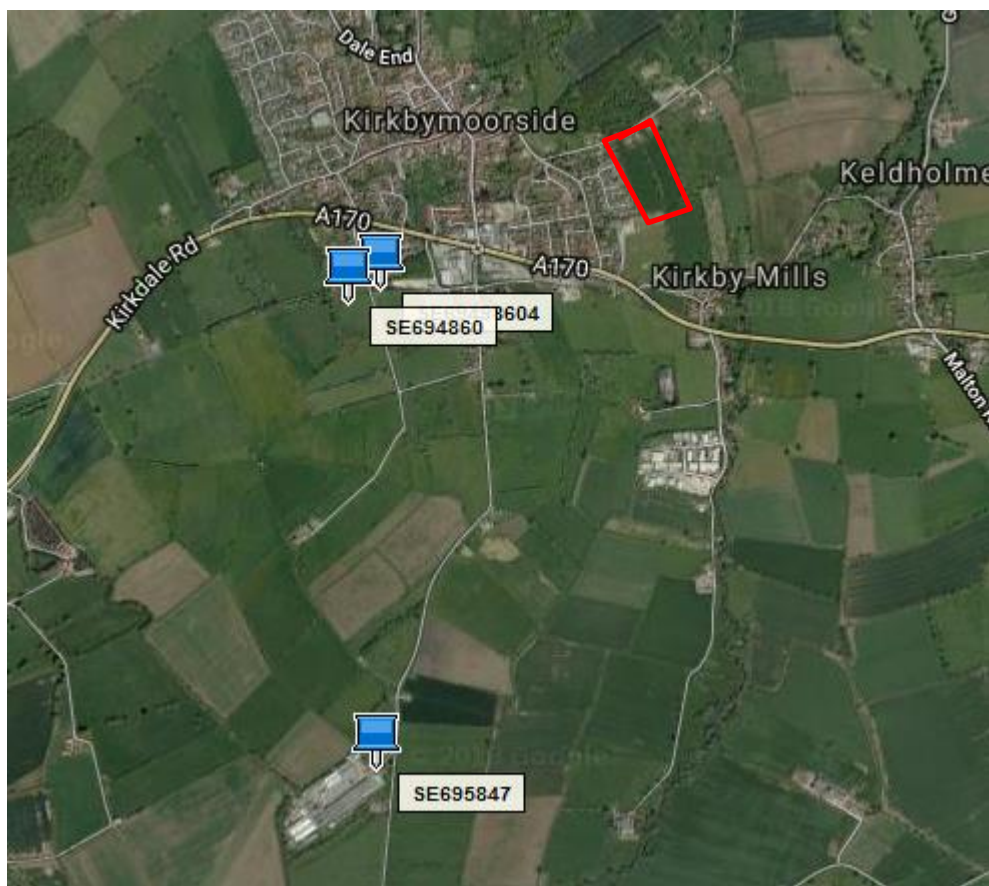


Figure 9 GCN records plotted on an aerial showing locations in relation to development site (red)

These records are all over a kilometre from the development. There is a pond within 500m of the development site but the pond tested negative for GCN eDNA. Full eDNA result is in Appendix 1.

There are no local records for reptiles; and habitat suitability on site for reptiles is low.

6.1.2 Birds

Suitable nesting habitat for birds is available within the mature hedgerows. Bullfinch and siskin were noted foraging during the walkover survey. There are many records of birds from the NEYEDC records and there is good connectivity from woodland areas to the site itself so species noted may be using the mature hedgerows. Tree Sparrow, one of the Ryedale BAP species may be using the site and is recorded on the NEYEDC records.

The grassland is unsuitable for ground nesting birds due to extensive dog use.

6.1.3 Bats

The desk study flagged up records for noctules, common and soprano pipistrelles from two roost sites; both records are over 800m from the development site. Transect surveys of the site in 2018 identified no roosts, with common and soprano pipistrelles recorded foraging and commuting across the site. Noctules and brown long-eared bats were also detected.

6.1.4 Bat transect survey

Date: 09/05/2018

Start time: 20:45

End time: 22:51

Sunset: 20:51

	Temp (°C)	Wind (mph/BF)	Humidity (%rh)	rain	Cloud cover (%)
Start	10	13	-	Light shower	100
Finish	10	8	-	Heavy rain	100
Max	10	13	-	-	100
Min	10	0	-	-	100
Ave	10	10	-	Dry between	100

Surveyors: Sarah Emerson (SE); Sam Newton (SN)

Equipment used: Elekon Batlogger M; Petterson D240x ultrasound detectors with Edirol RO9 recorder.

Results summary: Common pipistrelle and soprano pipistrelle bats were recorded foraging and commuting around the site, particularly up and down the hedgerows in

the centre & the eastern boundary of the site. Other species of bat were heard through bat detectors but not seen: Noctule bats and brown long-eared bats.

Observations:

SE Transect results			
Stop Number	Time	Species	Activity
1	21:05 – 21:10	No bats recorded	
2	21:10 – 21:15	No bats recorded	
3	21:15 – 21:20	No bats recorded	
4	21:20 – 21:25	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Brief foraging
5	21:25 – 21:30	1 x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Foraging north to south down central hedgerow
6	21:30 – 21:35	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Foraging up & down hedge
7	21:35 – 21:40	1x Noctule, <i>Nyctalus noctula</i> ; 1x Soprano pipistrelle, <i>Pipistrellus pygmaeus</i>	Noctule; heard, not seen. S.pip; foraging down hedge.
8	21:40 – 21:45	1x Brown long-eared, <i>Plecotus auritus</i>	Heard, not seen
9	21:45 – 21:50	1x Soprano pipistrelle, <i>Pipistrellus pygmaeus</i>	Foraging by southern hedge
10	21:50 – 21:55	No bats recorded	

SN Transect results			
Stop Number	Time	Species	Activity
1	21:05 – 21:10	2x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Foraging along eastern hedgerow
2	21:10 – 21:15	1x Soprano pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
3	21:15 – 21:20	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
4	21:20 – 21:25	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
5	21:25 – 21:30	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
6	21:30 – 21:35	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
7	21:35 – 21:40	1x Soprano pipistrelle, <i>Pipistrellus pygmaeus</i>	Heard, not seen
8	21:40 – 21:45	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Heard, not seen
9	21:45 – 21:50	1x Common pipistrelle, <i>Pipistrellus pipistrellus</i>	Foraging by eastern hedgerow
10	21:50 – 21:55	No bats recorded	



Key:

Route walked:



Bat activity:



(foraging/commuting)

SE stops:



SN stops:



Figure 10: Stop points and bat activity recorded during survey (09/05/2018).

6.1.5 Badgers

The data search has returned no local records for badger. No field signs for badger were recorded during the site walkover.

6.1.6 Other mammals

The ditch is too shallow for water voles though they have been recorded historically within the record search. The 'newest' record is from 1994 at Wythes Farm 1.5 km from the development site.

The sward is all short on site with no hedgerow field margins so there is little habitat for hare on site. Hedgehogs may be using the site.

7 Description of the proposed development

The proposed development is a residential housing development of 41 units, with associated garages, and access within P1. Figure 11 shows the proposed site plan.

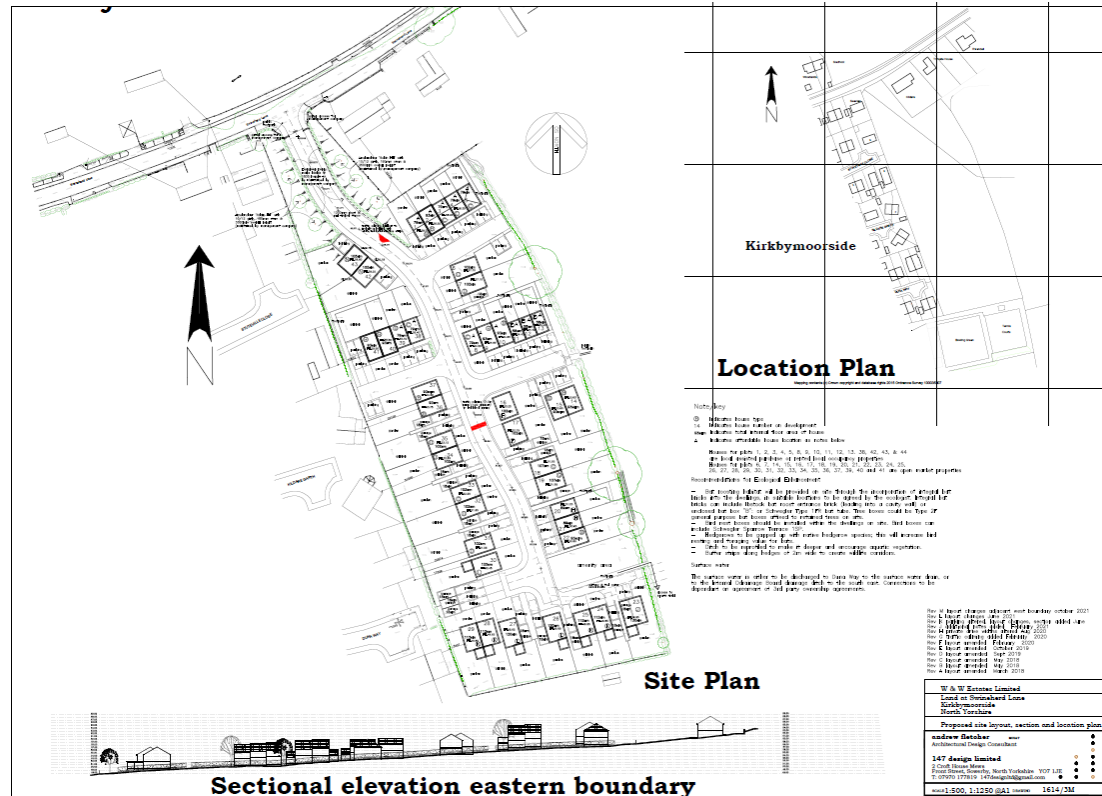


Figure 11: Proposed site plan.

There are currently no plans in place for the development of P2, and therefore, impact assessment and effects on species/habitats cannot be assessed at this stage.

8 Assessment of effects and mitigation from development of P1

8.1 Designated sites

8.1.1 Effects

There are no designated sites that would be impacted on by the development.

8.2 Habitats and plants

8.2.1 Effects

There will be a loss of unmanaged improved grassland to the development. The grassland is species poor and of low botanical interest. However, it will provide food and nectar sources for a range of bird and invertebrate species.

Loss of the unmanaged grassland will also result in the loss small mammal habitat, terrestrial amphibian habitat and bird of prey & barn owl hunting habitat.

The boundary and central hedgerow will be retained within the development. However, there is potential for the hedgerows and mature trees to be impacted during construction phase of the development. Additionally, there is the potential for hedgerows to be impacted post development if they fall within residential boundaries.

Overall impacts on habitats have been assessed as 'negative' not significant.

8.2.2 Mitigation measures

8.2.3 A section of open space should be retained and managed to provide conditions similar to what is currently on-site. This will provide alternative habitat for small mammals and mitigate the loss of bird of prey/barn owl hunting habitat.

8.2.4 Appropriate root protection areas (RPA) should be installed for the mature trees set within the central hedgerow, to ensure that there are no detrimental impacts to the trees during construction.

8.2.5 Boundary hedgerows should be managed to retain their ecological functionality and prevent the succession to a line of trees.

8.2.6 A 2m buffer strip between boundary hedgerows and gardens should be installed. This will ensure there are no detrimental impacts to the hedgerows on-site and will act as wildlife corridors.

8.2.7 Before works begin, the grassland should be grazed or cut. If cut the grassland should be cut in two stages: an initial topping of the grass and a further shortening cut. This will allow any species using the habitat a opportunity to find alternative habitat before the development is undertaken.

8.3 Herptiles

8.3.1 Effects

Habitats on site are generally sub-optimal for amphibians. However, the damp, tussocky grassland does provide suitable terrestrial conditions for common amphibians which will be lost to the development.

The risk of GCN being impacted by the development is considered negligible. There are no records within 500m, and Pond 1 tested negative for GCN in 2018.

Overall, the effects of an amphibians have been assessed as 'minor negative' not significant.

8.3.2 Mitigation measures

8.3.3 Lost amphibian terrestrial habitat should be mitigated for by the retention of a section of grassland which will exhibit features found within the current grassland, damp, tussocky and thick swards of varying heights.

8.3.4 The ditch along the central hedgerow boundary should be reprofiled, making it deeper and encouraging aquatic vegetation. This will provide additional aquatic and terrestrial habitat for amphibians.

8.3.5 If works have not begun by May 2023, eDNA testing of Pond 1 should be re-done, to ensure that GCN are still not utilising the pond and that the risk of GCN utilising the grassland is still negligible.

8.4 Birds

8.4.1 Effects

Most of the hedgerows will be retained within the development. However, a small section of species poor hawthorn hedgerow, and a mature sycamore will be removed to facilitate access into the site. This will result in the loss of bird nesting and foraging habitat. Overall, the effects have been assessed as minor 'negative' not significant; there are many similar hedgerows within the surrounding landscape and the portion to be removed is small.

8.4.2 Mitigation measures

8.4.3 The pruning/removal of any significant vegetation should be scheduled to avoid the bird breeding season, which runs from mid-March to end of August. If this is not possible, then a check for active nests should be carried out immediately before any works to the affected areas begin.

8.4.4 New hedgerows and trees planted within the development should comprise of native trees and shrubs, which provide food sources for birds, such as hawthorn, hazel, dog wood, guelder rose, birch, willow, field maple. Non-native planting often used in new housing such as laurel has very little value for birds and should be avoided.

8.4.5 The planting of two new native hedgerows within the development will mitigate the loss of nesting habitat from the small section of hedgerow that will be removed.

8.5 Bats

8.5.1 Effects

Bat use of the site is limited to foraging and commuting within the site and along the boundary hedgerows by low numbers of bats. The boundary hedgerows will be retained as part of the development, however, direct lighting of the boundaries, and remaining open spaces may cause disturbance to foraging/commuting bats. Potentially impacting the ecologically functionality of these pathways and areas post development.

8.5.2 Mitigation measures

8.5.3 A directional lighting scheme is recommended for the site and its boundary hedgerows, to maintain current ecological functionality of the site, particularly for commuting and foraging bats. It is recommended the following features are considered in the lighting scheme.

- a) Metal halide and fluorescent sources of light should not be used and lack UV elements.
- b) LED lighting should be used where possible due to their sharp cut-off, lower intensity, good colour rendition, and dimming capabilities.
- c) Lighting should be strategically placed around the trees with PBRH. Lighting should be directed away from the trees, avoiding any light spill onto potential bat roost habitat (splits/cracks within trunk and mature branches).
- d) A warm-white spectrum (ideally less than 2700 Kelvin) should be adopted to reduce the blue light component.
- e) Lighting should feature peak wavelengths higher than 550nm to avoid the component most disturbing to bats.
- f) Column heights should be carefully considered to minimise light spill.
- g) Lights should always be mounted on the horizontal, ie no upward tilt.
- h) Accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it to only where it is needed.

8.6 Hedgehogs

Hedgehogs will likely be using the area of unimproved grassland as foraging/commuting habitat. They may also be hibernating within the bases of the boundary hedgerows. Foraging and commuting habitat will be lost to the development. The impact of this has been classed as 'minor negative' not significant.

8.6.1 Mitigation measures

7.5.3 As a precautionary measure, during construction deep trenches and excavations should be covered overnight, or left with a plank or similar, with a slope of no more than 45 degrees to allow hedgehogs, and small mammals escape if they fall in.

7.5.4 Holes will be put into the bases of boundary fencing to allow hedgehogs to move between gardens on-site and the surrounding landscape; holes should be 13cm x 13cm.

8.7 Residual effects

The measures proposed within the above sections will mitigate all negative effects to a level where the ecological constraint is not considered significant or negative. There should be no residual effects as a result of the development.

9 Recommendations for ecological enhancement & compensation

9.1.1 Bat and bird boxes should be integrated within the proposed development. Integral habitat is preferable and can be installed within residential houses/garages, when it is well-placed it can be completely out of sight, and any droppings should fall out into unoccupied areas. Suitable integral roost features include, bat bricks can include Ibstock bat roost entrance brick (leading into a cavity wall); or Schwegler Type 1FR bat tube. Examples of suitable integral bird nesting features include, 1SP Schwegler Sparrow Terrace, and the Manthorpe Swift Brick. We recommend that bat

and bird boxes be installed within **20%** (8) of the residential properties, in a location to be agreed by a suitably qualified ecologist.

9.1.2 Defunct hedgerow along the western boundary could be gapped up with native species to increase the ecological native hedgerow species; this will increase bird nesting habitat and foraging value for bats.

10 Conclusions

The application area has been subjected to appropriate ecological assessment which is proportionate to the scale of development and inherent value of the site.

The Ecological Impact Assessment confirms that, in the absence of mitigation, there may be a negative impact on, habitats, breeding birds, amphibians, and commuting/foraging bats. Mitigation measures have been designed to safeguard the status of these, reducing impact to neutral or positive effects, these are detailed in Section 8.

The enhancement measures outlined in Section 9 will secure positive gains to local biodiversity when compared to baseline conditions.

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Appendix 1: 2018 eDNA results



Folio No: E2850
Report No: 1
Order No: 2018-447
Client: MAB ECOLOGY
Contact: Ione Bateau

Date: 18/05/2018

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS

Date sample received at Laboratory: 11/05/2018
Date Reported: 18/05/2018
Matters Affecting Results: None

RESULTS

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
0545	Vivers Hill	SE 698 868	Pass	Pass	Pass	Negative	0

SUMMARY

When Great Crested Newts (GCN); *Triturus cristatus* inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, we can analyse these small environmental DNA (eDNA) traces to confirm GCN habitation, or establish GCN absence.

The water samples detailed below were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Latest Amendments). Details on the sample submission form were used as the unique sample identity.

RESULTS INTERPRETATION

Lab Sample No.- When a kit is made it is given a unique sample number. When the pond samples have been taken and the kit has



been received back in to the laboratory, this sample number is tracked throughout the laboratory.

Site Name- Information on the pond.

O/S Reference - Location/co-ordinates of pond.

SIC- Sample Integrity Check. Refers to quality of packaging, absence of tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to results errors. Inspection upon receipt of sample at the laboratory. To check if the Sample is of adequate integrity when received. Pass or Fail.

DC- Degradation Check. Analysis of the spiked DNA marker to see if there has been degradation of the kit since made in the laboratory to sampling to analysis. Pass or Fail.

IC- Inhibition Check- PCR inhibitors can cause false results. Inhibitors are analysed to check the quality of the result. Every effort is made to clean the sample pre-analysis however some inhibitors cannot be extracted. An unacceptable inhibition check will cause an indeterminate sample and must be sampled again.

Result- NEGATIVE means that GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as no evidence of GCN presence. POSITIVE means that GCN eDNA was found at or above the threshold level and the presence of GCN at this location at the time of sampling or in the recent past is confirmed. Positive or Negative.

Positive Replicates- To generate the results all of the tubes from each pond are combined to produce one eDNA extract. Then twelve separate analyses are undertaken. If one or more of these analyses are positive the pond is declared positive for the presence of GCN. It may be assumed that small fractions of positive analyses suggest low level presence but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive.

METHODOLOGY

The laboratory testing adheres to strict guidelines laid down in WC1067 Analytical and Methodological Development for Improved Surveillance of The Great Crested Newt, Version 1.1

The analysis is conducted in two phases. The sample first goes through an extraction process where all six tubes are pooled together to acquire as much eDNA as possible. The pooled sample is then tested via real time PCR (also called q-PCR). This process amplifies select part of DNA allowing it to be detected and measured in 'real time' as the analytical process develops. qPCR combines PCR amplification and detection into a single step. This eliminates the need to detect products using gel electrophoresis. With qPCR, fluorescent dyes specific to the target sequence are used to label PCR products during thermal cycling. The accumulation of fluorescent signals during the exponential phase of the reaction is measured for fast and objective data analysis. The point at which amplification begins (the Ct value) is an indicator of the quality of the sample. True positive controls, negatives and blanks as well as spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared so they act as additional quality control measures.

The primers used in this process are specific to a part of mitochondrial DNA only found in GCN ensuring no DNA from other species present in the water is amplified. The unique sequence appropriate for GCN analysis is quoted in DEFRA WC 1067 and means there should be no detection of closely related species. We have tested our system exhaustively to ensure this is the case in our laboratory. We can offer eDNA analysis for most other species including other newts.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. Kits are manufactured by SureScreen Scientifics to strict quality procedures in a separate building and with separate staff, adopting best practice from WC1067 and WC1067 Appendix 5. Kits contain a 'spiked' DNA marker used as a quality control tracer (SureScreen patent pending) to ensure any DNA contained in the sampled water has not deteriorated in transit. Stages of the DNA analysis are also conducted in different buildings at our premises for added



SureScreen Scientifics Ltd also participate in Natural England's proficiency testing scheme and we also carry out inter-laboratory checks on accuracy of results as part of our quality procedures.

Reported by: Derry Hickman

Approved by: Troy Whyte

End Of Report

Appendix 2: Biological records

Biological records can be supplied upon request.

Appendix 3: Hedgerow assessment criteria

Hedges over 100m are surveyed in two 30 metre sections (central section of each side) in accordance with the 1997 Hedgerow Regulations. Each section was surveyed separately. All woody species and any woodland species were noted as listed in the Hedgerow Regulations 1997.

The entire hedge was also surveyed for the following list of features:

- Standard trees
- Rare trees
- Connectivity to other hedges
- Adjacent footpaths, bridleways or BOATs.
- Parallel hedges
- Connectivity to woodlands
- Connectivity to ponds
- Percentage of gaps
- Presence of wall or bank within hedge, if so % of length affected.
- Presence of ditch along hedge, if so % of length affected.

The hedge was then assessed for protected status ('important hedgerow') using the hedgerow assessment criteria as below:

Hedgerow assessment criteria:

The hedgerow marks the boundary of a historic parish or township existing before 1850.

- The hedgerow contains or is within an archaeological feature which is on the Sites and Monuments Record, or a pre-1600 manor or estate.
- The hedgerow is a part of or associated with a field system predating the Enclosure Acts.
- The hedgerow contains species in part I of **Schedule 1**; **Schedule 5**; or **Schedule 8** of the **Wildlife and Countryside Act 1981**; or various other defined species including certain Red Data Book species.
- The hedgerow is adjacent to a **public right of way** (not counting an adopted highway) and at least 4 woody species as defined in Schedule 3 of the regulations plus at least two Associated Features.
- The hedgerow includes one or more of the following:

- At least 7 woody species;
- At least 6 woody species plus at least three Associated Features (see below);
- At least 6 woody species including a black poplar; large-leaved lime, small-leaved lime or wild service tree;
- At least 5 woody species and at least 4 Associated Features.

Note that: Where a hedgerow is situated wholly or partly in the county (as constituted on the first of April 1997) of the City of Kingston Upon Hull, Cumbria, Darlington, Durham, East Riding of Yorkshire, Hartlepool, Lancashire, Middlesbrough, North East Lincolnshire, Northumberland, North Yorkshire, Redcar and Cleveland, Stockton-on-Tees, Tyne and Wear, West Yorkshire or York the number of woody species mention is to be treated as reduced by one"

Associated Features are as follows:

- A bank or wall for at least half the length.
- A ditch for at least half the length.
- Gaps over no more than 10% of the length.
- At least one standard tree per 50m.
- At least 3 ground flora woodland species as defined in Schedule 2 of the Regulations within 1m of the hedgerow.
- Connections scoring 4 or more points, where connection a hedgerow counts as one, a broad-leaved woodland or pond counts as two*.
- A parallel hedge within 15m*.

***These features do not count if a public right of way is being included in the criterion.**

Appendix 3: Relevant policy and legislation

Planning policy

National Planning Policy Framework (England) NPPF February 2019

National planning guidance for ecological issues is set out in the updated February 2019 National Planning Policy Framework (NPPF). The requirements are consistent with those specified in the July 2018 NPPF; which advocate biodiversity net gain and improvement where possible, as evidenced below.

Paragraph 174 refers to the requirement of plans to “protect and enhance biodiversity and geodiversity” In order to do this, “plans should:

- a) 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; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) 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.”

In paragraph 175 the NPPF indicates that “when determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”

The accompanying ODPM / Defra Circular 06/2005 remains pertinent; circular 06/2005 is prescriptive in how planning officers should deal with protected species, see paragraphs 98 and 99:

The presence of a protected species is a material consideration when considering a proposal that, if carried out, would be likely to result in harm to the species or its habitat (see ODPM/Defra Circular, para 98)

LPAs should consider attaching planning conditions/entering into planning obligations to enable protection of species. They should also advise developers that they must comply with any statutory species protection issues affecting the site (ODPM/Defra Circular, para 98)

The presence and extent to which protected species will be affected must be established before planning permission is granted. If not, a decision will have been made without all the facts (ODPM/Defra Circular, para 99)

Any measures necessary to protect the species should be conditioned/planning obligations used, before the permission is granted. Conditions can also be placed on a permission in order to prevent development proceeding without a Habitats Regulations Licence (ODPM/Defra Circular, para 99).

The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances.

Further to NPPF and ODPM Circular 06/2005, Section 40 of the Natural Environment and Rural Communities Act (2006) states that ‘Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of

conserving biodiversity'. Section 40(3) also states that 'conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat'.

Local Planning Policy

Harrogate Draft Policy NE 3; protecting the Natural Environment

Development should not result in any loss of biodiversity, and should seek to provide net gains.

The council will work through appropriate Local Nature Partnerships and others to assess existing and potential components of ecological networks, including SINCs. Protected species and priority habitats and species are identified nationally in Biodiversity 2020 and under the Wildlife and Countryside Act. The preservation, restoration and recreation of priority habitats and ecological networks and the protection and recovery of priority species populations will be promoted and their positive conservation will be sought through development management.

The restoration and re-creation of priority habitats, networks and priority species populations identified in the Harrogate District BAP will be encouraged as part of any development.

Development will only be permitted where an appraisal has demonstrated that significant harm resulting from the development can be avoided through locating on an alternative site with less harmful impacts, adequately mitigated, or as a last resort, compensated for.

The council will protect and enhance sites of importance for natural heritage, biodiversity and geo diversity from development as follows:

International Sites: Special Areas of Conservation (SAC's), Special Protection Areas (SPAs), Ramsar sites

Development likely to have significant effect on a Natural 2000 site or its features of interest will be subject to an appropriate assessment. Where an assessment is unable to conclude that a development will not adversely affect the integrity of the site, development will only be permitted where there are no alternative solutions, and there are imperative reasons of overriding public interest. These can be of a social or economic nature except where the site has been designated for a European priority habitat or species.

National sites: SSSI's

Development likely to have an adverse effect on a SSSI will only be permitted where an appraisal has demonstrated:

The objectives of the designated area and the overall integrity of the area would not be compromised: or

Any adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.

Local sites

Development that affects the interest features of Local Sites will only be permitted where an appraisal has demonstrated that significant harm resulting from the development can be avoided through locating on an alternative site with less harmful impacts, adequately mitigated, or, as a last resort, compensated for.

Planning permission will not be granted for development resulting in the loss of deterioration of irreplaceable habitats, including historic wetlands and species-rich grasslands, ancient woodland and the loss of aged or veteran trees, unless the need for and benefits of the development in that location clearly outweigh the loss.

Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and Species of Principal Importance (England and Wales)

The NERC Act came into force on 1st October 2006. Sections 41 and 42 (S41 and S42) of the Act require the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England and Wales respectively. The list has been drawn up in consultation with Natural England (NE) and Countryside Council for Wales (now NRW) as required by the Act. In accordance with the Act the secretary of state keeps this list under review and will publish a revised list if necessary, in consultation with NE and NRW.

The S41 and S42 lists are used to guide decision makers such as public bodies, including local and regional authorities, and utilities companies, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England and Wales, when carrying out their normal functions, including development control and planning. This is commonly referred to as Biodiversity Duty.

Guidance for public authorities on implementing Biodiversity Duty has been jointly published by Defra and the Welsh Assembly. One of the key messages in this document states that “conserving biodiversity includes restoring and enhancing species populations and habitats, as well as

protecting them”. In England, local authorities are required to take measures “to promote the preservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species” linking to national and local targets through policy and by association, therefore, through development control.

In 2007, the UK biodiversity Action Plan (BAP) Partnership published an updated list of priority UK species and habitats covering terrestrial, freshwater and marine biodiversity to focus conservation action for rarer species and habitats in the UK. The UK post 2010 Biodiversity Framework, which covers the period from 2010 – 2020 now succeeds the UK BAP. The UK priority list contained 1150 species and 65 habitats requiring special protection and has been used as a reference to draw up lists of species and habitats of principal importance in England and Wales.

In England, there are 56 habitats of principal importance and 943 species of principal importance on the S41 list. These are all the habitats and species that are found in England that were identified as requiring action in the UK BAP and which continue to be regarded as conservation priorities in the subsequent UK post -2010 Biodiversity Framework.

In Wales, there are 54 habitats of principal importance and 557 species of principal importance on the S42 list. This includes three marine habitats and 53 species that were not on the list of UK BAP priority habitats, but which are recognised as of principal importance for Wales.

Government Circular 06/2005 and Standing Advice from NE

Paragraph 99 of Government Circular 06/2005 advises that *“it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted”*.

The reasoning behind this statement stems from the fact that, without appropriate protected species surveys to confirm presence or likely absence and where an effect upon the species is considered likely should the development proposal proceed, planning permission may be

inadvertently granted for an action that would contravene protected species legislation or the local planning authority may not have due regard to its duty in respect of protected species in advance of determination and this could result in issues in the ability to implement the planning permission. For example, if a situation were to arise where protected species were discovered after planning permission had been granted, it may not be possible to incorporate mitigation measures into the scheme, at least without a major change to the scheme design that would require re-submission to the planning authority.

Paragraph 118 of the NPPF advises that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying certain principles. One of these principles advises that if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

Paragraph 98 of Circular 06/2005 advises that *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult with NE before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should advise developers that they must comply with any statutory species’ protection provisions affecting the site concerned...”*

Standing advice from NE provides advice to planners on deciding if there is a ‘reasonable likelihood’ of protected species being present. It also provides advice on survey and mitigation requirements. When determining an application for development that is covered by standing advice, in accordance with guidance in Government Circular 06/2005, Local planning authorities are required to take the standing advice into account. NE advises that standing advice is a material consideration in the determination of applications in the same way as a letter received from NE following consultation.

European Protected Species (Animals)

The Conservation of Habitats and Species Regulations 2017 (as amended) consolidates the various amendments that have been made to the original (1994) Regulations which transposed the EC

Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

“European protected species” (EPS) of animal are those which are present on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 41 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together these pieces of legislation make it an offence to:

- a) Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
- b) Possess or control any live or dead specimens or any part of, or anything derived from these species
- c) Deliberately disturb wild animals of any such species
- d) Deliberately take or destroy eggs of such an animal or
- e) Intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct such a place

For the purposes of paragraph c), disturbance of animals includes in particular any disturbance which is likely

- a) To impair their ability
 - I. To survive, to breed or reproduce, or to rear or nurture their young, or
 - II. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b) To affect significantly the local distribution or abundance of the species to which they belong.

Although the law provides strict protection to these species, it also allows this protection to be set aside (derogation) through the issuing of licences. The licences in England are currently determined by NE for development works. In accordance with the requirements of the Regulations (2017), a licence can only be issued where the following requirements are satisfied:

- a) The proposal is necessary “to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment
- b) There is no satisfactory alternative

- c) The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

Wild mammals

Under the Wild Mammals (Protection) Act 1996, it is an offence to kill or injure any wild mammals by various means, including crushing and suffocating; therefore, consideration must be given to the humane exclusion or destruction of foxes and rabbits before work starts.

Birds

All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use of being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

The conservation of Habitats and Species (Amendment) Regulations 2012 has placed new duties on Local Authorities and National Park Authorities (and others) in relation to wild bird habitat. Regulation 9A(2) and (3) require that "in the exercise of their functions as they consider appropriate" these authorities must take steps to contribute to the "preservation, maintenance and reestablishment of a sufficient diversity and area of habitat for wild birds in the UK, including by means of upkeep, management and creation of such habitat....."These authorities are also required, under Regulations 9A(8) to "use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds".

11.1 UK and Local Biodiversity Action Plans

The UK Biodiversity Action Plan (BAP) identified a number of species as priorities of conservation.

Those of particular relevance to this site are:

- Soprano pipistrelle bat (*Pipistrellus Pygmaeus*)
- Brown long-eared bat (*Plecotus auritus*)
- Noctule bat (*Nyctalus noctula*)
- West European hedgehog (*Erinaceus europaeus*)

2.2.2. Ryedale Biodiversity Action Plan

Habitat action plans have been produced for the following habitat types that are relevant to this assessment :

Ancient/Species-rich hedgerows

Species relevant to the site with action plans are Tree sparrow.