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Bayfields, Chepstow

Extended Phase 1 Survey

Final Report

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	Name	**Position**	**Date**
Originated	James Garside	Ecologist	07 April 2017
Reviewed	James Gillespie	Partner	11 April 2017
Issued to client as a draft	James Gillespie	Partner	12 April 2017
Issued as final	James Gillespie	Partner	17 August 2017

Contents

1 Summary

1.1 The Site is currently being considered for the development of up to 200 residential units and associated landscaping and infrastructure.

1.2 The survey area encompasses two large fields and a smaller field bounded by species-poor hedgerows with occasional mature trees. The Southern boundary and parts of the Northern and Eastern boundaries of the Site are bounded by residential development. The Western boundary is partly bounded by Bishops Barents Wood with pasture and arable fields and hedgerows occupying the wider landscape along with other blocks of woodland.

1.3 There are no statutory designated sites within the Site or its immediate surrounds, but there are several within the data search area.

1.4 A single non-statutory Site (Crossways Green 2, a Site of Importance for Nature Conservation (SINC)), partly falls within the Site and is designated for woodland and species-rich grassland. Only the grassland part of the SINC falls within the Site. Further botanical survey is recommended in respect of this SINC.

1.5 Part of the Wye Valley lesser horseshoe bat SAC and SSSI is approximately 2.8km to the North-West of the Site. It is possible that bats from this Site could rely on the habitats within the Site and further activity survey for bats is recommended to help inform the development proposals and any avoidance measures that might need to be included in the final design.

1.6 The fields that make up the majority of the Site were assessed as being dominated by semi-improved grassland with limited botanical interest with the exception of the Crossways Green 2 SINC. Recommendations for enhancement in any scheme have been made through the use of wild flower grassland seed mix in areas of public open spaces subject to less intensive use and management.

1.7 The species-poor hedgerows that bound the Site are largely intact but there are significant lengths that have been cleared and replaced with post and wire fences or have become gappy. A single section on the northern boundary remains well connected to wooded habitats within the wider landscape. The South-Eastern boundary hedgerow is a treeline supporting a number of mature hazel stools and three mature oak trees.

1.8 The hedgerows were assessed as being important at a Site level only as they are species-poor and have large sections missing in places. Notwithstanding this recommendations to retain and/or replace hedgerow in any development proposals for the Site have been made, because of the possibility of dormouse (see below).

1.9 The hedgerows within the Site have some potential for dormouse *Muscardius avellanarius*, and are connected to the adjacent woodland which has dormouse records. Further survey for dormouse is recommended.

1.10 A single small pond was found on the Site and a second pond was identified approximately 380 m to the South. The second pond has low potential for great crested newts and this, and its distance from the Site, mean that newts are unlikely to be an issue in respect of this pond. The on-site pond and the terrestrial habitat surrounding it may be affected by development of the Site and it is recommended that further survey for great crested newt is undertaken.

1.11 A single derelict barn is present along with three mature oak trees on the South-Eastern Boundary that were assessed for their potential to support bats. There were a number of other semi-mature hedgerow trees within the Site that were assessed as offering negligible potential for roosting bats.

1.12 The three mature oak trees within the Site should if possible be retained in any development proposals for the Site and consideration for further survey of the trees for bats should be undertaken if they are likely to be affected directly or indirectly by development (including lighting).

1.13 The invasive plant New Zealand pygymyweed was recorded in the pond in the North-Eastern corner of the Site and Development proposals should be planned to avoid the spread of this species.

1.14 All hedgerow and scrub habitats have the potential to support the nests of common birds and any clearance of such habitats should be undertaken outside of the breeding bird season if possible or to be preceded by a check by an experienced ecologist.

2 Introduction

Background to commission

2.1 The Site consists of parts of three fields off Wallwern Wood Road, Bayfields, Chepstow at National Grid Reference ST 521 940. The Site is approximately 11.7 ha of open pasture fields bounded by hedgerows and is crossed by several public footpaths.

Site description

2.2 The fields are species-poor semi-improved grassland bordered by species-poor hedgerows that are largely intact. The land to the North, East and South is dominated by residential development, whilst the land to the North-West and South-West is covered by semi-improved grassland fields (and one arable field in the South-West corner) and immediately to the West is an extensive area of woodland.

Description of project

2.3 Currently the Site is being considered for the development of up to 200 homes and associated landscaping and infrastructure.

Aims of study

2.4 BSG Ecology was commissioned by Barratt and Davis Wilson Homes South Wales to carry out an extended Phase 1 habitat survey and preliminary ecological assessment of the Site. The primary aim of this study is to identify likely potential ecological constraints to the proposed residential development, detail further survey that may be required, and make brief recommendations for likely mitigation measures.

3 Methods

3.1 The team for this project involved the following members of staff and subcontractors:

3.2 Niall Lusby BSc MCIEEM completed the field survey work. Niall regularly plans and carries out survey for a variety of species and habitats.

3.3 James Garside BSc assisted with the field survey work and is the author of this report.

3.4 James Gillespie BSc PgDip MCIEEM was the project director and technical reviewer of this report. James has over twenty years of experience in ecological appraisal and the provision of advice on ecological survey requirements, input to project design, close work with contractors, architects and designers.

3.5 A summary of each BSG staff member's experience and competence as a professional ecologist is provided at http://www.bsg-ecology.com/index.php/people/

Desk study

3.6 A data search of the Site and a 2km buffer was commissioned from the South East Wales Biodiversity Records Centre (SEWBReC). This included information on protected species, Species referred to by Section 7 of the Environment (Wales) Act 2016 (see Appendix 1 for more detail), and designated sites for nature conservation. This search area was considered sufficiently large to highlight existing species and habitat data of relevance to the site. The results of the desk study will be discussed in each section, where relevant.

3.7 A search area of 5 km was employed, using the Magic website (Magic.defra.gov.uk, accessed 31 March 2017), for statutory designated sites.

Field survey

Extended phase 1 survey

3.8 A Phase 1 habitat survey was carried out based on standard Phase 1 methodology (Joint Nature Conservation Committee, 2010). The survey was carried out by Niall Lusby MCIEEM and James Garside on 27 March 2017. This involved walking across the Site and mapping the habitats present using standard codes. The survey was extended to include taking a record of protected or otherwise notable species, or habitats that have the potential to support them. The Phase 1 habitat survey plan (Figure 1) illustrates the results of the survey.

Habitat suitability index assessment survey

3.9 During the Phase 1 habitat survey, a great crested newt (GCN) Habitat Suitability Index (HSI) assessment (Oldham et al., 2000) was undertaken of ponds/water bodies that were located within 400 m of the Site (where access was possible). Information on the physical features and characteristics of each pond was collected in order to allow a great crested newt (GCN) *Triturus cristatus* Habitat Suitability Index (HSI) score to be derived for each pond. The scoring system developed by the Herpetological Conservation Trust (HCT, 2008) was applied. The suitability index is calculated by allocating scores to features associated with each pond; these include features such as size, quality of surrounding habitat and presence of fish. These scores are then used to calculate the overall HSI for each pond as a number between 0 and 1, with 0 being the least suitable and 1 being the most suitable. The HSI score allows each pond to be placed in one of five categories which indicate its suitability for GCN as follows:

- <0.5 = poor
- 0.5 – 0.59 = below average
- 0.6 – 0.69 = average
- 0.7 – 0.79 = good
- >0.8 = excellent

Ground based tree assessment survey

3.10 As part of the survey an inspection was carried out of the trees that are present within the survey area. A single built structure (a derelict barn) was present on the Site was also assessed. The survey was undertaken from ground level using binoculars (where necessary) and features suitable for roosting bats, such as split limbs, cracks, hanging bark and/or cavities were recorded. Trees were classified in relation to the potential value of the features they support to roosting bats following the BCT guidelines (Colins, 2016), see Table 1.

Table 1: Categories of bat potential of trees, adapted from Colins (2016)

Level of Bat Potential	**Rationale**
High	Trees with one or more suitable features capable of supporting larger roosts. Further survey necessary.
Moderate	Trees with one or more suitable features with potential for use by single bats but unlikely to support a high conservation roost. Further survey necessary.
Low	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats. No further survey necessary.
Negligible	Trees with no potential to support roosting bats. No further survey necessary.

Limitations to methods

3.11 The survey was conducted outside of the optimum period for botanical survey, but this is not considered to be a constraint to the principal objectives of the study.

4 Results and Interpretation

4.1 This section brings together the results of the desk study and field survey. The implications for development are then considered in Section 5.

Statutory designated sites

4.2 There are no statutory designated sites within the Site boundary.

4.3 The River Wye SAC and SSSI runs approximately 0.5km to the East of the Site. The River Wye is designated as a SAC and SSSI primarily to protect significant populations of Annex 2 freshwater fish species (such as twaite shad *Alosa falax*, river lamprey *Lampetra fluviatilis* and atlantic salmon *Salmo salar*) and aquatic plant communities which form an Annex 1 habitat (water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Bactrachion* vegetation). This site and the species it protects are unlikely to be affected by the work.

4.4 The Wye Valley Woodlands SAC and SSSI are approximately 570 m to the East of the Site. The woodlands are designated for their habitat and species interest, including the presence of lesser horseshoe bat.

4.5 The Wye Valley lesser horseshoe bat *Rhinolophus hipposideros* SAC and SSSI is a multi-component designated site that covers key roosts within the Wye valley. Itton Court is approximately 2.8km to the North-West of the Site and is designated as an important transition roost.

Non-statutory designated sites

4.6 SEWBReC returned records of two Regionally Important Geodiversity Sites (RIGS) and fourteen Sites of Importance to Nature Conservation (SINCs) within 2 km of the Site. The RIGS will not be considered further at this stage as they are of geological interest only and unlikely to be significantly affected. The fourteen SINCs are all designated for broad-leaved woodland or grassland interest, and the species-rich grassland element of “Crossway Green 2” SINC falls within the Northern part of the Site. A second SINC (Bishops Barnet Woods) is close to the Site:

- Crossway Green 2 is designated as a SINC due to the presence of an area of species rich grassland and a small area of ancient woodland. The species rich grassland is at the lower slopes (Northern end) of the field.

- Part of Bishop’s Barnet Woods approximately 100 m from the North-Western border of the Site. SEWBReC do not hold any information about Bishop’s Barnet Woods, but a small area of the same woodland is contained within the Crossways Green 2 site described above. It was also described briefly during the Phase 1 habitat survey (target note 9).

Habitats

4.7 The habitats observed during the ‘extended’ Phase 1 survey are mapped on Figure 1. Target notes (TN) are used to provide further information on the survey and are shown on Figure 1. A brief description of each is provided in Appendix 3. Each habitat is described briefly below.

Poor semi-improved grassland

4.8 The three grazed, sloping fields have a short sward height (approximately 4cm). They support vegetation characteristic of semi-improved grassland; perennial rye grass *Lolium perenne* and creeping bent *Agrostis stolonifera* dominate, with occasional white clover *Trifolium repens*, dandelion *Taraxacum spp.* and common mouse-ear *Cerastium fontanum.* Meadow buttercup *Ranunculus acris*, spear thistle *Cirsium vulgare* and common nettle *Urtica dioica* are occasional in the field margins. See TN 1, Appendix 3.

4.9 The northernmost field is designated in part as a SINC (see Figure 1) for species rich grassland but its interest was not apparent at the time of survey because of the time of year.

Species-poor hedgerows

4.10 The fields are bordered by species-poor hedgerows of largely continuous sections interspersed with large gaps as a result of historic clearance. These sections are delineated by post and wire fences. A section of hedgerow in the North-Western corner of the Site is connected to Bishop's Barnets Wood.

4.11 The hedgerows are approximately 1.5 m in width and range from 1.8 m to 7 m in height. The dominant species throughout is blackthorn *Prunus spinosa*, with frequent hawthorn *Crataegus monogyna* and hazel *Corylus avellana* and occasional elder *Sambucus nigra*. Field maple *Acer campestre* and garden privet *Ligustrum ovalifolium* is occasional at TN 3 only and oak *Quercus robur* is occasional at TN 14 only, whilst ash *Fraxinus excelsior* was recorded as occasional at both TNs 8 and 14 and holly *Ilex spp.* was occasional at TN 8 and 18.

4.12 The ground flora consists of frequent bramble *Rubus fruticosus*, common nettle *Urtica dioica*, lords and ladies *Arum maculatum*, ivy spp. *Hedera spp.* and rose spp. *Rosa spp.*, with occasional dog's mercury *Mercurialis perennis*, curled dock *Rumex crispus*, hedge woundwort *Stachys sylvatica*, ground elder *Aegopodium podagraria* and clematis *Clematis vitalba.* Dog-violet *Viola riviniana* and lesser celandine *Ranunculus ficaria* were recorded at TN 8 only, whilst honeysuckle *Lonicera periclymenum* was at TN 11 only, bluebell *Hyacinthoides non-scripta* and cow parsley *Anthriscus sylvestris* were recorded at TN 12 only and primrose *Primula vulgaris* was at TN 14 only.

Mature oak trees

4.13 There are four mature oak trees on the Site (TN 7, 15, 16 and 17) with diameter at breast height measurements between 1m to 1.3m. They were all surveyed for cracks, splits and holes suitable for roosting bats. Two of the trees (TN 7 and 16) have no observable suitable features.

4.14 The tree at TN 15 has one suitable feature, a hollow, broken branch approximately 3.5m from the ground on the north side. This feature was considered to have high potential for roosting bats.

4.15 The tree at TN 17 also has a feature suitable for roosting bats, a large plate of dead ivy against the trunk. However, this is falling away from the trunk in places reducing its bat potential to medium.

Ponds

4.16 There is one pond in the North-Eastern corner of the Site that is not shown on OS mapping (TN 4). This appears to have been recently constructed / de-silted (excavated materials on its banks were noted). Its approximate dimensions are a 6m x 3m oval with a small island in the centre (approximate dimensions 1m x 1.5m). It contains a number of native aquatic plant species; occasional brooklime *Veronica beccabunga*, yellow iris *Iris pseudacorus*, soft rush *Juncus effuses* and broad-leaved willowherb *Epilobium montanum*. It also contained frequent New Zealand pygymyweed *Crassula helmsii*, an invasive Schedule 9 species (under the Wildlife and Countryside Act 1981, as amended[1]).

4.17 Two off-Site locations were checked for ponds. The first location (National Grid Reference ST 52361 94505) was found to no longer be present with no indication of a pond holding water anymore. The pond at the second location (National Grid Reference ST 51642 93699) was holding water and comprised two connected pools. The larger section was approximately 15m x 4m and the smaller area 7m x 2m. The pond is approximately 380 m South-West of the Site boundary.

[1] See Appendix 1 for details of legislation

Derelict barn

4.18 A derelict barn is present on Site as indicated by TN 20. It was assessed for its potential as a bat roost but was found to have no roof (apart from a number of thin metal beams), and otherwise consisted of two concrete walls that were in sound condition (lacking any large cracks or other potential roost features). It was therefore considered to have negligible bat potential.

Restored ancient woodland (off-Site)

4.19 Bishop's Barnets Wood forms the North-Western border of the Site. It is an area of restored ancient calcareous-influenced woodland with some smaller pockets of coniferous plantation in its centre. The canopy of the woodland along the boundary with the Site is dominated by ash, with occasional cherry spp. *Prunus* spp..The understorey consists of hazel and the ground flora included the following species: wood anemone *Anemone nemorosa*, bluebell, dog's mercury, lesser celandine. Ongoing felling works were taking place at the time of the survey, seemingly to remove larch *Larix* spp. plantation.

Species

Amphibians

4.20 No records of GCN were returned in the data search.

4.21 A HSI assessment was carried out for the on-Site pond, which returned a value of 0.68 which is assessed as Average.

4.22 The HSI for the off-site pond returned a HSI value of 0.48 which is scored as Poor. The raw HSI data for all ponds is available in Appendix 2).

Badger

4.23 The data search returned six records of badger *Meles meles*, two of which were historical (pre-1990).

4.24 No setts were found within the Site or its near surrounds. All of the hedgerows and scrub habitats were assessed for the potential presence of badger setts but the woodland that borders the Site was only searched for the strip that directly adjoins the Site. It is possible that the woodland supports badger setts within 30 m of the Survey boundary.

4.25 Evidence of badgers was found on and near the Site during the survey. A push through (under a fence) was noted at TN 10, suggesting that the species uses the Site for commuting and/or foraging. Another push-through and several latrines were found off-site at National Grid Reference ST 51727 93555.

Bats

4.26 There are records of nine species of bat on the Site, as well records for *Myotis* and *Pipistrellus* genera and general records of bats. These include 164 records of lesser horseshoe bat, 39 records of greater horseshoe bat *Rhinolophus ferrumequinum*, three records of bechstein's bat *Myotis bechsteinii*, and a single record of Western barbastelle *Barbastella barbastellus*.

4.27 During the survey, several mature trees were found that have bat roosting potential (see above).

4.28 The Site's habitats are suitable for foraging and commuting by a range of bat species including lesser and greater horseshoe bats.

Breeding bird

4.29 Numerous records of common and more notable birds were returned in the data search, a number of which relate to a 1 km grid square which covers part of the Site. There is some potential nesting habitat in the Site in the form of hedgerows and large fields.

Dormouse

4.30 The data search returned ten records (two historical) of hazel dormouse *Muscardinus avellanarius*, though none refer to the Site itself. The closest record relates to Bishop's Barnet Wood approximately 800 m to the South-West.

4.31 Much of the hedgerow resource within the Site has some suitability for dormouse in terms of hedgerow structure and species composition. The only well connected section of hedgerow is that shown at TN 8 on Figure 1, having good connectivity with Bishop's Barnet Woods. The other hedgerows within the Site are less well connected due to large gaps and are therefore less suitable for this species. The structure of the hedgerow in the South-Eastern corner of the Site is highly suitable for this species supporting a high canopy of mature hazel but it is not well connected to the wider landscape.

Reptiles

4.32 The data search returned two records of slow-worm *Anguis fragilis* from residential gardens in Chepstow.

4.33 The tightly grazed grassland within the Site offers limited opportunities for common reptiles, with the hedgerows offering very limited potential along their bases.

Invasive plant species

4.34 The on-Site pond (TN 4) contained New Zealand pygymyweed, an invasive Schedule 9 species (under the Wildlife and Countryside Act 1981, as amended). No other Schedule 9 species were recorded in the course of the survey.

5 Potential Impacts and Recommendations

Statutory designated sites

5.1 Itton Court, part of the Wye Valley Lesser Horseshoe Bat SAC and SSSI is within 3 km of the Site. Itton Court is recorded as being a transitory roost and it is possible that the grassland and hedgerow habitats within the Site are used by bats from this roost for foraging or commuting, along with a range of more common species that are likely to be present in the Site's immediate surrounds.

5.2 Further survey for bat activity is recommended, with particular emphasis on the horseshoe species, to assess use of the site and to assess the likelihood of the proposed development being subject to Habitats Regulations Assessment (HRA). Survey from late spring and throughout summer is likely to be required.

Non-statutory designated sites

5.3 The species-rich grassland element of Crossway Green 2 SINC is within the Northern part of the Site and depending on the final proposal for this area could be adversely affected. The species-rich grassland is at the lower slopes (Northern end) of the field. The eastern edge of this SINC has previously been used as a site compound for a nearby new build development in 2015 (Google Earth images).

5.4 Further targeted botanical survey of this area of the Site in the optimum period for grassland survey (May to June is recommended) to determine its value and to highlight key areas of interest to avoid and to help inform any mitigation that might be required. Policy NE 1 of the Adopted Monmouthshire Local Plan is relevant (see Appendix 1)

5.5 Bishop's Barnet Wood ancient restored woodland and the SINC within it could be affected by the change in use of the Site from farmland to residential in a number of ways including:

- Increased recreational pressure on the woodland arising from an increase in numbers of local people and decreased distance from local residences.
- Increased predation on woodland mammals and birds due to increased numbers of cats.

Due to the potential negative impacts on the woodland adjacent to the Site and the difficulties in using more standard measures such as fencing to restrict access from the Site with fencing (because of the presence of several existing rights of way) it is recommended that a strip of buffer planting is provided adjacent to the woodland to help absorb some of the increased human pressure on the woodland and to minimise the chances of a proliferation of new access points into the wood.

Habitats

Poor semi-improved grassland

5.6 Development of the Site would result in the loss of most of this habitat. However, it is very common and species-poor and is of importance at a Site level only.

5.7 It is recommended that where low pressure areas of public open spaces are included within the development, a wildflower seed mix is used to increase the diversity of the retained grassland.

Species-poor hedgerows

5.8 It is recommended that impacts on hedgerows are minimised by retaining and replacing them as far as possible within the scheme. Where new hedgerows are to be planted within the development consideration should be given to the use of native species and the avoidance of amenity species

known to escape into natural habitats. These include species such as *Cotoneaster* species, laurel species (including *Aucuba japonica*) and *rhododendron* species.

Mature oak trees

5.9 It is recommended that the mature oak trees within the Site are retained where possible, with a reasonable stand-off from development.

Species

Amphibians

5.10 The on-Site pond (TN 4) has been assessed as having a HSI score of 0.68 which equates to "Average". No records of GCN were returned in the data search but for completeness (as the pond is on the Site and is of Average HSI score) it is recommended that targeted survey of this pond is undertaken in spring.

5.11 If GCN are present then development on the Site would be likely to require a European Protected Species (EPS) Licence and consideration will need to be given to incorporation of pond and terrestrial habitat into the development.

Badger

5.12 No setts were recorded during the survey but there is evidence of use of the grassland habitats by badgers for foraging / commuting. Badger is a widespread and common species in the surrounds of the Site and it is not considered likely that the habitats within the Site represent the sole territory of nearby badger clans so no adverse impact upon this species is anticipated as the result of the development of the Site. It is possible that badger setts are present within the woodland edge that borders the west of the Site (the immediate edge was assessed from within the Site). If a suitable buffer is retained between the Site and the adjacent woodland there would be no requirement for further survey of the woodland for badger setts. If development is proposed that immediately borders the woodland, or the time between this survey and the development exceeds 12 months then a repeat survey of the Site and/or woodland would be recommended.

Bats

5.13 Activity survey for bats is recommended under the statutory designated sites section above.

5.14 Three mature oak trees with features that offer potential for use as bat roosts were identified during the survey (TN 14, 16 and 17) in the hedgerow on the Site's South-Eastern margin. If these trees and the hedgerows that they are in can be retained and a sensitive lighting scheme prepared for the Site then no adverse impacts on any potential roosts is anticipated. If works on the trees (or their removal) are required then survey for bat roosting evidence in these trees would be recommended.

Breeding birds

5.15 The habitats within the Site are anticipated to support a range of common breeding bird species, and the timing of vegetation clearance should be programmed to avoid the breeding bird season (March – August inclusive). If it is not possible to clear vegetation outside of this period then all works should be preceded by a nesting bird check by an appropriately experienced ecologist. No further targeted survey is recommended.

Dormouse

5.16 Records of dormouse were returned for the adjacent woodland block and, because the hedgerows within the Site are broadly suitable, it is recommended that further survey is undertaken to determine whether dormouse is present in the woodland bordering the Site or in the hedgerows of

the Site. The survey period is over several months between April and October. It is recommended that survey is initiated in late April.

5.17 If dormouse is present then any significant loss of woody vegetation (hedgerow or scrub) is likely to require an EPS Licence and consideration will have to be given to mitigation and compensation planting for loss of habitat. This might also include consideration of measures to control the effects of disturbance by residents (of any retained hedges, and of the adjacent woodland).

Reptiles

5.18 A significant negative effect on reptiles is considered unlikely and no further targeted survey is recommended. Limited potential for reptiles exists along hedge bottoms and in other marginal habitats and, depending on the final design, it may be necessary to brief contractors and instigate an ecological watching brief during the removal of some habitat.

Invasive plant species

5.19 New Zealand Pygymyweed is present within the pond at TN 4. Development of the Site should take account of this species.

6 References

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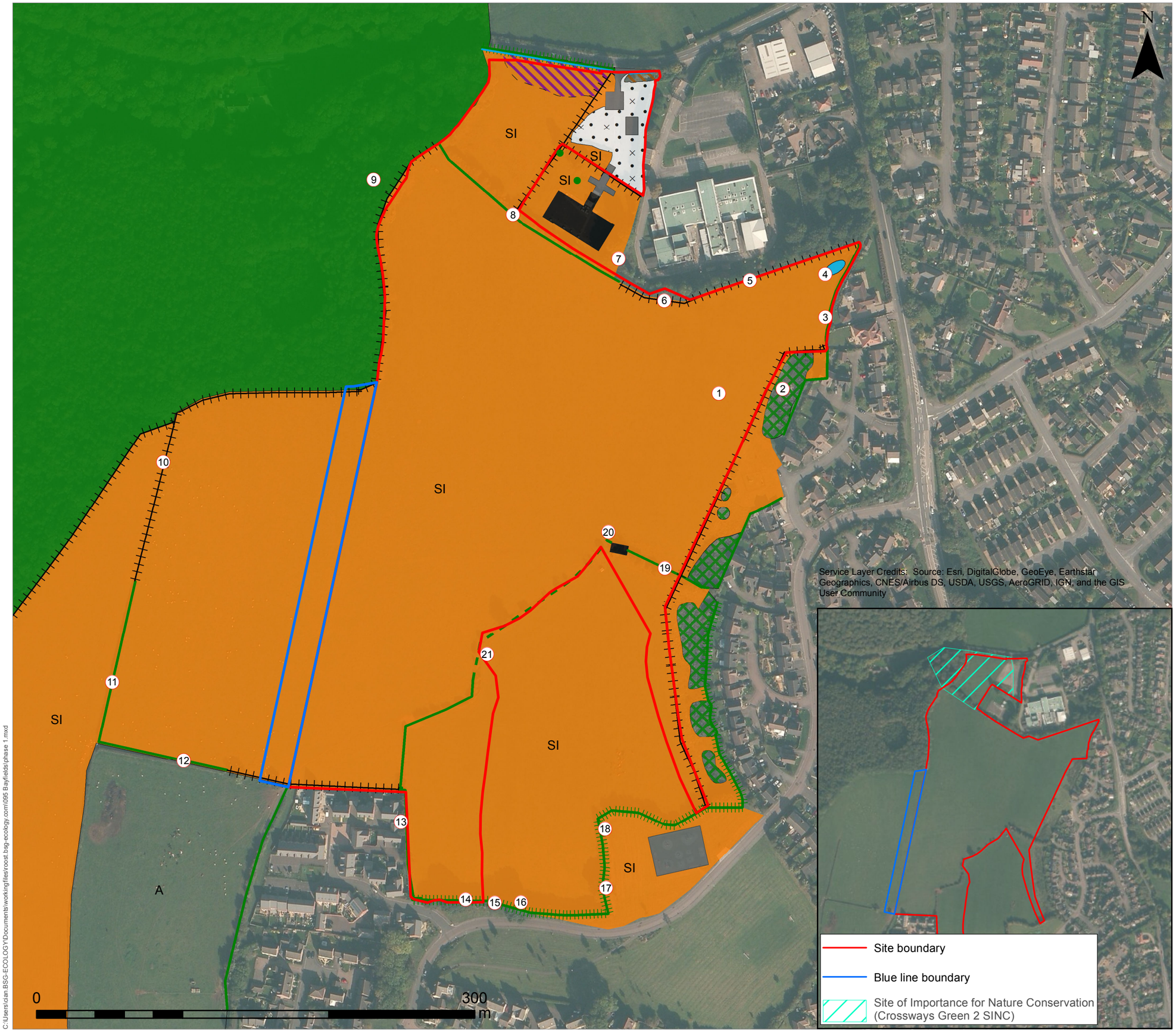
7 Figures

(Figure 1, overleaf)



LEGEND

- Site boundary
- Blue line boundary
- Broadleaved tree
- 1 Target note
- Running water
- Species-poor intact hedge
- Species-poor defunct hedge
- Species-poor hedge with trees
- Fence
- Broadleaved semi-natural woodand
- Dense scrub
- SI Semi-improved neutral grassland
- Marshy grassland
- Tall ruderal vegetation
- Pond
- Hardstanding
- A Arable
- Ephemeral / short perennial vegetation and bare ground
- Building

BSG ecology

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PROJECT TITLE

BAYFIELDS, CHEPSTOW

DRAWING TITLE

Figure 1: Phase 1 Habitat Map

DATE: 28.11.2018 CHECKED: JAG SCALE: 1:2,500

DRAWN: COH APPROVED: JG VERSION: 1.1

Sources: BSG Ecology survey data

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8 Photographs

Photograph 1: Example of semi-improved fields

Photograph 2: Example of Site hedgerow

Photograph 3: Mature oak tree TN14

Photograph 4: Mature oak tree TN 16

Photograph 5: Mature oak tree TN17

Photograph 6: On-Site pond (TN 4)

Photograph 7: Off-Site pond

Photograph 8: Hedgerow at TN 15

Photograph 9: Derelict barn TN 20

Photograph 10: Photograph 10: Bishop's Barnets Wood TN 9

9 Appendix 1: Summaries of Relevant Policy, Legislation and Other Instruments

This section briefly summarises the legislation, policy and related issues that are relevant to the main text of the report. The following text does not constitute legal or planning advice.

Environment (Wales) Act 2016

9.1 The Environment (Wales) Act 2016 passed into law in March 2016. Part 1 of the Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

9.2 Section 6 of the Act places a duty on public authorities to '*seek to maintain and enhance biodiversity*' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to '*promote the resilience of ecosystems*'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 in relation to Wales, and applies to those authorities that fell within the previous duty.

9.3 Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. This is expanded on in sub-section (2):

9.4 In complying with subsection (1), a public authority must take account of the resilience of ecosystems, in particular the following aspects—

- diversity between and within ecosystems;
- the connections between and within ecosystems;
- the scale of ecosystems;
- the condition of ecosystems (including their structure and functioning);
- the adaptability of ecosystems.

9.5 Section 7 concerns biodiversity lists and the duty to take steps to maintain and enhance biodiversity. It replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

9.6 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

Policy NE1, Monmouthshire LDP

9.7 "*Development proposals that would have a significant adverse effect on a locally designated site of biodiversity and / or geological importance, or a site that satisfies the relevant designation criteria, or on the continued viability of priority habitats and species, as identified in the UK or Local Biodiversity Action Plans or Section 42 list of species and habitats of importance for conservation of biological diversity in Wales, will only be permitted where:*

a) the need for the development clearly outweighs the nature conservation or geological importance of the site;

and b) it can be demonstrated that the development cannot reasonably be located elsewhere.

Where development is permitted, it will be expected that any unavoidable harm is minimised by effective avoidance measures and mitigation. Where this is not feasible appropriate provision for compensatory habitats and features of equal or greater quality and quantity must be provided".

Planning Policy Wales (Chapter 5 - Conserving and Improving Natural Heritage and the Coast)

9.8 The Welsh Government published Planning Policy Wales (5th edition) in November 2012.

9.9 The Welsh Government's objectives for conserving and improving the natural environment are as follows:

- 'Promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats
- Ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment
- Ensure that statutorily designated sites are properly protected and managed
- Safeguard protected species
- Promote the functions and benefits of soils, and in particular their function as a carbon store'

9.10 There is a clear requirement for pre-planning consent consultation with Natural Resources Wales (NRW) (formerly Countryside Council for Wales) where a planning application or proposal may be 'likely to have a significant effect on sites of more than local importance or on a designated area' or would be 'likely to result in disturbance or harm to a protected species.'

9.11 Pre-application discussions are recommended for any development proposal likely to have an effect on the wildlife of a given area whether designated or not. For example, paragraph 5.5.1 identifies that the effect of a development proposal on the wildlife 'of any area can be a material consideration' and that 'in such instances and in the interests of achieving sustainable development it is important to balance conservation objectives with the wider economic needs of local business and communities.' There is a requirement for development proposals to include reasonable steps to safeguard or enhance the environmental quality of the land should development take place.

9.12 Planning Policy Wales requires local planning authorities to 'have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests and should take care to avoid placing unnecessary constraints on development.' Statutory designations do not necessarily prohibit development taking place, however, paragraph 5.5.5 states that development proposals 'must be carefully assessed for their effect' on the interests for which the designation is made.

9.13 There is a presumption against development that is likely to damage a SSSI and it is noted that SSSIs can be damaged be developments that lie either within or beyond the SSSI boundaries and that this could be 'some distance away.' There is specific reference to the duty on all public bodies under the Wildlife and Countryside Act 1981 (as amended by the Countryside Rights of Way Act 2000) to further conserve and enhance the features and reasons for a SSSI being of special interest in the exercise of public body functions which includes local planning authorities.

9.14 Paragraph 5.4.4. acknowledges that non-statutory designations carry less weight than statutory designations and that at a policy level local authorities are required to be clear that a non-statutory designation does not 'preclude appropriate socio-economic activities' and if certain features or component characteristics of sites specifically need to be conserved and, as such, require additional protection, this should be explained at a policy level.

9.15 Species protected under European or UK legislation are identified as a material consideration when considering a development proposal where protected species are present and if the development would 'be likely to result in disturbance or harm to the species or its habitat.' The potential need for

ecological survey and assessment of likely impact of a proposed development on a protected species to inform planning decisions is highlighted in paragraph 5.5.11.

9.16 Trees, woodlands and hedgerows are identified as being of 'great importance' and that local planning authorities should seek their protection where they have natural heritage value. 'Ancient and semi-natural woodlands' are specifically highlighted as "irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage." Consultation with NRW and/or the Forestry Commission is required if a site is recorded on the inventory of ancient woodland before authorising potentially damaging operations.

TAN 5 Nature Conservation and Planning

9.17 Technical Advice Note (TAN) 5 supplements Planning Policy Wales and provides advice about how the land use planning system in Wales 'should contribute to protecting and enhancing biodiversity and geological conservation.'

9.18 The TAN provides guidance to local planning authorities on: 'the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and, development affecting protected and priority habitats and species.'

9.19 In section 2.4 when deciding planning applications that may affect nature conservation, 'local authorities should:

- contribute to the protection and improvement of the environment…seeking to avoid irreversible harmful effects on the natural environment;
- ensure that appropriate weight is attached to designated sites of international, national and local importance;
- protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of a development on nature conservation;
- ensure that the range and population of protected species is sustained;
- adopt a stepwise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.'

9.20 At section 3.3.2 regarding Local Development Plans policies the guidance states that a policy should be included in respect of the application of the precautionary principle.

9.21 Section 4 includes specific and detailed guidance, expanding on the principles set out in 2.4, in respect of the development control process including pre-application discussions, preparing planning applications, requests for further information and ecology in respect of Environmental Impact Assessment (EIA). The broad principles of development control requirements are set out as follows:

- 'adopting the five-point approach to decision-making – information, avoidance, mitigation, compensation and new benefits;
- ensuring that planning applications are submitted with adequate information, using early negotiation, checklists, requiring ecological surveys and appropriate consultation;

- securing necessary measures to protect, enhance, mitigate and compensate through planning conditions and obligation;
- carrying out effective panning enforcement; and
- identifying ways to build nature conservation into the design of new development.'

European protected species (Animals)

9.22 The Conservation of Habitats and Species Regulations 2010 (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.

9.23 "European protected species" (EPS) of animal are those which are present on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (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 a these species
c. deliberately disturb wild animals of any such species
d. deliberately take or destroy the 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 access to such a place

9.24 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.

9.25 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in Wales are currently determined by Natural Resources Wales in Wales. In accordance with the requirements of the Regulations (2010), 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 for 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.

Definition of breeding sites and resting places

9.26 Guidance for all European Protected Species of animal, including bats and great crested newt, regarding the definition of breeding and of breeding and resting places is provided by The European Council (EC) which has prepared specific guidance in respect of the interpretation of

various Articles of the EC Habitats Directive.[2] Section II.3.4.b) provides definitions and examples of both breeding and resting places at paragraphs 57 and 59 respectively. This guidance states that 'The provision in Article 12(1)(d) [of the EC Habitats Directive] should therefore be understood as aiming to safeguard the ecological functionality of breeding sites and resting places.' Further the guidance states: 'It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.'

Birds

9.27 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 or 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.

9.28 The Conservation of Habitats and Species (Amendment) Regulations 2012 has placed new duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive'[3]) (Regulation 9A(2) & (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 re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of upkeep, management and creation of such habitat…'

9.29 In relation to the duties placed on competent authorities under the 2012 amendment Regulation 9A (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

Badger

9.30 Badger is protected under the Protection of Badgers Act 1992. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

Reptiles

9.31 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. Sand lizard and smooth snake receive additional protection as "European Protected species" under the provisions of the Conservation of Habitats and Species Regulations 2010 (as amended) and are fully protected under the Wildlife and Countryside Act 1981 (as amended).

[2] Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC.
[3] 2009/147/EC Birds Directive (30 November 2009. European Parliament and the Council of the European Union.

Invasive non-native species

9.32 An invasive non-native species is any non-native animal or plant that has the ability to spread causing damage to the environment.

9.33 Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to release, or to allow to escape into the wild, any animal which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state or is listed under Schedule 9 of the Act. Strictly speaking, this makes it an offence to return to the wild any animal listed on Schedule 9, even if inadvertently captured.

9.34 It is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This effectively means that it is an offence to cause the spread of such plants as a result of development operations.

Hedgerows

9.35 Article 10 of the Habitats Directive[4] requires that 'Member States shall endeavour…to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure…or their function as stepping stones…are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).

9.36 The aim of the Hedgerow Regulations 1997[5], according to guidance produced by the Department of the Environment[6], is "to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining 'important' hedgerows.

9.37 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are 'important'. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

[4] Council Directive 92/43/EEC of 2i May 1992 on the conservation of natural habitats and of wild fauna and flora.
[5] Statutory Instrument 1997 No. 1160 – The Hedgerow Regulations 1997. HMSO: London
[6] The Hedgerow Regulations 1997: a guide to the law and good practice, HMSO: London

Appendix 2: HSI Results

On-Site pond

HSI factor	Pond result	Factor HSI score
Pond location	Area A	1
Pond Area	Less than 50 m^2	0.05
Permanence	Rarely dries	1.0
Water quality	Good	1.0
Shade	None	1
Fowl	None	1
Fish	None	1
Pond count	1	0.65
Terrestrial habitat	Moderate	0.67
Macrophtyes	65%	0.95
Pond HSI score	**0.68**	

Off-Site pond

HSI factor	Pond result	Factor HSI score
Pond location	Area A	1
Pond Area	Less than 50 m^2	0.05
Permanence	Rarely dries	1.0
Water quality	Moderate	0.67
Shade	100%	0.2
Fowl	None	1
Fish	None	1
Pond count	2	0.55
Terrestrial habitat	Moderate	0.67
Macrophtyes	0%	0.3
Pond HSI score	**0.48**	

Appendix 3: Target Notes

TN 1: Semi Improved field, short sward 4cm recently grazed. Perennial rye grass *Lolium perenne*, creeping bent *Agrostis stolonifera*, white clover *Trifolium repens*, dandelion *Taraxacum*, common mouse-ear *Cerastium fontanum* (occ.) meadow buttercup *Ranunculus acris*, (occ.) spear thistle *Cirsium vulgare*, (occ.) common nettle *Urtica dioica*.

TN 2: Dense scrub (off-site), up to 3m tall, limited understorey. Hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, (freq.) and elder *Sambucus nigra*.

Hedges

Generally 1.5 m wide and 1.8 m to 7 m high. The dominant species throughout is blackthorn *Prunus spinosa*, with frequent hawthorn *Crataegus monogyna* and hazel *Corylus avellana* and occasional elder *Sambucus nigra*. Field maple *Acer campestre* and garden privet *Ligustrum ovalifolium* are occasional at TN 3 and oak *Quercus robur* is occasional at TN 14, whilst ash Fraxinus excelsior was recorded as occasional at both TNs 8 and 14 and holly *Ilex* sp. was occasional at TNs 8 and 18.

Ground flora has frequent bramble *Rubus fruticosus*, common nettle *Urtica dioica*, lords and ladies *Arum maculatum*, ivy sp. *Hedera* sp. and rose sp. *Rosa* sp., with occasional dog's mercury *Mercurialis perennis*, curled dock *Rumex crispus*, hedge woundwort *Stachys sylvatica*, ground elder *Aegopodium podagraria* and clematis *Clematis vitalba*. Dog-violet *Viola riviniana* and lesser celandine *Ranunculus ficaria* were recorded at TN 8 only, honeysuckle *Lonicera periclymenum* was at TN 11 only, bluebell *Hyacinthoides non-scripta* and cow parsley *Anthriscus sylvestris* were recorded at TN 12 only and primrose *Primula vulgaris* was at TN 14 only.

TN 3: 1.8m high. Species-poor.

TN 8: Close to woodland, on earth bank. Frequent hazel. 5m high x 1.5m wide.

TN 11: Species poor.

TN 12: 2.5m high.

TN 13. 7m high,

TN 14: Overstood, dormouse *Muscardinus avellanarius* potential.

TN 18: Overstood (to 5m).

TN 19. 4m x 1.5m wide.

TN 21: Gappy and on earth bank

TN 4: Pond – looks recently created, small island (1mx1.5m), pond (6mx3m) oval. (occ.) brooklime *Veronica beccabunga*, (occ.) yellow iris *Iris pseudacorus*, (freq.) Pygmyweed spp. *Crassula spp.*, (occ.) soft rush *Juncus effusus*, broad-leaved willowherb *Epilobium montanum*

TN 5: Anti-climb fence with razor wire, wooden fence behind. Semi-mature ash, oak.

TN 6: Dense scrub, up to 3m tall, limited understorey. Hawthorn, blackthorn, (freq.) elder, bramble *Rubus fruticosus* and holly spp. *Ilex* spp.

TN 7: Mature oak (by covered reservoir), no observed bat potential.

TN 9: Woodland (off-site). Dominated by ash with occasional cherry. *Prunus spp.* Understorey mainly hazel. Ground flora includes wood anemone *Anemone nemorosa*, bluebell, dog's mercury, lesser celandine. Ongoing felling works

TN 10: Badger push through under fence

TN 15: Mature oak (DBH 1.2 m), branch 3.5 m up on N side high potential

TN 16: Mature oak (DBH 1 m), no observed bat potential (some very minor holes)

TN 17: Mature oak (DBH 1.3 m), big plates of ivy, peeling away from tree reducing potential

TN 20: Derelict barn. Two concrete walls in good condition, no roof, just beams. No bat potential