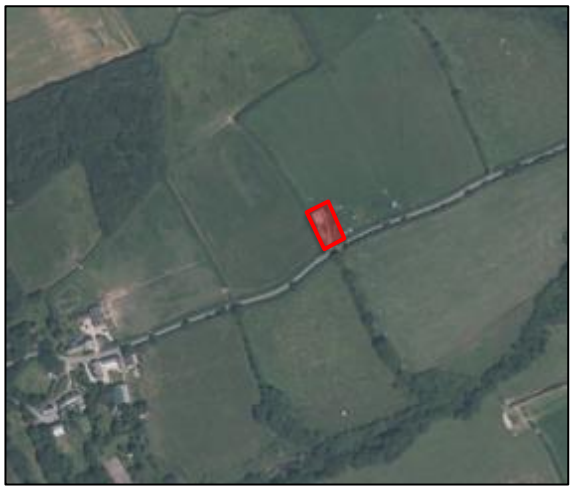
ECOLOGICAL IMPACT ASSESSMENT
BARN AT DUX, BRIDGERULE



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COMMISSIONED BY MR COLE

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1. EXECUTIVE SUMMARY

- J.L Ecology Ltd was commissioned by Mr Cole to carry out an Ecological Impact Assessment of a detached barn and associated habitats at Dux, Bridgerule, Holsworthy, Devon, EX22 6XZ.

- The survey was commissioned to inform any possible ecological impacts resulting from a planning application to convert the building to residential use; and was carried out on the 11th May 2021 by Joseph Lane BSc [Hons], who is a full member of the Chartered Institute of Ecology and Environmental Management and holder of the requisite Natural England licences.

- No statutory sites would be affected by the proposed development.

- The proposed development will not affect the favourable conservation status of any local bat population. No signs of bats were associated with any element of the structures to be affected; no inaccessible crevice dwelling opportunities were identified. The associated hedgebanks provided limited foraging and commuting opportunities. No external lighting should be used and potential internal light spill, towards the hedgebanks, can be negated through the use of low-level directional down-lighting; landscape planting and amenity space buffer strips would minimise light spill further [in accordance with the guidelines recommended in *Guidance Note 08 / 18, Bats and artificial lighting in the uk, Bat Conservation Trust, 2018*. No further surveys are deemed necessary.

- The hedgebank vegetation provided suitable bird breeding habitat; any vegetation clearance necessary should be undertaken outside the bird breeding season [March – August] inclusive. If this is not possible works should be preceded by a breeding bird survey.

- The hedgebanks provided a limited amount of suitable dormouse habitat; no hedgebanks are proposed to be removed but the existing roadside entrance may need to be realigned to achieve the necessary visibility. Emphasis should be directed at 'pushing' the hedgebank back [as opposed to removing]; as a precaution, necessary vegetation clearance should be undertaken by hand in i] late Autumn [October] or Spring [May] under the supervision of a licensed dormouse ecologist or ii] in winter [November – March inclusive] – after which the hedgebank must be left until May before earthworks commence.

2. INTRODUCTION

J.L Ecology Ltd was commissioned by Mr Cole to carry out an Ecological Impact Assessment of a detached barn and associated habitats at Dux, Bridgerule, Holsworthy, Devon, EX22 6XZ.

The survey was commissioned to inform any possible ecological impacts resulting from a planning application to convert the building to residential use; and was carried out on the 11th May 2021 by Joseph Lane BSc [Hons], who is a full member of the Chartered Institute of Ecology and Environmental Management and holder of the requisite Natural England licences.

3. SITE DESCRIPTION

The survey area comprised a detached steel & timber framed barn with metal box-profile walls and a corrugated cement-fiber roof [with skylights]; and associated improved grassland and hedgebanks. The site was situated centrally between Bridgerule and Holsworthy, c.2km south of the A3072. The wider landscape was dominated by pasture and woodland set within a hedgebank network.

Figure 1. Location of site within the wider landscape

The site was located at Ordnance Survey Grid Reference SS 297 032.

4. METHODOLOGY

DESK STUDY

A desktop data search to identify statutory designated sites and records of protected species within 1km of the site was carried out using the government's MAGIC *Nature on the Map* website. Aerial photographs were also interpreted.

HABITAT

Phase 1 habitat types were noted and mapped where necessary using the standard methodology published by the Nature Conservancy Council in 1990 [reprinted by JNCC in 2010].

BADGERS

A search was made within and adjacent to the site for signs of badgers, comprising:

- setts [comprising either single isolated holes or a series of holes].
- faeces [usually deposited in characteristic excavated pits].
- paths [between setts or leading to feeding areas].
- snuffle holes [small scrapes where badgers have foraged].
- day nests [vegetation where badgers may sleep above ground].

BATS

A daytime site visit was carried out to identify potential roost sites associated with the building to be affected by the proposed development. The exterior and interior of the building were examined for signs of occupation by bats (urine staining, fur rubbing and droppings) and suitable crevices and features noted. *A high-powered torch, endoscope and ladder were available*.

The habitats were assessed for their foraging and commuting suitability. Methodology in accordance with *Bat Surveys, Good Practice Guidelines, 3rd edition (2016) – Bat Conservation Trust.*

DORMICE

The habitats were assessed for their suitability as dormouse habitat.

BIRDS

The exterior and interior of the building were surveyed for signs of use by nesting birds and the habitats were assessed for their breeding bird suitability.

REPTILES
The habitats were assessed for their potential to support a reptile population.

5. LIMITATIONS

It should be noted that this survey takes no account of seasonal differences and a lack of signs of any particular species does not confirm its absence, merely that there was no indication of its presence at the time of survey.

If no action or development of this land takes place within twelve months of the date of this survey, then the findings of this survey will no longer be considered reliable and should be repeated.

6. BASELINE ECOLOGICAL CONDITIONS

DESK STUDY
No statutory sites were situated within 1km of SS 297 032; the building lies within a SSSI Impact Risk Zone but does not match any corresponding development descriptions.

HABITATS *See Appendix 1 and 2 for locations and photographs*
The site comprised predominantly of improved grassland with a hard-standing access track between the barn and the road access; herbaceous species included frequent white clover *Trifolium repens* and common nettle *Urtica dioica* and occasional dandelion.

HEDGEBANKS
H1: Intact managed species-rich roadside hedgebank of blackthorn *Prunus spinosa,* hazel *Corylus avellana,* hawthorn *Crataegus monogyna,* holly *Ilex aquifolium,* ash *Fraxinus excelsior,* honeysuckle *Lonicera periclymenum,* oak *Quercus robur* and *Rosa* sp.. Ground flora included locally dominant cleavers *Galium aparine,* frequent ivy *Hedera helix* and occasional male fern *Dryopteris filix-mas* and hard fern *Blechnum spicant.*

H2: Intact managed species-rich hedgebank of hawthorn, blackthorn, hazel, elder *Sambucus nigra* and *Rosa* sp.. Ground flora included locally dominant common nettle, frequent ivy and occasional male fern and red campion *Silene dioica.*

BADGERS
No setts were found on or immediately adjacent to the site.

BATS *See Appendix 1 and 2 for locations and photographs*
No signs of bats were associated with any element of the structures to be affected; due to the construction of the building [metal & cement-fiber sheeting / skylights], the structure provided negligible features suitable for use by roosting bats. The associated hedgebanks provided limited foraging and commuting opportunities.

BIRDS *See Appendix 1 and 2 for locations and photographs*
The hedgebank vegetation provided suitable bird breeding habitat.

DORMICE *See Appendix 1 and 2 for locations and photographs*
The hedgebanks provided a limited amount of suitable dormouse habitat.

REPTILES
The habitats did not provide suitable reptile habitat.

OTHER SPECIES
No other species or habitats of note were recorded.

7. LEGISLATION AND SPECIES INFORMATION

BATS
All bat species and their roost sites are protected under the Wildlife and Countryside Act 1981 as amended, and through inclusion in Schedule 5 and under The Conservation of Habitats & Species Regulations 2017. This legislation makes it an offence to intentionally kill, injure, possess, take, disturb or destroy their place of shelter. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time. Microchiroptera (the insectivorous species of bat found in the UK) are able to exploit a wide diversity of roost sites such as caves, trees, tunnels, mines and buildings. Species which have adapted to utilise buildings as alternative roost sites make use of various parts of the building including hollow walls, roof spaces and areas above soffit boarding, behind weatherboarding and under hanging tiles; habitats which can be replicated when designing mitigation measures. It is important to note that individual roosts are not usually occupied all year round, as bat colonies move frequently (depending upon the species). The same site, however, does tend to be occupied at the same time each year.

DORMICE

The dormouse is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 [as amended] and is also a European protected species and is included in Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994 [as amended] which makes it an offence to intentionally or deliberately disturb, injure or kill a dormouse or damage or destroy any breeding site or resting place. Furthermore, it is a priority species in the UK Biodiversity Action Plan (BAP). A licence is required under this legislation in order to carry out habitat management and also if dormouse habitat is destroyed for the purposes of development.

BIRDS

All British birds, their nests and eggs (with certain exceptions) are protected under Section 1 of the Wildlife & Countryside Act 1981 as amended. This makes it an offence to: intentionally kill, injure or take any wild bird; intentionally damage or destroy the nest of any wild bird while that nest is in use or being built; or intentionally take or destroy the egg of any wild bird.

8. ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

DESK STUDY

No statutory sites would be affected by the proposals.

BADGERS

No badger setts would be affected by any proposed works.

BATS

The proposed development will not affect the favourable conservation status of any local bat population. No signs of bats were associated with any element of the structures to be affected; no inaccessible crevice dwelling opportunities were identified. The associated hedgebanks provided limited foraging and commuting opportunities. No external lighting should be used and potential internal light spill, towards the hedgebanks, can be negated through the use of low-level directional down-lighting; landscape planting and amenity space buffer strips would minimise light spill further [in accordance with the guidelines recommended in *Guidance Note 08 / 18, Bats and artificial lighting in the uk, Bat Conservation Trust, 2018*. No further surveys are deemed necessary.

BIRDS

The hedgebank vegetation provided suitable bird breeding habitat; any vegetation clearance necessary should be undertaken outside the bird breeding season [March – August] inclusive. If this is not possible works should be preceded by a breeding bird survey.

DORMICE

The hedgebanks provided a limited amount of suitable dormouse habitat; no hedgebanks are proposed to be removed but the existing roadside entrance may need to be realigned to achieve the necessary visibility. Emphasis should be directed at 'pushing' the hedgebank back [as opposed to removing]; as a precaution, necessary vegetation clearance should be undertaken by hand in i] late Autumn [October] or Spring [May] under the supervision of a licensed dormouse ecologist or ii] in winter [November – March inclusive] – after which the hedgebank must be left until May before earthworks commence.

Option i] - small amounts of vegetation [c.5m], should be removed on successive days at a time of year when the animals are active and able to respond immediately. Such clearance should be done by hand and should be combined with searches for nests. Clearance in May will avoid separating females from dependent young. After early June, female dormice are likely to have young in their nests until about late September (depending on latitude and weather).

Option ii] - sufficient vegetation should be removed to persuade dormice emerging from hibernation in April or May to move to more appropriate habitat nearby. Once emergence is complete, by the end of May, full clearance of the area can continue. Clearance should be done by hand and in a sensitive manner, incorporating directional felling and avoiding disturbance to the base of the hedge thus minimising the likelihood of disturbing or killing hibernating dormice.

REPTILES

No reptiles would be affected by any proposed development; all ground is regularly managed [grazed / cut].

9. ENHANCEMENTS

External elevations have the potential to incorporate bat & bird boxes; any new hedging / landscape planting should comprise of native species of local origin. Such features would enhance the potential ecological value of the site.

Figures 2 & 3. Indicative bat & bird boxes - Beaumaris Woodstone Bat Box [left]; Schwegler sparrow terrace

10. CONCLUSION

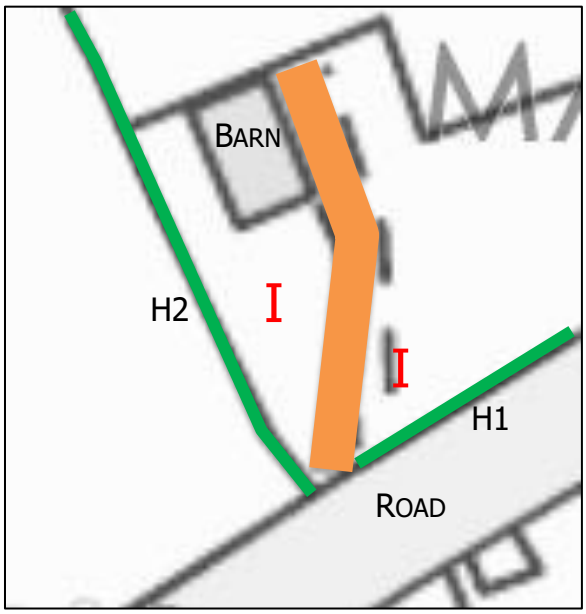
With the mitigation recommended no significant adverse effects are predicted towards any protected habitats or species. In the medium to long term the associated proposed development has the potential to deliver an overall 'biodiversity gain'.

10.1 TABLE 2. SUMMARY OF ECOLOGICAL IMPACT ASSESSMENT

Ecological feature	Potential unmitigated effect on feature	Mitigation, compensation & enhancement	Significance of residual effect
Designated sites of nature conservation	No significant adverse effects have been identified	n/a	Not significant
Hedgebanks	Loss of a small amount of roadside hedgebank associated with existing access	Emphasis should be directed at 'pushing' the hedgebank back [as opposed to removing]. Potential to plant native species as part of any landscaping plan	Not significant
Badgers	No significant adverse effects have been identified	n/a	Not significant
Bats	Illumination of adjacent hedgebanks	Negated through the avoidance of any external lighting and the use of low-level directional down-lighting; landscape planting and amenity space buffer strips would minimise light spill further. Enhancement potential in the form of dedicated bat boxes	Beneficial effect in medium - long term at a local level
Birds	Disturbance to nesting birds	Commencement of works undertaken outside the bird breeding season [March – August] inclusive. If this is not	Beneficial effect in medium - long term at a local level

		possible works should be preceded by a breeding bird survey. Enhancement potential in the form of dedicated bird boxes and habitat creation	
Dormice	Killing and injury to dormouse	Necessary vegetation clearance undertaken by hand in i] late Autumn [October] or Spring [May] under the supervision of a licensed dormouse ecologist or ii] in winter [November – March inclusive] – after which the hedgebank must be left until May before earthworks commence	Adverse short-term effect at a local level. Neutral effect in medium - long term. Not significant
Reptile	No significant adverse effects have been identified	n/a	Not significant

APPENDIX 1 – PHASE 1 MAP



KEY

IMPROVED GRASSLAND I

INTACT SPECIES-RICH HEDGEBANK

HARD-STANDING TRACK

APPENDIX 2 – PHOTOGRAPHS

Figure 1. Barn viewed from the south-east

Figure 2. Interior view of barn

Figure 3. Existing roadside access

APPENDIX 3 – NATIONAL PLANNING POLICY FRAMEWORK

The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.

Below are exerts within the NPPF of how the planning system should contribute to and enhance the natural and local environment by:

Paragraph 170

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Paragraph 174

To protect and enhance biodiversity and geodiversity, plans should:
a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity56; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation57; and
b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Paragraph 175

When determining planning applications, local planning authorities should apply the following principles:
a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest.
c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons58 and a suitable compensation strategy exists; and
d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Paragraph 176

The following should be given the same protection as habitats sites:
a) potential Special Protection Areas and possible Special Areas of Conservation.
b) listed or proposed Ramsar sites59; and
c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Paragraph 177

The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

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