Calder Town End, Cumbria

GVA GRIMLEY HOLDINGS LTD

Preliminary Ecological Appraisal

Final

VERSION 2

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Contents

Executive Summary

BiOME Consulting Ltd was commissioned by GVA Grimley Holdings Ltd to undertake a Preliminary Ecological Appraisal (PEA) (including a desk study) of two buildings (house and stone barn) proposed for renovation/remedial works at Calder Town End (the 'site'), Cumbria. The site survey and desk study were undertaken in order to establish the baseline ecological conditions of the site, with particular attention given to the possible presence of protected, invasive or otherwise notable species. The results of the PEA have been used to identify potential constraints to development (if present) and to recommend any further ecological work required to enable the proposed works at the site to proceed lawfully.

The site was small and comprised common habitat types (amenity grassland and hardstanding), none of which were considered to have any intrinsic ecological value.

In relation to the proposed works, the following potential issues were identified, with consequent recommendations:

- Features with the potential to support roosting bats were identified within both the house and the stone barn. The full scope of remedial works is yet to be confirmed, however, it is understood that minor roof works to both the house and the stone barn are likely to be required. Once the nature of these works has been confirmed, the potential for impacts to roosting bats should be reviewed. If potential impacts are possible, further survey work will be required to evaluate if/where bats are roosting in the buildings to be impacted by the proposed works, in addition to identifying which bat species are present and numbers/type of roosts. All bat survey methods employed should be in line with the latest Bat Conservation Trust survey guidance[1]. The optimal time for emergence/re-entry surveys is between May and August (inclusive). These surveys should also assess foraging levels within and immediately adjacent to the development area.

  If, following these further bat surveys, the proposed works are determined to likely cause destruction/disturbance to any bat roosts then a European Protected Species licence will need to be sought from Natural England/the site registered by a Registered Consultant under the Bat Mitigation Licence scheme (which course of action would be dependent on the status of roost/s identified)

1 Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

to enable the works to proceed legally. This licence would need to detail how the works would avoid any harm to bats in addition to potentially providing appropriate compensatory roosting sites.

- Although no Badger *Meles meles* evidence was noted, the occasional presence of foraging Badgers was considered possible and precautions to ensure that this species is protected from harm during construction operations are recommended.

- Due to the likely presence of breeding Barn Owls *Tyto alba* (in addition to other, non-Schedule 1 bird species) within the stone barn, building works should be completed outside the bird nesting season (1 March to 31 August). Should an occupied bird nest (of any species) or a nest in the process of being constructed be encountered, works must cease in this area and should only re-commence once the birds have fledged or the nest is abandoned. If building works must be undertaken during the nesting season, a survey to identify any nests which may be impacted will be required. This survey should be undertaken by a surveyor with an appropriate Schedule 1 license due to the likely presence of breeding Barn Owls. If breeding Barn Owls are found to be present then measures must be implemented to ensure that no disturbance/damage to an active nest occurs. Barn Owl access to the interior of the barn should be maintained during and following works.

No other legally protected species or species of particular nature conservation value are considered likely to be present or represent a potential constraint to development.

1. Introduction

BiOME Consulting Ltd was commissioned by GVA Grimley Holdings Ltd to undertake a Preliminary Ecological Appraisal (PEA) (including a desk study) of two buildings (house and stone barn) proposed for renovation/remedial works at Calder Town End (the 'site'), Cumbria. The site is centred on National Grid Reference NY04117 03409 (**Figure 1**).

The site survey and desk study were undertaken in order to establish the baseline ecological conditions of the site, with particular attention given to the possible presence of protected, invasive or otherwise notable species.

The results of the completed survey have been used to identify potential constraints to development (if present) and to recommend any further ecological work required to enable the proposed works at the site to proceed lawfully.

Figure 1. Site Location

1.1. Site Description and Proposed Works

The site is located between the village of Gosforth and Sellafield Nuclear Power Station, western Cumbria (**Figure 1**).

The site layout is shown on **Figure 2**. The house was fabricated in stone with a rendered outer wall and a slate roof. The stone barn was constructed in stone with an unlined cement-bound asbestos roof. To the south of the site a number of agricultural buildings were present, fabricated in metal sheeting.

External areas were largely amenity grassland and hardstanding.

The full scope of remedial works is yet to be confirmed, however, it is understood that minor roof works to both the house and the stone barn are likely to be required.

A selection of site photographs is included as **Appendix A**.

Figure 2. Site Layout

2. Methodologies

2.1. Desk Study

Biological records data were obtained from Cumbria Biodiversity Data Centre (CBDC). The provided data included:

- Protected and notable species records within 2km.
- Information in relation to non-statutorily designated sites within 1km.

Information in relation to nationally and internationally designated sites within 2km was obtained from Magic.gov.uk (accessed 18 November 2018).

Habitats and Species of Principal Importance[2] and the Local Biodiversity Action Plan (LBAP) priority habitats and species were also reviewed to compare to those habitats and species either recorded within the site during the survey or recorded as having potential to be present (due to habitat suitability). The LBAP which covers this site is the Cumbria Biodiversity Action Plan[3].

2.2. Preliminary Ecological Appraisal Survey

A PEA site survey[4],[5] was undertaken on 7 November 2018 by an experienced ecologist, Stuart Thomas MCIEEM, in excellent weather conditions. During the survey all areas within the site and site boundaries were walked and habitat types assessed. Signs of protected species, invasive plants (*i.e.* those included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and other notable species were also searched for during the survey, as well as noting habitats considered to have the potential to support protected species.

The ultimate purpose of this PEA was to identify potentially valuable habitats and plant species assemblages, and to identify the presence and/or potential for protected/controlled species. This report presents an initial assessment of the

2 Habitats and Species of Principal Importance are listed under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.
3 Cumbria County Council (2016). Cumbria Biodiversity Action Plan [online] available at: http://www.cumbria.gov.uk/planning-environment/conservation/biodiversity/bio_bap.asp (accessed 1 November 2018)
4 Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London
5 CIEEM (2017) *Guidelines for preliminary ecological appraisal* [online] available at: https://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea- (accessed 1 November 2018)

ecological significance of the features present, and the likelihood that the site supports legally protected species and/or species of conservation interest which may be impacted by the proposed works.

Prior to the completion of the site surveys aerial imagery was reviewed[6] to provide an indication of previous and current site uses and habitat types present in the area.

2.3. Bat Roost Potential Assessment

The presence of buildings within the site prompted the completion of Preliminary Roost Assessment (PRA) inspections.

A systematic search of the exteriors of the on-site buildings was completed to identify potential or actual bat access points and roosting sites, and to locate any evidence of bats such as live or dead specimens, bat droppings, urine splashes, fur-oil staining and/or squeaking noises. The external inspections also included the examination of the ground, particularly beneath any potential bat access points, for example any windowsills, window panes, walls, behind any peeling paintwork or lifted rendering, hanging tiles, weatherboarding, eaves, soffit boxes, fascias, lead flashing, gaps under felt, and under tiles/slates where present and accessible.

A systematic search of accessible areas within the interiors of the buildings was also completed, again searching for actual/potential bat access points, roosting sites and to locate any evidence of bats. It should be noted that occasionally bats leave no visible sign of their presence in a building's interior or on its exterior, particularly when there are hidden cracks, crevices and/or voids.

The inspection of buildings and built structures for evidence of bats can be conducted at all times of year. This initial inspection was completed concurrently with the PEA and facilitated by the use of ladders, a high-powered torch, endoscope and small dental mirrors to inspect accessible crevices considered likely to support bats.

The potential suitability of the buildings to be impacted by the proposed development for roosting bats was assessed in line with relevant guidelines[7] and allocated to one of the categories detailed within **Table 1**.

6 Google Maps [online] available at: https://www.google.co.uk/maps (accessed 8 November 2018)

7 Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

Table 1. Guidelines for assessing the potential suitability of proposed development sites for bats

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (*i.e.* unlikely to be suitable for maternity or hibernation).
Moderate	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.4. Great Crested Newt - Habitat Index Suitability Assessment

The presence of a single water feature in the vicinity of the site prompted the completion of a Habitat Suitability Index (HSI)[8] assessment to assess the presence/likely absence of Great Crested Newt (GCN) *Triturus cristatus*.

The HSI for GCN is a numerical index, between 0 and 1, and provides a measure of habitat suitability[9]. In general, ponds with high HSI scores are more likely to support GCN than those with low scores (**Table 2**). However, the system is not sufficiently precise to conclude that any particular pond with a high score will support GCN, or that any pond with a low score will not do so.

Table 2 Predicted presence of GCN based upon HSI results

HSI Score	Pond Suitability	Predicted Occupancy (%)
<0.5	Poor	0.03
0.5-0.59	Below average	0.20
0.6-0.69	Average	0.55
0.7-0.79	Good	0.79
>0.8	Excellent	0.93

In line with relevant guidelines[10], where ponds within the site exceed 2,000m^2 this factor has been omitted from the calculation for this waterbody.

2.5. Limitations

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of plants and animals, such as the time of year, migration patterns and behaviour.

Access to all areas outwith the site boundary was not possible; however, it was possible to adequately assess these areas from within the site or from public rights of way.

8 Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitats for great crested newt (*Triturus cristatus*). *Herpetological Journal* **10** pp. 143-155.
9 Amphibian and Reptile Groups of the United Kingdom: ARG UK Advice Note 5 – Great Crested Newt Habitat Suitability Index, May 2010
10 Amphibian and Reptile Groups of the United Kingdom. ARG UK Advice Note 5 (2010). *Great Crested Newt Habitat Suitability Index*

3. Results

The results of the desk study (**Section 3.1**) and the site survey (**Section 3.2**) are presented below.

3.1. Desk Study

There are no statutorily designated sites within the search area. One non-statutorily designated site is present; details are provided within **Table 3**.

Table 3. Designated site details

Site	Approx. Distance from Site Centre/Direction	Description
Non-Statutorily Designated Sites		
Ponsonby Tarn County Wildlife Site (CWS)	0.6km/west	No information available

A summary table of records data provided by CBDC are included as **Appendix B**. These data included:

- Five amphibians
- 139 bird species
- Two bony fish
- One conifer
- Six flowering plants
- 33 invertebrates
- One mollusc
- One moss
- Six marine mammals
- Four reptiles
- 18 terrestrial mammals

These records are summarised in the below sections when relevant.

3.2. Site Survey

A selection of photographs is included as **Appendix A**.

3.2.2 Habitats

The site included a house and a stone barn (**Photograph 1**) with associated landscaped areas (which were well maintained) and hardstanding. A number of agricultural buildings were present outwith the site, with an access road to the north and mixed woodland beyond. Improved grassland dominated the wider landscape, with a pond complex present approximately 0.1km to the west.

The desk study returned records of:

- Scot's Pine *Pinus sylvestris* (two records, 1999 and 2000).
- Bluebell *Hyacinthoides non-scripta* (two records, 2000 and 2007).
- Bogbean *Menyanthes trifoliata* (two records in 2000).
- Heath Spotted-orchid *Dactylorhiza maculata* (two records in 2000).
- Isle-of-Man Cabbage *Coincya monensis* subsp. *monensis* (two records in 1999).
- Sea Knotgrass *Polygonum maritimum* (one record in 1999).
- Sea Spurge *Euphorbia paralias* (one record in 1999).

The habitats found in the study area are common across England. No habitats that conform to LBAP or S41 priority habitats were identified within the site or in close proximity. No further work in relation to habitats are considered necessary.

3.2.3 Species

3.2.1.1. Bats

All bat species are European Protected Species (EPS) protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and receive protection under the Wildlife and Countryside Act 1981 (as amended).

All buildings within the site were assessed to determine their suitability to support roosting bats. The nature of these buildings and the findings of the site survey are summarised below:

House

The house was fabricated in stone with a rendered outer wall and a double-pitched slate roof. A roof void was present, which was lined with wood (**Photograph 2**). A small open-fronted building adjoined the southern façade of the house.

A number of features which could support roosting bats/allow bat access to the building interior were noted:

- Gaps under eaves.
- Gaps under slates and ridge tiles.

The roof void was partially inspected, although full appraisal was not possible due to access restrictions. No bat evidence was found.

This building was assessed to have MODERATE potential to support roosting bats.

Stone Barn

The two-storey stone barn was constructed in stone with an unlined cement-bound asbestos roof supported by wooden timbers (**Photograph 3**).

A number of features which could support roosting bats/allow bat access to the building interior were noted:

- Gaps within stonework.
- Gaps within/around beams.

The building was fully inspected; no evidence of bats was encountered.

This building was assessed to have MODERATE potential to support roosting bats.

The desk study returned the following records:

- Unidentified bat – 36 records
- Common Pipistrelle *Pipistrellus pipistrellus* – four records, most recently in 2016 including a roost of 89 at Newton Manor in 2008 (1.0km from the site) and 102 at Sellafield, North Drive in 2015 (1.9km from the site).
- Unidentified pipistrelle species – 19 records, most recently in 2017.
- Soprano Pipistrelle *Pipistrellus pygmaeus* – 13 records, most recently in 2016 including a roost of 242 at Sellafield, North Drive in 2015 (1.9km from the site) and numerous records of fewer than ten using bat boxes at Sellafield.
- Brown Long-eared Bat *Plecotus auritus* – three records, most recently in 2011.
- Daubenton's Bat *Myotis daubentonii* - four records, most recently in 2015.

- Noctule *Nyctalus noctula* - eight records, most recently in 2016 including a roost of seven at Sellafield in 2014 (1.1km from the site), nine at Sellafield, North Drive in 2015 (1.9km from the site) and records of roosting bats within boxes at Sellafield (1.2 from the site).

3.2.1.2. Badgers

Badgers are protected through the Protection of Badgers Act 1992, which makes it an offence to recklessly take, injure or kill a Badger or cause disturbance to its sett. Furthermore, Badgers are afforded protection from ill-treatment, which has been defined to include preventing a Badger accessing its sett, as well as causing the loss of significant foraging resources within a Badger territory. Badgers are also protected through this species' inclusion on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended), which prohibits their killing or taking by certain methods.

All areas within the site were surveyed for Badgers, including adjacent boundaries, and no setts or other evidence was recorded.

Twenty-four records of this species were returned during the desk study, the closest of which was approximately 0.5km from the site.

Taking into account the nature of adjoining habitats, the occasional presence of foraging Badgers within the site is considered possible.

3.2.1.3. Other Section 41 Mammals

In England many of the rarest and most threatened species are included within Section 41 of the 2006 Natural Environment and Rural Communities Act. Although these species are afforded no additional legal protection, their rarity renders them an important consideration for planning applications. Section 40(1) of this Act imposes a duty to conserve biodiversity; '*Every public authority must, in exercising its function, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity*'. Section 40(3) of the Act explains that '*Conserving biodiversity includes, in relation to living organism or type of habitat, restoring or enhancing a population or habitat*'.

No evidence of any Section 41 mammal was encountered during the site survey. The site could support occasional foraging Hedgehogs *Erinaceous europaeus*, although it is considered unsuitable for any other Section 41 mammal species.

The desk study returned seven records of Brown Hare *Lepus europaeus* (most recently in 2011), four records of Red Squirrel *Sciurus vulgaris* (most recently in 2015), 22 records of Otter *Lutra lutra* (most recently in 2012) seven records of Polecat *Mustela putorius* (most recently in 2014) and 17 records of Hedgehog (most recently in 2012).

No further works in relation to other Section 41 mammals are considered necessary.

3.2.1.4. Amphibians

A number of amphibian species are legally protected under Section 9 of the Wildlife and Countryside Act 1981, as listed under Schedule 5. Great Crested Newts (GCN) and Natterjack Toads *Epidalea calamita* are also afforded additional protection as EPS, as defined under the EC Habitats and Species Directive 92/43/EEC.

No water features were present within the site. One pond was present approximately 0.1km to the west (**Photograph 4**). This pond was noted to have poor water quality due to slurry runoff. Following HSI assessment this pond scored 0.39, indicating that it is of 'poor' (**Table 2**) suitability for GCN.

The desk study returned records of Palmate Newt *Lissotriton helveticus* (one, 2015), Smooth Newt *Lissotriton vulgaris* (two, 2016 and 2017), Common Toad *Bufo bufo* (five, most recently in 2012) and Common Frog *Rana temporaria* (four, most recently in 2009). A population of Natterjack Toads is also known to be present along the coast in this area.

No further works in relation to any amphibian species are considered necessary.

3.2.1.5. Reptiles

Reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981. Section 9(1) of the Wildlife and Countryside Act 1981 prohibits the killing, injuring or taking by any method. All native reptiles are also S41 priority species.

Habitats favoured by reptiles tend to be sunny, well-drained and often south-facing. Typical habitats include grass and heather heathland, chalk downland, coppiced woodland, sand dunes, disused allotments, suburban wasteland, road/railway embankments, golf course roughs, rough grassland, open woodland and woodland edge, immature plantation forestry, sea cliffs, moorland,

disused quarries, non-intensive farmland and wild gardens. In addition, Grass Snakes *Natrix natrix* favour damp habitats[11].

The garden areas are currently well maintained and as such, it is considered highly unlikely that any reptilian species would be present in the site.

The desk study returned 57 records of Adder *Vipera berus* (most recently in 2016), 30 records of Common Lizard *Zootoca vivipara* (most recently in 2016), three records of Grass Snake (most recently in 1993) and 42 records of Slow-worm *Anguis fragilis* (most recently in 2016. All of these records, with the exception of one Adder record in 2001 (0.9km from the site), were located in excess of 1.0km from the site.

No further works in relation to any reptile species are considered necessary.

3.2.1.6. Birds

All wild birds (defined as species which are resident or are visitors to the United Kingdom (UK), but generally not game birds) are protected by the Wildlife and Countryside Act 1981 (as amended). As far as planning and development is concerned, it is an offence to kill, injure or take any wild bird. Some species, listed in Schedule 1 of the Act, are protected by special provisions because of their rarity and it would constitute an offence to disturb them while nesting (which includes nest building). It is also an offence to disturb dependent young of a Schedule 1 bird.

During the survey a total of six common bird species were recorded within/overflying the site; Wren *Troglodytes troglodytes*, Blackbird *Turdus merula*, Robin *Erithacus rubecula*, Woodpigeon *Columba palumbus*, Dunnock *Prunella modularis* and Chaffinch *Fringilla coelebs*.

Within the barn, a Barn Owl nest box was present (**Photograph 5**), and much Barn Owl evidence was noted (**Photograph 6**). It is considered likely, based on the volume of pellets/dropping and their age, that this location is used for nesting. Four Swallow *Hirundo rustica* nests (**Photograph 7**) were present within a small open-fronted building adjoining the house along with one Wren *Troglodytes troglodytes* nest within the barn.

The desk study returned records of 139 bird species, a large number of which related to predominantly coastal species.

11 Froglife (1999). *Froglife Advice Sheet 10; Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*

3.2.1.7. Invertebrates

A number of invertebrate species are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). These species are protected from intentional killing, injuring or taking, possession or control, intentional damage/destruction of any structure or place used for shelter or protection, intentional disturbance while occupying such a structure/place, selling or offering for sale or buying. Numerous species are also included on S41 of the NERC Act.

The desk study returned records of 33 invertebrate species, none of which were within 1.0km of the site.

Taking into account the nature of the habitats on-site it is considered highly unlikely that significant populations/species of invertebrates are present and no further works relating to invertebrates are recommended.

3.2.1.8. Invasive Plants

No non-native invasive plants listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) were observed during the survey, an no records were returned during the desk study.

4. Conclusions and Recommendations

4.1. Habitats

None of the habitats identified on-site were considered to be of significant ecological value and are not considered to represent a constraint to the proposed works.

4.2. Bats

Both the house and the stone barn were assessed as having moderate (**Table 1**) potential to support roosting bats.

The full scope of remedial works is yet to be confirmed, however, it is understood that minor roof works to both buildings are likely to be required. Once the nature of these works has been confirmed, the potential for impacts to roosting bats should be reviewed. If potential impacts are possible, further survey work will be required to evaluate if/where bats are roosting in the buildings to be impacted by the proposed works, in addition to identifying which bat species are present and numbers/type of roosts. All bat survey methods employed should be in line with the latest Bat Conservation Trust (BCT) survey guidance[12]. The optimal time for emergence/re-entry surveys is between May and August (inclusive). These surveys should also assess foraging levels within and immediately adjacent to the development area.

If, following these further bat surveys, the proposed works are determined to likely cause destruction/disturbance to any bat roosts then a EPS licence will need to be sought from Natural England/the site registered by a Registered Consultant under the Bat Mitigation Licence scheme (which course of action would be dependent on the status of roosts identified) to enable the re-development works to proceed legally. This licence would need to detail how the works would avoid any harm to bats in addition to potentially providing appropriate compensatory roosting sites.

4.3. Badgers

No Badger setts were present within the site or adjacent accessible areas. Nevertheless, the occasional presence of foraging Badgers is considered possible;

12 Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

it would therefore be prudent to consider Badgers during renovation works, this may include (if relevant):

- covering trenches at the conclusion of each working day, or include a means of escape for any animal falling into excavations, and
- any temporarily exposed open pipe system should be capped in such a way as to prevent Badgers gaining access.

4.4. Breeding Birds

Due to the likely presence of breeding Barn Owls (in addition to other, non-Schedule 1 bird species) within the stone barn, building works should be completed outside the bird nesting season (1 March to 31 August). Should an occupied bird nest (of any species) or a nest in the process of being constructed be encountered, works must cease in this area and should only re-commence once the birds have fledged or the nest is abandoned. If building works must be undertaken during the nesting season, a survey to identify any nests which may be impacted will be required. This survey should be undertaken by a surveyor with an appropriate Schedule 1 license due to the likely presence of breeding Barn Owls. If breeding Barn Owls are found to be present then measures must be implemented to ensure that no disturbance/damage to an active nest occurs. Barn Owl access to the interior of the barn should be maintained during and following works.

4.5. Other Species

No further works in relation to other species are considered necessary at this time.

4.6. Opportunities for Enhancement

The National Planning Policy Framework (NPPF) sets out national planning policies for the protection of biodiversity (and geological) conservation through the planning system. A key principle of NPPF is that, '*Opportunities to incorporate biodiversity in and around developments should be encouraged*'. Taking the requirements of NPPF into account, opportunities should be sought where possible for nature conservation enhancement at this site.

Opportunities may exist to create small habitat areas and to use native species in any landscape planting. Opportunities also exist to enhance the site for bat and bird species through the incorporation of bat/bird boxes into built structures or on retained trees. S41 priority species such as the House Sparrow *Passer domesticus* could potentially benefit from the provision of appropriate boxes.

Such measures would therefore be beneficial to nature conservation and show compliance with the latest policy guidance.

Appendix A Site Photographs

Photograph 1. The house and stone barn (to rear)

Photograph 2. Interior of roof void within house

Photograph 3. Interior of stone barn

Photograph 4. Pond, ca. 0.1km west of the site

Photograph 5. Barn Owl box within barn

Photograph 6. Barn Owl evidence (pellets and droppings) within barn

Photograph 7. Swallow nests within outbuildings attached to house

Appendix B Biological Records Data

Row Labels	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
amphibian	**6**	**3**	**2**	**2**	**3**	**4**	**8**	**3**	**7**	**3**	**2**	**5**	**3**	**8**	**4**	**1**	**16**	**15**	**6**	**8**				**4**	**1**	**1**	**3**	**1**	**1**	**4**	**77**	**85**	**28**	**39**	**35**	**3**	**3**		**394**
Common Frog							1								1		4	4	2	2				1	1		1			1			1	1					20
Common Toad							1										7	4						3			1	1		3	1	3	3	3	13				43
Natterjack Toad	6	3	2	2	3	4	6	3	7	3	2	5	3	8	3	1	5	7	4	6						1	1		1		76	82	24	35	22		3		328
Palmate Newt																																				1			1
Smooth Newt																																				2			2
bird									**4**						**4**		**6**	**6**	**90**	**190**	**13**	**1**	**1**	**2**	**3**	**3**	**1**	**111**	**629**	**412**	**618**	**678**	**46**	**23**				**2841**
Arctic Skua																																2							2
Bar-tailed Godwit																															2								2
Black-headed Gull																												5	9	11	11	7	1	1					45
Black-throated Diver																																	1						1
Blackbird																			2	5								4	26	24	14	25							100
Blue Tit																			2	6									23	24	11	23							89
Brent Goose																												2				3							5
Bullfinch																				2								1	1	2	5	1							12
Buzzard																			2	4								3	13	6	8	14							50
Carrion Crow																												2	24	12	17	22							77
Coal Tit																				5									7	12	5	9							38
Collared Dove																			1	3								1	19	7	8	11							50
Common (Mealy) Redpoll																				1																			1
Common Gull																												1	6	3	9	5		1					25
Common Sandpiper																														1	5	4	1						11
Common Scoter																													1		3		1						5
Coot																																1							1
Cormorant																			2	1								3	1	1	10	18	4	2					42
Cuckoo																													1										1
Curlew																			2	4								3	4	3	10	8	2	1					37
Dipper																				2								2	5	2	11	6	1	2					31
Dunlin																													1	1	3	3	2						10
Dunnock																			4	2								3	24	18	8	21							80
Eider																																	1						1
Gannet																													1		1		1						3
Goldcrest																				2									6	3		4							15
Golden Plover																												1	2	2	4			1					10
Goldfinch																			2	6								1	19	6	15	15	1						65
Goosander																												5	1	1	2	4	1						14
Grasshopper Warbler																			2									1		1	1	1							6
Great Black-backed Gull																				2								3	1	1	3	4	1						15
Great Northern Diver																															2								2
Great Skua																														1									1
Great Spotted Woodpecker							2													2	1								5	5	4	4							23
Great Tit																			2	5									18	19	8	20							72
Green Woodpecker							1																							1									2
Greenfinch																			2	3								2	13	11	8	9							48
Greenshank																																		1					1
Grey Heron																			1	2								3	7	4	8	10							35
Grey Partridge																			1		2																		3
Grey Plover																													1										1
Grey Wagtail																				3									5	2	5	3							18
Greylag Goose																				1									1	1	4	7							14
Herring Gull																			4	2								4	12	3	19	8	1	1					54
Hoopoe																												1										1
House Martin																			1	4									9	4	6	2							26
House Sparrow																			1	6								3	23	13	12	18							76
Jack Snipe																												2			6	2							10
Jackdaw																			2	4								2	27	9	16	27							87
Jay																				1	1							1	2	5	3	6							19
Kestrel																			3	1								2	3	4	5	9							27
Kingfisher																													2	1	10	3							16
Kittiwake																													2		6	2		1					11
Knot																													1	2	2	2							7
Lapwing																				3								1	3	2	7	5							21
Lesser Black-backed Gull																			2	1	2							2	3	3	10	5	2						30
Lesser Redpoll																														3		1							4
Light-bellied Brent Goose																												1											1
Linnet																			2	4									10	8	3	7							34
Little Egret																															3								3

Row Labels	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
Little Grebe																													1			1							2
Little Owl																				1								1		1									3
Little Stint																																1							1
Magpie																			2	2								1	11	9	5	8							38
Mallard																			3	4								3	6	2	5	15	2						40
Manx Shearwater																													1	1									2
Meadow Pipit																			2	3								2	8	1	7	4	1						28
Mistle Thrush																				3									2	4	4	9							22
Moorhen																				1								1	2		2	4							10
Mute Swan																				1									1		6	8							16
Nuthatch																				1									4	4	3	5							17
Oystercatcher																			2	2								4	7	3	9	7	1						35
Pheasant																			1	3								1	9	8	6	10							38
Pied Wagtail																		1	2	4								6	11	4	17	12	2						59
Pink-footed Goose																														1	2		1						4
Purple Sandpiper																													1		1								2
Razorbill																															3		1						4
Red-breasted Merganser																				1								2			2	1							6
Red-legged Partridge																															1	2							3
Red-necked Grebe																														2									2
Red-throated Diver																													1		8	2	1	2					14
Redshank																			1	1									2	1	7	5		1					18
Redstart																													1										1
Redwing																													2	2	4	1							9
Reed Bunting																			1									1	1	1	3	3							10
Ringed Plover																			2										2	2	6	4							16
Robin																			2	6								3	26	18	11	25							91
Rock Dove																												1	1	2	4	4							12
Rock Pipit																															1		1	1					3
Rook																		1	1	3									25	9	12	20							71
Sabine's Gull																																1							1
Sand Martin																			2	4									2	1	1	1							11
Sanderling																														2	13	2							17
Sandwich Tern																													4	2	2	4	3	1					16
sensitive_species_b		1																																					1
sensitive_species_cz																														3	2	1							6
sensitive_species_d																													1		1	4	2						8
sensitive_species_k																																1							1
sensitive_species_n																				1										3	6	2	1						13
sensitive_species_q																													1										1
sensitive_species_t							1		5		6	5	5	1	1	2	3	3	1										2		1		1						37
sensitive_species_u																															2			1					3
sensitive_species_w																												1	3	2	7	4	1						18
sensitive_species_y																				1											2								3
Shag																																1							1
Shelduck																				1												2							3
Siskin																			1											2	1	2							6
Skylark																			2	4									14	6	10	5							41
Snipe																												1	1	2	6	1							11
Snow Bunting																																2							2
Song Thrush									1		2	6																2	14	9	7	13		1					55
Sparrowhawk											2	1																	5	4	6	4							22
Spotted Flycatcher												1	1																1										3
Starling										1	2	5																2	19	5	14	6							54
Stock Dove																													1		1	5							7
Stonechat		3									1	3																5	7	3	8		1						31
Swallow											2	6																1	14	4	9	12		1					49
Swift											1	2																	9	1	4	2							19
Tawny Owl												1																	3	1									5
Teal																													1	2	2	1	1	1					8
Tree Pipit												1																											1
Tree Sparrow											1	1																	7	4	1	4							18
Treecreeper												4	1																1	2	2	2							12
Turnstone																												1	1	1	9	9		1					22
Twite																														1									1
Velvet Scoter																																2							2
Waxwing																															6	1	1						8

Row Labels	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
Wheatear																			1										3		2	1							7
Whimbrel																												1		1	15	4		1					22
White Wagtail																															1								1
Whooper Swan																													3			3							6
Wigeon																		1										1		6	4	6	3	1					22
Willow Warbler																			2	6									8	3	6	9							34
Wood Warbler																				1									1										2
Woodcock																														1	2	2							5
Woodpigeon																		1	2	6								1	15	14	11	25							75
Wren																		1	2	4								4	19	10	11	21							72
Yellow-legged Gull																																	1						1
Yellowhammer																			2	3									2		1	1							9
bony fish (Actinopterygii)																		**1**	**3**					**2**															**6**
Atlantic Salmon																		1	3																				4
European Eel																								2															2
conifer																				**1**	**1**																		**2**
Scots Pine																				1	1																		2
flowering plant																				**4**	**5**							**1**											**10**
Bluebell																					1							1											2
Bogbean																					2																		2
Heath Spotted-orchid																					2																		2
Isle-of-Man Cabbage																				2																			2
Sea Knotgrass																				1																			1
Sea Spurge																				1																			1
insect - beetle (Coleoptera)												**1**	**1**									**1**	**1**	**5**				**2**	**3**		**1**							**15**
Beet Carrion Beetle																								1															1
Cercyon (Cercyon) littoralis																						1						1	1		1							4
Cryptocephalus aureolus												1												1															2
Glocianus punctiger																													1										1
Helochares punctatus																								1															1
Hypocaccus (Baeckmanniolus) dimidiatus																							1	1				1	1										4
Stenus (Stenus) pusillus																								1															1
Thamiocolus viduatus													1																										1
insect - butterfly	**1**									**1**			**7**	**1**		**1**	**8**	**2**	**11**	**2**	**4**	**2**		**5**	**4**	**4**		**25**			**2**	**1**		**2**					**83**
Comma																				1								4											5
Dingy Skipper																			2						1	2		12			1								18
Grayling										1			2				2		3		1	1				1														11
Monarch or Milkweed	1															1																								2
Small Heath													1				2		2		1										1	1							8
Small Pearl-bordered Fritillary													1																										1
Wall													3	1			4	2	4	1	2	1		5	3	1		9						2					38
insect - dragonfly (Odonata)														**1**							**1**			**2**		**4**		**6**	**1**	**1**			**1**					**17**
Beautiful Demoiselle														1																									1
Black-tailed Skimmer																										2		4	1	1			1					9
Emperor Dragonfly																								2		2		2											6
Golden-ringed Dragonfly																					1																		1
insect - moth														**18**						**3**			**1**		**2**			**1**											**25**
Broom Moth														5																									5
Buff Ermine														2																									2
Cinnabar																				3			1		2			1											7
Double Dart														2																									2
Dusky Brocade														3																									3
Powdered Quaker														1																									1
Shoulder-striped Wainscot														1																									1
Small Square-spot														3																									3
White Ermine														1																									1
insect - true bug (Hemiptera)														**3**						**2**	**2**	**1**						**1**		**1**								**10**
Hairy Shieldbug														2						2	2	1						1		1								9
Strongylocoris luridus														1																									1
insect - true fly (Diptera)														**3**																									**3**
Mantis Fly														1																									1
Scathophaga scybalaria														1																									1
Sepsis neocynipsea														1																									1
marine mammal		**1**											**2**							**1**	**2**			**2**	**1**		**1**				**7**	**18**			**1**	**1**			**37**
Bottle-Nosed Dolphin																																2							2
Common Dolphin																															1								1
Common Porpoise													2										1	1							4	8							16

Row Labels	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
Common Seal																																2			1				3
Grey Seal									1										1	2			1								2	6				1			14
Minke Whale																											1												1
mollusc														**5**																									**5**
Large Black Slug														5																									5
moss																					**3**							**1**											**4**
Bog Moss																					3							1											4
reptile							**2**		**1**	**2**	**5**	**9**	**2**	**13**	**1**	**1**	**12**	**6**	**9**	**11**		**3**		**3**			**2**			**8**	**5**	**14**	**4**	**3**		**10**	**6**		**132**
Adder							1				3	1		8			3	3	4	6		3		3			2			3	3	4		1		6	3		57
Common Lizard									1			1	2	1	1	1	2		2	2										2	1	4	3	1		4	2		30
Grass Snake										2				1																									3
Slow-worm							1				2	7		3			7	3	3	3										3	1	6	1	1			1		42
terrestrial mammal									**1**		**1**	**1**	**3**	**5**	**3**	**2**	**17**	**20**	**4**	**4**	**1**	**1**	**3**	**34**	**28**	**4**	**2**	**16**	**15**	**19**	**5**	**18**	**16**	**1**	**30**	**75**	**3**	**2**	**334**
Bats																1								9	15			7		4									36
Brown Hare									1									3					1								1	1							7
Brown Long-eared Bat											1	1																				1							3
Common Pipistrelle																													1				1			1	1		4
Daubenton's Bat																								1						1			2			1			5
Eastern Grey Squirrel																	1									3			3	2	1	3			17	54			84
Eurasian Badger													2	3	2	1	6	4	4	2				5	2	1	1			4	1			1					39
Eurasian Common Shrew																	4	3																					7
Eurasian Pygmy Shrew																	1																						1
Eurasian Red Squirrel															1						1	1		1	3				11	1				9	16			44
Eurasian Water Shrew																																1	1						2
European Otter																								8						1		11	2						22
Noctule Bat																									2			2							2	1	1		8
Pipistrelle Bat species													1											4	4			2		2			2		1	1			17
Polecat																				2				2							1		1		1				7
Roe Deer																	2	1						3	2		1				1	1	1						12
Soprano Pipistrelle																												5		3			3			1	1		13
Stoat																		1																					1
Unidentified UK Pipistrelle																																						2	2
Weasel																		2						1															3
West European Hedgehog														2				3	6											1			3						17
Grand Total	**6**	**4**	**2**	**2**	**3**	**4**	**10**	**3**	**14**	**6**	**8**	**16**	**18**	**57**	**12**	**5**	**59**	**50**	**129**	**224**	**29**	**9**	**7**	**60**	**36**	**16**	**9**	**165**	**648**	**445**	**716**	**814**	**94**	**69**	**66**	**89**	**12**	**2**	**3918**