THE DELL, PRESTATYN

PRELIMINARY ECOLOGICAL APPRAISAL,

PRELIMINARY BAT ROOST ASSESSMENT AND BAT

EMERGENCE SURVEY

DATE	ECOLOGIST	APPROVED	VERSION	COMMENTS
04/10/2017	Peter Kneen	Lucy Boyett	V1	
12/10/2017	Lucy Boyett	Rhian Hughes	V2	Minor Amendments

Enfys Report Ref: EE/386/PK

Aelod o Cymdeithas Ymgyngoriaethau Ymddiriedolaethau Natur
A member of the Association of Wildlife Trust Consultancies

Mae Enfys Ecology yn is-gwmni i Ymddiriedolaeth Natur Gogledd Cymru
Enfys Ecology is a subsidiary of North Wales Wildlife Trust
Rhif Cwmni / Company Number 2535184

Contents

1.0 Introduction

1.1 Enfys Ecology Limited were commissioned by Denbighshire County Council (DCC) to undertake ecological surveys at No1, The Dell, Prestatyn and the land to the rear, including a Preliminary Ecological Appraisal (PEA) and Preliminary Bat Roost Assessment (PRA).

1.2 The site comprises a bungalow on the western boundary of the site, with an area of publicly accessible broad-leaved woodland to the east and a footpath running along the north boundary. The site is situated to the south of Prestatyn, approx. 1.5km south of the coast and 380m to the east of open fields, centred on (approximate) Ordnance Survey Grid Reference SJ0652082347.

1.3 The proposed plan is to re-develop part of the site for new local authority retirement and residential apartments, which will require the demolition of the existing bungalow and the removal of some of vegetation and woodland to the east.

1.4 The aim of the survey was to gain baseline ecological data on the species and habitats present on the site, identify any possible ecological constraints to the works arising from the site or surrounding area, and recommend suitable general mitigation and/or compensation strategies as appropriate.

1.5 The PEA included an extended Phase 1 Habitat survey, protected species survey and bat survey; including a PRA and emergence survey of the bungalow and a climbed inspection of trees with potential roosting features. A desk study examining local ecological records held for the area by Cofnod, the local environmental record centre for the North Wales region was also carried out.

2.0 Site Description

2.1 *Survey area*

The area surveyed comprised a small single storey bungalow on the western boundary of the site, which has an area of paved garden and a fence surrounding it. To the east of the bungalow is an area of semi-natural broad-leaved woodland with small areas of tall ruderal and scrub vegetation and a public footpath running along the northern and eastern boundaries.

2.2 The tall ruderal and scrub vegetation is overgrown, with evidence of some fly tipping adjacent to the bungalow. The site did not appear to be under any regular management.

2.3 The survey area is shown in Figure 2.1, below.

FIGURE 2.1. THE SITE AT THE DELL. THE APPROXIMATE AREA SURVEYED IS OUTLINED IN RED. IMAGE © GOOGLE 2017.

2.4 *Surrounding habitats and features*

The site is bounded to the north by Ffordd Isa Road and to the west by a residential road (The Dell). To the east and south of the site there are residential properties with large vegetated gardens and further south there is a area of open space believed to be a sports pitch. Along the eastern boundary there is a tree lined public footpath, which runs northwards towards the coast. The surrounding area is predominantly residential with areas of agricultural land 350m to the north west and a large area of woodland 630m to the south east.

3.0 Methodology

3.1 *Desk study*

3.1.1 A desk study was undertaken using records from Cofnod, the local environmental record centre for North Wales. These records were used to determine the presence of statutory and non-statutory sites for nature conservation and protected or notable species and habitats within a 1km radius of the site. The records were used to inform the survey and recommendations, and to provide context for evaluating the species and habitats found during the survey.

3.2 *Extended Phase 1 Habitat Survey*

3.2.1 A survey of the site was conducted by an experienced ecologist walking over the site. The habitats present were classified into a series of categories according to the Phase 1 Habitat standard methodology (JNCC 2010). Notes were taken on the habitats and their suitability for protected species, and target notes were used to record any habitats or features of particular note. A search for evidence of protected species was carried out, including amphibians (including great crested newts, bats, and reptiles, in addition to badger setts, dung pits, hairs, footprints, and scratching posts on trees. Trees with suitable features for roosting bats, including knot holes and other crevices, hollow trunks and dense ivy coverage were also identified.

3.2.2 The Preliminary Ecological Appraisal was conducted on the 2nd August 2017 by ecologists Peter Kneen and Lucy Boyett.

3.3 *Climbed Bat Tree Inspection*

3.3.1 During the Preliminary Ecological Appraisal, the trees on site were assessed for potential bat roosting features from the ground using binoculars. If any potential roosting features were identified, or it was not possible to inspect the tree fully due to being covered by ivy, a climbed inspection by a qualified tree climber, under the supervision of a licensed bat worker was recommended.

3.3.2 Trees with potential roosting features were climbed using ropes and harnesses and any features such as gaps or crevices were inspected using torches and an endoscope, where appropriate. The trees were climbed by Peter Kneen under the supervision of Rhian Hughes, a licenced bat worker (68726:OTH:CSAB:2015) on 4th October 2017.

3.4 *Preliminary Bat Roost Assessment and Dusk Emergence Survey*

3.4.1 A preliminary bat roost assessment of the exterior of the bungalow, was carried out on 23rd August 2017 by Rhian Hughes (Licence number: 68726:OTH:CSAB:2015).

3.4.2 It was assessed externally for any signs of bats; including droppings, feeding remains, and other indicative marks, plus potential roosting features such as crevices, cracks and other holes, and any potential access points into the building. High powered torches were used to inspect any identified potential roosting features, and an endoscope was used to investigate any gaps or crevices, where appropriate.

3.4.3 One dusk emergence survey was carried out on 23rd August 2017 by Rhian Hughes (licence number 68726:OTH:CSAB:2015) and two assistants.

3.4.4 Records were taken of any bats observed emerging from the building, and of any other bat activity taking place in the area during the survey. All surveyors used bat box duet detectors

and Anabat SD2 frequency division and Anabat Express bat detectors were positioned around the building to record any bat calls for further analysis.

3.4.5 The dusk emergence survey began approximately 30 minutes before sunset and continued for approximately 90 minutes after sunset.

3.4.6 Building and potential roost assessments were carried out following the guidelines set by the Bat Conservation Trust, 'Bat Surveys – Good Practice Guidelines, Collins, 2016'. Photographic evidence was taken where necessary.

3.5 *Limitations*

3.5.1 The Preliminary Ecological Appraisal was carried out in good weather and at a time of year when most plants are in flower. Plants that flower at different times of the year or animals who use the site infrequently may have not been recorded. A species, not recorded during the survey, does not confirm its absence from the site

3.5.2 Bats are a difficult group to survey, and as bats are highly mobile animals it is possible that they could move into a building after the survey has occurred. Therefore, it cannot be guaranteed that bats will not move into the buildings following the survey.

4.0 Desk Study

4.1 *Designated nature conservation sites*

4.1.1 There are six statutory designated sites, local wildlife sites and ancient woodland sites within 1km of the survey boundary as shown in Table 4.1 and Figure 4.1 below.

TABLE 4.1. SITES OF NATURE CONSERVATION VALUE WITHIN 1KM OF THE DELL.

Site Type	Site Name	Distance from Site	Notes
Wildlife Site	D012: Y Morfa	320	Designated for vegetation and bird populations
Sites of Special Scientific Interest	490: Prestatyn Hillside	611	Designated for geology
Areas of Outstanding Natural Beauty	Bryniau Clwyd a Dyffryn Dyfrdwy	613	-
Wildlife Sites	D017: Top y Nant Woods	756	Designated for habitats on site
Ancient Woodland Sites	29963: Ancient Semi Natural Woodland	768	Designated for woodland
Ancient Woodland Sites	27487: Ancient Semi Natural Woodland	771	Designated for woodland

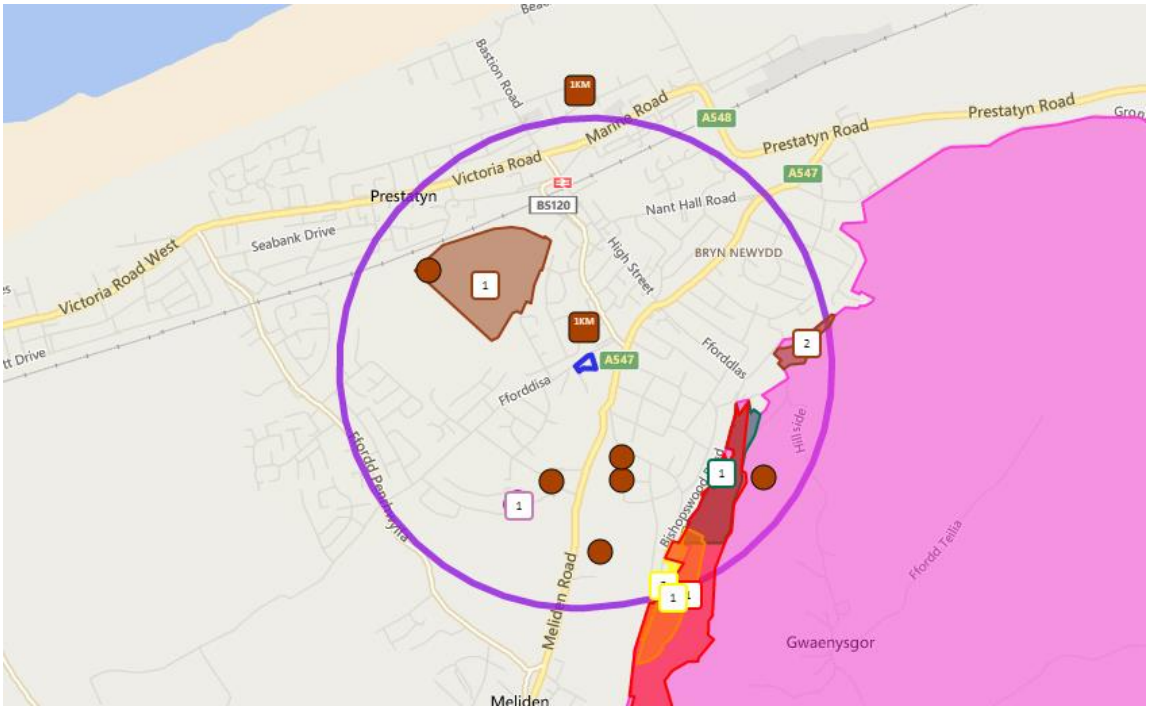


FIGURE 4.1. BLUE POLYGON SURVEY AREA. RED – SSSI, PINK – AONB, BROWN – WILDLIFE SITES IMAGE TAKEN FROM COFNOD DATA SEARCH. IMAGE © COFNOD 2017.

4.2 *Protected and notable species; overview*

In total, Cofnod held 401 records of 113 different protected, notable or invasive non-native species from within 1km of the site (within the last 20 years). All distances given are to the (approximate) site boundary at the closest point, however many of these records are highly mobile species such as birds and bats, which will range across the area.

4.3 *Protected and notable fauna*

4.3.1 There were no records from within the site itself, with the closest records approx. 130m to the north west, including natterjack toad (*Epidalea calamita*) and common lizard (*Zootoca vivipara*). See Appendix B for the full desk study details.

4.3.2 A large proportion of the records within 1km of the site were recorded to the north of the site, towards the coast.

4.3.3 Within 500m there were several records of bats, with the closest record a common pipistrelle (*Pipistrellus pipistrellus*) recorded 130m to the north. There was also one record of badger and hedgehog (*Erinaceinae*) and multiple records of various bird species.

4.3.4 There were many bird records within the 1km search area. The closest of which were located 130m to the north of the site and included records for black backed gull (*Larus marinus*), house martin (*Delichon urbicum*), kestrel (*Falco tinnunculus*), grey wagtail (*Motacilla cinerea*) and mute swan (*Cygnus olor*). Other bird records were further from the site, recorded to the north and to the north west, which have a lower density of buildings as well as being closer to the sea.

4.4 *Protected and notable or invasive flora*

4.4.1 Cofnod held a number of records of plant species from within 1km of the site, including some rarities, which were over 100m from the site. The closest records included bluebell (*Hyacinthoides non-scripta*) and dwarf spurge (*Euphorbia exigua*), located approx. 130m north of the site boundary.

4.4.2 There were several records of invasive plant species within 1km of the site boundary. The closest record to site was of Japanese knotweed (*Fallopia japonica*), located 130m to the north of the site.

5.0 Preliminary Ecological Appraisal

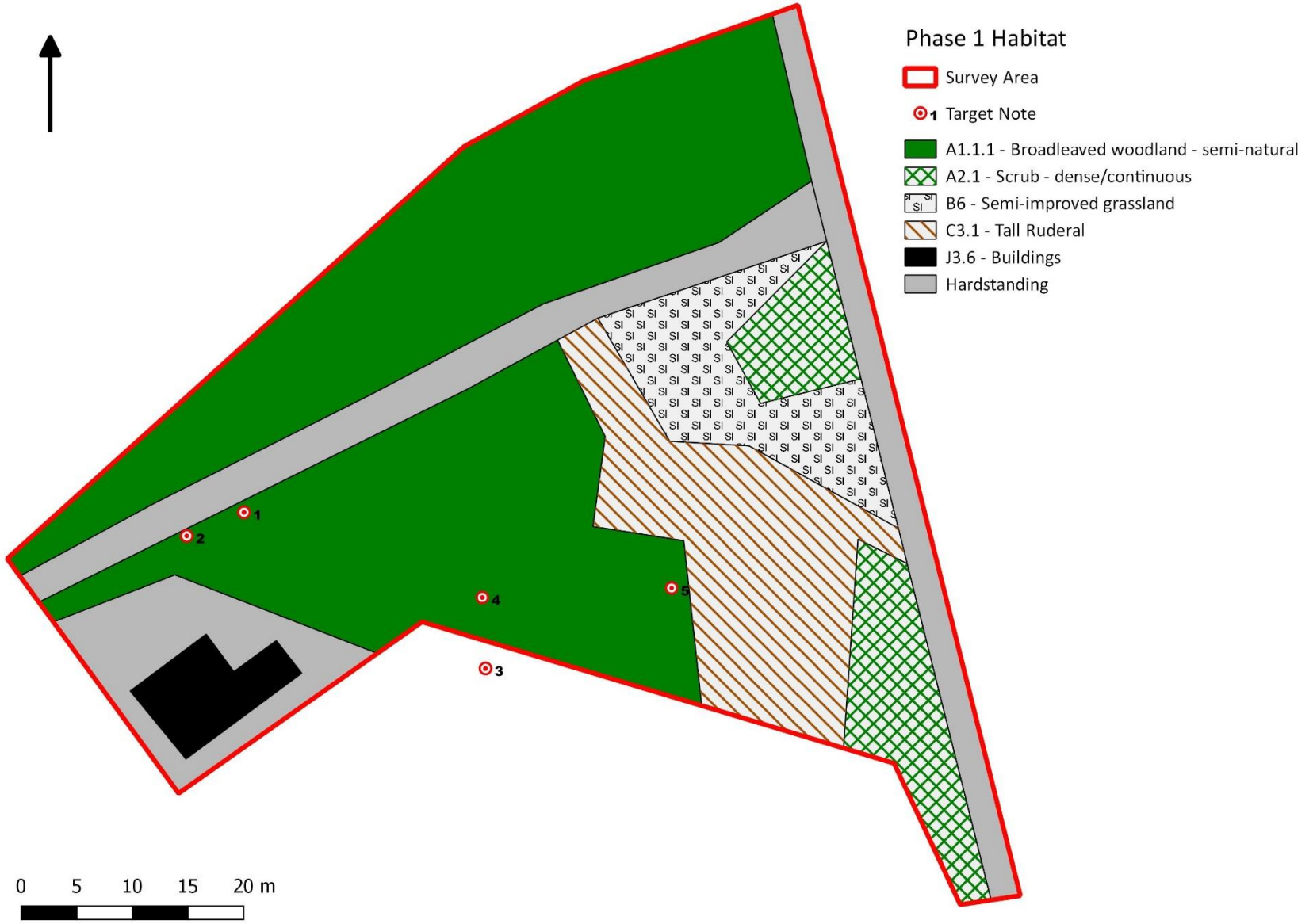
5.1 *Habitat Types*

5.1.1 A Phase 1 Habitat map of the site is provided in Figure 5.1. A description of the habitats including some species information and details of target notes from the map are provided below. Photographs of the site are included with the text.

5.1.2 The following standard Phase 1 habitat and feature types were recorded within the site (with their alphanumeric codes):

- A1.1.1 Semi-natural Broad-leaved woodland
- A2.1 Dense Scrub
- B6 Semi-improved Grassland
- C3.1 Tall Ruderal
- J3.6 Buildings
- J4 Bare Ground (Hard Standing)
- J2.4 Fence

FIGURE 5.1. PHASE 1 HABITAT MAP OF THE SURVEY AREA. TARGET NOTES AND DESCRIPTIONS OF THE HABITATS FOLLOW IN SECTION 5.2



5.2 *Target notes (TN)*

Target notes were recorded to show points of ecological interest and are shown in Figure 5.1

5.2.1 *Target notes 1, 2 & 3*

Target notes 1, 2 and 3 (Photos 5.1, 5.2 and 5.3 respectively) refer to three mature trees, which were identified as having potential bat roost features. An inspection from the ground was not possible due to the presence of ivy obscuring the view and therefore potential bat roost features could not be ruled out without a climbing inspection.

Target notes 1 and 2 refer to two mature oak trees in the western half of the site, which are covered in ivy, obscuring any potential roost features from the ground.

Target note 3 refers to a mature ash tree located just outside the site boundary to the south west, which has a large wound in the north face at 5-8m.

The extent of these features could not be seen adequately from ground level, therefore it was recommended that they were inspected fully by a tree climber.

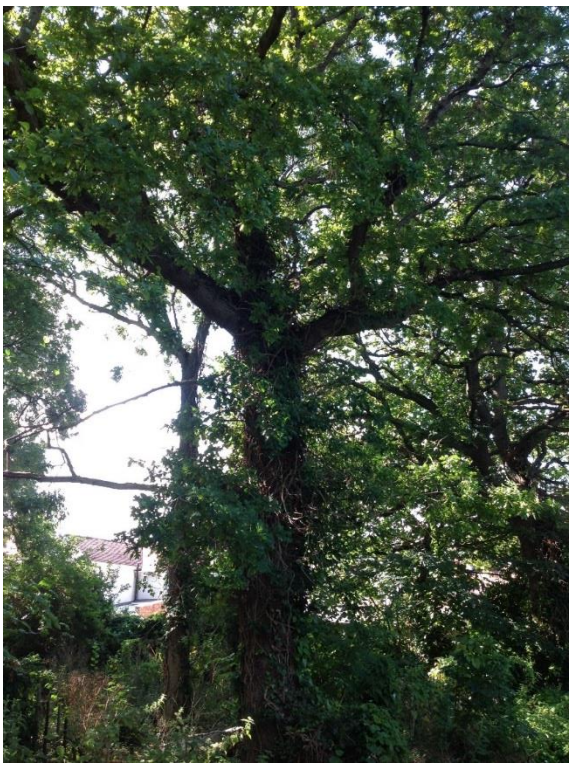


PHOTO 5.1. TN 1 MATURE OAK WITH IVY COVER

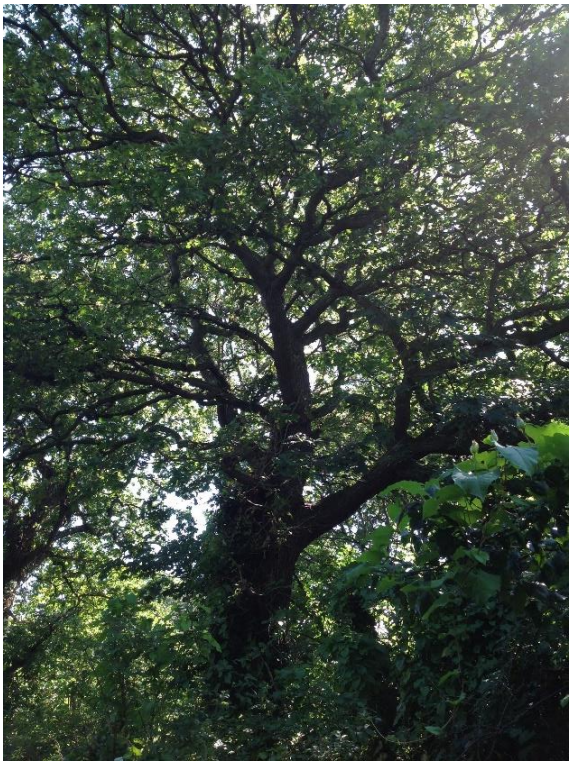


PHOTO 5.2. TN 2 MATURE OAK WITH IVY COVER

PHOTO 5.3. TN 3 MATURE ASH WITH CAVITIES IN THE TRUNK

5.2.2 *Target note 4*

Target note 4 shows the location of potential snuffle holes in the western half of the site. Approx. 15 holes were observed near to the south western boundary of the site within the area of mature trees. These covered an area of approx. 5x5m and appeared to be badger snuffle holes. No droppings were recorded or signs of recent use.

PHOTO 5.4. POTENTIAL BADGER SNUFFLE HOLES

5.2.3 *Target note 5*

Target note 5 shows the location of a burrow. A single hole measuring 25cm across facing south was recorded beneath a mature oak tree. There were no signs of prints or droppings around the entrance nor were there mammal tracks in the vicinity though there were some rabbit droppings in the clearer areas on site.

PHOTO 5.5. BURROW

5.3 *Habitat descriptions*

5.3.1 *Semi-natural Broad-leaved Woodland*

A large proportion of the site is covered by mature semi-natural broad-leaved woodland (Photo 5.6). Species of trees on site include sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), wild cherry (*Prunus avium*), oak (*Quercus sp.*) and willow (*Salix sp.*). The understorey was sparse and included species adapted to lower light conditions such as common nettle (*Urtica dioica*), herb Robert (*Geranium robertianum*), dock (*Rumex spp*), ragwort (*Senecio jacobaea*) and meadowsweet (*Filipendula ulmaria*).

The broad-leaved woodland to the north of the site (north of the footpath) is denser than that in the rest of the site. The broad-leaved woodland to the west of the centre of the site, has an understorey, which is much more sparsely vegetated. Upon talking to residents of the area it appeared that this area of less dense vegetation had been used for dumping spoil from nearby excavations and this may account for the low vegetation density.

PHOTO 5.6 BROAD-LEAVED WOODLAND

5.3.2 *Dense Scrub*

On the eastern boundary of the site, there are two small areas of dense scrub. These are directly adjacent to the footpath, which ran north to south along the eastern boundary (Photo 5.7). The dense scrub is made up of species such as sycamore saplings, hawthorn, herb Robert, elder, ivy (*Hedera helix*), bramble (*Rubus fruticosus agg*.) and common nettle. These areas of scrub are extremely dense and appeared to be managed by trimming the edges, which border the footpath.

PHOTO 5.7. SOUTHERN AREA OF DENSE SCRUB

5.3.3 *Semi Improved Grassland*

To the east of the site, there is a small "C" shaped area of semi improved grassland (Photo 5.8) bounded to the north and the east by public footpaths. This grassland did not seem to be regularly mowed or managed. The sward height varied throughout the grassland between around 10cm and 40cm. Dominant species in this area include, false oat grass (*Arrhenatherum elatius*), ribwort plantain (*Plantago lanceolata*) and white clover (*Trifolium repens*). Other species present include meadow fescue (*Festuca pratensis*), dock, cocksfoot (*Dactylis glomerata*), common hogweed, Yorkshire fog (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*) and common nettle.

PHOTO 5.8. SEMI-IMPROVED GRASSLAND

5.3.4 *Tall Ruderal*

To the south east of the site there is a small area of tall ruderal vegetation. This area is bounded to the east by an area of dense scrub and to the south by a garden fence. The tall ruderal vegetation comprised bindweed (*Convulvulus*), hogweed, bramble, bracken (*Pteridium aquilinum*), creeping buttercup (*Ranunculus repens*) and common nettle. This area of vegetation occupied a slight dip in the site.

PHOTO 5.9. NON-RUDERAL HABITAT

5.3.5 *Other habitats*

The site contains tarmacadam surfaced footpaths, which run from west to east as well as bounding the site from north to south on the eastern boundary. There is also a hard standing surrounding the bungalow to the west of the site. The southern and western boundaries of the site are bounded by garden fences.

PHOTO 5.11. HARD STANDING PUBLIC FOOTPATH

5.4 *Fauna*

5.4.1 Amphibians

There is no breeding habitat for amphibians within the site and no water bodies were identified within 500m of the site. The habitat on site would provide suitable terrestrial habitat for foraging amphibians, however the likelihood of great crested newts (*Triturus cristatus*) being present on site is considered to be low as there are no breeding ponds within a 500m radius. The site is also bounded to the north by a busy road, which would represent a significant a barrier for amphibians from the north.

The data search showed that there are some records of amphibians within the 1km search area. These included natterjack toad (*Epidalea calamita*), smooth newt (*Lissotriton vulgaris*), and common frog (*Rana temporaria*). The only record of amphibians within 500m of the site were natterjack toads, 130m to the north of the site boundary. Natterjack toads are a protected species, however, it is considered unlikely that they would be present on site as the habitats present are not appropriate for them. In addition, the site recorded with natterjack toads is separated from the survey site by a busy road; which in turn would act as a barrier for amphibians.

5.4.2 Badger

Snuffle holes were observed in the south western section of the site. These holes were numerous and considered likely to have been made by badgers. It was not possible to accurately gauge the age of the holes, however there were no badger dung or latrines present and they did not appear to have been freshly dug. To the east of these holes beneath a mature tree in the south of the site there is a large hole, which was considered to potentially be a badger sett. Another potential sett entrance was observed (off site) to the east on the bank of the road bund.

To determine if the two holes were in use by badgers, the holes were monitored by spreading sand outside the entrances and placing sticks loosely across the holes. These were checked twice during early October to capture any animal tracks, which may be made and to also see if the sticks had been moved. On each of the monitoring visits, no badger prints were observed and the sticks remained in place. In addition no animal paths were observed through the dense vegetation.

The data search returned results of badgers within 1km of the site, the closest of which was located 350m to the west of the site boundary. Residents of the area have observed badgers in the past, however not for some time.

5.4.3 Bats

It is probable that bats use the site for foraging as the area of broad-leaved woodland with open areas within the site would provide good foraging habitat for bats. The tree lined footpath running northwards along the eastern boundary would also provide a good commuting corridor. It is unlikely however that bats are using the site for roosting.

5.4.4 Birds

The site provides a large amount of nesting habitat for birds. The dense scrub in the east and the dense broad-leaved woodland to the north of the site provide good nesting habitat for a number of different bird species. The mature trees in the south west of the site would provide nesting habitat for larger birds such as corvids. Overall the vegetation on the site would provide good foraging opportunities for a range of species.

The data search returned a number of records of protected and notable bird species within 1km of the site boundary, however most of these records were recorded nearer the coast to the north.

5.4.5 Reptiles

The site is not considered to be suitable for reptiles as it contains little habitat for them to forage and very few places for them to bask. The disturbance caused by people and dogs using the footpaths, which intersect the site reduces the likelihood of reptile presence.

There are many records of reptiles to the north of the site but due to the condition of the site it is unlikely any reptiles would be present on site.

5.4.6 Other species.

The habitats on site are considered to be of good quality for other species such as hedgehog (*Erinaceinae*), especially as the site backed on to residential gardens.

6.0 Climbed Tree Inspection

6.1 Following the climbed inspection of the trees (as shown in section 5.2.1), the two oak trees in the north western section of the site were considered to have **Negligible** bat roost potential. The ash tree to the south had **Low** bat roost potential. A summary of the tree climbing inspections is shown in Table 6.1.

TABLE 6.1 CLIMBED TREE INSPECTION RESULTS

Target note tree/ building	Tree description	Bat roost potential features	Climbed inspection result	Bat Roost Potential
1	Mature oak adjacent to the footpath which runs west to east through the site. The tree measured approximately 15m in height with ivy cover on the north side.	Ivy cover on the north may conceal potential roost features.	The ivy was separated away from the trunk allowing a visual inspection of the trunk and no roost features were observed.	**Negligible**
2	Mature oak adjacent to the footpath which runs west to east through the site. The tree measures approximately 17m in height with ivy cover on all sides.	Ivy cover may conceal roost features.	Ivy was inspected thoroughly and no roosting features were found.	**Negligible**
3	Mature ash directly adjacent to the site's southern boundary (off site). The tree measured approximately 20m in height with two main limbs. Severe bracket fungus showed on the west most limb.	A large wound was visible in the north face of the tree at 5-7m with rolled bark around the outside.	The wound was inspected and was found not to extend in to the tree creating a cavity. During the inspection several other holes were observed but none were considered to have bat roosting potential. The only exception to this was two small holes in the underside of a limb on the southern side of the tree at approx. 10m. These were inaccessible and could not be closely observed. By their size and the size of the branch the holes were located on, it is considered that they would only have low potential.	**Low**

7.0 Preliminary Bat Roost Assessment and Dusk Emergence Survey

7.1 *Building Description*

The unoccupied bungalow is a single storey building constructed from brick, with rendered with pebble dash. The roof is tiled, however there are a number of gaps especially on the hip sections of the roof. The soffit boxes were well sealed with no obvious holes or gaps. The lead work around the two chimneys is in good condition with no gaps visible from a ground inspection.

The external inspection of the building showed a small number of potential access points for crevice dwelling bats and is therefore classified as having low roost potential. As a result one dusk emergence survey was carried out.

PHOTO 5.10. BUNGALOW

7.2 *Dusk Emergence Survey*

7.2.1 The emergence survey took place on 23rd August 2017. Sunset was at 19:55 and monitoring commenced at 19:25 and ended at 21:55. The conditions during the survey were mild, dry and calm with a temperature of 18°C at the start of the survey and 16°C at the end.

7.2.2 The first bat to be detected was a pipistrelle (*Pipistrellus*) at 20:49, which was heard faintly but not seen. A soprano pipistrelle (*Pipistrellus pygmaeus*) was heard faintly at 20:51 and a common pipistrelle (*Pipistrellus pipistrellus*) was seen commuting over the bungalow at 20:55. From 20:55 to 21:10 common pipistrelles were seen and heard commuting over the bungalow. The last bat to be recorded was a pipistrelle heard faintly at 21.36.

8.0 Discussion and Evaluation

8.1 The proposed plan is to re-develop part of the site for new local authority retirement and residential apartments, which will require the demolition of the existing bungalow and the removal of some vegetation and woodland to the east.

8.2 *Preliminary Ecological Appraisal*

8.2.1 The nearest statutory designated site is Prestatyn Hillside SSSI, which is 611m from the site and designated for its geology. As the site size is relatively small and the habitats onsite presently do not connect readily with those on protected sites, it is considered unlikely that redeveloping this site will have detrimental impacts on the protected sites.

8.2.2 The site is predominantly broad-leaved woodland with a small areas of scrub and tall ruderal vegetation in the eastern section. No habitats were considered to be Habitats of Principal Biological Importance in the Environment (Wales) Act 2016, important habitats based on the guidelines from the Institute of Ecology and Environmental Management (IEEM 2006) or Priority Habitats on the former national biodiversity Action Plan (UK BAP 2007) however the site offers good habitat for bird species.

8.2.3 *Flora*

None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended) or considered rare nationally or locally. No invasive non-native species were recorded.

8.2.4 *Fauna*

<u>Amphibians</u>

There are no ponds on site or within a 500m radius and so it is considered unlikely amphibians will be found on site. No protected amphibians are likely to be found during works, however there is potential for frogs and toads to be found during clearance works, which if found should be moved safely off site.

<u>Badger</u>

Badgers may forage within the site, however no activity was recorded at the two potential badger setts – these are therefore regarded as being inactive, and no obvious tracks or latrines were observed. Prior to works commencing further checks should be carried out, especially during spring/early summer.

<u>Bats</u>

The only bat roosting potential found during the survey is the mature ash tree slightly off site to the south. This had two small downwards facing holes in a southern limb. This tree is likely to require removal should the area be developed and therefore, to mitigate for the loss of these two holes, two bat ladder (bat boxes) should be erected on mature trees on

site prior to felling the tree. The felling should take place over winter as the features identified would not be suitable for hibernating bats. The limb should be sectional felled and lowered to the ground and left on site for a minimum of three nights. As well as the bat ladder bat boxed, inbuilt bat boxes should be incorporated into the building to enhance the area for bats. (Location in the building to be agreed)

The number of trees to be removed is not currently known, however the number of trees removed should be kept to a minimum, especially where they form a linear feature (such as along the footpath) which is likely to be used by foraging bats. The emergence survey of the bungalow recorded low bat activity along the western boundary of the site with only a few commuting pipistrelles recorded.

In order to mitigate for the loss of foraging habitat the landscape design should incorporate planting which connects existing woodland and linear features.

Nesting Birds

The clearance of vegetation as part of the proposed development will result in the loss of foraging and nesting habitat for bird species. It is recommended that bird boxes be erected in integrated into the building within the final development as compensation for this loss of nesting habitat. It is also recommended that the planting scheme for the final development should include a range of native plants which are not only in keeping with the species currently present on the site, but also plants which can support a wide range of invertebrate life.

As the site provides nesting habitat for birds, the demolition of the bungalow or tree or scrub removal should ideally take place outside the bird breeding season, (March to September inclusive), if this is not possible, a thorough search for nesting birds should be conducted prior to works commencing (including tree climbing if required) and if any nests are found or the area cannot be adequately searched; all activity must stop until the birds have fledged or the nesting period has ended.

Reptiles

It is not thought that reptiles will be present on site and so further surveys or mitigation will not be required.

Other Species

It is not considered probable that any other protected or notable species currently use the site.

8.3 *Preliminary Bat Roost Assessment and Dusk Emergence Survey*

The bungalow is considered to have low potential for bats and no bats emerged during the dusk emergence survey. It is not thought that bats are using the building. It is considered

that the proposed demolition works to the building will therefore have no detrimental impact on bats or a bat roost.

9.0 Recommendations

9.1 *Mitigation*

9.1.1 Although no protected species are likely to be on site or visiting the site during works, standard best practice Reasonable Avoidance Measures (RAMS) (as shown in point 9.1.2) will need to be implemented at all times during the works to reduce the risk of harm to species that may be found on site

9.1.2 *Reasonable avoidance measures,*
The following measures should be implemented at all times during the works:

- Working areas should be kept to the minimum required,

- Should it be necessary to have any excavation left open these excavations should ideally be covered with plywood boards (or similar). The boards are to be bedded on sand to prevent small animals from taking shelter under exposed edges. If this is not possible, then these trenches must be thoroughly checked prior to back filling, or if leaving pits or trenches open is unavoidable, a suitable ramp (such as a plank or branch) must be provided to allow animals to escape the pit. Ramps could be created by grading the slope at the edges or using scaffold boards.

- Trenches must be checked each morning (by site operatives) prior to works commencing to ensure that amphibians/reptiles etc. are not present.

- At the end of works each day, the site should be inspected by a responsible individual to ensure that the above protocols are being complied with.

- Works should be avoided within 1 hour of dawn and dusk where possible to avoid disturbance to nocturnal animals. If works outside this time are needed, all lighting should be directional and be directed away from the woodland areas, i.e. onto the site from the perimeter.

- If at any point in the works a reptile or amphibian is found all works in the vicinity of the sighting must immediately cease, and the animal moved from the site into by hand (wearing gloves). If a great crested newt is found, all works must stop and an ecologist called. The ecologist will then review the situation and advise on further action.

9.2 *Nesting Birds*

Demolition works and the removal of trees and scrub vegetation should be timed to avoid the bird breeding season which runs from March to September (inclusive) to avoid damaging/disturbing any nests present.

If it proves necessary to work during this season, then a survey must be carried out immediately prior to works starting to ensure that no active nests will be affected. If active nests are found then work must be delayed until all chicks had fledged.

9.3 *Enhancement*

9.3.1 Once the design for the development has been finalised, an ecologist should advise on the number and location of bird and bat boxes to be erected on site, in addition to a landscaping scheme for the proposed development.

The planting regime can be provided for the site once the plans have been confirmed.

9.4 *Further surveys*

9.4.1 As badger activity has been recorded on the site (snuffle holes) and potential setts observed, it is important that the potential setts are checked so if they become active the situation can be re-evaluated.

10.0 References and useful Information Sources

Institute of Ecology and Environmental Management (2006) *Guidelines for Ecological Impact Assessment*. IEEM.

JNCC (2010) *Handbook for Phase 1 Habitat Survey: a technique for environmental audit.* JNCC, Peterborough.

UK BAP 2007 Available: http://jncc.defra.gov.uk/default.aspx?page=5705

11.0 Appendices

APPENDIX A –DESK STUDY DATA. –PROVIDED AS A SEPARATE DOCUMENT. PLEASE SEE ATTACHED.