PRELIMINARY ECOLOGICAL APPRAISAL (PEA)

of

LAND AT POLVENNA FARM, VENTONGIMPS, TRURO, CORNWALL

November 2023

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PRELIMINARY ECOLOGICAL APPRAISAL (PEA) AT POLVENNA FARM, VENTONGIMPS, TRURO, CORNWALL

OS Grid Ref: SW 783 506

Survey date: 22nd November 2023

Surveyor: Matthew Thurlow BSc (Hons) MSc ACIEEM

Time spent on site: 1 ½ hours

Report Author: Matthew Thurlow BSc (Hons) MSc ACIEEM

Filename: PEA_Land at Polvenna Farm, Ventongimps, Truro, Cornwall_Final 1

Report No: 23-068/EB/Land at Polvenna Farm, Ventongimps, Truro, Cornwall_PEA

Report for: Mr Sam Parker

Report completed: 19th January 2024

Report Sign off		
Document checked and approved for issue by: Signature: Date:	Simon Barnard BSc (Hons) MSc CEcol MCIEEM [redacted] 23rd January 2024	CIEEM REGISTERED PRACTICE 2023-2024

This report is considered valid for up to 18 months under CIEEM advice notes on the lifespan of ecological reports, this time period should start from when the survey was conducted. After this 18-month period a re-inspection of the site by a suitably qualified ecologist should be conducted.

Table of Contents

1. SUMMARY		
Instructing agent	Ms Tessa Phillips of Edward Buckland Associates on behalf of the client.	
Date of survey	22nd November 2023.	
Brief site description	The red line covers 0.5ha of land with the wider survey area covering 1.7ha consisting of a poor semi-improved grassland, tall ruderals and ephemeral/short perennial habitats; a watercourse and woodland are present adjacent to the south west boundary.	
Purpose of survey	This PEA aims to provide ecological recommendations in response to plans to erect a new barn to be used for the storage of machinery and animal feed.	
Methods used	A field survey and desktop study was undertaken, the habitats onsite were classified and mapped using the JNCC Phase 1 Habitat Survey methodology.	
Designated areas	It is highly unlikely the adjacent Polvenna Woods CWS will be impacted by the works. Due to the SSSI IRZ the Site is within, dependant on the final size of the building NE may need to be consulted by the LPA regarding this application.	
Impacts on HPI habitats	No habitats on Site qualify as HPI's or BAP priority habitats, although the adjacent watercourse and woodland are likely to, there is a low risk of the watercourse being impacted during the construction phase, mitigation is recommended.	
Gain in biodiversity value	The habitats to be lost as part of the proposal are of low distinctiveness with the moderate distinctiveness habitat (Scattered mature trees) being retained, a detailed summary of the habitat loss and gains can be seen in Table 3 Section 5. If the recommended grassland creation and enhancement and hedgerow and/or tree planting is carried out, the loss of the habitats under the footprint of the new barn will be mitigated for and a gain in biodiversity value could be achieved with a high value habitat being potentially enhanced.	
Impacts on protected species	No direct use of the Site by protected species was found. There is some potential for the Site to be used for nesting by birds and some potential for low numbers of reptiles to be present and for Otter to occasionally travel along the watercourse. Providing the recommendations summarised below or detailed in Section 6 are followed during the clearance of the Site and the operational phase of the proposal no protected species are likely to be adversely impacted.	
Further surveys	No further survey work for protected species is considered necessary.	
Avoidance measures	Nesting birds	The clearance of suitable bird nesting habitat (Grassland and tall ruderals) must be carried out outside of the accepted bird nesting season (March to August inclusive). This is because birds, chicks, eggs, and their nests are protected by law whilst nesting.
	Badgers	A pre works check of the tall ruderals should be conducted to ensure that the use of the site by Badger has not changed.
	Reptiles and general wildlife	A method statement should be produced separately stating the Reasonable Avoidance Measures (RAMS) as described in Section 6.4.5 which should then be adopted, signed up to by the client and used alongside an ecological watching brief conducted by a suitably experienced ecologist.
Mitigation	Construction phase	
	Habitats	Install protective Heras fencing creating at least a 2 metre buffer from the top of the bank of the watercourse and from the tree canopies.
		Install impermeable barriers between the works area and the watercourse.
		Time the works to avoid periods of heavy or prolonged rainfall.

		Store construction materials away from the watercourse and secure them appropriately by either weighing them down or storing them under cover
	Otter and general wildlife	Do not conduct any work outside of daylight hours when Otter are most active.
		Any excavations should be protected by fencing, covered over at night or have a means of escape in the form of a ramp in case any animals accidently fall in. Any excavations should be carefully checked at the start of each day in case animals have still managed to become trapped.
	Operational phase	
	Lighting	Limited impacts from additional artificial light is expected due to the location and indicated orientation of the barn. Any introduced lighting must use sensitive lighting designs to reduce light spill. If exterior lighting is unavoidable, it should only be used where it is absolutely necessary and avoiding the aspects facing the woodland to the south west and should involve the use of sensitive lighting and alternatives to high lux artificial light as described in Section 6.3.
Recommendations for maintaining and enhancing the biodiversity value of the site		
Habitats	Create a species rich grassland over the new banks and enhance the remaining grassland between the barn and the watercourse with a native species rich seed mix.	
	Create a new native species rich hedgerow or line of trees along the bank of the watercourse using locally prevalent species stated in Section 6. To mitigate for historic hedgerow loss this planting could be extended along the entire length of the watercourse along the woodland beyond the wider survey area.	
	Retain and protect the scattered mature trees.	
	Eradicate the non-listed INNS Butterfly Bush from the Site.	
Species	Relocate the stone pile into a shaded or sunny location to recreate the shelter this feature provides.	
	The building should be enhanced for protected species in line with Cornwall Council's planning for Biodiversity guide 2018, considering the likely size of the barn this should be enhanced for birds and bats.	
	A Barn Owl box should be installed either into or onto suitable aspects of the barn.	
	A bat roosting box could be attached to suitable aspects of the barn. This box should be attached onto a south, south west or south east facing aspect and be as high up as possible, but being at least 3m above the ground with no artificial lighting on it.	
	See Section 6 for more details and Appendix 5 and 6 for planting and bat and Barn Owl enhancement recommendations.	

2. INTRODUCTION

2.1. Background

Wheal Grey Ecology Ltd were instructed by Ms Tessa Phillps of Edward Buckland Associates, on behalf of the client, Mr Sam Parker, to carry out a Preliminary Ecological Appraisal (PEA) on land at Polvenna Farm, Ventongimps, Truro, Cornwall. This PEA aims to provide ecological recommendations in relation to applying for planning permission to erect a new agricultural barn for the storage of equipment and feed within a section of a field to the south of some existing agricultural buildings. The currently available red line of the application and wider survey area as provided by Ms Tessa Phillips on behalf of the client can be found in Appendix 4. A walkover of the area within the red line and the surrounding field was undertaken on 22nd November 2023 at 09:30 by Matthew Thurlow. The weather was slightly overcast at times but dry with a light breeze; the temperature was 12°C.

The area within the red line of the application covers 0.5ha of land with the wider survey area covering 1.7ha. The field is located approximately 850m north east of Callestick and approximately 1.3km north west of the A30 in Mid Cornwall, see approximate location indicated by the arrow in Figure 1. The red line runs to the east of an existing large agricultural barn and then runs unmarked within a field. There is a watercourse and woodland lining the south west boundary of the wider ownership boundary/surveyed area with modern agricultural buildings and fields used for the grazing of livestock adjacent to the other boundaries. Beyond the immediate vicinity there are blocks of woodland to the south east and north west with small fields lined with vegetated Cornish hedgebanks beyond the adjacent woodland to the south west.

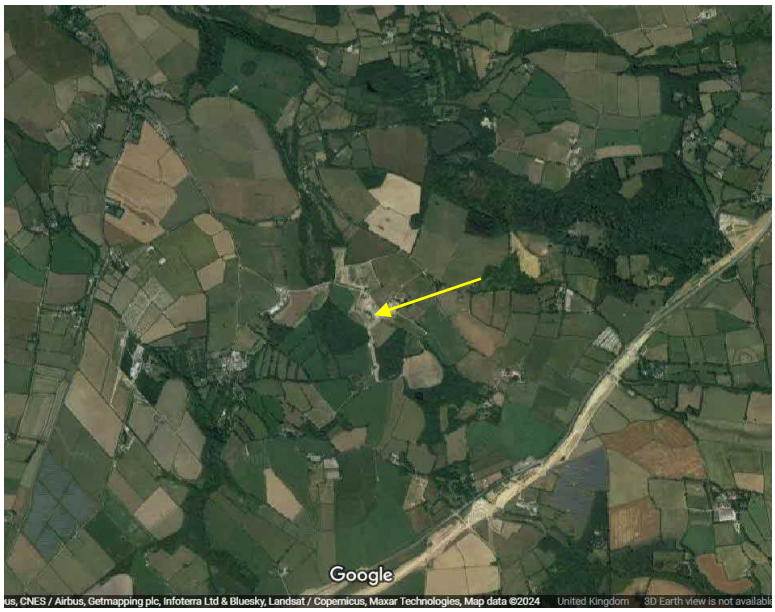

Figure 1. Screenshot of Google earth imagery for the surrounding landscape and approximate location of the survey area

The red line of the application is marked with a solid pink line, with the wider ‘survey area’ indicated by a dashed white and pink line in Map 1. These lines incorporate the area within the red line of the planning application as provided by the client and the land in the immediate vicinity of the planning application boundary, where access is allowed, which may also be impacted by the works. Within this report this area is referred to as the Site or land at Polvenna Farm, Cornwall.

2.2. Purpose of Preliminary Ecological Appraisal

The purpose of this initial PEA is to:

Describe the habitats within the site using nationally recognised classification methods,
assess the conservation value of the habitats on-site to avoid significant ecological impact,
identify signs of the use of the site or the potential for the site to support protected species,
highlight any species or areas of concern that may need further survey work,
highlight any ecological constraints present that may require mitigation,
and make further recommendations for the potential to enhance the site for biodiversity.

3. METHODS

The survey comprised a desktop study and field survey, the report has been compiled in line with the CIEEM (2017) Guidelines on Ecological Report Writing, Chartered Institute of Ecology and Environmental Management, Winchester. A biological records search from the Environmental Records Centre for Cornwall and the Isles of Scilly was purchased.

3.1. Desktop study

A desktop-based study consisted of reviewing the following local and online resources:

A biological records search of statutory and non-statutory nature conservation sites and species of conservation concern or interest was obtained from the Environmental Records Centre for Cornwall and the Isles of Scilly. The search radius extended for 1000 metres from the middle of the site and was conducted on 22nd November 2023, see Appendix 7.
The DEFRA based Magic Maps facility was also consulted for site designations, protected species licences and surrounding habitats, this can be found at the following web address: https://magic.defra.gov.uk/
The Cornwall Council interactive map was consulted for site designations and surrounding habitats, this can be found at the following web address: https://map.cornwall.gov.uk/website/ccmap

3.2. Field methods

The field survey was conducted in line with national survey methods, with the habitats classified and mapped using the standard Phase 1 Habitat survey methodology (JNCC, 2003). The Site was also searched for signs of use by protected species and habitats of nature conservation importance, and features were assessed for their potential to support protected species. A list of vascular plants found during the survey is included in Appendix 1 which were identified according to Rose, 2007. This is not intended to be a comprehensive plant list; it's aim is to support the habitat classifications. However, if the site is either known to, or is believed to have the potential to support rare, protected, or invasive plant species these were also searched for.

3.3. Assessment

The habitats and species located during the walk-over survey have been assessed for their nature conservation and biodiversity significance according to current standard criteria (listed in Appendix 3); the criteria consist of international, national, and local designations and include statutory legislation and non-statutory designations.

3.4. Caveats and limitations to survey work

The survey was conducted at a sub optimal time of year for plant identification and some plant species may have been overlooked or were currently not visible.
The adjacent watercourse and semi-natural broadleaved woodland were not directly surveyed as habitats and as such no species list was created, although the watercourse was inspected for signs of use by protected species.
No detailed proposed site layout was available, the recommendations in this report are based on the red line and plans indicated by the client whilst on Site.

3.5. Summary of surveyor's experience

Matthew Thurlow is an experienced field surveyor over four years' experience working in Ecology and Conservation and is experienced in conducting Extended Phase 1 Habitat surveys, Preliminary Ecological Appraisals, and a variety of protected and non-protected phase two species surveys. He holds a Bachelor's Degree in Applied Marine Science and Masters in Conservation and Biodiversity.

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Map 1. Phase 1 habitat map of land at Polvenna Farm, Ventongimps, Cornwall

N

Date: 22/11/23

Drawn by: MT

Scale: 0 25 50 m

4. SURVEY RESULTS

4.1. Overview

The survey area consists of a fairly level grassland field with mounds of topsoil present covered with tall ruderals and ephemeral short perennial habitats, a watercourse and woodland run along and adjacent to the south west boundary. The north east and south east boundaries are formed by a steep bank which rises up to level ground on which a set of large modern agricultural barns and an access track are located. The north west boundary is marked with fencing with grassland extending in that direction, see Map 1 above.

The historical use of the site, by looking at historical imagery, indicates that the survey area and adjacent fields have undergone significant change since 2009 with the removal of existing agricultural buildings and hedgerows between 2013 and 2017 to make way for the new large modern barns. A further large clearance of this survey area and adjacent field occurred in 2019 in preparation for extending the existing barns in 2021/22.

4.2. Description of habitats

A list of the plant species recorded in each habitat can be found in Appendix 1.

4.2.1. Scattered trees

There are two mature trees within the wider survey area, these were both Sessile Oak trees, see Map 1 and Photograph 1.

Photograph 1. Scattered trees facing west

4.2.2. Poor semi-improved grassland

The survey area is dominated by a poor semi-improved grassland, this grassland was fairly uneven with disturbed areas resulting from vehicular access creating tussocky areas and resulting in some temporary puddles being present at the time of this survey, see Map 1 and Photograph 2. This grassland was dominated by Creeping Bent and White Clover with Yorkshire-fog and Cock's-foot also present; Soft Rush became more common towards the watercourse to the south west. The plants Ribwort Plantain, Creeping Buttercup, Red clover, Pineapple-weed, Bristly Ox-tongue, Black

Mustard, Broadleaved Dock, Wild Teasel and Common Vetch were rarely present within this grassland.

There is a pile of stones within this grassland, along with the temporary puddles, and Fox dung was also found, see Map 1.

Photograph 2. Poor semi-improved grassland facing south east

4.2.3. Tall ruderals

There are two large areas of tall ruderals within the wider survey area; one has developed along the north east boundary and over a small pile of top soil near the north east boundary with a larger area to the south west having developed over a larger pile of deposited top soil, see Map 1 and Photographs 3 and 4. These habitats were dominated by Black Mustard and Common Nettle with Yorkshire-fog and Cock's-foot present underneath. A Lupin sp., most likely a garden escape, was locally abundant in the south western area. The plants Hogweed, Broadleaved dock, Butterfly Bush, Red Campion, Winter Heliotrope and Teasel were also present.

Photograph 3. North eastern tall ruderals facing north

Photograph 4. Northern edge of the south western tall ruderals facing south east

4.2.4. Ephemeral/Short perennial

There is an area of ephemeral/short perennial habitat covering the north western end of the bank forming the north eastern boundary of the Site, see Map 1 and Photograph 5. This habitat largely

consisted of Creeping Bent and Pineapple-weed with Common Nettle, Common Chickweed Butterfly Bush, Bristly Ox-tongue, Ribwort Plantain and Snapdragon also occasionally present. The plants Square-stalked Willowherb, Purple Top Vervain and Great Mullein were also rarely present along with an ornamental Lobelia sp. and a Nasturtium sp. along with some other common garden species.

Photograph 5. Ephemeral habitat facing south

4.2.5. Hardstanding

The access route to the survey area consists of an area of concrete and compacted gravel with bare ground also present, there was no vegetation present within these habitats, see Photographs 6 and 7.

Photograph 6. Existing compacted gravel and concrete hardstanding

Photograph 7. Area of bare ground running along the north east boundary and to the south west of the existing barns

4.2.6. Watercourse and semi-natural broad-leaved woodland (outside but adjacent to the survey area)

Due to the proximity of these habitats to the wider survey area the length of the watercourse was walked and the semi-natural broadleaved woodland was observed but no direct survey of the species present was undertaken, see Photographs 8 and 9.

Photograph 8. Watercourse and woodland edge facing north west

Photograph 9. Watercourse and woodland edge facing south east

4.3. Results of desktop survey

The results of the records search from ERCCIS were analysed and key data relating to the site has been extracted and presented in Tables 1 and 2 below. A full summary of the records search provided by ERCCIS can be found in Appendix 7. Additional information has also been gathered from Magic Maps and the Cornwall Council interactive map.

4.3.1. Statutory and non-statutory site designations

The site does not lie within any statutory or non-statutory listed sites. There are two statutory sites and seven non-statutory sites identified within 1km of the survey area by ERCCIS along with two listed priority habitats. Details of the sites listed within 1km of the survey area along with the priority habitats are detailed in Table 1 below.

The Site lies within an Impact Risk Zone (IRZ) of the Ventongimps Moor and Carrick Heaths Sites of Special Scientific Interest (SSSI) (Natural England, 2021) which lie 450m and 500m away respectively.

The Site lies within the recreational Zone of Influence (ZoI) of the Fal and Helford and Penhale Dunes Special Area of Conservation (SAC). As this is not a residential application there will be no increase in recreational pressures on these SAC's resulting from this proposal.

Table 1. List of all statutory and non-statutory designated sites/listings and priority habitats within 1km of the survey area as listed by ERCISS and Cornwall Council interactive map.

Site designation	Site name	Distance from site
Statutory		
SSSI	Ventongimps Moor	450m NW
SSSI	Carrick Heaths	500m SE and NE
Non-statutory		
CRVI Bio	BS206	950m SW
CRVI Bio	BS322	1km NE
CWS	Lelight & Brickmoor Plantation	950m NE

CWS	Polvenna Wood	50m SW
CWT Reserve	Chyverton	950m NE
CWT Reserve	Ventongimps Moor	450m NW
TPO Site	The Homestead, Callestick	950m SW
SSSI impact risk zone		
RuralNonRe: Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.		
SAC recreational ZoI		
Fal and Helford SAC		Within
Penhale Dunes		Within
Priority habitats		
Lowland Heathland		450m NW
Wet woodland		50m SW

4.3.2. Statutory and non-statutory sites in close proximity to the Site

The Polvenna Wood County Wildlife Site (CWS) and the priority habitat of Wet woodland are adjacent to the south west boundary of the wider survey area and approximately 50m to the south west of the red line of the application. Additionally, large non-residential developments exceeding a certain size are of a concern to the SSSI's within 1km of the Site. Further details of these designated areas have been included below.

4.3.2.1.Polvenna Wood CWS

Polvenna Wood is situated on the western side of a river valley, sloping gently to the north east. The site covers two sections, split either side of part of the Carrick Heaths SSSI. The larger section, which the site is close to, is dominated by wet willow woodland throughout, supporting abundant epiphytic growth and with a particularly rich ground flora in the wetter areas. Drier broadleaved woodland fringes the site in parts, locally dominated by Sessile Oak or Ash and Alder, and there are also marginal areas of scrub comprising mainly willow, gorse and bracken. The Biodiversity Action Plan (BAP) Priority Habitats present include: Wet Woodland and the BAP Priority Species include Greater Horseshoe *Rhinolophus ferrumequinum* and Lesser Horseshoe *Rhinolophus hipposideros* (fully protected under the Wildlife and Countryside Act 1981). Other notable species include the nationally scarce wavy St John's-wort *Hypericum undulatum* and Cornish Moneywort *Sibthorpia europae*.

4.3.2.2.Ventongimps Moor SSSI

Ventongimps Moor is situated in a valley basin about 3km south-east of Perranporth. The site is mainly composed of wet dwarf shrub heath with areas of bog and a fringe of Willow-Alder Carr. Other habitats present here include small areas of mixed deciduous woodland, marsh and open water. The moor is of particular importance for its flora and there are two Red Data Book species present – Dorset Heath *Erica ciliaris* and Eyebright *Euphrasia virgursii*. Ventongimps Moor is one of the best Odonata sites in Cornwall, supporting 13 species, including the nationally rare Scarce blue-tailed Damselfly *Ischnura pumilio*. Some 99 species of Lepidoptera have been recorded with the Narrow-bordered Bee Hawk Moth *Hemaris tityus*, being of particular note. Ventongimps Moor is a Nature Reserve owned and managed by the Cornwall Trust for Nature Conservation. Their management programme includes periodic burning, partial removal of scrub, and the maintenance of open water habitats.

4.3.2.3.Carrick Heaths

The Carrick Heaths comprise of ten sites, all situated within a 12 km radius of Truro. The conditions within the SSSI have led to the development of mosaics of wet and dry heathland vegetation types, characterised by populations of Dorset heath, a nationally rare plant species and a prime constituent of Southern Atlantic Wet Heath, an internationally important vegetation type. Other noteworthy species recorded include the nationally scarce Yellow Centaury and Cornish moneywort. Royal fern *Osmunda regalis*, the rare hybrid *Erica x watsonii* and Upright Hedge Bedstraw *Galium album* are also all of note. Nationally scarce moss and liverwort species respectively include *Brachythecium mildaenum* and *Calliergon sarmentosum*.

Areas of heath are characterised by Purple Moor-grass *Molinia caerulea* tussocks. The main associates are Black Bog-rush *Schoenus nigricans* and Dorset Heath, with some Cross-leaved Heath *Erica tetralix* also present. The wettest areas are often characterised by abundant bog moss Sphagnum species, frequent sedges such as Green-ribbed Sedge *Carex binervis*, Common Yellow-sedge *C. demissa* and Carnation Sedge *C. panicea* and rushes such as Soft Rush *Juncus effusu*s and Sharp Flowered Rush *J. acutiflorus.*

In drier areas, Bell Heather *Erica cinerea* and Western Gorse *Ulex gallii* are often co-dominant, in some areas with Cross-leaved Heath and in others with Heather *Calluna Vulgaris*. Overall habitat and species diversity are increased by further areas of adjoining rush pasture, Oak *Quercus spp*. woodland, streams and Willow *Salix spp. carr*. However, Grey Willow *Salix cinerea*, Birch *Betula pendula*, Gorse, Bramble *Rubus fruticosus agg.* and Bracken *Pteridium aquilinum* are encroaching on heathland in places and need to be contained.

Invertebrate interest includes the nationally scarce Pearl-bordered Fritillary *Boloria euphroysne* and the uncommon moth *Pammene obscurana* as well as two locally important species of dragonfly – the Emperor Dragonfly *Anax imperator* and the Broad-bodied Chaser *Libellula depressa*.

4.3.3. CRDB listed and protected species

A summary of the key Cornwall Red Data Book listed and protected species from the ERCCIS record search and the records' approximate location in relation to the site has been extracted and presented in Table 2 below. A full list of the species in the records search can be found in the attached ERCCIS report.

Table 2. List of protected species and red-listed or important species (Cornwall Red Data Book species), recorded within a 1km radius of the site as listed by ERCCIS. The number of Roosts/Setts/Holts, or the nearest sightings, where accurate locations are provided with the record, are included below.

Species group	Species Scientific	Species vernacular	No. records	Roosts Setts Holts Nests	Nearest sighting/roost
CRDB Plants	*Cicendia filiformis*	Yellow Centaury	5	N/A	550m NW
	Erica ciliaris	Dorset Heath	59	N/A	500m NW
	Euphrasia vigursii	an Eyebright	5	N/A	550m NW
	Fumaria purpurea	Purple Ramping-fumitory	4	N/A	650m W

	Glebionis segetum	Corn Marigold	5	N/A	400m W
	Hypericum undulatum	Wavy St John's-wort	39	N/A	450m NW
	Lobelia urens	Heath Lobelia	4	N/A	500m NW
	Misopates orontium	Weasel's-snout	2	N/A	500m NE
	Platanthera bifolia	Lesser Butterfly-orchid	2	N/A	No precise location
	Scrophularia scorodonia	Balm-leaved Figwort	4	N/A	700m E
	Sibthorpia europaea	Cornish Moneywort	8	N/A	650m SE
	Spergula arvensis	Corn Spurrey	2	N/A	800m N
	Viola lactea	Pale Dog-violet	1	N/A	600m NW
	Wahlenbergia hederacea	Ivy-leaved Bellflower	1	N/A	600m NW
CRDB Birds	*Falco peregrinus*	Peregrine	1	0	No precise location
	Falco subbuteo	Hobby	1	0	No precise location
	Ficedula hypoleuca	Pied Flycatcher	2	0	750m N
	Loxia curvirostra	Crossbill	1	0	No precise location
	Milvus milvus	Red Kite	1	0	No precise location
	Perdix perdix	Grey Partridge	3	0	650m N
	Poecile montanus	Willow Tit	1	0	750m NW
	Tyto alba	Barn Owl	3		300m E
Bats	*Pipistrellus sp.*	Pipistrelle species	13	No roosts	500m N
0 EPS licences within 1km	*Myotis nattereri*	Natterer's Bat	6	No roosts	500m N
	Nyctalus noctula	Noctule	4	No roosts	500m N
	Plecotus auritus	Brown Long-eared	4	No roosts	500m N
	Rhinolophus ferrumequinum	Greater Horseshoe Bat	13	1	600m SE
	Rhinolophus hipposideros	Lesser Horseshoe	7	1	600m SE
	Myotis daubentonii	Daubenton's	4	No roosts	500m N
Other CRDB mammals	*Lutra lutra*	Otter	5	0	500m N
	Meles meles	Eurasian Badger	8	1	Sett - 600m N Sighting-500m W
	Erinaceus europaeus	Hedgehog	5	N/A	300m SW

	Micromys minutus	Harvest Mouse	1	0	450m S
	Sorex araneus	Eurasian Common Shrew	4	0	400m E
Reptiles	*Anguis fragilis*	Slow worm	4	N/A	400m NW
	Natrix helvetica	Grass Snake	2	N/A	600m NW
	Vipera berus	Adder	2	N/A	800m NE
Amphibians	*Lissotriton helveticus*	Palmate Newt	3	N/A	550m NW
	Bufo bufo	Common Toad	4	N/A	550m NW
	Rana temporaria	Common Frog	6	N/A	550m NW

5. ASSESSMENT OF ECOLOGICAL AND CONSERVATION VALUE

5.1. Rationale

This section assesses the value of the Site based on the information obtained during the field survey and desktop study. The assessment is in terms of presence of, or potential to support protected, rare or scarce habitats and species, general biodiversity value and ecological function in the wider landscape.

The criteria that are used in assessing species and habitat importance consist of international, national, and local designations; they include statutory legislation and non-statutory designations (as listed in Appendix 3) and the protection level and legislation specific for each animal group (as listed in Appendix 2).

5.2. Proposal

The proposal is to raise the ground level within the red line to meet the ground level to the north east where the existing barns are located and then to erect a new agricultural barn on top of it to be used for the storage of machinery and cattle feed. No proposed layout was available at the time of this report, the red line of application can be seen in Appendix 4. This will involve the loss of some of the poor semi-improved grassland, the central tall ruderal habitat and the ephemeral/short perennial habitat.

5.3. Landscape context, connectivity and proximity to designated areas

The Site is fairly level with a watercourse and block of woodland adjacent to the south west boundary of the wider survey area. The watercourse flows south east to north west with a south eastern fork of the watercourse being culverted. There are blocks of woodland also present to the south east and north west with fields used for agricultural purposes extending to the north, east and west.

The adjacent CWS is unlikely to be impacted by this proposal as the CWS is separated from the Site by the watercourse and the works are due to be focused away from this boundary. The Site is within an IRZ of two SSSI's; the zone this Site falls in requires Natural England (NE) to be consulted by the Local Planning Authority (LPA) regarding 'Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha'. The size of the proposed building is currently unknown.

The Site is within the recreational ZoI of two SAC's; as this is an agricultural unit there won't be any additional recreational pressures on the SAC as a result of this proposal.

5.3.1. Landscape fragmentation and ecological connectivity

The south west boundary habitat (the adjacent Polvenna Woods) provides good connectivity to the wider landscape to the south east and north west, the remaining boundaries provide no features or sheltered connectivity to the wider landscape. The adjacent woodland is unlikely to be directly impacted so it is highly unlikely that the connectivity around the site is going to be altered as a result of this proposal.

5.3.2. Permeability of the site to wildlife

The boundaries of the Site are permeable in all directions, no distinct mammal pathways were observed within, or crossing into the site. Fox dung was seen during the survey within the grassland, see Map 1.

5.4. Important habitat features of the study area and habitats likely to be impacted

No habitats on Site qualify as Habitats of Principal Importance (HPI's), UK Biodiversity Action Plan Priority Habitats (UK BAP, 2007) or Local Biodiversity Action Plan (BAP) Priority Habitats (Cornwall Biodiversity Initiative, 2009).

The watercourse and woodland adjacent to the south west boundary are likely to qualify as HPI's and/or BAP Priority habitats and these could be impacted by construction materials and waste washed off-site and by the movement of topsoil and machinery without the use of suitable mitigation and careful working methods.

5.4.1. Biodiversity loss and gains

The remaining habitats within the site are of moderate to low distinctiveness; areas of the semi-improved grassland, tall ruderals and ephemeral habitat will be lost, see summary of habitats and the likely impacts in Table 3. No proposed layout is currently available so these are approximate values.

Table 3. Summary of habitats, their ecological value and area to be lost (if known) along with planned habitat creation and enhancement recommendations.

Habitat distinctiveness	Habitats	Area of loss (hectares & % of area)	Potential mitigation and habitat gains
Very high	None present.		
High	None present.		
Medium	Scattered trees.	No loss expected.	To enhance these trees and the adjacent watercourse a line of trees or a native species rich hedgerow extending from these trees and lining the watercourse should be created. This should run from the trees along the length of the watercourse to the access track to the south east to provide more shelter and connectivity along this feature. See Appendix 5 for native woody species, the species mix should look to match the species present within the Polvenna Woods CWS, see Section 6. This planting could be extended beyond the survey area to mitigate for historic hedgerow loss.
Low	Poor semi-improved grassland.	0.2ha loss of 0.8ha (25%)	Due to the area of loss this grassland should be mitigated for once the works are completed. This grassland should be replaced with a species rich grassland being created on the new banks

			and the grassland between the proposed new barn and the watercourse being enhanced to create a better transitional habitat, see Appendix 5 for species rich grassland seed mixes.
	Tall ruderals.	0.3ha of 0.48ha (Approx. 60%)	No need to replace these habitats.
	Ephemeral/short perennial.	0.06ha of 0.09ha (Approx. 60%)	
Very low	None present.		
Negligible	Hardstanding.	Likely to increase.	

5.5. Nightscape and artificial lighting

The Site is located in an area with estimated low artificial light emissions according to Lagas online mapping tools, see approximate location highlighted by the arrow in Figure 2 below. The existing barns to the north east likely provides some occasional sources of artificial light spill within the Site.

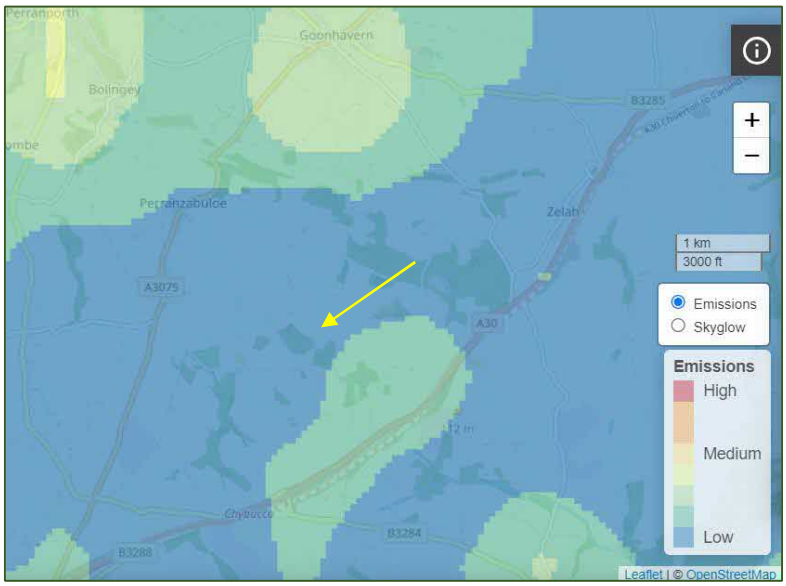


Figure 2. Lagas Light map, https://lagas.co.uk/app/product/light-maps, accessed 08/01/24

5.6. Potential for the Site to support rare and protected flora and fauna

The potential for the Site to support rare or protected species and the need for further consideration regarding mitigation or survey work is summarised below, see Table 4.

Table 4. Summary of the likely presence of protected species and the need for further consideration.

Flora/Fauna	Records	Suitable habitats on site	Evidence of use or potential for use	Further consideration
CRDB Plants	141 records of 14 species.	Tall ruderals. Semi-improved grassland. Ephemeral/ short perennial.	No evidence of CRDB plant species were observed during the survey, although the survey was conducted at a sub optimal time to identify CRDB plants. A small number of the CRDB plants listed could be present within the recently disturbed ephemeral habitat. There is a low chance of the CRDB listed plants to be present within the grassland and tall ruderals which shows signs of high nutrient content.	Considering the large clearance of the site in 2019/2021 and the likely high nutrient conditions within the soil and the small area of suitable habitat loss, it is unlikely the loss of CRDB plants will occur. No further consideration necessary.
Schedule 9 listed Invasive Non-Native plants (Schedule 9 INNS)	31 records of five species.	All habitats on site.	No schedule 9 listed INNS were observed. The non-listed INNS Butterfly Bush was fairly common within the habitats on Site.	No further consideration necessary. It would be beneficial to the adjacent woodland and CWS for the Butterfly Bush to be actively removed from the Site.
Birds	13 records of eight CRDB species likely to use the site.	Scattered trees. Tall ruderals.	Good potential for nesting birds to use the Scattered trees. Moderate to low potential for more common nesting birds to use the tall ruderal habitats.	The Scattered trees are to be retained. Some of the tall ruderal habitat will be cleared. There is potential to enhance the Site and building for nesting birds. See recommendations in Section 6.
Bats		Foraging/commuting:		

Flora/Fauna	Records	Suitable habitats on site	Evidence of use or potential for use	Further consideration
	51 records of at least seven species. Two roosts. No EPS licences within 1km.	Adjacent semi-natural broadleaved woodland and watercourse. Scattered trees.	Good potential to forage and commute along the broadleaved woodland, watercourse and around the scattered trees.	These habitats are to be retained as part of the proposal, the client indicated that the barn openings are to face away from these habitats. See recommendations in Section 6.
		Roosting:		
		Trees.	The two trees are of suitable size and age which may support potential roosting features. No potential roosting features were observed during the survey.	The trees are expected to be retained. There is potential to enhance the Site for roosting bats. See recommendations in Section 6.
Hazel Dormouse	No records.	None on site.	The Site is very exposed with no suitable sources of food present. Dormice are unlikely to access this Site.	No habitats suitable for use by Dormice are present. No further consideration necessary.
Otter	Five records. No holts.	Adjacent broadleaved woodland and watercourse.	There is potential for Otter to make use of the woodland and to travel along the watercourse. The length of the watercourse was walked and no signs of Otter, including footprints, feeding remains or spraint on prominent locations was observed. It is highly unlikely Otter access the interior of the Site due to the exposed nature of the habitats.	The woodland and watercourse are not being directly impacted by the proposal. See recommendations in Section 6.
Badger	Eight records. One sett.	Banks covered by tall ruderals.	No evidence of Badger using or accessing the Site in the form of Latrines, mammal paths or Setts were found during the survey.	See recommendations in Section 6.

Flora/Fauna	Records	Suitable habitats on site	Evidence of use or potential for use	Further consideration
			Evidence of the use of the site by Fox was observed.	
Reptiles	Eight records of three species.	Poor semi-improved grassland. Stone pile.	There is some potential for low numbers of reptiles to be present in the more tussocky areas of grassland towards the south western part of the Site and within the stone pile. The large historic disturbance to the site and limited insect populations likely limit the number of reptiles in the area.	Only a portion of suitable habitat is to be impacted by the proposal with large areas of grassland being retained and no areas of the site becoming isolated. See recommendations in Section 6.
Other CRDB mammals	10 records of three species.	All habitats on site.	Some potential for Hedgehog and Common Shrew to access the Site and forage within the habitats present. Limited potential for Harvest mice to access the ruderal habitats.	No further surveys necessary. See recommendations for General wildlife in Section 6.
Amphibians	13 records of three species.	Edges of the adjacent watercourse. Stone pile. Temporary puddles.	The watercourse provides some pooling areas suitable for amphibians. The stone pile and temporary puddles have some low potential to support amphibians.	The stone pile and temporary puddles will be removed. The watercourse should be protected from any works. See recommendations for General wildlife in Section 6.

6. RECOMMENDATIONS

This section lays out recommendations for any necessary further survey work, ecological constraints present, and any necessary mitigation and avoidance measures required prior to any works onsite.

6.1. Designated areas and ecological connectivity

The Site does not lie within any statutory or non-statutory designated sites, it is highly unlikely the adjacent Polvenna Woods CWS will be impacted by the works. Due to the SSSI IRZ the Site is within, dependant on the final size of the building NE may need to be consulted by the LPA regarding this application. The SSSI's are approximately 450m and 500m away and separated from the site by agricultural fields; impacts to these sites as a result of this proposal are considered to be low as this building is intended to be used for the storage of equipment and animal feed.

The proposal will not result in any additional recreational pressures on the Fal and Helford and Penhale Dunes SAC.

6.1.1. Landscape connectivity

The current ecological connectivity around the Site is unlikely to be impacted by the proposal as the proposed building is located fairly central to the field and away from the woodland. It was also indicated by the client that the openings to the barn will be in the north eastern aspect which will minimise any artificial light spill towards the woodland. However, sensitive lighting designs as detailed in Section 6.3 must be followed to ensure light averse bats and other nocturnal wildlife can continue to use the woodland and watercourse.

Connectivity along the watercourse and woodland edge could be enhanced as part of the proposal through the planting of a line of trees or native species rich hedgerow along the south west boundary as recommended in this report.

6.1.2. Permeability of the site to wildlife

The permeability of the site is unlikely to change as a result of this proposal.

6.2. Habitats

6.2.1. Priority or high value habitats

No habitats within the red line or wider survey area qualify as HPI's or BAP Priority Habitats. The semi-natural broadleaved woodland and watercourse adjacent to the wider survey area are high value habitats and would most likely qualify. These habitats are highly unlikely to be directly impacted by the proposal, however, there is a low risk of indirect impacts occurring as a result of introduced lighting and surface run-off containing construction waste/materials and soil. The risk of any impacts occurring to these adjacent habitats should be minimised through the use of mitigation measures and careful working methods, these should include:

Installing protective Heras fencing creating at least a 2 metre buffer from the top of the bank of the watercourse,
Installing impermeable barriers between the works area and the watercourse,

Timing works to avoid periods of heavy or prolonged rainfall,
Store construction materials away from the watercourse and secure them appropriately by either weighing them down or storing them under cover,
Using sensitive lighting designs as detailed in Section 6.3.

6.2.2. Biodiversity loss and gains

Overall, the habitats to be lost as part of the proposal are of low distinctiveness with the moderate distinctiveness habitat, the scattered mature trees, being retained. The loss of the poor semi-improved grassland should be mitigated for by creating a band of species rich grassland along the banks to be created and enhance the remaining grassland between the new barn and the watercourse, this could be done by seeding the new banks and overseeding the existing grasslands with a species rich seed mix, see Appendix 5. A key enhancement for the site would be planting a native species rich hedgerow or line of trees along the top of the bank of the watercourse to buffer the adjacent CWS and create a sheltered corridor along the watercourse. This planting should mirror the species found in the adjacent CWS and include Sessile Oak, Alder and Grey willow with additional fruiting species including Blackthorn, Hazel and Hawthorn. Additionally, this planting could be extended beyond the survey area to the north west to mitigate for historic hedgerow loss and to enhance this whole section of the watercourse and CWS.

Overall, if the proposed grassland creation and enhancement (via seeding new grassland and enhancing the remaining grassland by overseeding) and hedgerow and/or tree planting is carried out, the loss of the habitats under the footprint of the new barn will be mitigated for and a gain in biodiversity value could be achieved with a high value habitat being potentially enhanced and protected.

6.3. Nightscape and artificial lighting

The proposal will introduce some additional artificial light into the site, however, the building is located away from the nearest woodland and it has been indicated that the openings in the barn are to face away from this woodland habitat. It is important that artificial light is not encouraged to spread towards the CWS and woodland along the south west boundary, so as to allow nocturnal wildlife to use them as they currently do.

Any introduced lighting must use sensitive lighting designs to minimise light spill, the internal lighting is unlikely to impact the site as the only openings have been indicated to be in the north east aspect.

Ideally there will be no exterior lighting installed. If exterior lighting is unavoidable, it should only be used where it is absolutely necessary and avoiding any aspects facing the woodland to the south west and should involve the use of sensitive lighting and alternatives to high lux artificial light. This should involve warm white coloured bulbs, with light levels lower than 0.5 Lux within five metres of any boundaries, be downward-pointing (below horizontal), installed as low as practically possible and be triggered on short-timers to help minimise the amount of artificial light added into the site and light spill into the surrounding area.

The recommended native hedgerow or line of trees along the bank of the watercourse should be planted so as to provide additional screening of the woodland from the new barn.

6.4. Flora and Fauna

6.4.1. Nesting birds

All wild birds, their active nests and eggs are protected under The Wildlife and Countryside Act 1981 (as amended), which makes it an offence to deliberately, or recklessly kill or injure any wild bird or damage or destroy any active birds' nest or eggs.

The cutting of the grassland and tall ruderals should be conducted outside of the widely accepted bird nesting season (March to August inclusive). If this is not possible these habitats should be inspected by a suitable qualified ecologist prior to being removed.

The new barn should be enhanced for protected species in line with Cornwall Council's planning for Biodiversity guide 2018 which would require a single bat and/or bird box being installed if this were a residential proposal. Considering the size of the building, the surrounding habitat and records of Barn Owl in the area the barn should be enhanced for Barn Owls, see Appendix 6.

6.4.2. Bats

6.4.2.1.Foraging/commuting

The loss of the areas of habitats onsite are unlikely to significantly adversely impact bats that currently forage in the area.

Bat roosting behaviour, commuting and foraging activity can additionally be dramatically affected by artificial lighting (BCT, 2023). The new barn is located away from the valuable adjacent woodland and watercourse and it has been indicated that no openings will be facing these habitats. Providing no external lighting is installed facing these habitats and that light levels are less than 0.5 lux within 10 metres of the woodland, the new barn should not result in any adverse impacts to bats that currently use the area. No further survey work is considered necessary.

6.4.2.2.Roosting

No trees with Potential Roosting Features that could be used for day roosting by bats were observed within the area to be impacted by the works. No further consideration for roosting bats is necessary.

The building should be enhanced for protected species in line with Cornwall Council's planning for Biodiversity guide 2018 which would require a single bat and/or bird box being installed if this were a residential proposal. Considering the size of the barn the building should also be enhanced for bats as well as Barn Owls. This enhancement could be in the form of a bat roosting box being attached to a suitable aspect of the barn. This box should be attached onto a south, south west or south east facing aspect and be as high up as possible, but being at least 3m above the ground with no artificial lighting illuminating it or near it, see Appendix 6 for recommended bat boxes.

6.4.3. Otter

Otter may travel along the watercourse but no resting places or evidence of Otter using the watercourse was observed during the survey and no Otter habitat will become isolated by the proposal due to the location of the barn. The risk of any impacts occurring to Otter that may travel

along the watercourse is considered to be low and should be minimised with the following mitigation:

Protect the watercourse with solid boarding and Heras fencing creating at least a 2 metre buffer as above,
Do not conduct any work outside of daylight hours when Otter are most active,
Care must be taken to ensure no Otter can become trapped in any holes or excavations opened up during the works overnight. Any excavations should be protected by fencing, covered over at night or have a means of escape in the form of a ramp in case any animals accidently fall in. Any excavations should be carefully checked at the start of each day in case animals have still managed to become trapped.

6.4.4. Badger

No active setts were found during the survey, however the use of sites by Badger can change rapidly and there are records of Badger in the area. It is recommended that a pre works check of the mound of top soil and tall ruderals is conducted to ensure that the use of the site by Badger has not changed. Ideally this would be up to 4 weeks before the proposed works to allow time for any necessary Sett monitoring to be conducted.

6.4.5. Reptiles

There is a low likelihood of common UK reptiles being present on site and only small areas of suitable habitat are being impacted, with larger areas being retained.

All UK reptile species are protected under Schedule 5 of the Wildlife & Countryside Act (1981) and are listed as Species of Principal Importance under the NERC Act (2006). It is an offence to intentionally kill or injure individuals of these species (see Appendix 2 for more information).

The risk to harming any reptiles is low, prior to works commencing a method statement should be produced separately stating the Reasonable Avoidance Measures (RAMS) required which should then be adopted, signed up to by the client and used alongside an ecological watching brief conducted by a suitably experienced ecologist in order for the proposed development to proceed without committing any offences under the relevant legislation. The RAMS and watching brief should be used whilst all habitats present within the red line are cleared to minimize the risks of killing or injuring individual reptiles, and in order to ensure compliance with the relevant wildlife legislation. This RAMS document should include, but is not limited too, the following careful working methods:

Conducting a pre works disturbance of the grasses and vegetation followed by the vegetation being cleared down to ground level in several stages using hand operated machinery with the vegetation being checked in between each cut,
Conducting the turf stripping during the active reptile season (April to October inclusive),
Dismantle the stone pile slowly and carefully, by hand if possible,
Clearance of the turf and top soil in stages using a toothed bucket down to a depth of 300mm.

The clearance of the Site can be completed anytime during the reptile active season (April – September) since disturbing reptiles when they are hibernating has a high risk of injuring or killing them.

6.4.6. General Wildlife

There are opportunities for other wildlife to be present, such as small mammals and amphibians, within the poor semi-improved grassland, temporary puddles and stone pile. The clearance of the vegetation and these features on site should be conducted carefully using the methods described in 6.4.5 above, this will reduce the risk of any harm occurring to any wildlife that is present.

6.5. Potential impacts on protected Flora and Fauna

No direct use of the Site by protected species was found. There is some potential for the Site to be used for nesting by birds and some potential for low numbers of reptiles to be present and for Otter to occasionally travel along the watercourse. Due to the location of the proposed barn and relatively small area of habitat to be lost and the larger area of habitat retention, providing the recommendations above are followed during the clearance of the Site and the operational phase of the proposal no protected species are likely to be adversely impacted and no further survey work for protected species is necessary.

7. CONCLUSIONS AND SUMMARY OF RECOMMENDATIONS

It is highly unlikely the adjacent Polvenna Woods CWS will be impacted by the works. Due to the SSSI IRZ the Site is within, dependant on the final size of the building NE may need to be consulted by the LPA regarding this application. The SSSI's are approximately 450m and 500m away and separated from the site by agricultural fields; impacts to these sites as a result of this proposal are considered to be low as this building is intended to be used for the storage of equipment and animal feed.

The current ecological connectivity around the Site is unlikely to be impacted by the proposal due to the proposed location of the barn and expected limited impacts of artificial light. The permeability of the site is also unlikely to change as a result of this proposal.

No habitats on Site qualify as HPI's and BAP priority habitats, although the adjacent watercourse and woodland most likely do. These habitats are highly unlikely to be directly impacted by the proposal, however, there is a low risk of indirect impacts occurring as a result of introduced lighting and surface run-off containing construction waste/materials and soil. The risk of any impacts occurring to these adjacent habitats should be minimised through the use of mitigation measures and careful working methods s stated in Section 6 or summarised below.

Overall, the habitats to be lost as part of the proposal are of low distinctiveness with the moderate distinctiveness habitats (Scattered mature trees) being retained. The loss of the poor semi-improved grassland should be mitigated for by creating a species rich grassland on the new banks and enhancing the remaining grassland between the new barn and the watercourse, this could be done via new seeding and overseeding the existing grasslands with a species rich seed mix, see Appendix 5. A key enhancement for the site would be planting a native species rich hedgerow or line of trees along the top of the bank of the watercourse to buffer the adjacent CWS and create a sheltered corridor along the watercourse. This planting should mirror the species found in the adjacent CWS and include Sessile Oak, Alder and Grey willow with additional fruiting species including Blackthorn, Hazel and Hawthorn. Additionally, to mitigate for historic hedgerow loss this planting could be extended beyond the survey area to the north west to enhance the whole length of the watercourse and CWS. Overall, if the replacement proposed grassland creation and enhancement (via seeding new grassland and enhancing the remaining grassland by overseeding) and the hedgerow and/or tree planting is carried out, the loss of the habitats under the footprint of the new barn will be mitigated for and a gain in biodiversity value could be achieved with a high value habitat being potentially enhanced and protected.

The proposal will likely introduce some additional artificial light into the site, however, the barn is located away from the valuable woodland and it has been indicated that the openings in the barn will face away from this woodland habitat. Any introduced lighting must use sensitive lighting designs as described in Section 6.3 to minimise light spill and light levels should aim to be lower than 0.5 Lux within ten metres of the woodland.

No direct use of the Site by protected species was found. There is some potential for the Site to be used for nesting by birds and some potential for low numbers of reptiles to be present and for Otter to occasionally travel along the watercourse. Due to the location of the proposed barn and relatively small area of habitat to be lost and the larger area of habitat retention, providing the recommendations above are followed during the clearance of the Site and the operational phase of

the proposal no protected species are likely to be adversely impacted and no further survey work for protected species is necessary.

7.1. Summary of additional or further survey work

No further survey work for protected species is necessary considering the location of the barn and retention of the surrounding field and adjacent woodland and watercourse.

7.2. Summary of avoidance measures

Nesting Birds	The clearance of suitable bird nesting habitat (Grassland and tall ruderals) should be carried out outside of the accepted bird nesting season (March to August inclusive). This is because birds, chicks, eggs, and their nests are protected by law whilst nesting.
Badgers	A pre works check of the tall ruderals should be conducted to ensure that the use of the site by Badger has not changed. Ideally this would be up to 4 weeks before the proposed works to allow time for any necessary Sett monitoring to be conducted.
Reptiles and general wildlife	A method statement should be produced separately stating the Reasonable Avoidance Measures (RAMS) as described in Section 6.4.5 which should then be adopted, signed up to by the client and used alongside an ecological watching brief conducted by a suitably experienced ecologist.

7.3. Summary of mitigation

7.3.1. Construction phase

Habitats	Installing protective Heras fencing creating at least a 2 metre buffer from the top of the bank of the watercourse and from the tree canopies. Installing impermeable barriers between the works area and the watercourse. Timing works to avoid periods of heavy or prolonged rainfall. Store construction materials away from the watercourse and secure them appropriately by either weighing them down or storing them under cover.
Otter	Do not conduct any work outside of daylight hours when Otter are most active.
General wildlife	Care must be taken during the construction phase to ensure no Otter or other wildlife can become trapped in any holes or excavations opened up as part of the works overnight. Any excavations should be protected by fencing, covered over at night or have a means of escape in the form of a ramp in case any animals accidently fall in. Any excavations should be carefully checked at the start of each day in case animals have still managed to become trapped.

7.3.2. Operational phase

Lighting	Limited impacts from additional artificial light is expected due to the location and indicated orientation of the barn. Any introduced lighting must use sensitive lighting designs to reduce light spill and ideally there will be no exterior lighting. If exterior lighting is unavoidable, it should only be used where it is absolutely necessary and avoiding the aspects facing the woodland to the south west and should involve the use of sensitive lighting and alternatives to high lux artificial light. This sensitive lighting should involve warm white coloured bulbs, with light levels lower than 0.5 Lux within ten metres of the woodland, be downward-pointing (below horizontal), installed as low as practically possible and be triggered on short-timers to help minimise the amount of artificial light added into the site and light spill into the surrounding area.

7.4. Recommendations for maintaining and enhancing the biodiversity value of the Site

There are opportunities to mitigate for the areas of habitat loss and to maintain and enhance the site for protected species:

Create a species rich grassland over the new banks and enhance the remaining grassland between the barn and the watercourse with a native species rich seed mix to mitigate for the loss of grassland, see Appendix 5,
Create a new native species rich hedgerow or line of trees along the bank of the watercourse using locally prevalent species stated in Section 6. To mitigate for historic hedgerow loss this planting could be extended along the entire length of the watercourse along the woodland beyond the wider survey area,
Retain and protect the scattered mature trees,
Relocate the stone pile into a shaded or sunny location to recreate the shelter this feature provides,
Eradicate the non-listed INNS Butterfly Bush from the Site,
The building should be enhanced for protected species in line with Cornwall Council's planning for Biodiversity guide 2018, considering the likely size of the barn this should be enhanced for birds and bats:

- A Barn Owl box should be installed onto suitable aspects of the barn, see Appendix 6.
- A bat roosting box could be attached to suitable aspects of the barn. This box should be attached onto a south, south west or south east facing aspect and be as high up as possible, but being at least 3m above the ground with no artificial lighting on it, see Appendix 6 for recommended bat boxes.

References

CIEEM Advice note 'ON THE LIFESPAN OF ECOLOGICAL REPORTS & SURVEYS' April 2019. CIEEM 43 Southgate Street, Winchester, Hampshire SO23 9EH

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

CIEEM (2018), Guidelines for ecological impact assessment in the UK and Ireland. September 2019 Update 1.1.

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Cornwall Council European Sites Mitigation plan, 2021. https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/European-sites-mitigation-spd/

Cornwall Planning for Biodiversity Guide. 2018 (Updated 2023). Cornwall Council. https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/cornwall-planning-for-biodiversity-guide/

Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

Edwards J, Knight M, Taylor S & Crosher I. E (May 2020) 'Habitat Networks Maps, User Guidance v.2', Natural England.

Ferguson, Joanna & Fox, Harry & Smith, Nick. (2018) Guidance note 08/23. Bats and artificial lighting in the UK. Institution of Lighting Professionals Regent House Regent Place Rugby Warwickshire CV21 2PN. Copyright © 2018 ILP.

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

Hedgehog street, City of Wildlife – 10 tips for encouraging hedgehogs in your neighbourhood- https://www.britishhedgehogs.org.uk/leaflets/Hedgehog-Street-top-tips.pdf

Jeremy, A.C, Simpson, D.A, Foley, M.J.Y & Porter, M.S. (2007). Sedges of the British Isles Edition 3. Revised and reprinted 2010. Botanical Society of the British Isles c/o The Natural History Museum, Cromwell Road, London, SW7 5BD.

JNCC, 2003. Handbook for Phase 1 habitat survey – a technique for environmental audit. Revised reprint 2003. Nature Conservancy Council, Peterborough.

Lagas, Nature Capital Information & Management hub, 2023, University of Exeter in partnership with the Cornwall Wildlife Trust, Cornwall Council and the Cornwall Development Company, Available at https://lagas.co.uk/.

Natural England, 27 April 2021. Natural England's Impact Risk Zones for Sites of Special Scientific Interest, for use by Local Planning Authorities to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites and determine when to consult Natural England.

Rose, F., 2007. The Wild Flower Key. Penguin Books Ltd, 80 Strand, London.

UK BAP, 2007. UK Biodiversity Action Plan: Species and Habitat Review, 2007 List of Priority Species and Habitats www.ukbap.org.uk

8. APPENDICES

APPENDIX 1
Vascular plants recorded on land at Polvenna Farm, Ventongimps, Truro, Cornwall
November 2023

A = Abundant C = Common F = Frequent O = Occasional R = Rare (L*) = Indicates Local Abundance

Tall ruderals	**Scientific name**	**Common Name**	**Abundance**
	Brassica nigra	Black Mustard	A
	Urtica dioica	Common Nettle	LA
	Heracleum sphondylium	Hogweed	O
	Rumex obtusifolius	Broadleaved dock	F
	Buddleja davidii	Butterfly Bush	F
	Silene dioica	Red Campion	R
	Petasites fragrans	Winter Heliotrope	R
	Ulex europaeus	European Gorse	R
	Dipsacus fullonum	Wild Teasel	R
	Holcus lanatus	Yorkshire-fog	O
	Rubus fruticosus agg.	Bramble	R
	Pulmonaria officinalis	Lupine sp.	A
	Dactylis glomerata	Cock's-foot	O
	Malus sylvestris	Crack Willow	R
Ephemeral/Short perennial	**Scientific name**	**Common Name**	**Abundance**
	Matricaria discoidea	Pineapple-weed	C
	Medicago arabica	Spotted medick	R
	Veronica agrestis	Field Speedwell	R
	Urtica dioica	Common nettle	O
	Stellaria media	Common Chickweed	O
	Buddleja davidii	Butterfly Bush	O
	Helminthotheca echioides	Bristly Ox-tongue	O
	Senecio jacobaea	Common ragwort	R
	Agrostis stolonifera	Creeping bent	C
	Ranunculus acris	Meadow buttercup	R
	Plantago lanceolata	Ribwort Plantain	O
	Ribes rubrum	Red deadnettle	R
	Epilobium tetragonum	Square-stalked willowherb	R
	Tropaeolum sp.	Nasturtium sp.	R
	Verbena bonariensis	Purple Top Vervain	R
	Lobelia	Lobelia	R
	Gnaphalium	Cudweed sp.	R
	Potentilla sp.	Cinquefoil sp.	R
	Verbascum thapsus	Great Mullein	R
	Antirrhinum majus	Snapdragon	O

Poor semi-improved grassland	**Scientific name**	**Common Name**	**Abundance**
	Agrostis stolonifera	Creeping Bent	A
	Plantago lanceolata	Ribwort Plantain	R
	Ranunculus repens	Creeping Buttercup	R
	Dactylis glomerata	Cock's-foot	R
	Trifolium pratense	Red clover	R
	Matricaria discoidea	Pineapple-weed	R
	Picris echioides	Bristly Ox-tongue	R
	Juncus effusus	Soft-rush	O
	Holcus lanatus	Yorkshire-fog	O
	Brassica nigra	Black Mustard	R
	Trifolium repens	White Clover	C
	Rumex obtusifolius	Broadleaved dock	R
	Dipsacus fullonum	Wild Teasel	R
	Vicia sativa	Common vetch	R
Trees	**Scientific name**	**Common Name**	**Abundance**
	Quercus petraea	Sessile oak	R

APPENDIX 2
Summary of legal protection covering general and specific animal groups

Species	Protection status
Plants	Many plants are fully protected as a European Protected Species (EPS) These are listed in Annexes II and IV of the European Habitats Directive. In the UK protected plants are listed under Schedule 8 Section 13. Section 13 protects plants from picking and sale of plants or parts of plants.
Bats	The Wildlife and Countryside Act 1981 protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales. The Conservation of Habitats and Species Regulations 2017 (Amended 2019) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as European protected species of animals. It is illegal to intentionally kill, injure or capture bats or to deliberately disturb them. It is also illegal to damage, destroy, or obstruct access to bat roosts.
Common/Hazel Dormouse	The Common Dormouse is protected from intentional or reckless killing, injury or capture, deliberate disturbance (whether in a nest or not) and damage or destruction of a breeding site or resting place used by a Dormouse under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). The Dormouse is also a species of Principal Importance and a Priority Biodiversity Action Plan Species (UK BAP, 2007) so the presence of this species on site would be a material consideration for planning purposes.
Nesting Birds	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs. Nests may be lawfully destroyed when not in use, i.e., outside the nesting season (September to February). Schedule 1 part 2 of the Wildlife and Countryside Act 1981 (as amended) adds special protection to birds listed during the close season which is 1 February to 31 August (21 February to 31 August below highwater mark) but these species may be killed or taken outside this period. The Countryside and Rights of Way Act 2000 (The CRoW Act) Schedule 12 adds the words “or recklessly” after the word “intentional” for a range of wildlife species including nesting birds listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), thus providing fuller protection than previously granted.
Badger	Badgers are protected and so are the setts they live in, under the Protection of Badgers Act 1992, in England and Wales it is an offence to: Wilfully kill, injure or take a badger (or attempt to do so). Cruelly ill-treat a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett or obstruct access to it. Cause a dog to enter a badger sett. Disturb a badger when it is occupying a sett.

Otter	The Eurasian Otter is fully protected as a European Protected Species (EPS) and is also protected under sections 9 and 11 of the Wildlife and Countryside Act 1981. It is illegal to: Capture, kill, disturb or injure otters (on purpose or by not taking enough care) Damage or destroy a breeding or resting place (deliberately or by not taking enough care) Obstruct access to their resting or sheltering places (deliberately or by not taking enough care) Possess, sell, control or transport live or dead Otters, or parts of Otters
Reptiles	In the UK all six native species of reptile receive legal protection. The four widespread species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5) and part of Section 9 (1). Under this Act individual animals are protected from intentional killing or injury and also from sale or attempted sale. All native reptiles are species of Principal Importance and Priority Biodiversity Action Plan Species (UK BAP, 2007) so the presence of this species on site would be a material consideration for planning purposes.
Amphibians	Amphibians Are protected via part of Section 9(5) of the Wildlife & Countryside Act 1981 (as amended) against: selling, offering or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from, such an animal; or publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things. This legislation relates only to 'wild animals', but in any proceedings the animal in question shall be presumed to have been a wild animal unless the contrary is shown. This protection is solely through the Wildlife & Countryside Act 1981 as amended, and defences and licensing provisions are provided within that Act.

APPENDIX 3
Sources for criteria for assessment of nature conservation importance

Habitats and species located during the field and desk surveys have been assessed for their significance according to the following sources:

International
European Habitats and Species Directive (CEC, 1992)
European Red Data lists (IUCN, 2000)
European Birds Directive (CEC, 1979)
Water Framework Directive (2000/60/EC)

National
Conservation of Habitats and Species Regulations (2017) and amendment (2019)
Wildlife and Countryside Act 1981 and amendments
Countryside and Rights of Way Act 2000
Natural Environment and Rural Communities Act 2006
Protection of Badgers Act 1992
The Hedgerow Regulations 1997
UK Biodiversity Steering Group reports (UKBSG, 1995 and updates)
UK Biodiversity Action Plan: Species and Habitat Review, 2007
British Red Data Books and Lists (various authorities)
Birds of Conservation Concern 4; the population status of birds in the United Kingdom, Channel Islands and Isle of Man (fourth, 2009, review) (Eaton et al, 2015)
Guidelines for Selection of Biological SSSIs (NCC, 1989 and updates)
Water Framework (Water Framework Directive) (England and Wales) Regulations 2003 (the Water Framework Regulations)

County and local significance
Cornwall Biodiversity Initiative Reports 1 - 4 (CBI, 2009, 2011)
Red Data Book for Cornwall and the Isles of Scilly (CISFBR, 2009)
Flora of Cornwall (French, Murphy and Atkinson, 1999)

References and bibliography for criteria
Eaton M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R.D., Aebisher, N.J., Gibbons, D.W., Evans, A. and Gregory, R.D., 2009. Birds of Conservation Concern 3; the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds, 102 June 2009.

CEC (Council of the European Communities) 1992. Council Directive 79/409/EEC 92/43/EEC on the conservation of wild birds Annex I. Official Journal of the European Communities: L103

CEC (Council of the European Communities) 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities: L206

Cheffings, C.M., and Farrell, L., (eds) Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J., Taylor, I., 2005. The Vascular Plant Red Data List for Great Britain. Species Status 7. Joint Nature Conservation Committee, Peterborough.

CISBFR, 2009. Red Data Book for Cornwall and the Isles of Scilly. 2nd Edition. Croceago Press. Praze-an-Beeble.

Cornwall Biodiversity Initiative, 2009. Cornwall Biodiversity Action Plan Volume 3: 2009

Cornwall Biodiversity Initiative (CBI) (2011) Cornwall Biodiversity Action Plan Volume 4: Priority Projects. Cornwall Biodiversity Initiative, Cornwall Wildlife Trust, Truro.

Davies, J., Baxter, J., Bradley, M., Connor, D., Khan, J., Murray, E., Sanderson, W., Turnbull, C. & Vincent, M., (2001), Marine Monitoring Handbook, JNCC

Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746. [Online: britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf]

French, C.N., Murphy, R.J. and Atkinson, M.G.C., 1999. Flora of Cornwall. Wheal Seton Press, Camborne.

JNCC [Joint Nature Conservation Committee] (2007) UK List of Priority Habitats and Species.

Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra.

NCC (Nature Conservancy Council), 1989. Guidelines for selection of Biological SSSIs (including revisions and additions of 1992, 1995, 1996, 1997, 1998). NCC, Peterborough.

Rodwell, J.S. (ed.) 2000. British plant communities. Volume 5. Maritime communities and vegetation of open habitats. Cambridge University Press.

UKBSG (UK Biodiversity Steering Group), 1995. Biodiversity: The UK Steering Group Report, 1995. Volume 2: Action Plans. HMSO.

UKBG (UK Biodiversity Steering Group) 1995. Biodiversity: The UK Group Tranche 2 Action Plans, volumes 1 – 6. English Nature, Peterborough.

UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) 2008. (Updated Dec. 2011)

UK Biodiversity Action Plan (UK BAP) http://www.jncc.gov.uk/page-5155

APPENDIX 4

Proposed site layout as provided by Ms Tessa Phillips on behalf of the client.

APPENDIX 5
Recommended planting schemes

Native woody species

Locally characteristic woody native species for enhancing or creation of new native species rich hedges and understorey enhancement, follow the below links for Cornwall Council related documents for the forest for Cornwall initiative or see below for brief list of Cornwall woody species:

Main website link:
https://www.cornwall.gov.uk/environment/countryside/forest-for-cornwall-programme/
Forest for Cornwall document:
https://www.cornwall.gov.uk/media/dwgorw1g/tree-planting-guidance-v9-final-for-publication.pdf
Tevi Tree Planting Guide for Cornwall:
https://tevi.co.uk/wp-content/uploads/2021/05/Tree-Planting-Guide-Cornwall.pdf
Woodland trust planting guide:
https://www.woodlandtrust.org.uk/media/1168/twigged.pdf
RGS native shrub hedging recommendations:
https://www.rhs.org.uk/plants/articles/misc/best-native-shrubs-for-hedging
Archived list of native woody shrubs listed by Cornwall Council available via Tywardreath and Par Parish Council:
https://www.tywardreathandparparishcouncil.gov.uk/data/uploads/1125_2015681183.pdf

Document outtake:

Scientific Name	Common Name
Coryllus avellana	Hazel
Crataegus monogyna	Hawthorn
Ilex aquifolium	Holly
Lonicera periclymenum	Honeysuckle
Prunus spinosa	Blackthorn
Rosa canina agg.	Dog Rose
Sambucus nigra	Elder
Ulex europaeus	European Gorse

For the use in gardens it would be recommended that a species-rich turf suited to regular mowing is used, a possible source is from Wildflower Turf: https://www.wildflowerturf.co.uk/products/wildflower-turf/species-rich/. Alternatively, a seed mix tolerant to regular mowing could be used, however this would take more time to establish and would require more management, examples listed below:

Planting area	Seed mix and brand
Shady areas of grass adjacent to trees and good for underplanting hedgebanks	Emorsgate EH1 Boston Seeds BS7M: Hedgerow and Light Shade 80/20
Pure wildflower mixes for shady areas	Emorsgate EH1F – Wild Flowers for Hedgerows Boston Seeds BS7P Hedgerow and Light shade 100% Wildflower Seed Mix

Wildflower Meadow/grassland	Emorsgate EM3 – Special General Purpose Meadow Mixture Boston seeds BSXM: Dual Purpose Wildflower Meadow Seeds
Mixed for sunny areas and containing 100% flowers which are good for pollinators	Emorsgate EN1F – Special Pollen & Nectar Wild Flowers https://wildseed.co.uk/mixtures/view/62 Boston seeds BSBP 100%: Bees and Butterfly Wildflower Seeds
Grass on matting, good for stablishing growth on slopes and better for retaining seeds against birds	Emorsgate Seeds EG22 – Strong Lawn Grass Mixture

All the sowing and aftercare is detailed on the company websites under the seed mix detail.

APPENDIX 6

Optional mitigation and enhancement opportunities for new structures

This appendix is intended for use only by clients of Wheal Grey Ecology to support them in implementing biodiversity enhancements or mitigation recommended during reports provided by Wheal Grey Ecology. Products listed in this document are by recommendation only and use of any chosen product is at the client's discretion and the product should be used as described in its description and within its warranty. Wheal Grey Ecology to do not take any responsibility for the performance or warranty of any products purchased as a result of this document.

RECOMMENDED EXAMPLES OF DURABLE ROOST BOXES FOR BATS

Bat boxes should be installed with the following guidance:

Where bats are known or likely to feed and navigate (close to hedges and tree lines),
Ideally at least 3 to 4m above the ground (where safe installation is possible),
Away from artificial light sources and windows (to protect them from predation), and
Sheltered from strong winds and exposed to the sun for part of the day (usually south, south-east or south-west).

We usually recommend Schwegler, if available, as these are the most durable; however, sometimes the lead time can be long. There are other durable products on the market but if alternatives are to be used then these should be appraised by a suitably qualified ecologist to ensure their suitability. Please note that durable bat boxes are heavy and will need secure fixings.

Tree mounted bat boxes		**External wall mounted bat boxes**	
	Eco Kent Bat Box		Eco Kent Bat Box
	Schwegler 1WQ (Summer and Winter Bat Roost)		Schwegler 1WQ (Summer and Winter Bat Roost)
	Large Multi Chamber Woodstone bat box		Improved Crevice Bat Box, Triple
Built-in bat tubes			

2 FR Schweglar Bat Tube

Bat Block

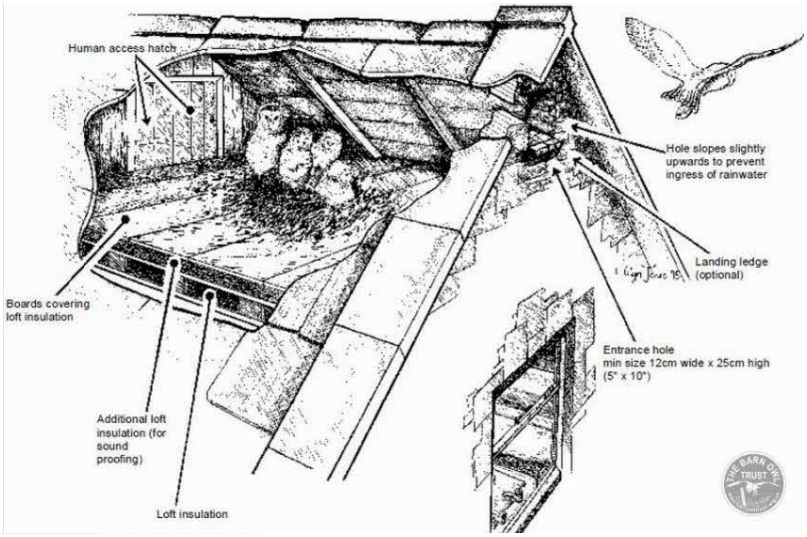
RECOMMENDED BOX DESIGNS FOR BARN OWLS

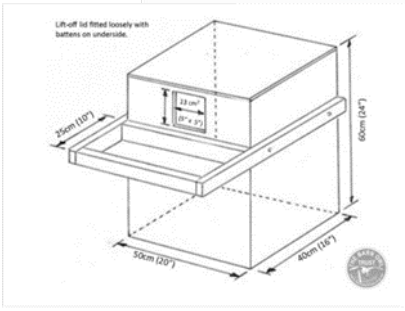
Barn Owl nest boxes should be installed with the following guidance:

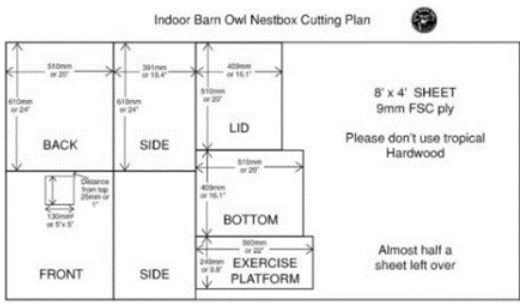
Make sure that there is a clear flight path to the nest without any clutter directly in front of the entrance.
Ideally not south facing or exposed to sunlight.
The entrance would ideally overlook suitable foraging habitat.
External boxes should be tilted forward slightly so that any driving rain will hit the roof and bounce clear (only relevant to externally mounted boxes).
Most birds like their nest to be hidden in a quiet spot among trees, bushes, and other planting. It can be slightly less covered for the sparrows, starlings and tits. Woodpeckers, kestrels, and owls on the other hand are a good bit bolder and actually prefer a nice open space.
Do not install or hang bird boxes in line with windows and/or entrances.
To ensure late-breeding birds are not disturbed, leave any cleaning until October or afterwards and before the end of February. This should involve completely removing any nest material from the box. If further cleaning is required, it is ideal to use hot water and not any pesticides. The use of gloves is recommended, and you should wash your hands afterwards.

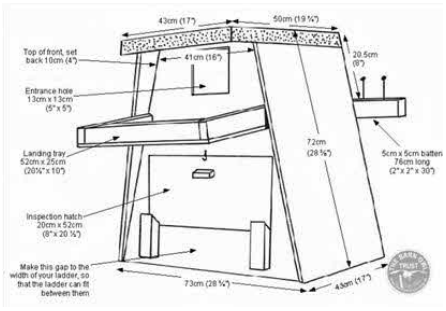
Barn Owl hole dimensions and ledge (exercise platform)

Owl hole optimum size 130mm x 250mm, maximum size 200mm x 300mm.
The bottom of the hole must not have any sharp edges or narrow gaps in which a toe or talon could get caught.
Where necessary there can be a ‘tunnel’, at least 150mm wide x 200mm high, between the hole and the nest space.
A grippable ledge below the owl hole provides an exercise platform for emerging owlets.









Design requirements – nest space & dimensions

Floor area of nest chamber: absolute minimum 0.4m^2 (e.g. 500mm x 800mm or 400mm x 1m), ideal size is 1m^2 (1 metre x 1 metre).

Where there is no external exercise platform the internal box depth from bottom of entrance hole to floor of nesting area must be not less than 700mm. Note: the ideal depth for Barn Owls is at least 1 metre which should be achieved wherever space permits.

Depth from bottom of entrance hole to floor of nesting area must be not less than 450mm provided that there will definitely be an easy-to-grip external exercise platform for fledglings to stand on outside the owl hole.

Stone, brick and timber are all suitable materials, soft insulation materials are usually best avoided.

An internal perch positioned *as high or higher* than the access hole may be beneficial

APPENDIX 7

A data search from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) extending 1km in all direction for all species was purchased.

ERCCIS Data Search
SUMMARY REPORT

Report on data hosted at ERCCIS on species, habitats, statutory and non-statutory designations

Reference:	Polvenna Farm PEA records search	Date of Publication:	22/11/2023
Location:	50.3143 / -5.114012	Expires:	22/11/2024
Buffer:	1 KILOMETRES	Organisation:	Wheal Grey Ecology Ltd

ERCCIS Data Search Disclaimer:

Please note that Biological Records within this report have been provided by third parties including other users of the ERCCIS site and whilst ERCCIS aims to verify these Biological Records where possible, certain information and materials will not have been verified or approved by ERCCIS and should therefore not be relied on. ERCCIS cannot guarantee that the Biological Records are complete and/or accurate, that the species detailed in the Biological Records continue to be present in the area recorded or that the lack of a species being present in a Biological Record correlates with there being a low biodiversity value or absence of the species in the data search geographical area. For further details please see our Terms of Use and Order Terms which apply to the provision of this information.

ERCCIS Data Search Terms and Conditions:

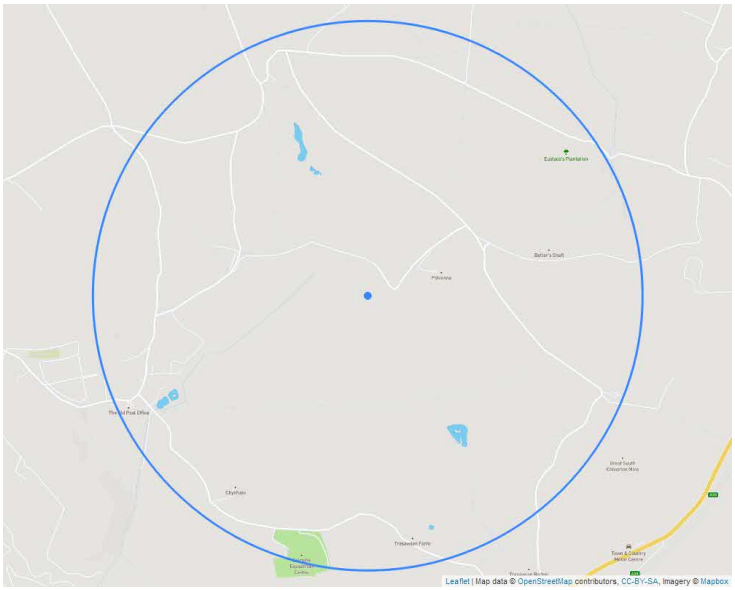
To receive your EDS search you have already agreed to ERCCIS's terms and conditions, but please remember;

1. The following report and associated data provided by ERCCIS are only to be used for the specific purpose agreed between parties.

2. The data and any copyright remains the property of ERCCIS, its licensors and/or the data providers (as applicable), and the data products and services remain the copyright of ERCCIS.
3. Permission to use the data and reports provided by ERCCIS expires 1 (one) year following supply.

For ERCCIS's full terms and conditions please see https://datasearch.ercci.org.uk/terms-and-conditions.

Report Details



Report for: Matthew Thurlow

Organisation: Wheal Grey Ecology Ltd

Date: 22/11/2023

The following report summarises data currently held at the Environmental Record Centre for Cornwall and the Isles of Scilly (ERCCIS) and found within the search radius. This report summarises a search of statutory sites, non-statutory sites, other sites, habitats and species within the specified area of study.

The species data held by ERCCIS are collated from the biological recording community in Cornwall and Scilly, from statutory bodies, non-government organisations and local groups, ecological consultant report outputs as well as ad hoc records from a wider audience. However, there are areas of Cornwall where the records held are limited: either spatially, temporally, or taxonomically.It must be assumed that this report contains the definitive species and habitat information for the site concerned.ERCCIS continually strives to further improve and update all data wherever possible.However, this report should be treated as indicative of the best available data, rather than definitive.

The report is for the client's use to inform understanding of the site of interest. This report must not be distributed or published for an external or public audience, with the only exception being part of wider reports for the Cornwall Council on-line planning system. Data from within this report may be referenced as long as the Environmental Records for Cornwall and the Isles of Scilly is acknowledged.

A data search from ERCCIS will give the user a clear indication of what biological recording has taken place. The information provided with decision making of future management or purposing of the site, but should be used in conjunction with site visits and appropriate surveys before further judgements on the presence or absence of key species or habitats can be made.

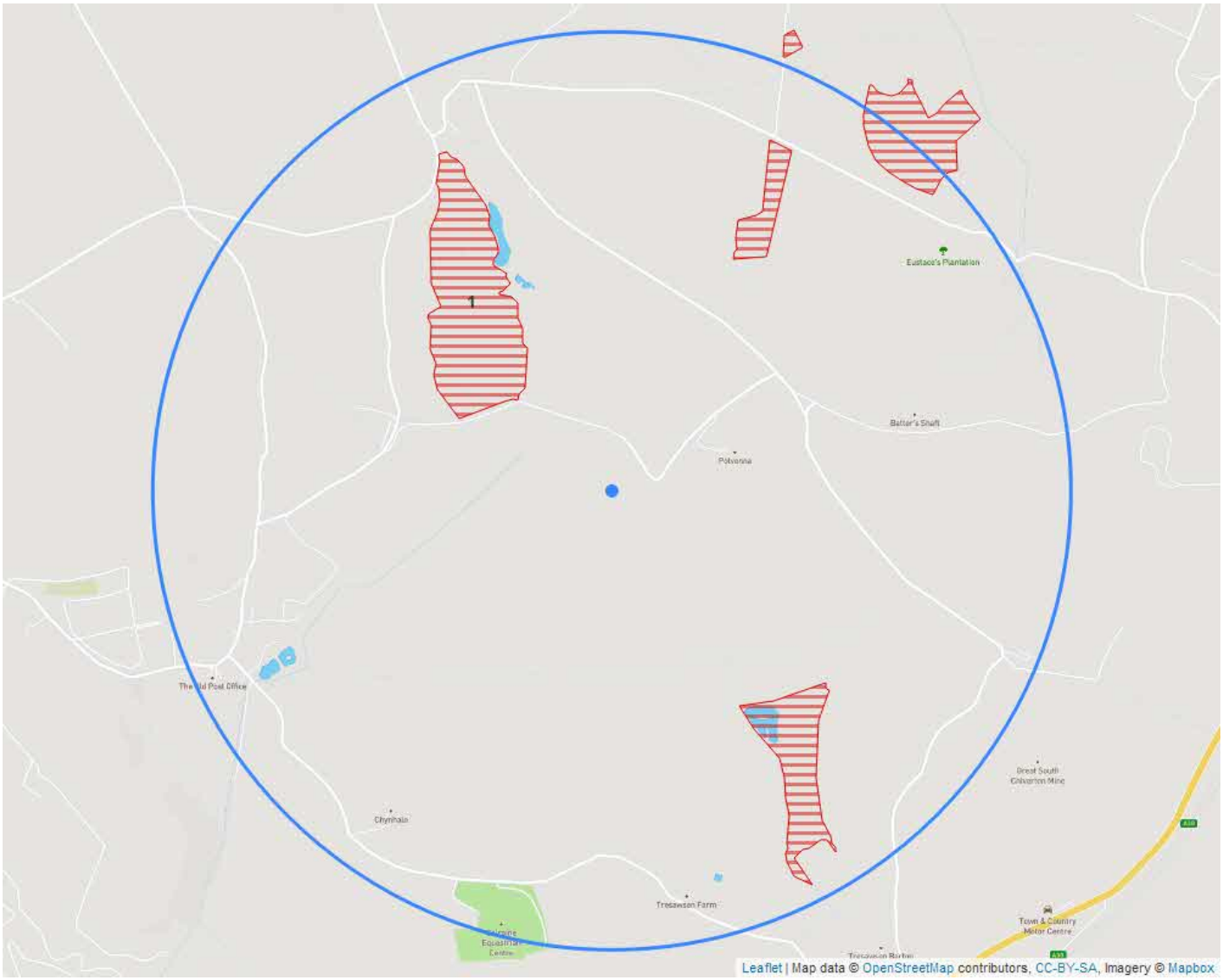
The Environmental Records Centre for Cornwall and the Isles of Scilly must be acknowledged whenever data is cited from this report.

Statutory Sites within the search area

Statutory sites are those given level protection aimed at preventing activities that may damage features of interest. Further details can be found in the ERCCIS report summary .pdf or from Natural England and The National Association for Areas of Outstanding Natural Beauty.

Site Type	Site Code	Site Name	More Information
SSSI	1001105	Ventongimps Moor	https://designatedsites.naturalengland.org.uk/
SSSI	1007193	Carrick Heaths	https://designatedsites.naturalengland.org.uk/

Statutory Sites Map



Location	Site Code	Site Type	Site Name	Colour
1	1001105	SSSI	Ventongimps Moor	
2	1007193	SSSI	Carrick Heaths	

Non-Statutory Sites & Reserves

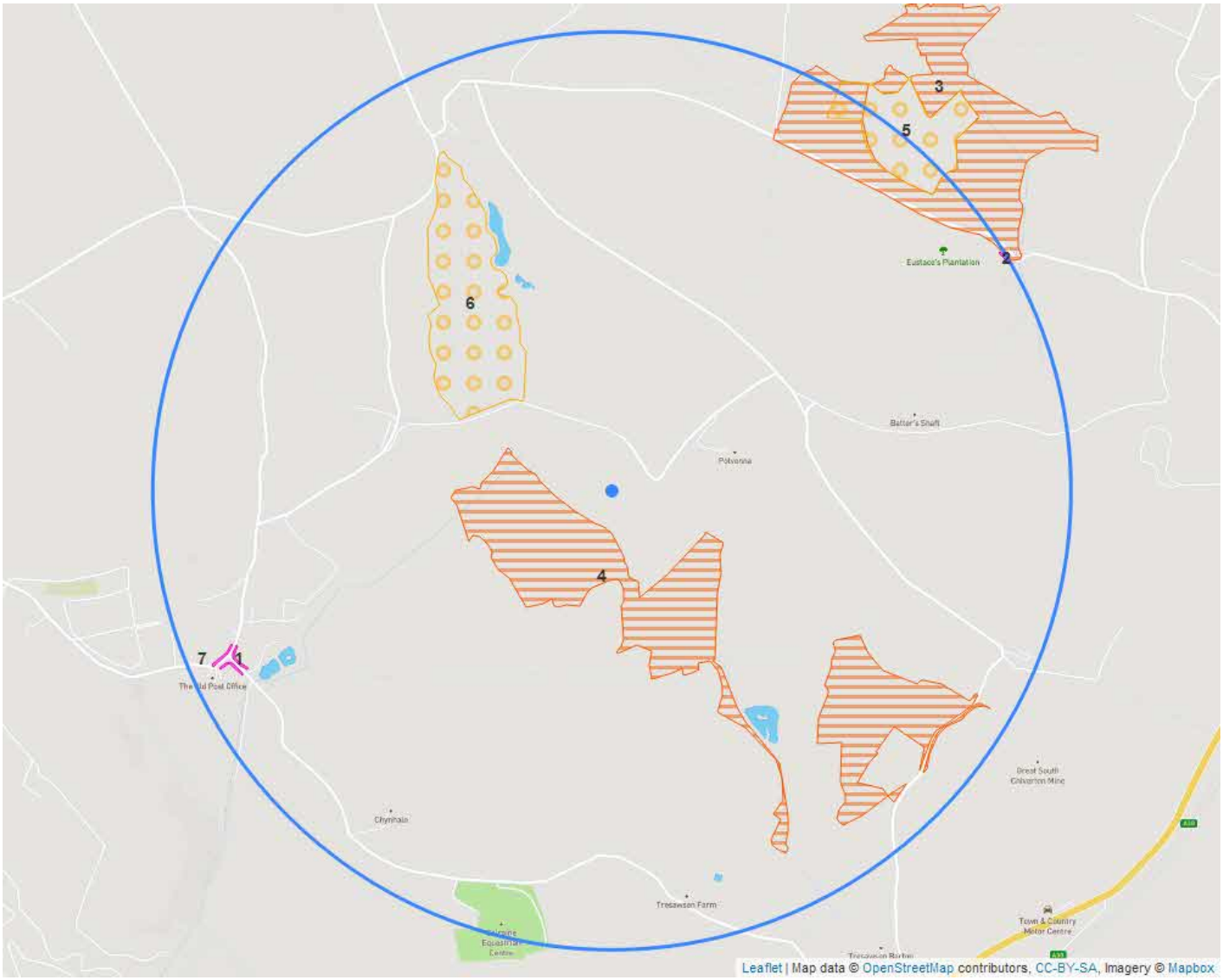
Non-statutory sites are sites that have wildlife or habitat interest, but lack a legal protection. These sites form part of the natural environments wider ecological network

The report summarises all County Wildlife & Geology Sites which are sites recognised for wildlife or geological value and the Local Sites partnership in Cornwall is coordinated by Cornwall Wildlife Trust. It also includes summaries of the Road Side Verge Inventory; Voluntary Marine Conservation Area; Ancient Woodland; The Reserves of Cornwall Wildlife Trust; National Trust; Woodland Trust and the Royal Society for the Protection of Birds (RSPB).

Further details can be found in the ERCCIS report summary .pdf, but for specific information on a site listed below you might need to contact the relevant organisation.

Site Type	Site Code	Site Name	More Information
CRVI Bio	BS 206	n/a	Purple ramping-fumitory; a NS endemic plant.
CRVI Bio	BS 322	n/a	NR plants
CWS	CK4.2	Lelight & Brickmoor Plantation	https://www.orks.org.uk/sites/default/files/EDS_Links/CWS/CK4.2%20-%20Lelight%20&%20Brickmoor%20Plantation.pdf
CWS	CK54	Polvenna Wood	https://www.orks.org.uk/sites/default/files/EDS_Links/CWS/CK54%20-%20Polvenna%20Wood.pdf
CWT Reserve	12	Chyverton	https://www.cornwallwildlifetrust.org.uk/nature-reserves/chyverton
CWT Reserve	60	Ventongimps Moor	https://www.cornwallwildlifetrust.org.uk/nature-reserves/ventongimps-moor
TPO Site	8K7B3/ 199T1	The Homestead,Callestick	https://www.cornwall.gov.uk/planning-and-building-control/planning-advice-and-guidance/trees/#TPOs

Non-Statutory Sites & Reserves Map



Location	Site Code	Site Type	Site Name	Colour
1	BS 206	CRVI Bio	n/a	
2	BS 322	CRVI Bio	n/a	
3	CK4.2	CWS	Lelight & Brickmoor Plantation	
4	CK54	CWS	Polvenna Wood	
5	12	CWT Reserve	Chyverton	
6	60	CWT Reserve	Ventongimps Moor	
7	8K7B3/199T1	TPO Site	The Homestead,Callestick	

Habitats

The Environmental Records Centre for Cornwall and the Isles of Scilly provide three summaries of the habitat in your search area.

First is the Biodiversity Action Plan (BAP) habitat map. BAP Habitats are now called priority habitats and are those identified as being the most threatened and requiring conservation action in Cornwall. However it should be noted that absence of information doesn't mean that the Priority habitat isn't present.

The report also summarises the ERCCIS land cover interpretation and Phase One interpretation which represents the most up - to - date habitat data held by ERCCIS.Further details and be found in the ERCCIS report summary.pdf.

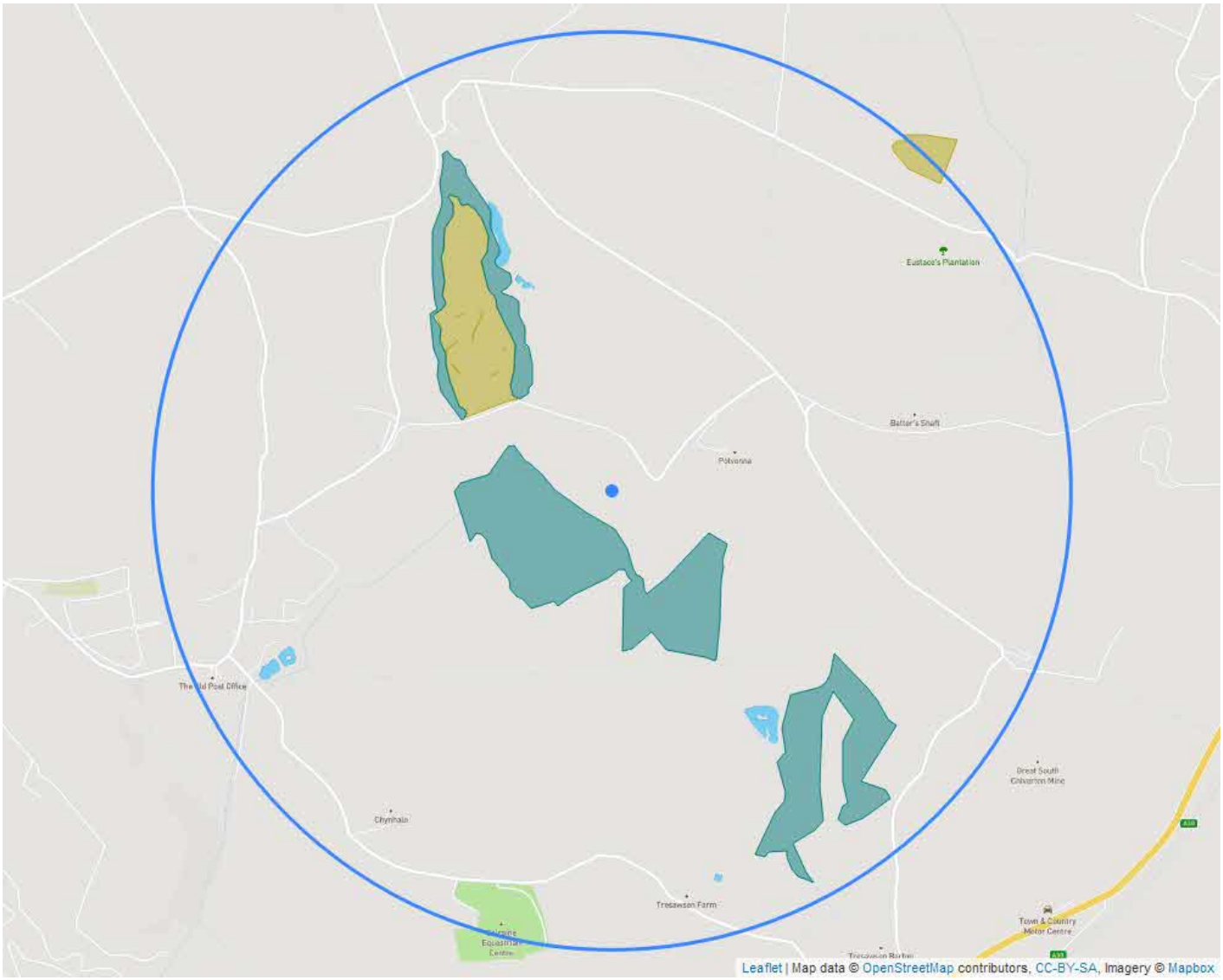
Habitat Type	Habitat Code	Habitat Name	Site Area (ha)
Priority Habitat	HE1	Lowland heathland	6.09
Priority Habitat	WB34	Wet woodland	20.01

Habitat Type	Habitat Code	Habitat Name	Site Area (ha)
Land Cover	n/a	Acid Grassland	2.39
Land Cover	n/a	Arable and Horticultural	80.78
Land Cover	n/a	Bracken	0.05
Land Cover	n/a	Broadleaved, Mixed and Yew Woodland	116.83
Land Cover	n/a	Built-up Areas and Gardens	18.70
Land Cover	n/a	Coniferous Woodland	4.20
Land Cover	n/a	Dwarf Shrub Heath	1.48
Land Cover	n/a	Fen, Marsh and Swamp	4.10
Land Cover	n/a	Improved Grassland	1,034.29
Land Cover	n/a	Inland Rock	0.23
Land Cover	n/a	Neutral Grassland	9.82
Land Cover	n/a	Standing Open Water and Canals	0.96

Habitat Type	Habitat Code	Habitat Name	Site Area (ha)
Phase One	Arable	J1	80.78
Phase One	Bracken	C1	0.05
Phase One	Broadleaved woodland	A1.1	112.36

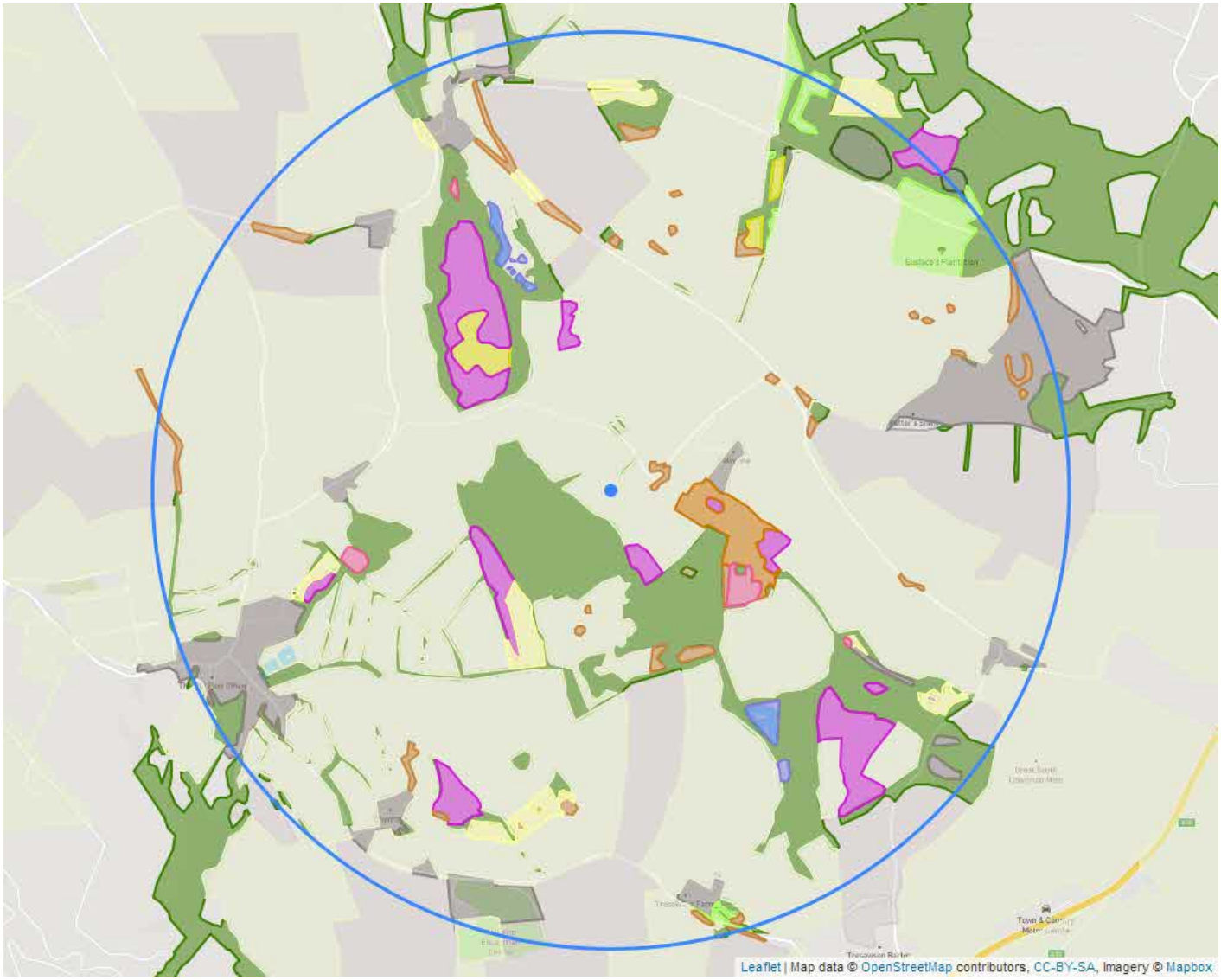
Phase One	Broadleaved woodland / Conifer	A1.3	1.35
Phase One	Built environment	J3	18.70
Phase One	Coniferous woodland	A1.2	4.20
Phase One	Disturbed ground	I	0.23
Phase One	Dry dwarf shrub heath - acid	D1.1	1.48
Phase One	Improved grassland	B4	1,033.38
Phase One	Marsh/ marshy grassland	B5	9.36
Phase One	Scrub	A2	3.21
Phase One	Standing water	G1	0.96
Phase One	Unimproved grassland / Bracken (possibly)	B1	2.02
Phase One	Unimproved grassland / Bracken (possibly)	B2	4.15
Phase One	Wetland	E3	0.79

Priority Habitat Map



Habitat Name	Colour
Lowland heathland	
Wet woodland	

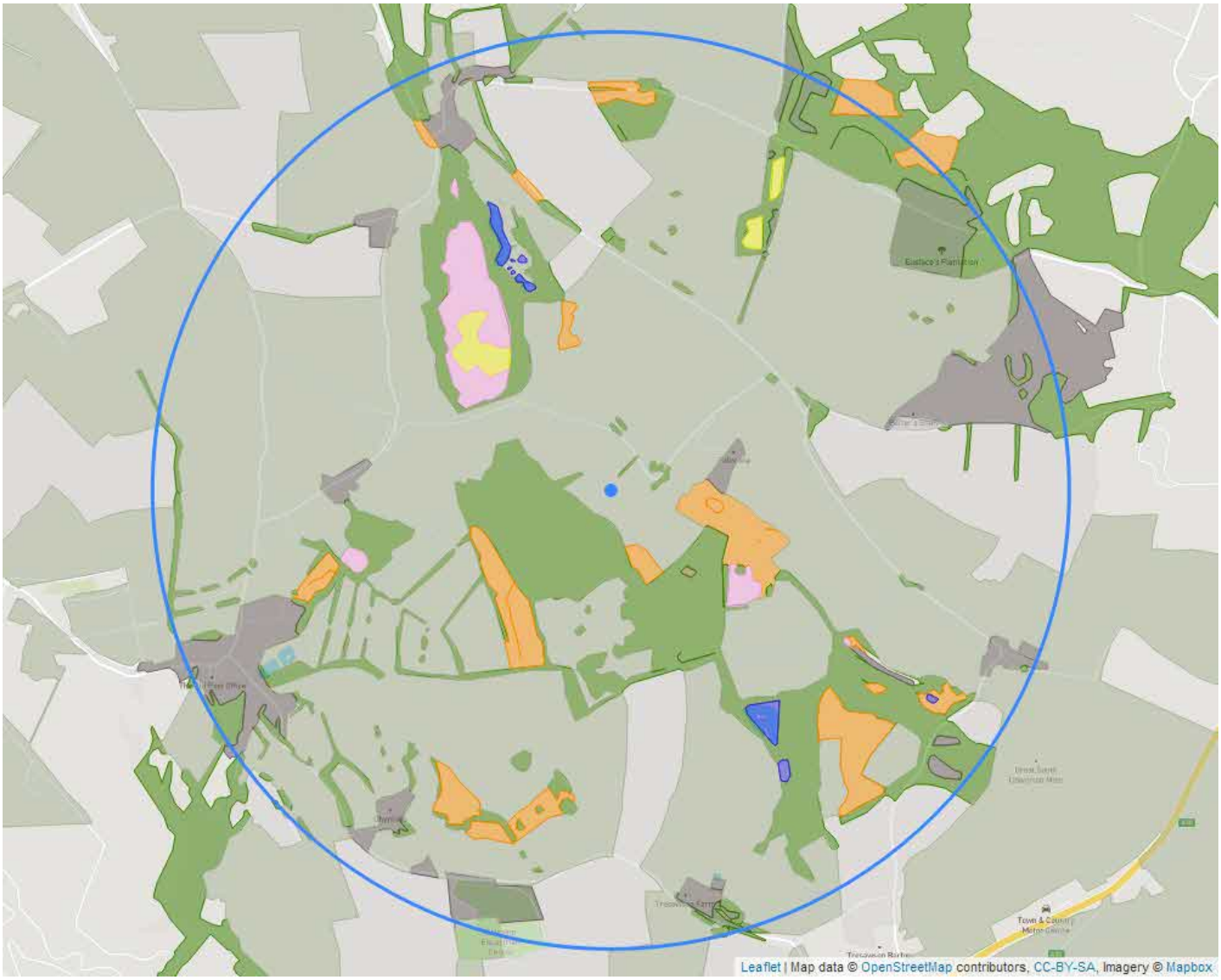
Phase One Interpretation Map



Habitat Code	Colour
J1	
C1	
A1.1	
A1.3	
J3	
A1.2	
I	
D1.1	

B4	
B5	
A2	
G1	
B1	
B2	
E3	

ERCCIS Land Cover Habitat Interpretation Map



Habitat Name	Colour
Acid Grassland	
Arable and Horticultural	
Bracken	
Broadleaved, Mixed and Yew Woodland	
Built-up Areas and Gardens	
Coniferous Woodland	
Dwarf Shrub Heath	
Fen, Marsh and Swamp	

Improved Grassland	
Inland Rock	
Neutral Grassland	
Standing Open Water and Canals	

Summary Species Table

The Environmental Records for Cornwall and the Isles of Scilly holds biological records on the following species within or overlapping the search area.

Please note that past records of presence of a species does not guarantee continued occurrence and absence of records does not imply absence of a species, merely that no records are held. Confidential data, zero abundance records, data at poorly defined geographic resolutions and data pending validation and/or verification are also excluded from this report.

Details on abundance can be seen in your excel dataset, but please note that where 'Present' appears in abundance column, no single numerical figure for abundance was provided with the record.

Eurasian beavers are now present within the wider Tamar catchment. As beaver populations expand, they will naturally colonise new watercourses in adjacent catchments. If your site is near a watercourse within a catchment adjacent or connected to the Tamar, it is important to consider how future activities can be compliant with legislation on beaver protection. Further details can be found here: https://www.gov.uk/government/publications/beavers-protection-and-management/protection-and-management-of-beavers-in-england. For further information on beaver ecology and management please contact the Cornwall Wildlife Trust's Conservation Manager, Tom Shelley: Tom.Shelley@cornwallwildlifetrust.org.uk

Abbreviation designation	As list on one or more of the following;
Protected	Bern Convention; Bonn Convention; EC Birds Directive; Convention on Migratory Species; CITES; Habitat Directive; OSPAR; Protection of Badgers Act; Wildlife and Countryside Act; NERC s41
Priority	National Red data list; BAP Species; Nationally Rare/Scarce
Local Priority	Cornwall Red Data Book
Non-Native	As listed on the ERCCIS interpretated INNS list

Confidential records

Certain records are marked as confidential by the original recorder and ERCCIS respects the original recorders wishes.

Sensitive Records

Certain records are marked as sensitive by the original recorder and ERCCIS respects the original recorders wishes.

Protected and designated species records table

This table summarises records from 1960 onwards. The sighting numbers are total number of records in period, not the number of indiviuals

Details on abundance can be seen in your Excel dataset, but please note that where 'Present' appears in abundance column, no single numerical figure for abundance was provided with the record

Amphibian				
Bufo bufo	Common Toad	4	1976 - 2017	Protected, Priority
Lissotriton helveticus	Palmate Newt	3	1976 - 2012	Protected
Rana temporaria	Common Frog	6	1976 - 2023	Protected
Bird				
Accipiter nisus	Sparrowhawk	2	1990 - 2009	Protected, Priority
Acrocephalus schoenobaenus	Sedge Warbler	1	2004 - 2004	Priority
Actitis hypoleucos	Common Sandpiper	1	2004 - 2004	Protected, Priority, Local Priority
Alauda arvensis	Skylark	1	2011 - 2011	Protected, Priority
Alcedo atthis	Kingfisher	4	2001 - 2007	Protected
Anas platyrhynchos	Mallard	5	1989 - 2023	Protected, Priority
Anthus pratensis	Meadow Pipit	2	2003 - 2007	Protected, Priority
Anthus trivialis	Tree Pipit	4	1986 - 1991	Protected, Priority
Apus apus	Swift	1	1986 - 1986	Priority
Ardea cinerea	Grey Heron	4	1989 - 2023	Protected, Priority
Bubulcus ibis	Cattle Egret	1	2021 - 2021	Protected, Priority
Buteo buteo	Buzzard	10	1964 - 2023	Protected
Carduelis carduelis	Goldfinch	4	1964 - 2009	Protected
Certhia familiaris	Treecreeper	3	1964 - 2002	Protected
Chroicocephalus ridibundus	Black-headed Gull	2	1989 - 1990	Protected, Priority, Local Priority
Cinclus cinclus	Dipper	1	2008 - 2008	Protected, Priority
Coloeus monedula	Jackdaw	4	1986 - 2009	Protected
Columba palumbus	Woodpigeon	9	1964 - 2023	Protected, Priority
Corvus corone	Carrion Crow	2	1964 - 1986	Protected

Corvus frugilegus	Rook	3	1986 - 1990	Protected, Priority
Cyanistes caeruleus	Blue Tit	6	1964 - 2017	Protected
Cygnus olor	Mute Swan	1	1995 - 1995	Protected
Delichon urbicum	House Martin	3	1986 - 1990	Protected, Priority
Dendrocopos major	Great Spotted Woodpecker	3	2002 - 2016	Protected
Egretta garzetta	Little Egret	1	2016 - 2016	Protected, Local Priority
Emberiza citrinella	Yellowhammer	12	1964 - 2017	Protected, Priority
Emberiza schoeniclus	Reed Bunting	3	1986 - 2003	Protected, Priority
Erithacus rubecula	Robin	5	1964 - 2005	Protected
Falco peregrinus	Peregrine	1	2023 - 2023	Protected, Local Priority
Falco subbuteo	Hobby	1	2013 - 2013	Protected, Local Priority
Falco tinnunculus	Kestrel	4	1989 - 2009	Protected, Priority
Ficedula hypoleuca	Pied Flycatcher	2	2001 - 2008	Protected, Priority, Local Priority
Gallinago gallinago	Snipe	7	1989 - 2017	Protected, Priority, Local Priority
Gallinula chloropus	Moorhen	3	1989 - 1994	Protected, Priority
Garrulus glandarius	Jay	5	1989 - 2017	Protected
Hirundo rustica	Swallow	10	1964 - 2016	Protected
Linaria cannabina	Linnet	6	1989 - 2017	Protected, Priority
Locustella naevia	Grasshopper Warbler	2	1989 - 1990	Priority
Loxia curvirostra	Crossbill	1	2004 - 2004	Protected, Local Priority
Milvus milvus	Red Kite	1	2016 - 2016	Protected, Local Priority
Motacilla cinerea	Grey Wagtail	4	2002 - 2009	Protected, Priority
Parus major	Great Tit	6	1964 - 2017	Protected
Passer domesticus	House Sparrow	1	2002 - 2002	Priority
Passer montanus	Tree Sparrow	1	2002 - 2002	Priority
Perdix perdix	Grey Partridge	3	1979 - 1990	Protected, Priority, Local Priority
Periparus ater	Coal Tit	4	1989 - 2005	Protected
Phalacrocorax carbo	Cormorant	3	2001 - 2012	Protected, Priority
Phasianus colchicus	Pheasant	5	1979 - 2014	Protected

Phylloscopus trochilus	Willow Warbler	9	1964 - 2017	Priority
Pica pica	Magpie	6	1964 - 1995	Protected
Picus viridis	Green Woodpecker	4	1964 - 2005	Protected
Podiceps cristatus	Great Crested Grebe	1	2012 - 2012	Protected, Priority, Local Priority
Poecile montanus	Willow Tit	1	2001 - 2001	Protected, Priority, Local Priority
Poecile palustris	Marsh Tit	6	1964 - 2004	Protected, Priority
Prunella modularis	Dunnock	4	1989 - 2008	Protected, Priority
Pyrrhula pyrrhula	Bullfinch	8	1964 - 2017	Priority
Rallus aquaticus	Water Rail	1	2007 - 2007	Protected, Local Priority
Regulus ignicapilla	Firecrest	6	1979 - 2016	Protected
Regulus regulus	Goldcrest	4	1989 - 2009	Protected
Riparia riparia	Sand Martin	1	1979 - 1979	Protected, Local Priority
Scolopax rusticola	Woodcock	3	1989 - 2013	Protected, Priority
Spinus spinus	Siskin	3	2001 - 2008	Protected, Local Priority
Streptopelia turtur	Turtle Dove	1	2019 - 2019	Protected, Priority
Strix aluco	Tawny Owl	2	1990 - 2003	Protected, Priority
Troglodytes troglodytes	Wren	7	1964 - 2017	Protected, Priority
Turdus iliacus	Redwing	3	2001 - 2002	Protected, Priority
Turdus merula	Blackbird	11	1964 - 2017	Protected
Turdus philomelos	Song Thrush	5	1989 - 2017	Protected, Priority
Turdus pilaris	Fieldfare	3	2001 - 2003	Protected, Priority
Turdus viscivorus	Mistle Thrush	1	2002 - 2002	Protected, Priority
Tyto alba	Barn Owl	3	1979 - 2018	Protected, Local Priority
Upupa epops	Hoopoe	1	1964 - 1964	Protected
Bony Fish (Actinopterygii)				
Salmo trutta	Brown/Sea Trout	1	1972 - 1972	Priority, Local Priority
Conifer				
Pinus sylvestris	Scots Pine	3	1979 - 2009	Priority
Crustacean				
Crangonyx pseudogracilis	n/a	1	2013 - 2013	Non-Native

Fern				
Asplenium obovatum subsp. lanceolatum	n/a	1	1991 - 1991	Local Priority
Flowering Plant				
Allium triquetrum	Three-cornered Garlic	13	1990 - 2023	Protected, Non-Native
Betula pubescens subsp. pubescens	n/a	19	1966 - 2014	Priority
Briza minor	Lesser Quaking-grass	3	2002 - 2003	Priority
Buddleja davidii	Butterfly-bush	6	2003 - 2010	Non-Native
Calluna vulgaris	Heather	27	1964 - 2023	Priority
Carex echinata	Star Sedge	17	1964 - 2014	Priority
Carex pulicaris	Flea Sedge	9	1964 - 2009	Priority
Carex vesicaria	Bladder-sedge	1	1966 - 1966	Priority
Cicendia filiformis	Yellow Centaury	5	1979 - 2009	Priority, Local Priority
Crocosmia pottsii x aurea = C. x crocosmiiflora	Montbretia	10	1990 - 2012	Protected, Non-Native
Drosera anglica	Great Sundew	6	1964 - 1975	Priority
Drosera intermedia	Oblong-leaved Sundew	1	2001 - 2001	Priority
Drosera rotundifolia	Round-leaved Sundew	9	1964 - 2001	Priority
Erica ciliaris	Dorset Heath	59	1964 - 2016	Priority, Local Priority
Erica cinerea	Bell Heather	16	1964 - 2016	Priority
Erica tetralix	Cross-leaved Heath	25	1964 - 2014	Priority
Eriophorum angustifolium	Common Cottongrass	11	1964 - 2016	Priority
Euphrasia vigursii	an Eyebright	5	1964 - 2000	Priority, Local Priority
Fallopia baldschuanica	Russian-vine	2	1990 - 2012	Non-Native
Fallopia japonica	Japanese Knotweed	1	2003 - 2003	Protected, Non-Native
Fragaria vesca	Wild Strawberry	4	1990 - 2012	Priority
Fumaria purpurea	Purple Ramping-fumitory	4	1994 - 2011	Priority, Local Priority
Glebionis segetum	Corn Marigold	5	1979 - 2003	Priority, Local Priority
Hyacinthoides non-scripta	Bluebell	19	1964 - 2012	Protected
Hydrocotyle vulgaris	Marsh Pennywort	15	1964 - 2016	Priority
Hypericum elodes	Marsh St John's-wort	6	1964 - 2014	Priority

Hypericum undulatum	Wavy St John's-wort	39	1964 - 2016	Priority, Local Priority
Jacobaea aquatica	Marsh Ragwort	1	2002 - 2002	Priority
Jasione montana	Sheep's-bit	1	1964 - 1964	Priority
Lagarosiphon major	Curly Waterweed	1	2004 - 2004	Protected, Non-Native
Lamiastrum galeobdolon subsp. argentatum	n/a	4	1990 - 2011	Protected, Non-Native
Lathyrus linifolius	Bitter-vetch	1	2009 - 2009	Priority
Lobelia urens	Heath Lobelia	4	1968 - 2014	Priority, Local Priority
Menyanthes trifoliata	Bogbean	3	1964 - 1980	Protected
Misopates orontium	Weasel's-snout	2	1979 - 2003	Priority, Local Priority
Myrica gale	Bog-myrtle	35	1960 - 2023	Priority
Myriophyllum aquaticum	Parrot's-feather	1	2010 - 2010	Protected, Non-Native
Nardus stricta	Mat-grass	1	1964 - 1964	Priority
Oxalis acetosella	Wood-sorrel	4	1964 - 2002	Priority
Pedicularis palustris	Marsh Lousewort	4	1966 - 1996	Priority
Pedicularis sylvatica	Lousewort	8	1964 - 2014	Priority
Pedicularis sylvatica subsp. sylvatica	n/a	1	2002 - 2002	Priority
Petasites fragrans	Winter Heliotrope	2	2003 - 2008	Non-Native
Platanthera bifolia	Lesser Butterfly-orchid	4	1960 - 1980	Priority, Local Priority
Polemonium caeruleum	Jacob's-ladder	1	1990 - 1990	Priority
Polygala serpyllifolia	Heath Milkwort	7	1966 - 2009	Priority
Potentilla erecta	Tormentil	29	1964 - 2016	Priority
Quercus ilex	Evergreen Oak	2	2008 - 2008	Non-Native
Ranunculus flammula	Lesser Spearwort	4	1995 - 2016	Priority
Rhododendron ponticum	n/a	3	2001 - 2014	Protected, Non-Native
Rhynchospora alba	White Beak-sedge	1	1964 - 1964	Priority
Salix repens	Creeping Willow	7	1964 - 2009	Priority
Sanicula europaea	Sanicle	6	1964 - 2009	Priority
Scrophularia scorodonia	Balm-leaved Figwort	2	2003 - 2012	Priority, Local Priority
Sibthorpia europaea	Cornish Moneywort	8	1966 - 2014	Priority, Local Priority
Silene flos-cuculi	Ragged-Robin	14	1964 - 2009	Priority

Spergula arvensis	Corn Spurrey	2	1979 - 2008	Priority, Local Priority
Succisa pratensis	Devil's-bit Scabious	16	1964 - 2016	Priority
Valeriana officinalis	Common Valerian	9	1964 - 2009	Priority
Veronica officinalis	Heath Speedwell	2	1979 - 1994	Priority
Vicia sativa subsp. segetalis	Common Vetch	1	2011 - 2011	Priority
Viola lactea	Pale Dog-violet	1	2009 - 2009	Priority, Local Priority
Viola palustris subsp. juressi	n/a	3	1964 - 2013	Priority
Wahlenbergia hederacea	Ivy-leaved Bellflower	1	2014 - 2014	Priority, Local Priority
Fungus				
Hydnellum concrescens	Zoned Tooth	2	1987 - 1987	Priority, Local Priority
Marasmius epiphylloides	Ivy Parachute	1	2000 - 2000	Local Priority
Mycena clavularis	n/a	1	1985 - 1985	Local Priority
Mycena meliigena	Mauve Bonnet	2	1987 - 1987	Local Priority
Triphragmium ulmariae	Meadowsweet Rust	1	2004 - 2004	Local Priority
Insect - Beetle (Coleoptera)				
Helochares punctatus	n/a	4	1992 - 1998	Priority
Helophorus alternans	n/a	1	1992 - 1992	Priority
Hydrovatus clypealis	n/a	2	1992 - 1998	Priority
Laccobius atratus	n/a	1	1992 - 1992	Priority
Oxystoma cerdo	n/a	1	1979 - 1979	Priority
Paracymus scutellaris	n/a	2	1992 - 1992	Priority
Insect - Butterfly				
Boloria selene	Small Pearl-bordered Fritillary	3	1964 - 1992	Priority
Coenonympha pamphilus	Small Heath	1	1979 - 1979	Priority
Euphydryas aurinia	Marsh Fritillary	7	1965 - 1992	Protected, Priority, Local Priority
Hipparchia semele	Grayling	1	1979 - 1979	Priority
Lasiommata megera	Wall	3	1990 - 2018	Priority
Plebejus argus	Silver-studded Blue	1	2012 - 2012	Protected, Priority, Local Priority
Pyrgus malvae	Grizzled Skipper	1	1978 - 1978	Priority

Insect - Dragonfly (Odonata)				
Aeshna mixta	Migrant Hawker	3	1990 - 2012	Local Priority
Ceriagrion tenellum	Small Red Damselfly	33	1981 - 2002	Local Priority
Orthetrum cancellatum	Black-tailed Skimmer	12	2005 - 2022	Local Priority
Sympetrum sanguineum	Ruddy Darter	2	1997 - 1997	Local Priority
Insect - Hymenopteran				
Eucera longicornis	Long-horned Bee	7	2019 - 2020	Priority, Local Priority
Insect - Moth				
Acronicta psi	Grey Dagger	3	2002 - 2005	Priority
Acronicta rumicis	Knot Grass	5	1980 - 2015	Priority
Agrochola lychnidis	Beaded Chestnut	18	2000 - 2015	Priority
Allophyes oxyacanthae	Green-brindled Crescent	16	2001 - 2015	Priority
Apamea remissa	Dusky Brocade	2	1987 - 1995	Priority
Arctia caja	Garden Tiger	1	2002 - 2002	Priority
Caradrina morpheus	Mottled Rustic	1	1994 - 1994	Priority
Ceramica pisi	Broom Moth	1	1987 - 1987	Priority
Cirrhia icteritia	Sallow	11	1999 - 2015	Priority
Diarsia rubi	Small Square-spot	15	1987 - 2016	Priority
Ecliptopera silaceata	Small Phoenix	10	1994 - 2016	Priority
Ennomos fuscantaria	Dusky Thorn	2	1994 - 2005	Priority
Ennomos quercinaria	August Thorn	3	2001 - 2009	Priority
Eugnorisma glareosa	Autumnal Rustic	13	1999 - 2015	Priority
Euxoa tritici	White-line Dart	1	2003 - 2003	Priority
Hepialus humuli	Ghost Moth	2	2013 - 2016	Priority
Hoplodrina blanda	Rustic	1	2001 - 2001	Priority
Hydraecia micacea	Rosy Rustic	22	1994 - 2015	Priority
Leucania comma	Shoulder-striped Wainscot	2	2016 - 2016	Priority
Litoligia literosa	Rosy Minor	1	1996 - 1996	Priority
Malacosoma neustria	Lackey	3	1994 - 2007	Priority
Orthosia gracilis	Powdered Quaker	3	2002 - 2014	Priority
Rhizedra lutosa	Large Wainscot	3	2006 - 2013	Priority

Scopula marginepunctata	Mullein Wave	1	1996 - 1996	Priority
Spilosoma lubricipeda	White Ermine	4	1987 - 2016	Priority
Spilosoma lutea	Buff Ermine	4	1987 - 2016	Priority
Timandra comae	Blood-vein	16	1987 - 2016	Priority
Xanthorhoe ferrugata	Dark-barred Twin-spot Carpet	8	1995 - 2016	Priority
Insect - Orthopteran				
Conocephalus fuscus	Long-winged Cone-head	2	2016 - 2016	Local Priority
Stenobothrus lineatus	Stripe-winged Grasshopper	1	1979 - 1979	Local Priority
Insect - Stick Insect (Phasmida)				
Acanthoxyla prasina subsp. inermis	Unarmed Stick-insect	1	2017 - 2017	Priority, Local Priority
Insect - True Bug (Hemiptera)				
Chartoscirta cocksii	n/a	1	2018 - 2018	Priority
Hebrus (Hebrus) pusillus	Semi-aquatic bugs	1	1992 - 1992	Priority, Local Priority
Megalonotus dilatatus	n/a	1	2018 - 2018	Priority, Local Priority
Microvelia (Microvelia) pygmaea	n/a	1	1998 - 1998	Priority, Local Priority
Insect - True Fly (Diptera)				
Beris fuscipes	Short-horned Black Legionnaire	1	2001 - 2001	Local Priority
Bombylius canescens	Western Bee-fly	2	2019 - 2020	Priority, Local Priority
Chorisops nagatomii	Bright Four-spined Legionnaire	1	2001 - 2001	Priority
Chrysops viduatus	Square-spot Deerfly	1	2001 - 2001	Priority
Tetanocera punctifrons	n/a	1	2001 - 2001	Priority
Mollusc				
Physella acuta	n/a	2	1992 - 1992	Priority
Potamopyrgus antipodarum	Jenkins' Spire Snail	7	1981 - 2013	Priority
Moss				
Ditrichum plumbicola	Lead-moss	8	1993 - 2011	Priority, Local Priority
Microbryum starckeanum	Starke's Pottia	2	1993 - 2005	Local Priority

Phascum cuspidatum var. papillosum	Rough Earth-moss	1	1996 - 1996	Local Priority
Plagiothecium denticulatum var. denticulatum	n/a	2	1960 - 1961	Local Priority
Pogonatum aloides	Aloe Haircap	5	1961 - 2005	Local Priority
Scopelophila cataractae	Tongue-leaf Copper-moss	1	1993 - 2005	Priority, Local Priority
Weissia controversa var. densifolia	n/a	6	1961 - 2005	Local Priority
Reptile				
Anguis fragilis	Slow-worm	4	2013 - 2023	Protected, Priority
Natrix helvetica	Grass Snake	2	2002 - 2003	Protected, Priority
Vipera berus	Adder	2	1976 - 2009	Protected, Priority
Spider (Araneae)				
Araneus angulatus	n/a	2	1998 - 1999	Priority
Episinus maculipes	n/a	1	2022 - 2022	Priority
Pardosa tenuipes	n/a	1	2022 - 2022	Priority
Taranucnus setosus	n/a	1	2022 - 2022	Priority
Terrestrial Mammal				
Capreolus capreolus	Roe Deer	12	2001 - 2016	Protected
Erinaceus europaeus	West European Hedgehog	5	2004 - 2020	Protected, Priority, Local Priority
Lutra lutra	Eurasian Otter	5	1994 - 2002	Protected, Priority, Local Priority
Meles meles	Eurasian Badger	8	1979 - 2018	Protected, Local Priority
Micromys minutus	Harvest Mouse	1	1980 - 1980	Priority, Local Priority
Muntiacus reevesi	Chinese Muntjac	1	2002 - 2002	Protected, Priority, Non-Native
Mus musculus	House Mouse	1	2006 - 2006	Non-Native
Mustela erminea	Stoat	1	2002 - 2002	Protected
Mustela nivalis	Weasel	1	2001 - 2001	Protected
Mustela putorius subsp. furo	Feral Ferret	2	2002 - 2002	Non-Native
Neovison vison	American Mink	1	2004 - 2004	Protected, Priority, Non-Native

Oryctolagus cuniculus	European Rabbit	10	1965 - 2012	Priority, Non-Native
Rattus norvegicus	Brown Rat	2	2005 - 2006	Priority, Non-Native
Sciurus carolinensis	Eastern Grey Squirrel	12	1981 - 2019	Protected, Priority, Non-Native
Sorex araneus	Eurasian Common Shrew	4	2006 - 2016	Protected, Local Priority
Terrestrial Mammal - Bat				
Myotis daubentonii	Daubenton's Bat	4	2012 - 2012	Protected, Local Priority
Myotis nattereri	Natterer's Bat	6	2008 - 2012	Protected, Local Priority
Nyctalus noctula	Noctule Bat	4	2012 - 2012	Protected, Priority, Local Priority
Pipistrellus	Pipistrelle	1	2016 - 2016	Local Priority
Pipistrellus pipistrellus	Pipistrelle	12	2004 - 2012	Protected
Plecotus auritus	Brown Long-eared Bat	4	2004 - 2016	Protected, Priority, Local Priority
Rhinolophus ferrumequinum	Greater Horseshoe Bat	13	1985 - 2013	Protected, Priority, Local Priority
Rhinolophus hipposideros	Lesser Horseshoe Bat	7	1999 - 2013	Protected, Priority, Local Priority

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About the Cornwall and the Isles of Scilly Environmental Records Centre

The Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) collates, manages and disseminates biological and geological information for use in sustainable development, conservation and research. Working with local and national biological recorders and organisations to gather data that is crucial to aid conservation management of sites, to help organisations prioritise action, and to understand the distribution of species and trends over time. For more information on ERCCIS, visit the website at https://erccis.org.uk

an ALERC accredited LERC
Association of Local Environmental Records Centres

ERCCIS is accredited by the Association of Local Environmental Records Centres in 2016, by meeting the national standards of environmental data management and provision. For more information on accreditation, see the ALERC website at http://www.alerc.org.uk/alerc-accreditation.html