

Photograph 1 – T1 crack willow.



Photograph 2 – PRF T1.1 stem split.



Photograph 3 – T2 Hawthorn.



Photograph 4 – PRF T2.1 Weld containing three small cavities.



Photograph 5 – T3 Multi-stemmed hawthorn.



Photograph 6 – T3.1 dense ivy cover on main stem.



Photograph 7 – T4 pedunculate oak showing dense ivy cover on the main stem (T4.1).



Photograph 8 – T5 pedunculate oak showing dense ivy cover (T5.2).



Photograph 9 – PRF T5.1 stem cavity extending upward 2.5m.



Photograph 10 – T6 pedunculate oak.



Photograph 11 – PRF T6.1 callus roll.



Photograph 12 – T7 pedunculate oak.



Photograph 13 – T7.1 callus roll.



Photograph 14 – T8 multi-stemmed goat willow.



Photograph 15 – T8.1 split on one of the stems.



Photograph 16 – T9.1 rot hole with extending deadwood.



Photograph 17 – T9.2 deadwood branch cavity.



Photograph 18 – T9.3 pruned branch.



Photograph 19 – T9.4 flaking barks around deadwood limb.



Photograph 20 – T9.5 deadwood extending from stem.



Photograph 21 – T9.6 pruned branch with surrounding rot.



Photograph 22 – T9.7 deadwood branch on main stem.



Photograph 23 – T10.1 stem cavity with upward chamber.



Photograph 24 – T10.2 callus roll.



Photograph 25 – T11 multi-stemmed hawthorn.



Photograph 26 – T11.1 split between two stems.



Photograph 27 - T12.1 cavity where the two stems cross.



Photograph 28 – T13 pedunculate oak.



Photograph 29 – T13.1 callus roll.



Photograph 30 – T13.2 callus roll.



Photograph 31 – T13.3 knot hole.



Photograph 32 – T14.1 branch rot.



Photograph 33 – T14.2 callus roll with rotten branch.



Photograph 34 – T14.3 knot hole with protruding rotten branch.



Photograph 35 - T14.4 knot hole with inward rot on the main stem.



Photograph 36 – T15.1 stem cavity.



Photograph 37 – T16 multi-stemmed hawthorn.



Photograph 38 – T16.1 cavity in broken branch.



Photograph 39 – T17.1 callus roll.



Photograph 40 – T17.2 deadwood.



Photograph 41 – T18 multi-stemmed hawthorn.



Photograph 42 – T18.1 branch crack.



Photograph 43 – T19 multi-stemmed hawthorn.



Photograph 44 – T19.1 weld on main stem.



Photograph 45 – T20 hawthorn.



Photograph 46 – T20.1 stem cavity.



Photograph 47 – T21.1 stem cavity.



Photograph 48 – T21.2 callus roll.



Photograph 49 – T21.3 deadwood branch with inward rot.



Photograph 50 - T21.4 branch cavity.



Photograph 51 – T21.5 knot hole & T21.6 knot hole.



Photograph 52 – T21.7 broken branch with flaking bark.



Photograph 53 – T22 multi-stemmed hawthorn.



Photograph 54 – T22.1 crevice where three branches overlap.



Photograph 55 – T23 multi-stemmed hawthorn.



Photograph 56 – T23.1 cavity where branches overlap.



Photograph 57 – T24 crack willow.



Photograph 58 – T24.1 branch cavity.



Photograph 59 – T25 multi-stemmed goat willow.



Photograph 60 – T25.1 weld.



Photograph 61 – T26 dead pedunculate oak.



Photograph 62 – T26.1 stem cavity & T26.2 splits in wood.



Photograph 63 – T26.3 broken branch with inward rot & T26.3 woodpecker hole.



Photograph 64 – T27 goat willow.



Photograph 65 – T27.1 rot hole.



Photograph 66 – T28.1 wound.



Photograph 67 – T28.2 inward rot.



Photograph 68 – T28.3 broken branch.



Photograph 69 – T29.1 pedunculate oak.



Photograph 70 – T30.1 cavity.



Photograph 71 – T31.1 sycamore with dense ivy cover.



Photograph 72 – T32.1 dense ivy cover.



Photograph 73 – T33 crack willow.



Photograph 74 - T33.1 branch rot.



Photograph 75 – T33.2 wound / tear.



Photograph 76 – T33.3 callus roll.



Photograph 77 – T34 pedunculate oak.



Photograph 78 – T34.1 pruned branch crack.



Photograph 79 – T35.1 deadwood branch.



Photograph 80 – T35.2 callus roll.



Photograph 81 – T36.1 hawthorn with dense ivy cover.



Photograph 82 – T37.1 deadwood limb with numerous cavities.



Photograph 83 – T37.2 deadwood.



Photograph 84 – T37.3 stem cavity.



Photograph 85 – T37.4 broken stem.



Photograph 86 – G1.1 dense ivy cover.



Photograph 87 – T38 goat willow.



Photograph 88 – T38.1 broken branch.



Photograph 89 – T39 crack willow



Photograph 90 – T39.1 deadwood limb.



Photograph 91 – T40.1 rot hole.



Photograph 92 – T41.1 pruned branch & T41.2 deadwood branches.



Photograph 93 – T42 goat willow.



Photograph 94 – T42.1 rot hole on stem.



Photograph 95 – T43 goat willow.



Photograph 96 – T43.1 tear out.



Photograph 97 – T43.2 knot hole.



Photograph 98 – T43.3 knot hole.



Photograph 99 – T43.4 knot hole.



Photograph 100 – T43.5 tear out.



Photograph 101 – T43.5 callus roll.



Photograph 102 – T43.6 rot holes.



Photograph 103 – T43.7 upward facing knot hole.



Photograph 104 – T43.8 x2 connected callus rolls.



Photograph 105 – G2.1 dense ivy cover.



Photograph 106 – T44 goat willow.



Photograph 107 – T44.1 rot hole.



Photograph 108 – T44.2 woodpecker hole.



Photograph 109 – T45 goat willow.



Photograph 110 – T45.1 woodpecker hole.



Photograph 111 – T45.2 broken branch.



Photograph 112 – T45.3 rot hole.



Photograph 113 – T45.4 tear out.



Photograph 114 – T46.1 goat willow with a callus roll.



Photograph 115 – T46.2 rot hole.



Photograph 116 – T46.3 broken branch.



Photograph 117 – T46.4 upward facing callus roll.



Photograph 118 – T46.5 callus roll with inward rot.



Photograph 119 – T47 goat willow.



Photograph 120 – T47.1 large stem cavity.



Photograph 121 - T48.1 callus roll.



Photograph 122 – T49.1 rot hole.



Photograph 123 – T49.2 rot hole.



Photograph 124 – T50.1 rot hole.



Photograph 125 – T50.2 callus roll.



Photograph 126 – T50.3 rot hole.



Photograph 127 – T50.4 broken branch.



Photograph 128 – T50.5 callus roll.



Photograph 129 – T51.1 woodpecker hole.



Photograph 130 – T52.1 tear out.



Photograph 131 – T53.1 tear out.



Photograph 132 – T54.1 stem cavity.



Photograph 133 – T54.2 stem cavity.



Photograph 134 – T55.1 stem callus roll.



Photograph 135 – T56.1 cracked branch.



Photograph 136 – T57.1 callus roll.



Photograph 137 – T58.1 stem cavity.



Photograph 138 – T59.1 branch crack.



Photograph 139 – G3.1 dense ivy cover.



Photograph 140 – T60.1 branch rot hole.



Photograph 141 – T61.1 woodpecker hole.



Photograph 142 – T61.2 woodpecker hole.



Photograph 143 – T62.1 dense ivy cover.



Photograph 144 – T63.1 dense ivy cover.



Photograph 145 – Tree dense ivy cover.

Appendix 4 – External lighting guidance

Lighting scheme in relation to bats

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.

2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component.
- High pressure Sodium Lamps (SON) emit a small UV component.
- White SON, though low in UV, emit more than regular SON.

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.
- Variable
- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.
- Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

- Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.
- Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.
- If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas. Light should not leak upwards to illuminate first floor and higher levels.
- Lamps of greater than 2000 lumens (150 W) must not be used.
- Movement or similar sensors must be used. They must be carefully installed and aimed, to reduce the amount of time a light is on each night.
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible. Light must not be directed at or close to bat roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit.
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.

Taken from the Bat Conservation Trust

Appendix 5 – Statutory and planning context

STATUTORY AND PLANNING CONTEXT

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Habitats

Section 7 of the Environment Act (Wales) places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists, and encourage others to take such steps.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the "Habitats Regulations"). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] … uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by NRW.

The Environment (Wales) Act 2016 also lists the following bat species as species of principle importance under Section 7:

- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Birds

All wild birds, their nests and young are protected throughout England and Wales by the Wildlife & Countryside Act 1981 (as amended). It is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds. The legislation applies to all bird species, common and rare.

In addition to the protection afforded to all wild birds, more vulnerable species listed on Schedule 1 of the Act receive enhanced protection when breeding. Schedule 1 species, including their dependent young, are protected from intentional or reckless disturbance whilst at or near the nest, in addition to the protection afforded the more common species.

The Environment (Wales) Act 2016 offers further protection to the nests of some species that regularly re-use their nests, even when the nests are not in use.

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status' of 244 UK bird species. "Birds of Conservation Concern 4: the Red List for Birds" is the most recent publication summarising their findings. Three lists, Red, Amber and Green, have been produced based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. These lists are a valuable resource when considering conservation priorities.

Planning Policy

National planning guidance is issued in the form of Planning Policy Wales (PPW - 2024). The most relevant sections are included in Chapter 6: Distinctive and Natural Places. This chapter details the policies on issues such as the protection of trees, woodlands, species, and designated sites. The document is free and available to view online.