

Higher Trapp Hotel, Trapp Lane, Simonstone, near Burnley BB12 7QW

ECOLOGICAL SURVEY AND ASSESSMENT

January 2023

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Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Phase 1 Habitat Survey and daylight licensed bat survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	11 th January 2023
Reporting	Personnel	Date
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	12 th January 2023
Signature(s)		
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Bats		
Victoria Burrows, Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-10390-CLS-CLS		

SUMMARY

Introduction and Scope

- i. ERAP (Consultant Ecologists) Ltd was commissioned by Lavender Hotels Collection to carry out an ecological assessment of land at Higher Trapp Hotel, Trapp Lane, Simonstone, near Burnley BB12 7QW. The assessment was requested to inform a planning application proposing the installation of three timber platforms to house hot tubs, a changing hut and outdoor furniture within a wooded bank to the north of the hotel building.
- ii. This report presents the results of a desktop study, an extended Phase 1 Habitat Survey and surveys for relevant protected species carried out in January 2023. The scope of survey undertaken is appropriate to identify potential ecological constraints and has informed the site proposals to ensure that the appropriate protective / conservation measures are implemented and to achieve maximised opportunities for biodiversity.

Results of Survey and Assessment

- iii. The proposed location of the hot tub facilities is a wooded bank to the north of the hotel buildings. The woodland is accessed via stone steps from the access driveway to the hotel car park. The wooded bank comprises of a mix of mature and semi-mature broad-leaved Oak and Beech trees with an understorey of Rhododendron and Holly. Other habitats in the site comprise introduced shrubs / ornamental planting on each side of the stone steps and an ephemeral drain in the southern area of the site. Land to the north (beyond the site boundary) is occupied by pony grazed semi-improved grassland.
- iv. Direct and indirect adverse effects of the proposals on statutory and non-statutory designated sites for nature conservation are reasonably discounted.
- v. The Proposed Site Plan has sought to avoid and retain the semi-mature and mature trees. As illustrated on **Figure 3**, the earthworks are centred on existing gaps / glades in the woodland and the areas of Rhododendron (an invasive species) and young Holly shrubs.
- vi. It is advised that the integrity of the woodland will not be adversely affected by the installation and operation of the hot tub platforms. Tree protection measures and best practice measures for the protection of habitats and wildlife to be applied during the earthworks and construction of the timber platforms and the operation of the hot tub facilities are described in **Sections 5.2 and 5.3**.
- vii. Habitats within and adjacent to the site are suitable for foraging and commuting bats and nesting birds. Actions and recommendations to secure the conservation and enhancement of habitats for use by roosting and foraging bats and nesting birds in the presence of the proposals are described in **Sections 5.2 to 5.4**.
- viii. Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount adverse effects on other relevant protected species.

Recommendations

- ix. The recommendations in **Section 5.0** identify the mandatory measures and ecological recommendations to be applied to ensure compliance with relevant wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.

Conclusion

- x. It is concluded that the construction of the hot tub facilities is feasible and acceptable in accordance with the identified ecological considerations and relevant planning policy. Implementation of the specifications in **Section 5.2 and 5.3** will ensure protection of the woodland habitats and associated fauna during construction and long-term operation of the facilities.
- xi. This report describes the appropriate and proportionate measures and recommendations that aim to enhance the value of the site for wildlife such as roosting bats and nesting birds to achieve measurable gains for biodiversity and compliance with the NPPF, local planning policy and best practice.

1.0 INTRODUCTION

1.1 Background and Rationale

1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Lavender Hotels Collection to carry out an ecological survey and assessment of land at Higher Trapp Hotel, Trapp Lane, Simonstone, near Burnley BB12 7QW (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 77696 35679. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).

1.1.2 The assessment was requested to inform a planning application proposing the installation of three timber platforms to house hot tubs, a changing hut and outdoor furniture within a wooded bank to the north of the hotel building.

1.2 Scope of Works

1.2.1 The scope of ecological works undertaken in January 2023 comprised:

- a. A desktop study and data search for known ecological information at the site and the local area;
- b. An Extended Phase 1 Habitat Survey and assessment;
- c. Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
- d. Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*), bird species and reptiles;
- e. A licensed daylight bat survey and assessment of the trees;
- f. The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
- g. The identification of any further surveys or precautionary actions that may be required prior to the commencement of construction activities.

1.3 Site and Survey Area

1.3.1 For the purposes of this ecological assessment the 'site' comprises the access and construction zone of the three timber platforms (shown by the site boundary on **Figures 1 to 3**). The 'survey area' varies relevant to the individual protected species and the extent of each survey is defined in the methods outlined below.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

2.1.1 The following sources of information and ecological records were consulted:

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development.

- a. MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
- b. Environment Agency Main River Map (Environment Agency, 2022);
- c. Lancashire Environment Record Network (LERN); and
- d. Lancashire Biodiversity Action Plan (BAP).

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM on 11th January 2023. The weather conditions were overcast with a light breeze (Beaufort scale 2) and an air temperature of 7°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.4 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.5 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length is appropriate.
- 2.2.6 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (i.e. the footprint to be affected by the construction of the timber platforms (refer to **Figure 2**)) and extended to accessible land within a radius of 50 metres from the construction zone and access.
- 2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).
- 2.3.3 The following signs of badger activity were searched for:

- a. Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - b. Large spoil heaps outside sett entrances;
 - c. Bedding outside sett entrances;
 - d. Badger footprints;
 - e. Badger paths;
 - f. Latrines;
 - g. Badger hairs on fences or bushes;
 - h. Scratching posts; and
 - i. Signs of digging for food.
- 2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Habitat Assessment for Commuting / Foraging Bats

- 2.3.5 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented below.

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Daylight Survey: Trees

- 2.3.6 Trees within and adjacent to the construction zone were examined and assessed for their suitability for use by roosting bats by Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM (Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-10390-CLS-CLS). The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013). A survey in the winter months is appropriate, particularly in a wooded habitat, as the absence of foliage facilitates the search of the main stems and lateral branches for potential roost features.

- 2.3.7 The survey was carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).
- 2.3.8 Trees were assessed from the ground using binoculars and a high-powered torch and searched for the presence of the following features:
- Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.*
- 2.3.9 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).
- 2.3.10 The suitability of each tree for use by roosting bats has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account the presence of any potential roost features and the suitability of the surrounding habitats for use by foraging and commuting bats.
- 2.3.11 Detected features were then examined further with the use of ladders, a high-powered torch, and a video endoscope. The following signs of roosting bats were searched for:
- Bats, bat droppings (in, around or below the feature), odours emanating from the feature, and the presence of smoothed surfaces within the feature, indicative of regular passage by small mammals.*
- 2.3.12 The requirement for further presence / absence surveys at the relevant tree(s) was then considered.
- 2.3.13 A list of equipment used is detailed below:

Table 2.2: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Canon Ixus digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-300

Bird Species

- 2.3.14 Bird species observed and heard during the survey were recorded.
- 2.3.15 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, including Priority Species, as indicated by the habitats present at the site and in the surrounding area.

Great Crested Newt and Amphibians

- 2.3.16 In accordance with current Natural England guidance (Natural England, 2020) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.
- 2.3.17 There are no ponds within an unobstructed 500 metres radius from the site boundary; no further surveys for amphibian species are necessary.

Reptile Species

- 2.3.18 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined below.

Table 2.3: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Water Vole

- 2.3.19 A minor drain (which currently has a stone slab crossing) will be traversed to access the construction zone / site. For completeness, the crossing point and the drain for a distance of 25 metres each side of the crossing point was surveyed and assessed for its suitability for use by water vole in accordance with the methods and guidance detailed in *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)* Eds. Fiona Mathews and Paul Chanin (Dean, et al., 2016). The drain and associated banks were searched for burrows, latrines, feeding remains, runs, feeding lawns, nests and footprints.

Other Wildlife

- 2.3.20 Evidence of other wildlife (including Priority Species such as hedgehog) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application.

2.4 Survey and Reporting Limitations

- 2.4.1 The survey was conducted in winter, when many plant species are in a state of senescence; the surveyor is experienced in surveying plant species from their vegetative characteristics, and it has been possible to reliably identify the habitats and principal plant species present.
- 2.4.2 No other survey limitations were experienced.
- 2.4.3 All measurements within this report are approximate only, and have been either estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC Maps and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has

been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.

- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the Lancashire BAP Provisional Long List has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site and adjacent land have no statutory designation for nature conservation.
- 3.1.2 The site does not lie within a Site of Special Scientific Interest (SSSI) Impact Risk Zone.

Non-statutory Designated Sites for Nature Conservation

- 3.1.3 The site and adjacent land have no non-statutory designation for nature conservation (termed Biological Heritage Sites or 'BHS' in Lancashire).
- 3.1.4 Six BHS lie within 2 kilometres of the site summarised in **Table 3.1** below

Table 3.1: Biological Heritage Sites within 2 kilometres of the Site

BHS and Central Reference	OS Grid	Distance and Direction from site	Reasons for Designation
Huntroyde Demesne (SD785346)		276 metres south-east	An estate with a high proportion of broad-leaved woodland. Scattered parkland trees are also present and some of these are estimated to be over 200 years old. Such trees are a rare and threatened habitat in Lancashire. They include pedunculate and hybrid oaks, beech and ash. The white-letter hairstreak butterfly has been recorded at the site. The site provides important habitats for breeding and wintering birds. Breeding birds include grey heron, sparrowhawk, woodcock, curlew, tawny owl, great spotted woodpecker, lesser spotted woodpecker, meadow pipit, pied wagtail, lesser whitethroat, willow warbler and nuthatch. Wintering birds include fieldfare, redwing, brambling and siskin.
Read Pasture (SD767357)	Heights	673 metres west	A large species-rich, semi-natural, neutral grassland field, with a flattish plateau on the brow of the hill and a steepish slope on the north side extending down to Back Lane. A wide, dry ditch runs roughly east-west across the field between the plateau and the northern slope. The slope is the most species-rich area, but most of the species are present throughout the field. Lowland Meadows is a Priority Habitat.
Black Hill (SD783368)		1054 metres north-east	A mosaic of dry dwarf shrub heath and marshy grassland situated 0.75 km south of Sabden. It lies on sloping ground rising to an altitude of 265 metres at the triangulation point on the summit and forms a triangular block of semi-natural vegetation between Padiham Road, Back Lane and Black Hill Wood. Upland Heathland is a Priority Habitat.

BHS and OS Central Reference	OS Grid	Distance and Direction from site	Reasons for Designation
Lower Barn Wood (SD767366)		1288 metres north-west	Semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodland.
Lower Dean Pasture (SD781340)		1537 metres south	An area of semi-improved neutral and acidic pasture adjoining the west bank of Dean Brook below Dean Bridge, Simonstone.
Lower Dean Wood (SD781338)		1569 metres south	Plantation woodland on an ancient woodland site occupying a steeply sloping clough above Dean Brook.

3.1.5 The sites within the FC / BTO Wader Zonal Map.

Priority Habitats Inventory and Soilscape Information

3.1.6 The Priority Habitats Inventory² was checked via MAGiC Maps. No Priority Habitat is identified within or adjacent to the site.

3.1.7 In accordance with *Soilscape (England)* as presented on MAGiC Maps (National Soil Resources Institute, 2005), the site supports '*freely draining slightly acid loamy soils*', and the characteristic semi-natural habitats associated with the soils comprise '*neutral and acid pastures and deciduous woodlands; acid communities such as bracken and gorse in the uplands*'.

Environment Agency Main River Map

3.1.8 The ephemeral drain that extends west to east along the southern end of the site is not identified as Main River by the Environment Agency (Environment Agency, 2022).

Protected and Notable Species

3.1.9 LERN hold no records of protected and notable species for the site.

3.1.10 Records of protected and notable species for a 2 kilometre radius of the site are summarised at **Table 3.2** below.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius of the Centre of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Common toad (<i>Bufo bufo</i>): WCAs5, PS & LBAP. 5 records, dated between 2011 and 2016. The closest record is 1565 metres to the north, and from 2011. Common frog (<i>Rana temporaria</i>): WCAs5 & LBAP. 2 records, both from 2011. The closest record is 1565 metres to the north.
Birds – WCAs1 Species	Fieldfare (<i>Turdus pilaris</i>): WCAs1. 1 record from 1998. An accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference. Kingfisher (<i>Alcedo atthis</i>): WCAs1. 1 record from 1999. An accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference. Redwing (<i>Turdus iliacus</i>): WCAs1. 1 record from 1998. An accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference.
Birds – PS & LBAP	PS & LBAP: Skylark (<i>Alauda arvensis</i>), tree pipit (<i>Anthus trivialis</i>), lesser spotted woodpecker (<i>Dendrocopos minor</i>), reed bunting (<i>Emberiza schoeniclus</i>), herring gull (<i>Larus argentatus</i>), spotted flycatcher (<i>Muscicapa striata</i>), curlew (<i>Numenius arquata</i>), house sparrow (<i>Passer domesticus</i>), grey partridge (<i>Perdix perdix</i>), wood

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Taxon Group	Species Name and Designations ¹ and Notes
	warbler (<i>Phylloscopus sibilatrix</i>), dunnoek (<i>Prunella modularis</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), starling (<i>Sturnus vulgaris</i>), song thrush (<i>Turdus philomelos</i>) and lapwing (<i>Vanellus vanellus</i>). PS Only: Lesser redpoll (<i>Acanthis cabaret</i>) and linnet (<i>Linaria cannabina</i>). LBAP Only: Meadow pipit (<i>Anthus pratensis</i>), swift (<i>Apus apus</i>), grey heron (<i>Ardea cinerea</i>), black-headed gull (<i>Chroicocephalus ridibundus</i>), kestrel (<i>Falco tinnunculus</i>), snipe (<i>Gallinago gallinago</i>), lesser black-backed gull (<i>Larus fuscus</i>), great black-backed gull (<i>Larus marinus</i>) and willow warbler (<i>Phylloscopus trochilus</i>).
Bony Fish (Actinopterygii)	PS & LBAP: European eel (<i>Anguilla anguilla</i>), atlantic salmon (<i>Salmo salar</i>) and brown / sea trout (<i>Salmo trutta</i>). LBAP Only: Bullhead (<i>Cottus gobio</i>) and brown trout (<i>Salmo trutta subsp. fario</i>).
Flowering Plants	Bluebells (<i>Hyacinthoides non-scripta</i>): WCAs8. 41 records, dated between 1988 and 2019. The closest record is 520 metres north-west of the site and from 2016. PS Only: Spreading Bellflower (<i>Campanula patula</i>) and Spreading Hedge-parsley (<i>Torilis arvensis</i>). LBAP Only: Marsh Helleborine (<i>Epipactis palustris</i>), Bird's-foot (<i>Ornithopus perpusillus</i>) and Tuberous Comfrey (<i>Symphytum tuberosum</i>).
Insect Butterflies	PS & LBAP: White-letter hairstreak (<i>Satyrion w-album</i>).
Insect - Moths	LBAP Only: Blossom underwing (<i>Orthosia miniosa</i>).
Terrestrial Mammals	Brown long-eared bat (<i>Plecotus auritus</i>): EPS, WCAs5, PS & LBAP. 4 records, all from 2017. The closest record is 1605 metres to the north. European otter (<i>Lutra lutra</i>): EPS, WCAs5, PS & LBAP. 1 record from 2011, located 1595 metres to the west. Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS & LBAP. 2 records, both from 2017. The closest record is 1605 metres to the north. Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS & LBAP. 2 records, both from 2017. The closest record is 1605 metres to the north. Pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 & LBAP. 12 records, dated between 1977 and 2013. The closest record is 255 metres to the south-west, and from 1986. Unidentified bat (<i>Myotis</i>): EPS, WCAs5 & LBAP. 2 records, both from 2017. The closest record is 1605 metres to the north. Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS & WCAs5. 12 records, all from 2017. The closest record is 1605 metres to the north. West European hedgehog (<i>Erinaceus europaeus</i>): PS & LBAP. 8 records, dated between 2019 and 2020. The closest record is 935 metres to the south, and from 2020. Eurasian badger (<i>Meles meles</i>): PBA. 2 records, both from 2017. The closest record is 1035 metres to the north.
¹Key to Designation Codes: EPS = European Protected Species under <i>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs8 = Species receives full protection under Schedule 8 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. LBAP = Species listed on the Lancashire Biodiversity Action Plan Provisional Long List.	

3.1.11 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The site / wooded bank to the north of the hotel buildings is accessed via stone steps from the access driveway to the hotel car park. The wooded bank comprises of a mix of mature and semi-mature broad-leaved trees with an understorey of Rhododendron and Holly. The site boundaries to the east and west are not defined and comprise a continuation of the woodland habitat. The southern boundary is marked by the stone wall at the margin with the driveway. The northern boundary of the site is defined by a timber post and wire fence beyond which is a pony grazed field of poor semi-improved grassland.
- 3.2.2 Other habitats in the survey area comprise introduced shrubs / ornamental planting on each side of the stone steps and an ephemeral drain in the southern area of the site.
- 3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**. Photographs are appended at **Table 8.1**.

Broad-leaved Woodland

- 3.2.4 Refer to **Photos 1** to **5**. The open tree canopy of the woodland is characterised by mature and semi-mature tree of constant and frequent Pedunculate Oak (*Quercus robur*) and Beech (*Fagus sylvatica*) with locally abundant Sycamore (*Acer pseudoplatanus*), locally frequent Silver Birch (*Betula pendula*) and rare Larch (*Larix decidua*). Beneath the trees is a shrub layer of varied density with dense areas of constant and abundant Rhododendron (*Rhododendron ponticum*) and Holly (*Ilex aquifolium*) shrubs, frequent and scattered Beech saplings and rare Yew (*Taxus baccata*).
- 3.2.5 The herb layer is sparse with very locally frequent plants of Ivy (*Hedera helix*), occasional Broad Buckler-fern (*Dryopteris dilatata*) and rare Herb-Robert (*Geranium robertianum*). A glade between the trees around the gas compound to the east supports very locally abundant Bramble (*Rubus fruticosus* agg.) with very locally frequent Pendulous Sedge (*Carex pendula*) and very locally abundant Indian Balsam (refer to **Photo 8**).
- 3.2.6 Woodland herbs are limited with the detection of only occasional Broad Buckler-fern and rare Herb-Robert. No old Bluebell flower stems or new growth of Bluebell bulbs were detected. A plant species list is appended at **Table 8.2**.
- 3.2.7 The woodland habitat is likely to be planted in original and is most characteristic of the W10 *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland community of the NVC (Rodwell, 1991). The wooded bank is described by the UKHab as w1f7 other lowland mixed deciduous woodland with the secondary code 48 non-native.

Introduced Shrub

- 3.2.8 Refer to **Photo 1**. Either side of the stone steps at the southern end of the site the bank is planted with ornamental shrubs and herbaceous plants such as *Helleborus* species and *Spiraea* species. This vegetation is not characteristic of an NVC community and is described by the UKHab as h3h mixed scrub with the secondary code 48 non-native.

Ephemeral Drain

- 3.2.9 Refer to **Photos 9** to **11**. The ephemeral drain that extends west to east at the top of the stone steps comprises a tree and shrub lined 0.6 metre wide earth and shale channel that supported water to a depth of 0.20 metres on the survey date. No aquatic or emergent plant species were detected.
- 3.2.10 The drain extends into a terracotta pipe and extends eastwards beneath the hotel access roads (refer to **Photo 11**).

Invasive Plant Species

- 3.2.11 No Japanese Knotweed is present at the site.
- 3.2.12 As illustrated on **Figure 2**, Rhododendron shrubs are frequent throughout the site and a stand of Indian Balsam (refer to **Photo 8**) was detected to the west of the fenced gas compound (refer to **Figure 2**). These species are listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause their spread in the wild. This is considered further at **Section 4.3** below.

3.3 Animal Life

Badger

- 3.3.1 The wooded bank is suitable for use by badger and access to habitats suitable for use by feeding badger is present (i.e. via a gap in the timber post and wire fence that separates the wooded bank from the semi-improved grassland to the north). No signs of badger such as setts, snuffle holes, tracks, hairs or burrows were detected at the site and survey area, however. The presence of badger is reasonably discounted.

Bat Species

Habitat Assessment for Commuting and Foraging Bats

- 3.3.2 The wooded bank is assessed to be of 'moderate' suitability for use by foraging bats, particularly edge feeding species such as *Pipistrellus* species. It is advised that the margins of the woodland (particularly the northern margin where there is no artificial lighting) are likely to be used by foraging bats as part of a wider / larger area of suitable habitat present in the wider area.

Daylight Survey: Trees

T1: Ash

- 3.3.3 Refer to **Photo 12**. A partially dead Ash tree (T1 on **Figure 2**, appended) supports features which, when assessed from the ground, may be suitable for use by roosting bats. The features and the results of further inspection with a video endoscope are described below. T1 is located to the west of the construction zone and the stem is located 5.5 metres to the west of the proposed position of the southernmost timber platform.

Feature on T1	Aspect	Height Above Ground (metres)	Description and Results of Endoscope Inspection
1	South side of main stem	1.2 metres	Damage / wound does not lead to a deeper cavity. No bats or evidence of previous use by roosting bats present.
2	South side of main stem	1.6 metres	Lifted bark possibly a canker. Gap behind suitable for use by single / a low number of bats but none present on survey date.
3	South side of main stem	2 metres	Lifted bark. Gap behind suitable for use by single / a low number of bats but none present on survey date.
4	East side of main stem	2.5 metres	Lifted bark. Gap behind suitable for use by single / a low number of bats but none present on survey date. Feature is obscured by surrounding evergreen shrubs.
5	Snapped off main stem	5 metres	Upper branches have been snapped off to expose split and damaged bark with upwards facing / exposed fissures.

- 3.3.4 Based on the results of the inspection and in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). T1 is assessed to be of 'low' suitability for use by roosting bats.

Other Trees

- 3.3.5 None of the trees or shrubs within the proposed construction zone / likely to be directly affected by the proposals support features with suitability for use by roosting bats. All other surveyed trees and shrubs are assessed to be of 'negligible' suitability for use by roosting bats.

Bird Species

- 3.3.6 Birds detected in the site on 11th January 2023 are listed below.

Table 3.3: Bird Species Detected on 11th January 2023

Scientific Name	Common Name	BOCC Status ¹	Notes
<i>Parus caeruleus</i>	Blue tit	Green	Audible within woodland
<i>Parus major</i>	Great tit	Green	Audible within woodland
¹ BOCC: Birds of Conservation Concern (Stanbury, et al., 2021).			

- 3.3.7 The woodland habitat, particularly the mature and semi-mature trees, are suitable for use by breeding passerine bird species such as wood pigeon, song thrush, greenfinch and magpie. The areas of Bramble scrub may be used by wren and dunnock. The wider woodland belt may provide opportunities for woodland specialist species such as tawny owl, nuthatch and woodpecker species.

Reptiles

- 3.3.8 The shaded woodland bank is assessed to be unfavourable for use by sheltering, basking and hibernating reptiles. No records of reptile species are reported in the review of the data search information as presented at **Section 3.1**. The presence of reptiles within the site is reasonably discounted.

Water Vole

- 3.3.9 No evidence of use of the ephemeral drain by water vole was detected. Due to the ephemeral condition of the drain, the absence of any emergent or aquatic plants, its short length and absence of habitat connectivity to other watercourses / favourable opportunities for water vole the presence of water vole is reasonably discounted.

Other Wildlife

- 3.3.10 Evidence of damaged caused by browsing deer (likely roe deer) was detected on some of the young Holly shrubs.
- 3.3.11 Scrapings indicative of the presence of grey squirrel was detected on the leaf litter covered floor of the wooded bank.
- 3.3.12 The woodland habitat and areas of Bramble scrub are suitable for use by feeding hedgehog (although owing to the sparse cover of vegetation over the herb layer the opportunities for shelter are limited within the site).

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 As illustrated on the *Proposed Site Plan* and the *Proposed Site Plan Enabling Works* (Equilibrium Architects, 2022) the proposals comprise the following:

- a. Retention of all semi-mature and mature trees. **Figure 3**, appended, shows the three timber platforms and the banked earth in the context of the tree positions and the Phase 1 Habitat Survey;
 - b. Clearance of local areas of the shrub layer (i.e. Rhododendron, Holly and self-seeded saplings) to create three glades;
 - c. Localised earthworks (cut and fill) to create three level areas (6.9 metres by 5.5 metres) for the installation of timber platforms;
 - d. Localised widening of the access path and re-laying of the margins with timber and addition of compacted gravel;
 - e. Import of items to comprise a hot tub, 2m by 2m timber changing hut and outdoor furniture; and
 - f. A new timber bridge will be installed over the ephemeral drain.
- 4.1.2 It is understood that construction access will be from the existing driveway to the south. It is expected that materials will be imported to the construction zone on a small telehandler or forklift truck.
- 4.1.3 Infrastructure (namely electricity connections and water (mains and foul i.e. hot tub water drains)) will be installed in pipes and will extend southwards to the main and existing soil / sewer pipes.
- 4.1.4 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site is evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 In consideration of the small scale nature of the proposals, the distance between the site and any statutory and non-statutory designated sites for nature conservation within the wider area, and the absence of direct habitat connectivity to the designated sites, direct and indirect effects on any statutory and non-statutory designated sites are reasonably discounted.

4.3 Vegetation and Habitats

- 4.3.1 The identified woodland NVC community is typical of the geographical area and conditions present. None of the habitats present within the site are representative of semi-natural habitat.
- 4.3.2 It is considered that the woodland does not meet the criteria to be identified as Lowland Mixed Deciduous Woodland Priority Habitat due to its likely planted origin (i.e. the abundance of Rhododendron in the shrub layer is indicative of planting on a former estate) and the absence of an abundance of ancient woodland indicator herbs that would be expected to be present in woodland in the local area (such as Bluebell and a diversity of fern and moss species).
- 4.3.3 Notwithstanding the absence of Priority Habitat, the wooded bank is assessed to be of 'local' importance³ due to the presence of mature and semi-mature trees, the habitat connectivity function provided by the wooded bank and the opportunities for fauna provided by the woodland.
- 4.3.4 The proposals have sought to avoid and retain the semi-mature and mature trees. As illustrated on **Figure 3**, the earthworks are centred on existing gaps / glades in the woodland and the areas of Rhododendron shrubs and young Holly shrubs. In consideration of the carefully planned

³ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

proposals it is advised that the integrity of the woodland will not be adversely affected by the installation and operation of the hot tub platforms. The proposals will not sever nor fragment woodland habitat and, based on their timber structure and specification could be regarded as 'temporary'. As detailed in **Section 5.3** guidance from an arborist will be needed in relation to the protection tree roots from damage, including compaction.

- 4.3.5 The presence of Rhododendron and Indian Balsam (both invasive species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended)) is a consideration of the proposals. It is advised that the proposals present an opportunity for the eradication, control and management of these species as part of the proposed development. These works are part of woodland management best practice and will permit the natural regeneration of native species in the areas around the platforms which is beneficial to the longevity of the woodland habitat. Further guidance is presented at **Section 5.3** of this report.

4.4 Protected Species and Other Wildlife

Bats

- 4.4.1 Habitats within and adjacent to the site are suitable for use by foraging and commuting bats. In the presence of an appropriate lighting strategy (refer to **Section 5.2**) it is advised that the suitability of the habitats for use by foraging bats will not be significantly adversely affected by the proposals.
- 4.4.2 The earthworks will be carried out over 5.5 metres from T1 (identified to have 'low' suitability for use by roosting bats). Retention of T1 will conserve the roosting opportunity. If felling is advised for arboricultural / health and safety reasons, the method statement outlined at **Section 5.3** is appropriate and proportionate and in accordance with best practice guidance to ensure the protection of bats during works and to ensure no net loss of roost opportunity at the site.

Breeding Birds

- 4.4.3 The scattered trees and the Bramble scrub on the site margins provide suitable habitat for use by nesting and foraging passerine (perching) bird species, including Priority Species such as song thrush and dunnock. Mandatory actions to protect nesting birds during site clearance and measures to provide enhanced opportunities for nesting birds including Priority Species and conservation targets as part of the proposals are recommended at **Sections 5.3** and **5.4**. It is advised that these measures will ensure there is no net loss of bird species diversity at the site and local area, and will work towards securing enhancement by the provision of opportunities for nesting Priority Species and woodland specialist species.

Other Protected Species / Animal Life

- 4.4.4 Appropriate and proportionate survey effort and / or assessment, in accordance with standard survey guidelines has been applied to discount adverse effects on other relevant protected species. No further surveys for other protected species are necessary to inform a planning application / commencement of works.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 The recommendations and guidance provided in this section of the report follow 'The Mitigation Hierarchy' (i.e. avoid, mitigate, compensate) and describe the protective measures to be implemented both during construction and operation of the hot tub facility. In addition, opportunities to enhance the value of the surrounding habitats and seek biodiversity gain through appropriate habitat creation have been identified to ensure compliance with Chapter 15, paragraph 180(d) of the NPPF which states:

'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.

- 5.1.2 The recommendations outlined below aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.

5.2 Site Design / Specifications During Operation

Appropriate Use of Lighting

- 5.2.1 The design and implementation of an appropriate and sensitive lighting strategy is necessary to avoid any adverse effects on wildlife such as foraging bats, including the avoidance of lighting where not required, and to ensure compliance with paragraph 185c of the NPPF (Ministry of Housing, Communities and Local Government, 2021) states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

- 5.2.2 The lighting strategy must be prepared in accordance with reference to current guidance, namely:
- *Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2021); and
 - Bats and lighting: Overview of current evidence and mitigation guidance (Stone, 2014).

Best Practice During Use and Management and Maintenance

- 5.2.3 To protect the woodland habitats and associated wildlife it is advised that food and litter items are quickly removed from the areas after use as this will reduce the risk the attraction of brown rat and grey squirrel.
- 5.2.4 As part of the general management and maintenance of the hot tub facility the following recommendations are made for the protection of woodland habitats and associated flora:
- a. Any detergents used to clean the hot tubs will be discharged into the drains and will extend southwards and enter the main sewer that serves the hotel building;
 - b. During operation of the hot tub facilities it may be necessary to pressure wash / brush the timber decking and keep the areas clear of leaf fall (particularly in the autumn months). It is advised that detergents are used that could enter the woodland habitat / soil and be harmful to wildlife are avoided. Leaf litter swept from the timber platforms should be deposited within the wider woodland to provide leaf mulch and opportunities for sheltering wildlife; and
 - c. Care must be taken during pressure washing (if required) to ensure that the works are confined to the decking and soil is not wash from the surrounding tree roots.

5.3 Protection of Existing Features During Construction and Construction Environment Management Plan (CEMP) for Biodiversity

Introduction

- 5.3.1 To inform the site preparation and construction activities it is recommended that a simple Construction Environment Management Plan (CEMP) for Biodiversity is prepared and implemented. The CEMP for Biodiversity will describe the following actions / measures:

Demarcation and Protection of Existing Vegetation

- 5.3.2 It is essential that the construction zone and accesses are clearly demarcated, and works are not carried out beyond the construction zone. The working area should exclude the area of Indian Balsam and this area must be clearly demarcated.
- 5.3.3 To ensure the appropriate protection of tree roots, arboricultural guidance in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012) may be required prior to and during the cut and fill earthworks .

Dust Suppression, Incidents and Accidents

- 5.3.4 The risk of adverse effects on retained vegetation, habitats and wildlife as a result of dust, spills and leaks will be minimised by the application of best practice measures and appropriate environmental controls such as dust suppression, appropriate storage of chemicals and fuel, presence of spill kits and appropriate training of on-site personnel.

Invasive Plant Species and Biosecurity

- 5.3.5 It will be necessary to make arrangements for the appropriate disposal of any Rhododendron that is removed.
- 5.3.6 The Indian Balsam plants should be hand pulled in May (i.e. before they flower and set seed). It is generally advised that as the seed does not remain viable in the soil for longer than 3 years, after 3 years the small stand of Indian Balsam will be significantly reduced / eradicated.
- 5.3.7 To minimise the risk of introduction of other invasive species to the site all machinery / plant to be brought to the site must be clean. Wheels / tracks of machinery / plant must have been pressure washed before use at the site. No excessive remnant soil or plant material from other sites must be present on the machinery / plant or in the tyre treads as this may increase the risk of spread of non-native and invasive plant species e.g. Japanese Knotweed (*Fallopia japonica*) and Giant Hogweed (*Heracleum mantegazzianum*).

Bats and Consideration of T1 (Ash)

- 5.3.8 Retention of T1 assessed to have 'low' suitability for use by roosting bats is recommended.
- 5.3.9 If removal / pruning is mandatory it is essential that the following actions are applied prior to / during the felling / pruning of T1:
 - a. Updated licensed assessment and inspection of the tree for roosting bats;
 - b. Provided no bats / evidence of a roost is present then the tree should be section-felled. The sectioning must avoid cutting through or close to any cavities, this may involve climbing the tree;
 - c. Cut sections will be lowered to the ground with the use of ropes;
 - d. Once on the ground the cavity will be inspected by the licensed bat surveyor and guidance issued.

Discovery of a Bat

- 5.3.10 If at any time during the works a bat is discovered or suspected all contractors must withdraw from the area and ERAP (Consultant Ecologists) Ltd (01772 750502) must be contacted for guidance.

Compensatory Bat Box

- 5.3.11 If T1 is removed, then a bat box such as a Greenwood's Ecohabitats single crevice box⁴ should be installed on a suitable adjacent tree to ensure no net loss of roost opportunity at the woodland.

Other Trees

- 5.3.12 Any other shrubs and young trees scheduled for removal can be felled in accordance with general arboricultural practice and taking into consideration the protection afforded to nesting birds (see below).

Nesting Birds

- 5.3.13 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.
- 5.3.14 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Reasonable Avoidance Measures Method Statement of the Protection of Wildlife

- 5.3.15 During the site preparation and construction operations it is essential that the following best practice and Reasonable Avoidance Measures are applied:
- Construction and demolition operations must be confined to the demarcated construction zone only;
 - No trenches must be left open overnight. Trenches or holes must be properly covered with a board or fitted with a means of escape (such as ramped edge or a sloping plank of timber). This will ensure that any inquisitive animals do not become trapped;
 - Any pipes must be stored with caps on (to prevent animal entry);
 - No fires must be lit at the site; and
 - Any chemicals or harmful materials must be stored so that they cannot be accessed by inquisitive animals.

Protection of Water Quality

- 5.3.16 Water quality at the ephemeral drain must be protected during the construction operations through the implementation of best practice. In the absence of any updated guidance, the following Pollution Prevention Guidelines (PPG) will be adhered to:
- PPG1: Basic good environmental practices (Environment Agency, 2013);
 - PPG5: Works in, near or over watercourses (Environment Agency, 2014);
 - PPG6: Construction and demolition sites (Environment Agency, 2012); and
 - PPG7: Operating refuelling sites (Environment Agency, 2011).

5.4 Enhancement for Biodiversity

- 5.4.1 To secure enhancement for wildlife and biodiversity as part of the proposals and compliance with relevant planning policy the following recommendations are made:

⁴ <https://www.greenwoodsecohabitats.co.uk/shop>

- a. Use of felled Holly (not Rhododendron) logs to create deadwood habitat piles for colonisation by invertebrates, small mammals and fungi within the wider woodland;
- b. Installation of three bird boxes suitable for woodland specialist birds such as:



Insert 1: Two Vivara Pro Barcelona Woodstone Open Nest Box (left) and one Tawny Owl Box (right)⁵

- c. Installation of two bat boxes as specified below:



Insert 2: Greenwood Ecohabitat's single crevice box

5.4.2 Bat boxes should be installed to the following guidelines (Bat Conservation Trust, 2016):

- a. At least 4 metres above the ground (where safe installation is possible);
- b. Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west). Ideally more than one box will be installed to provide a variety of different thermal options for bats;
- c. Located close to unlit linear features, such as lines of trees or hedgerows; and
- d. Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

6.0 CONCLUSION

- 6.1 It is concluded that the construction of the hot tub facilities is feasible and acceptable in accordance with the identified ecological considerations and relevant planning policy. Implementation of the specifications in **Section 5.2** and **5.3** will ensure protection of the woodland habitats and associated fauna during construction and long-term operation of the facilities.
- 6.2 This report describes the appropriate and proportionate measures and recommendations that aim to enhance the value of the site for wildlife such as roosting bats and nesting birds to achieve

⁵ Available from www.NHBS.com

measurable gains for biodiversity and compliance with the NPPF, local planning policy and best practice.

7.0 REFERENCES

- Andrews, H (ed), 2013. *Bat Tree Habitat Key, 3rd Edition*. Bridgewater: AEcol Ltd.
- Bat Conservation Trust, 2016. *Bat Box Information Pack*. [Online]
Available at: <https://cdn.bats.org.uk/pdf/Bat-Box-Information-Pack.pdf?mtime=20181101151309>
[Accessed 11 April 2019].
- BSI, 2012. *Trees in relation to design, demolition and construction. Recommendations*. London: BSI Standards Limited.
- BTHK, 2018. *Bat Roosts in Trees - A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*, Exeter: Pelagic Publishing.
- Butcher, B. et al., 2020. *UK Habitats Classification User Manual Version 1.1*, Stockport: UKHab Ltd.
- CIEEM, 2013. *Technical Guidance Series Competencies for Species: Bats*. Winchester: Chartered Institute of Ecology and Environmental Management.
- CIEEM, 2016. *Biodiversity Net Gain: Good Practice Principles for Development*, Winchester: CIEEM.
- CIEEM, 2018. *Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*, Winchester: Chartered Institute of Ecology and Environmental Management.
- CIEEM, 2020. *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition.*, Winchester: Chartered Institute of Ecology and Environmental Management.
- Collins, J. (ed), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. London: The Bat Conservation Trust.
- Dean, M., Strachan, R., Gow, D. & Andrews, R., 2016. *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin*, London: The Mammal Society.
- Edgar, P., Foster, P & Baker, J., 2010. *Reptile Habitat Management Handbook*. Bournemouth: Amphibian and Reptile Conservation.
- Environment Agency, 2011. *Operating Refuelling Sites, PPG7: Prevent Pollution*. [Online]
Available at: <https://www.gov.uk/government/publications/operating-refuelling-sites-ppg7-prevent-pollution>
- Environment Agency, 2012. *Construction and Demolition Sites, PPG6: Prevent Pollution*. [Online]
Available at: <https://www.gov.uk/government/publications/construction-and-demolition-sites-ppg6-prevent-pollution>
- Environment Agency, 2013. *Basic Good Environmental Practices, PPG1: Prevent Pollution*. [Online]
Available at: <https://www.gov.uk/government/publications/basic-good-environmental-practices-ppg1-prevent-pollution>
- Environment Agency, 2014. *Works in, near or over watercourses, PPG5: Prevent Pollution*. [Online]
Available at: <https://www.gov.uk/government/publications/works-in-near-or-over-watercourses-ppg5-prevent-pollution>
- Environment Agency, 2022. *Main River Map*. [Online]
Available at:
<https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386>
[Accessed 21 November 2022].
- Equilibrium Architects, 2022. *The Higher Trapp Country House Hotel, Simonstone BB12 7QW. Proposed Site Plan and the Proposed Site Plan Enabling Works. Drawings C-0533-10 and 15*, Bury: Equilibrium Architects.
- Great Britain, 1981. *Wildlife and Countryside Act*. London: H.M.S.O.
- Great Britain, 2006. *Natural Environment and Rural Communities Act*. London: H.M.S.O.
- Great Britain, 2019. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations*. London: H.M.S.O.
- Institution of Lighting Professionals & Bat Conservation Trust, 2021. *Guidance Note 8: Bats and Artificial Lighting in the UK*. [Online]
Available at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>
[Accessed 2021].

- JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit*. Peterborough: NCC.
- Maddock, A (ed), 2008. *UK Biodiversity Action Plan: Priority Habitat Descriptions*. [Online] Available at: <http://jncc.defra.gov.uk/page-5718>
- Ministry of Housing, Communities & Local Government, 2005. *Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System*, London: Office of the Deputy Prime Minister.
- Ministry of Housing, Communities and Local Government, 2021. *National Planning Policy Framework*. London: H.M.S.O.
- Mitchell-Jones, A., 2004. *Bat Mitigation Guidelines*. Peterborough: English Nature.
- Mitchell-Jones, A. J. & Mcleish, A. P., 2004. *Bat Workers' Manual, 3rd Edition*. Peterborough: Joint Nature Conservation Committee.
- National Soil Resources Institute, 2005. *Soilscape (England)* , Cranfield: National Soil Resources Institute.
- Natural England, 2007. *Badgers and Development*, Peterborough: Natural England.
- Natural England, 2011. *The Reptile Mitigation Guidelines*. Peterborough: Natural England.
- Natural England, 2015. *Badgers: Surveys and mitigation for development projects*. [Online] Available at: <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects> [Accessed 3 December 2022].
- Natural England, 2020. *Great crested newts: advice for local planning authorities*. [Online] Available at: <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects> [Accessed 2021].
- Ratcliffe, D. A., 1977. *A Nature Conservation Review*. Cambridge: Cambridge University Press.
- Rodwell, J. S., 1991. *British Plant Communities: Volume 1, Woodlands and Scrub*. Cambridge: Cambridge University Press.
- Roper, T., 2010. *Badger (Collins New Naturalist Library, Book 114)*. Glasgow: Harper Collins.
- Stace, C. A., 2010. *New Flora of the British Isles 3rd Edition*. Cambridge: Cambridge University Press.
- Stanbury, A. et al., 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, Issue 108, pp. 723-747.
- Stone, E. L., 2014. *Bats and Lighting: Overview of current evidence and mitigation guidance*. Bristol: University of Bristol.

8.0 APPENDIX 1: TABLES

8.1 Photographs

Table 8.1: Photographs



Photo 1: Stone step access from driveway to wooded bank (taken facing north)



Photo 2: Glade between trees in woodland and location of path



Photo 3: Glade between tree canopy in woodland and proposed location of a timber platform for hot tubs



Photo 4: Young Holly shrubs in location of proposed timber platform and hot tub



Photo 5: Gap in the timber post and wire fence at the northern margin of the woodland



Photo 6: Semi-improved grassland to the north of the site



Photo 7: Bramble scrub to the south of the gas compound



Photo 8: Indian Balsam to the west of the gas compound



Photo 9: Stone slab bridge over the ephemeral drain



Photo 10: Ephemeral drain



Photo 11: Drain enters a pipe that carries water beneath the driveway to the east



Photo 12: T1 (Ash) with 'low' suitability for use by roosting bats; no bats or evidence of use by roosting bats detected.

8.2 Plant Species List

Table 8.2: Plant Species List for Broad-leaved Woodland

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
Canopy			
<i>Acer pseudoplatanus</i>	Sycamore	LA	10%
<i>Betula pendula</i>	Silver Birch	LF	5%
<i>Fagus sylvatica</i>	Beech	F*	30%
<i>Larix decidua</i>	European Larch	R	2%
<i>Quercus robur</i>	Pedunculate Oak	F*	40%
Shrub Layer			
<i>Fagus sylvatica</i>	Beech (saplings)	F	5%
<i>Ilex aquifolium</i>	Holly	A*	20%
<i>Rhododendron ponticum</i>	Rhododendron	A*	30%
<i>Taxus baccata</i>	Yew	R	1%
Herb Species			
<i>Carex pendula</i>	Pendulous Sedge	VLF	<1%
<i>Dryopteris dilatata</i>	Broad Buckler-fern	O	<1%
<i>Geranium robertianum</i>	Herb-Robert	R	<1%
<i>Hedera helix</i>	Ivy	VLF	<1%
<i>Helleborus</i> sp.	Hellebore species (planted)	VLF	<1%
<i>Lonicera nitida</i>	Box Honeysuckle	VLF	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LVA	5%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	R	<1%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

9.0 APPENDIX 2: FIGURES

Figure 1: Aerial Image of the Site and its Surroundings

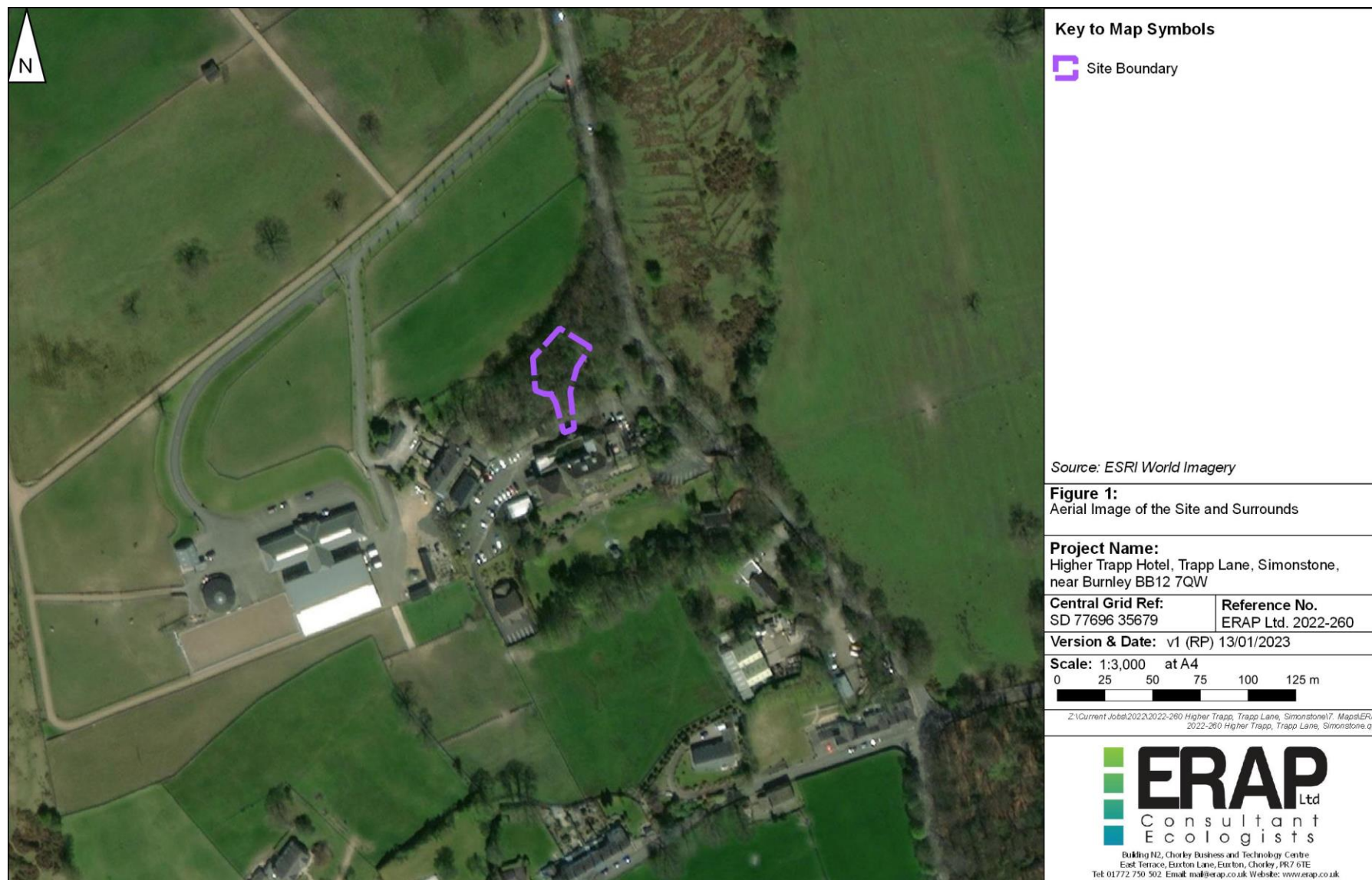


Figure 2: Phase 1 Habitat and Vegetation Map

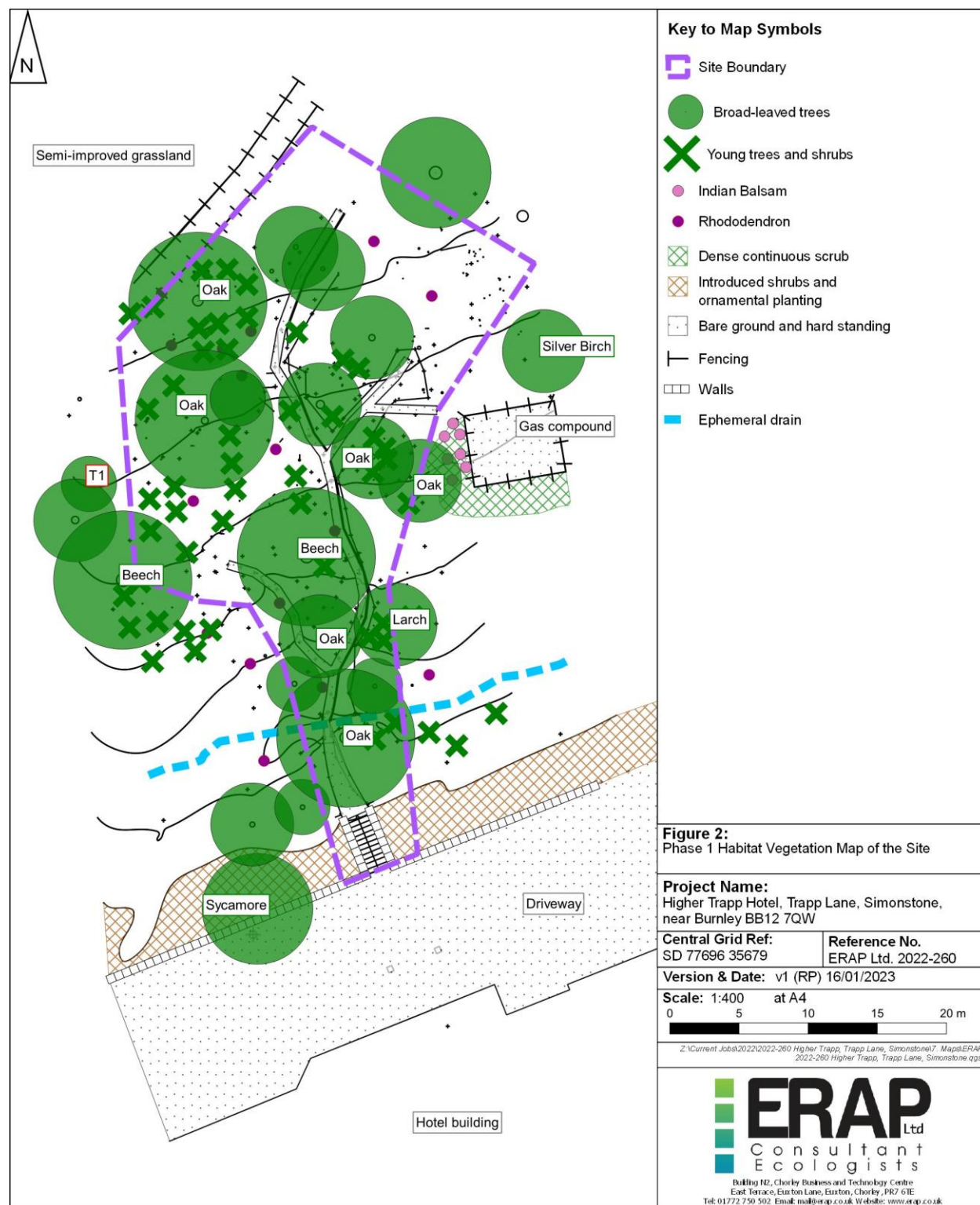


Figure 3: Phase 1 Habitat and Vegetation Map with Proposed Site Plan

