Electricity Northwest Ltd Land, to the West of Whitebirk Drive, Blackburn, BB1 3HT

Ecological Survey & Assessment

August 2012

RB-12-143

SUMMARY

This report presents the results of an ecological survey and assessment, undertaken at land and features located west of Whitebirk Drive (A6119), Blackburn, BB1 3HT.

The scope of survey and assessment has included: a) designated sites of biodiversity value; b) vegetation and plant species; c) protected species of fauna; d) UK Biodiversity Action Plan (BAP) priority species and habitats; and e) other wildlife of local and/or site-based ecological value.

This work has been requested in connection with a proposed planning application for construction of a new training centre for Electricity Northwest Ltd.

In conclusion, there are no substantive ecological concerns or constraints in relation to the proposal for the Application Site, but standard precautions are required in relation to the potential for breeding birds, plus there are material considerations in respect of Badger. In addition, there is abundant Japanese knotweed and Himalayan balsam.

Essential legal measures are presented as recommendations in Section 4.3.1 of this report and provided these measures are implemented, as can be enforced by the local planning authority, then the proposed work can be undertaken in full accord with wildlife legislation and policy. Further, if it is possible to apply the measures of best practice that are described in Section 4.3.2 then the proposal will help retain biodiversity value in the immediate locality of the Site.
1.0 INTRODUCTION

1.1 Overview

In August 2012, Ribble Ecology was commissioned to undertake an ecological survey and assessment at land to the west of Whitebirk Drive (A6119), Blackburn, BB1 3HT.

The land is centred at grid reference SD 70298 29176 and it spans approximately 1.4 hectares (ha).

The request for an ecological survey and assessment was made in connection with a proposed planning application for construction of a new training centre for Electricity Northwest Ltd. A plan showing the red-line boundary and proposed layout was supplied with the commission.

Hereafter within this report, the land within the red-line boundary is termed the ‘Site’ or the ‘Application Site’.

1.2 Objectives

Ribble Ecology identified the objectives of the survey and assessment to be as follows:

- Investigate all vegetation and habitat types, in accord with the JNNC guidelines\(^1\), compiling plant species lists where appropriate.
- Identify any occurrences of rare and/or protected plant species at the Site and also any non-native and invasive plant species, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (WCA 1981).
- With the aid of aforementioned plant species lists identify NVC communities and UK BAP Priority Habitats.
- Undertake habitat appraisal for protected species such as Bats, Badger, Water vole, Great crested newt and Schedule 1 birds.
- Undertake habitat appraisal in respect of UK BAP Priority Species and other wildlife such as breeding birds.
- Where possible, include searches for field signs and evidence of the actual presence of protected and priority species.
- From the survey results, identify any ecological concerns or constraints and provide feedback on appropriate mitigation and compensation measures to avoid impacts on protected species and other local wildlife.

2.0 METHODOLOGIES

2.1 Personnel

All survey and assessment has been undertaken by Ms Lorna Bousfield B.Sc. (Hons). MIEEM. Ms Bousfield is Principal Ecologist at Ribble Ecology and holds Natural England survey licenses in respect of Great crested newt (licence number 20113939) and bats (licence number 20114211). She is an experienced consultant with a wide skill base in respect of ecological surveying and assessment, including plant species and habitat.

\(^1\) Ref: Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit” published by the Joint Nature Conservation Committee (JNCC 2003).
identification, detection of protected faunal species, assessment of potential impacts in 
accord with IEEM Guidance on EcIA’s and also the design and implementation of 
mitigation, compensation and habitat enhancement schemes.

Throughout the Site survey Ms Bousfield was accompanied by Ms Gemma Coar, who is a 
keen amateur naturalist, a student at Edge Hill College and a member of the east 
Lancashire bat group. She attended the survey in order to gain experience of ecological 
consultancy work, namely field survey skills in this case.

2.2 Desk study

As standard, Ribble Ecology used a range of desk and internet based resources to obtain 
background information prior to attending the Site. The desk study covered an area of 
5km radius around the Site, with the internet resources being as follows:

- Bing Maps (www.bing.com/maps) and Google Earth for aerial photographs.
- Multi-Agency Geographic Information for the Countryside (MAGIC) collaborative 
database website (www.magic.defra.co.uk), for information on key environmental 
schemes and statutory designations.
- Maps & Related Information Online (MARIO) – Lancashire County Council’s 
interactive mapping website. (http://mario.lancashire.gov.uk/agsmario/)
- Blackburn with Darwen Local Plan Map (as adopted April 2002) 
(http://blackburn.devplan.org.uk/map.aspx?map=17&layers=all), for land use allocations, 
including locations of non-statutory Biological Heritage Sites.
- Hyndburn Borough Local Plan Proposals Map (as adopted December 2005) 
(http://www.hyndburnbc.gov.uk/downloads/planmap.pdf), for land use allocations, 
including locations of non-statutory Biological Heritage Sites.
- National Biodiversity Network (NBN) Gateway (www.nbn.org.uk), for collated low-
resolution records of protected and priority species occurrence.

2.3 Survey date, weather conditions & any limitations

The survey work was undertaken on 29th August 2012, at which time no access or 
visibility limitations were encountered.

The seasonal timing and weather conditions were appropriate for completing all aspects of 
the survey, being overcast but calm (Beaufort 2), dry, and with an air temperature of 18° 
Celsius.

2.4 Vegetation & habitats

An Extended Phase 1 Habitat Survey was carried out. The Phase 1 Habitat Survey is a 
standardised method used to record habitat types and characteristic vegetation, as set out in the "Handbook for Phase 1 Habitat Survey – a technique for Environmental Audit" 
published by the Joint Nature Conservation Committee (JNCC 2003). It is ‘Extended’ 
through the additional recording of specific features indicating the presence, or likely 
presence, of protected species or other species of nature conservation significance.

Plant species lists were compiled where appropriate and the Site and survey area was 
searched for uncommon plant species, UK Biodiversity Action Plan (BAP) Priority Species 
and plant species listed as protected in the Wildlife and Countryside Act (WCA) 1981.
Searches were carried out for the presence of invasive species listed on Schedule 9 in the 
WCA 1981 (as amended) (Schedule 9 as updated April 2010).
All higher plant nomenclature within this report is written in accord with *Stace's New Flora of the British Isles* (Stace, C. A. 1997).

Any occurrences of UK BAP priority habitat were to be noted and where possible the plant species lists were to be used to identify *National Vegetation Classification (NVC)* communities (Rodwell, J. S. Volumes 1 – 5, 1991 – 2000), as the NVC provides a systematic and comprehensive analysis of British vegetation.

### 2.5 Fauna

#### Bat species

UK bat species are provided full legal protection under Schedule 5 (section 9) of the *WCA 1981* (as amended) and under *The Conservation of Habitats and Species Regulations 2010*, making them European Protected Species. In combination this legislation makes it illegal to intentionally kill, injure, harm or disturb bats and illegal to damage, disturb or obstruct access to bat roosts.

During the walkover survey, all features at the Application Site were assessed for their habitat suitability and potential to support roosting, foraging and commuting bats. As there were no buildings, the features that were assessed in relation to roosting bats were the trees along the southern, western and northern boundaries of the Site. These were inspected from the ground, noting any evidence of rot holes, lifting bark and/or dense Ivy cover with the potential to provide habitat value for roosting bats.

#### Badger

Badgers (*Meles meles*) and their setts are protected under the *Protection of Badgers Act 1992*. This legislation makes it illegal to kill, injure or take Badgers or to interfere with a Badger sett, with the Act defining ‘a sett’ as being “any structure or place which displays signs indicating current use by a Badger”.

The Site was searched for evidence of Badger, with the aim of identifying any combination of the following field signs:

- a) Sett holes, wider than high, often with spoil heaps in front, sometimes also with discarded bedding;
- b) Disturbed ground and small holes from foraging activity;
- c) Trampled dispersal pathways and breach points under boundary fences;
- d) Distinctive hairs, snagged on fences etc. or found at sett entrances;
- e) Dung pits/ latrines;
- f) Characteristically shaped footprints;
- g) Scratching at the base of trees and other features.

#### Birds

Wild birds, their nests and their eggs are protected under Part 1 of the *WCA 1981*, which makes it illegal to kill or injure a bird and to destroy its eggs or its nest whilst it is in use or being built. Game birds are an exception and are protected under the separate *Game Acts*, which fully protect them during the close season. In addition, certain bird species (such as Barn owl and Kingfisher) are specially protected under Schedule 1 of the *WCA 1981* (as amended), making it illegal to disturb these birds and their young at the nest.
All visible and audible birds were recorded during the survey, following the standard recording methodology and codes of the *British Trust for Ornithology (BTO) Common Birds Census* (Marchant 1983).

Habitats at the Site were assessed for their potential value for nesting, roosting, feeding, and wintering birds, as indicated by the amount of shelter and species diversity amongst the shrubs, trees and grassland habitats in the Site.

**Great crested newt & other amphibians**

Great crested newts (GCNs) (*Triturus cristatus*) are provided full legal protection under Schedule 5 (section 9) of the *WCA 1981* (as amended) and under *The Conservation of Habitats and Species Regulations 2010*, making them a European Protected Species.

Whilst the species breeds in water it forages, shelters and hibernates on land, typically within 250m of its breeding pond but sometimes up to 500m from the breeding pond.

Prior to attending the Site an Ordnance Survey map and MARIO on-line mapping were checked for evidence of ponds and other standing water within 250m unobstructed dispersal range of the Site. As there are no ponds within this radius, no further consideration of amphibians has been required.

**Water vole & Otter**

Water voles (*Arvicola amphibious*) and their habitat are provided full legal protection under Schedule 5 (section 9) of the *WCA 1981* (as amended), whilst Otters (*Lutra lutra*) are protected under Section 9(4)(b) and (c) and (5) of the *WCA* and they are fully protected under the *Conservation of Species and Habitats Regulations 2010*.

Otter and Water vole are both characteristically associated with a wide range of aquatic habitat types, including ponds, field drains, reservoirs, wetlands and rivers.

Prior to attending the Application Site an Ordnance Survey map and Google Earth aerial photographs were checked for evidence of water courses and water bodies within or adjoining the Site. The closest was found to be Knuzden Brook, situated to the south, but at least 15m away from the red-line boundary.

On this basis, Otter was taken into consideration, with a search for field signs indicative of Otter entering the Site and using it for shelter, but there was no requirement for a full survey.

**Reptiles**

Reptile species are afforded differing levels of protection. The only species known to occur within 10km of the Site are Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*), which are provided partial legal protection under Schedule 5 (section 9) of the *WCA 1981* (as amended), which only makes it illegal to intentionally kill or injure them.

Habitats throughout the Site were assessed for their suitability and potential to support these species.

**Other wildlife**

Any evidence of other wildlife occurrences was noted during the survey.
2.6 Evaluation methods

Evaluation of the vegetation and habitats has not only made reference to the UK BAP but also the Lancashire BAP.

Biodiversity Action Plans (BAPs) have been developed as part of the British Government’s strategy for the implementation of the 1992 Convention on Biological Diversity, to protect a number of rare species and habitats and to reverse the declines of more widespread, but declining, species and habitats. Under the CRoW Act 2000, the English Government has a duty to have due regard to the purpose of conserving biodiversity, so it is good practice for development schemes to take into consideration UK BAP and Local BAP (LBAP) species and habitats.

3.0 RESULTS

3.1 Desk study

3.1.1 Designated sites

The Application Site is centred at grid reference SD 70298 29176, which is split between the boroughs of: a) Blackburn with Darwen; and b) Hyndburn. This is shown on Fig.1 (appended), which presents extracts from the relevant Local Plan proposals maps.

The desk study has focussed on land and features in a 1 - 2km range around the Site’s red-line boundary and there are no statutorily designated sites of ecological value within this radius.

There are no non-statutory Biological Heritage Sites (BHSs) within 350m radius. The closest is approx. 370m north-east, on the opposite (east) side of the A6119 Whitebirk Drive and on the opposite (east) side of the Leeds and Liverpool Canal. This is located significantly beyond the zone of influence of any proposed work at the Site.

As shown on Fig. 1 (appended), the only notable ecological land designations immediately associated with the Application Site are those of a ‘Greenspace corridor’ running through the west side of the Site and that of a ‘Wildlife link’ running along the railway line embankment adjacent to the northern red-line boundary. These land allocations do not denote the presence of any specific habitat types or notable protected or priority species, but they are deemed to be of value for their provision of shelter and connectivity for the dispersal of wildlife.

3.1.2 Protected and priority species

Known occurrences of protected species in the wider 2km radius around the Site, as collated from records held by Ribble Ecology and the NBN Gateway, are listed below:

- Barn owl
- Black redstart
- Common pipistrelle
- Common crossbill
- Daubenton’s
- Fieldfare
- Kingfisher
- Fieldfare

There are also many records of UK BAP priority species occurrences, including Brown hare, European hedgehog, Common toad and an array of passerine and wading birds.
In the first instance, all of these species have been given consideration during the survey, to determine their likelihood of occurrence at the Application Site and whether or not species-specific surveys are required.

3.2 Vegetation and habitats

3.2.1 Location & surroundings

Fig. 2 presents a labelled aerial photograph of the Application Site and its surrounds (© Google Earth).

Fig. 2: Location of the Application Site

The Site’s northern red-line boundary meets with a railway line, which is active. There is developed industrial land to the west and east, and there is developed land to the south, though there is also a belt of vegetated land to the south-west.

Vehicular access onto the Site is currently from the eastern side, via the existing premises and hard-standings that are used by Electricity Northwest. There is also potential for access into the site via the south-west corner, where there is a road leading up to palisade fence gates, but these are currently blocked with rubble on the inside, to ensure that entry is currently prohibited.

3.2.2 Features within the Site

Fig. 3 (appended) presents a vegetation and habitat map, as prepared using the survey results from the walkover survey, overlaid onto an aerial photograph (courtesy of Bing maps). All vegetation within the Site appears to be of naturally colonised origin. Photographs and descriptions are provided in the following paragraphs.

Hard-standing

It is estimated that approx. 0.88ha of the Application Site is still finished with hard-standing, as shown in Photo 1. There is evidence that the southern half was formerly
marked out and used for car-parking.

![Photo 1]

There are no associated buildings and there is negligible evidence of any infrastructure, though there is remnant wire and other man-made debris scattered within the Site.

**Ruderal vegetation**

As the land is standing derelict, a high proportion of the hard-standing has been colonised by ruderal vegetation, which is sparse and low-growing for the most-part (e.g. **Photo 1**), but taller and denser where the roots have broken through the hard-standing and/or where there has been an accumulation of soil (e.g. **Photo 2**).

![Photo 2]

A collective species list has been compiled, as presented in **Table 1** (appended). Mouse-ear hawkweed (*Pilosella officinarum*), Red fescue (*Festuca rubra*), English stonecrop (*Sedum anglicum*), mosses and lichenworts have the greatest abundance in the low-growing areas. Common bird’s-foot trefoil (*Lotus corniculatus*), Meadow vetchling (*Lathyrus pratensis*), Colt’s-foot (*Tussilago farafa*), Ribwort plantain (*Plantago lanceolata*) and Bramble (*Rubus fruticosis*) are prominent amongst the taller vegetation, but there is also an abundance of other species because colonisation and establishment is still in its relatively early stages.

There is no clear example of an NVC community and there are no rare or protected plant species. The vegetation is *not* an example of UK BAP priority habitat.

**Wetland tall-herb vegetation**

There is no hard-standing near the northern end of the Site and the ground appears prone to water-retention. As shown on **Fig.3** (appended), this area supports a stand of wetland...
or fen vegetation.

There is locally dominant Reed canary-grass (*Phalaris arundinacea*) and in addition there is occasional Soft rush (*Juncus effusus*), Hard rush (*J. inflexus*), Jointed rush (*J. articulatus*) and Compact rush (*J. conglomeratus*), plus locally frequent Great willowherb (*Epilobium hirsutum*), Carnation sedge (*Carex panacea*) and Himalayan balsam. A full species list is presented in Table 2 (appended).

Where Reed canary-grass is dominant, the vegetation is an example of the **S28: Phalaris arundinacea** NVC community, but elsewhere it is atypical of an NVC community. There are no rare plant species and the vegetation is *not* an example of UK BAP priority habitat.

**Trees, Saplings and shrubs**

Along the southern, western and northern boundaries of the Site, there are stands of young and semi-mature broadleaf trees. To the south and north, these trees are situated on embankments, whereas to the west they are nearer the same level as the hard-stand.

The trees are mostly large *young* specimens, to heights of approx. 7 - 10m, though occasional specimens along the northern side of the Site are semi-mature. The species comprise locally abundant Alder (*Alnus glutinosa*), Goat willow (*Salix caprea*), Aspen (*Populus tremula*) and Ash (*Fraxinus excelsior*). There are associated saplings and shrubs of the same species, plus also Rowan (*Sorbus aucuparia*), Guelder rose (*Viburnum opulus*), Silver birch (*Betula pendula*), Dogwood (*Cornus sanguinea*) and Grey willow (*Salix cinerea*).

The under-storey along the boundaries of the Site has a mixture of ruderal vegetation, Bramble scrub, Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*), with the extent of the latter two species described in later paragraphs of this report. There are no examples of ancient woodland plant species amongst the ground flora and the trees, shrubs and under-storey vegetation do not represent an example of a woodland NVC community and do not form an example of BAP priority habitat.

Saplings and shrubs are also becoming established on the Site’s hard-standing, with specimens ranging from 1m to 4m high and predominantly comprising Grey willow, Goat willow and Silver birch. Occasional Elder (*Sambucus nigra*) and Butterfly bush (*Buddleja davidii*) are also present. Again there is no example of an NVC community and no example of UK BAP priority habitat.

In the north of the Site, where there is the wet ground and an absence of hard-standing, large saplings and shrubs of Osier (*Salix viminalis*), Grey willow, Goat willow and Alder are abundant in one dense stand. There is a closed shrub layer, which reaches a height of approx. 3 - 4m.

Although the species composition *may* develop into a wet woodland NVC community in the future it is not an example of such a community at present. It is also *not* an example of UK BAP priority habitat.

**Invasive species**

There is abundant Japanese knotweed along the southern and western sides of the Site, as indicated on **Fig. 3** (appended) and **Photo 3**.

The stands of knotweed appear to be long-established, with extensive coverage beneath the aforementioned lines of trees and also outside the red-line boundary.
Himalayan Balsam is also present, but is situated in the northern part of the Site, as indicated on **Fig. 3** (appended). It is the dominant ground flora on the northern embankment and locally frequent patches have also become established amongst the wetland tall-herb vegetation.

There is no evidence of Giant Hogweed (*Heracleum mantegazzianum*), nor of any other invasive species listed on Schedule 9 of the *WCA 1981*.

### Adjacent habitats

Adjacent to the eastern side of the Site there is the hard-standing, infrastructure and disturbance of the Electricity Northwest site, which is actively used by abundant people and vehicles. This is separated from the Application Site by ≥3m high rigid panel mesh fencing, which meets with the ground.

Along the west side, the Site’s boundary is denoted by concrete posts and ≥2.5m high paladine fencing. Although vegetation extends slightly beyond the fence-line, there are then buildings and hard-standings immediately beyond this, again, functional and regularly accessed by people.

There is an active railway line to the north and the embankments on both sides of the line appear to be lined with trees, shrubs and tall-herb vegetation, forming the ‘green corridor’ or ‘wildlife link’ referred to on the Local Plan maps. To the north of the line there is Greenbank Technology Park, which comprises further buildings and hard-standings that are functional and regularly accessed by people.

To the south, the red-line boundary is denoted by a paladine fence, beyond which there is a belt of undisturbed greenspace that is associated with the course of Knuzden Brook. Where it is closest to the Site, there is a stretch of the brook flowing west, located within about 15m of the red-line boundary. There is then a stretch that passes through a culvert, before re-emerging and flowing southwards.

### 3.3 Fauna

#### 3.3.1 Bats

There are no buildings or other structures and no trees have habitat features suitable for roosting bats; there is *no value* for roosting bats within the Application Site.

The lines of trees and shrubs along the boundaries will create sheltered airspace and will have the *potential* to be used by a low number of foraging bats. However, the limited extent of such habitat could only serve as a small part of a much larger foraging area and
the enclosure of the Site by developed land and roads indicates that only resilient and opportunistic Common pipistrelles are likely to be present in the area.

3.3.2 Badger

Information relating to Badger is presented in a stand-alone Addendum Report; as standard, such information is not to be displayed in the public domain.

3.3.3 Birds

No evidence of Schedule 1 birds has been detected within the Application Site. The habitat has no value for nesting Barn owl, or for other Schedule 1 bird species.

No occurrences of UK BAP priority species were detected during the walkover survey, but there was evidence of a feeding location regularly used by Song thrush (*Turdus philomelos*), with an abundance of smashed snail shells.

Other birds recorded during the survey were: Blackbird (*Turdus merula*), Magpie (*Pica pica*), Robin (*Erithacus rubecula*) and Wren (*Troglodytes troglodytes*).

The trees and shrubs hedgerows around the edges of the Site provide shelter and structure that has potential to be used by nesting passerine (perching) bird species, including all of the above-listed species.

The location of the Site, and its enclosure by industrial development, makes it of negligible value for ground-nesting birds.

3.3.4 Great Crested Newt and other amphibians

No further consideration of Great crested newt and other amphibians is necessary, as there is no pond or other standing water within dispersal range of the Application Site.

3.3.5 Water Vole and Otter

As Knuzden Brook is 15m away from the Site at its closest point, and as Water voles typically remain within approx 5m of the water’s edge, it has not been necessary to take this species into consideration. There is no value for Water vole in the Site or within 5m of the red-line boundary.

Otter will disperse further from water-courses, seeking shelter in overgrown and undisturbed terrestrial vegetation. A check for evidence of Otter was therefore made along the southern boundary of the Site. No evidence was detected and no further consideration of Otter is required.

3.3.5 Reptiles

As there are no known occurrences of reptiles within immediate dispersal range of the Site, and as there is limited habitat value associated with the terrestrial habitats, it is judged that there is no reasonable likelihood of reptiles being present.

3.3.6 Other wildlife

There is evidence of Rabbit, but no evidence of other notable wildlife.
4.0 SUMMARY & RECOMMENDATIONS

4.1 Summary

The results from the desk study, data search and walkover survey, show that there are the following ecological considerations at the Site:

- **Statutory/non-statutory sites of ecological interest** = No concerns or constraints.
- **BAP priority habitats and/or rare or protected plant species** = No examples within the red-line boundary, hence no concerns or constraints.
- **Invasive plant species** = Abundant Japanese knotweed and Himalayan balsam. Both species are listed on Schedule 9 of the WCA 1981, making it illegal to cause its spread in the wild. In addition, Japanese knotweed is classed as ‘controlled waste’ under the Environmental Protection Act (Duty of Care) Regulations 1991, which restricts the means by which it can be disposed of.
- **Bats** = No value for roosting bats and only low potential value for foraging bats. It is judged that there is no significant concern or constraint in relation to bats, but that best-practice measures for habitat retention should be applied where possible.
- **Badger** = No significant concerns or constraints, but precautionary protection measures will be required (see Addendum Report).
- **Great Crested Newt and other amphibians, Water Vole, Otter and reptiles** = No concerns or constraints.
- **Breeding birds** = No concerns or constraints in relation to Schedule 1 bird species, but as the boundary shrubs and trees are suitable for use by nesting bird during the breeding season this requires consideration, to ensure no breach of their legal protection. Best practice measures for habitat retention should also be applied where possible.

4.2 Recommendations

Having evaluated the value of existing features at the Site, and assessed the potential impacts of the proposal in relation to these features, the recommendations arising from the survey and assessment are for a combination of standard and best-practice measures.

**Sub-section 4.3.1** present recommendations that are essential measures, required for compliance with wildlife legislation. It is respectfully recommended that these are made the subject of one or more planning conditions to ensure that they are enforceable.

**Sub-section 4.3.2** presents recommendations that are additional considerations and opportunities, which are examples of how biodiversity retention and/or enhancement can best be achieved at the Site. Their implementation is not enforceable, but where it is possible to incorporate them into the scheme this will demonstrate accordance with the principles of local planning policy and the NPPF, which encourage developments to facilitate retention or enhancement of biodiversity value.

4.3.1 Essential measures

**Precautionary protection of breeding birds**

The standard protection of breeding birds is applicable at the Site, specifically in relation to all shrubs and trees. The following precautions will apply.
• Where any trees and shrubs are to be removed, this clearance is to be scheduled to take place outside the bird breeding season where possible. The bird breeding season is typically regarded as **March to August inclusive**.

• If other constraints dictate that such timing is *not* possible then extra due diligence will be required prior to and during the clearance. Prior to the commencement of work, a suitably experienced ecologist is to undertake a survey to identify any locations of nesting birds. If nesting birds are present then avoidance is necessary until the chicks have been reared and have fledged.

• The same timing restrictions and precautionary checks apply for any management work, such as crown reduction, branch removal and/or selective thinning.

**Consideration of Badger**

See the Addendum Report for guidance on this matter.

**Protection of tree roots and canopies**

Where trees and shrubs are to be retained, it is important that their roots are protected against excavation and compaction by heavy machinery, and that their branches, trunks and canopies are not damaged by machinery.

It is recommended that before any invasive work commences on the Site, protective stand-offs should be denoted using demarcation tape or fencing. The stand-off distances are to be in accord with British Standards (2005) **BS 5837 Trees in relation to construction: Recommendations**. Specific recommendations are provided in the arboricultural report produced by TBA Landscape Architects, titled **Tree Survey Report (May 2012)**.

**Control of invasive species**

It is essential that the proposed work throughout the Site does not cause the spread of Japanese knotweed and Himalayan balsam. Control measures must be implemented. Images of Japanese knotweed are shown below.

[Images of Japanese knotweed]

Japanese knotweed develops huge underground rhizomes that extend to at least 1m below the ground once the plants are established. Instead of spreading by seeding or suckering, it germinates clone plants whenever the rhizome is broken up. This means that any soil that is contaminated with the plant’s rhizome must be eradicated by chemical control and/or excavated and disposed of at a suitably licensed landfill.

Chemical eradication of the plant, by suitably experienced contractors, will only be successful if the herbicide is applied repeatedly and at appropriate times of the year.

It is recommended that further guidance on Japanese knotweed control measures is sought from suitably skilled and experienced contractors.
Images of Himalayan balsam are shown below.

This species spreads by explosive seed dispersal (typically between late May and August) and as the balsam plants are mostly alongside the stream channel, any release of seeds would convey them downstream, causing the species to spread in the wild.

The plants are best hand-pulled whilst still young and then left with their roots exposed so that they die (they are annuals). Alternatively a non-persistent, glyphosate-based herbicide can be applied. All elimination action must be implemented prior to the balsam plants reaching the stage of flowering.

Throughout invasive work at the Site, the same treatment (i.e. hand-pulling) must be applied to any balsam plants that are detected at any stage during the works.

No soil from within the Site should be spread outside the red-line boundary, thus not allowing any Himalayan balsam seeds in the soil to be spread.

4.3.2 Additional considerations and opportunities

Retain habitat value for bats and birds

The boundary trees and shrubs provide potential value for foraging bats and sheltering and nesting passerine birds. It would be best-practice to retain such features where possible, especially as the habitat value will increase as the young trees grow older. If there is to be removal of shrubs and trees, it is best-practice to provide compensatory planting of native broadleaf specimens elsewhere in the Site, at locations where there is no conflict with the proposed land use.

Boundary fences permeable to wildlife

It is recommended that any new perimeter fences along the boundaries are not to be sealed at their bases. Where possible there is to be a 5 – 10 cm gap between the fence and the ground (greater in some locations and less in others is not a problem). This is so that wildlife can pass through the Site.

5.0 CONCLUSION

In conclusion, there are no substantive ecological concerns or constrains in relation to the proposal for the Application Site, but there are material considerations in relation to the potential for breeding birds, plus considerations in respect of Badger.

Essential legal measures are presented as recommendations in Section 4.3.1 of this report and provided these measures are implemented, as can be enforced by the local
planning authority, then the proposed work can be undertaken in full accord with wildlife legislation and policy.

Further, if it is possible to apply the measures of best practice that are described in Section 4.3.2 then the proposal will help retain biodiversity value in the immediate locality of the Site.

6.0 REFERENCES


Entwistle, A. C. et al. (2001) Habitat Management for Bats. JNCC.


Google Earth 6.1. http://earth.google.co.uk


Joint Nature Conservation Committee (JNCC) UK BAP Priority Species. http://.gov.uk/page-5717

Joint Nature Conservation Committee (JNCC) UK BAP Priority Habitats. http://jncc.defra.gov.uk/page-5718


National Biodiversity Network Gateway (2000) www.nbn.co.uk


The Conservation of Habitats and Species Regulations 2010

Appendices

Fig. 1: Extracts from Local Plan Maps

Blackburn with Darwen Borough Local Plan Map

Hyndburn Borough Local Plan Proposals Map

Approx. boundary of Application Site
Fig. 3: Labelled Vegetation and Habitat plan of the Application Site

Key
- large young trees
- saplings & shrubs
- unmanaged grassland
- sloping ground
- Knuzdren Brook
- tall ruderal tall herb & bramble
- short ruderal vegetation
- Himalayan balsam
- Japanese knotweed
- wetland herbs & grasses
- Approx. Site boundary

Central grid ref: SD 70298 29176
### Table 1. Collective species list for ruderal vegetation throughout the Site

<table>
<thead>
<tr>
<th>Species common name</th>
<th>Species Latin name</th>
<th>Distribution</th>
<th>Estimated % cover</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Woody species</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ash</td>
<td><em>Fraxinus excelsior</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Aspen</td>
<td><em>Populus tremula</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Butterfly bush</td>
<td><em>Buddleja davidii</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Cotoneaster sp.</td>
<td><em>Cotoneaster sp.</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Dog rose</td>
<td><em>Rosa canina</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Dogwood</td>
<td><em>Cornus sanguinea</em></td>
<td>O/LF</td>
<td>1%</td>
</tr>
<tr>
<td>Downy birch</td>
<td><em>Betula pubescens</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Elder</td>
<td><em>Sambucus nigra</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Field rose</td>
<td><em>Rosa arvensis</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Goat willow</td>
<td><em>Salix caprea</em></td>
<td>O*/LF</td>
<td>5%</td>
</tr>
<tr>
<td>Grey willow</td>
<td><em>Salix cinerea</em></td>
<td>O*/LF</td>
<td>2%</td>
</tr>
<tr>
<td>Hawthorn</td>
<td><em>Crataegus monogyna</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Lilac</td>
<td><em>Syringa vulgaris</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Rowan</td>
<td><em>Sorbus acuparia</em></td>
<td>O*</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Silver birch</td>
<td><em>Betula pendula</em></td>
<td>O*LF</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Grasses and herbaceous plants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autumn hawkbit</td>
<td><em>Leontodon autumnalis</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Black medick</td>
<td><em>Medicago lupulina</em></td>
<td>LF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Broad-leaved dock</td>
<td><em>Rumex obtulifolius</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Broad-leaved willowherb</td>
<td><em>Epilobium montanum</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Butterbur</td>
<td><em>Petasites hybridus</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Cock’s-foot</td>
<td><em>Dactylis glomerata</em></td>
<td>O/LF</td>
<td>1%</td>
</tr>
<tr>
<td>Colt’s-foot</td>
<td><em>Tussilago farafa</em></td>
<td>LF</td>
<td>1%</td>
</tr>
<tr>
<td>Common bent</td>
<td><em>Agrostis capillaris</em></td>
<td>LF</td>
<td>1%</td>
</tr>
<tr>
<td>Common bird’s-foot trefoil</td>
<td><em>Lotus corniculatus</em></td>
<td>O/LA</td>
<td>2%</td>
</tr>
<tr>
<td>Common cat’s-ear</td>
<td><em>Hypocharis radicata</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Common centaury</td>
<td><em>Centaurium erythraea</em></td>
<td>VL/O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Common knapweed</td>
<td><em>Centuarea nigra</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Common nettle</td>
<td><em>Urtica dioica</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Common ragwort</td>
<td><em>Senecio jacobaea</em></td>
<td>O/LF</td>
<td>1%</td>
</tr>
<tr>
<td>Creeping bent</td>
<td><em>Agrostis stolonifera</em></td>
<td>VL</td>
<td>2%</td>
</tr>
<tr>
<td>Creeping buttercup</td>
<td><em>Ranunculus repens</em></td>
<td>LF</td>
<td>2%</td>
</tr>
<tr>
<td>Creeping thistle</td>
<td><em>Crisium arvense</em></td>
<td>O</td>
<td>1%</td>
</tr>
<tr>
<td>Dandelion</td>
<td><em>Taraxacum officinalis</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>English stonecrop</td>
<td><em>Sedum anglicum</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Fairy foxglove</td>
<td><em>Erinus alpinus</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>False oat-grass</td>
<td><em>Arrhenatherum elatius</em></td>
<td>LF</td>
<td>5%</td>
</tr>
<tr>
<td>Field horsetail</td>
<td><em>Equisetum arvense</em></td>
<td>LF</td>
<td>2%</td>
</tr>
<tr>
<td>Fox and cubs</td>
<td><em>Pilosella aurantiaca</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Great mullein</td>
<td><em>Verbsacum thapsus</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Great willowherb</td>
<td><em>Epilobium hirsutum</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Hawkweed sp.</td>
<td><em>Hieracium sp.</em></td>
<td>O/VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Hedge bindweed</td>
<td><em>Calystegia sepium</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Hedge woundwort</td>
<td><em>Stachys sylvatica</em></td>
<td>VL</td>
<td>1%</td>
</tr>
</tbody>
</table>

Continued overleaf...
<table>
<thead>
<tr>
<th>Species common name</th>
<th>Species Latin name</th>
<th>Distribution</th>
<th>Estimated % cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herb robert</td>
<td><em>Geranium robertianum</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Himalayan balsam</td>
<td><em>Impatiens glandulifera</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Hogweed</td>
<td><em>Heracleum sphondylium</em></td>
<td>O</td>
<td>1%</td>
</tr>
<tr>
<td>Lady’s bedstraw</td>
<td><em>Galium verum</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Marsh orchid sp.</td>
<td><em>Dactylorhiza praetermissa</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Meadow buttercup</td>
<td><em>Ranunculus acris</em></td>
<td>VL</td>
<td>1%</td>
</tr>
<tr>
<td>Meadow vetchling</td>
<td><em>Lathyrus pratense</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Mouse-ear hawkweed</td>
<td><em>Pilosella officinarum</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Mugwort</td>
<td><em>Artemisia vulgaris</em></td>
<td>O/VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Oxeye Daisy</td>
<td><em>Leucanthemum vulgare</em></td>
<td>LF</td>
<td>2%</td>
</tr>
<tr>
<td>Perforate St John’s wort</td>
<td><em>Hypericum perforatum</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Red bartsia</td>
<td><em>Odontites vernus</em></td>
<td>O</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Red clover</td>
<td><em>Trifolium repens</em></td>
<td>O/VL</td>
<td>1%</td>
</tr>
<tr>
<td>Red fescue</td>
<td><em>Festuca rubra</em></td>
<td>O/LF</td>
<td>5%</td>
</tr>
<tr>
<td>Ribwort plantain</td>
<td><em>Plantago lanceolata</em></td>
<td>O/LF</td>
<td>2%</td>
</tr>
<tr>
<td>Rosebay willowherb</td>
<td><em>Chamerion angustifolium</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Rough meadow grass</td>
<td><em>Poa trivialis</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Scentless mayweed</td>
<td><em>Tripleurospermum inodorum</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Selfheal</td>
<td><em>Prunella vulgaris</em></td>
<td>O/LF</td>
<td>1%</td>
</tr>
<tr>
<td>Sheep’s fescue</td>
<td><em>Festuca ovina</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Spear thistle</td>
<td><em>Cirsium vulgaris</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Tufted vetch</td>
<td><em>Vicia cracca</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Weld</td>
<td><em>Reseda luteola</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Wild strawberry</td>
<td><em>Fragaria vesca</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Wild teasel</td>
<td><em>Dipsacus fullonum</em></td>
<td>O/VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Yarrow</td>
<td><em>Achillea millefolium</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Yorkshire fog</td>
<td><em>Holcus lanatus</em></td>
<td>O/LF</td>
<td>5%</td>
</tr>
<tr>
<td>Zig-zag clover</td>
<td><em>Trifolium medium</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td><strong>Bryophytes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rytidiadelphus squarrosus</em></td>
<td><em>Moss species</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>-</td>
<td><em>Moss species</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>-</td>
<td><em>Liverwort species</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Key:** D = Dominant; A = Abundant; F = Frequent; O = Occasional; R = Rare; L = Locally, v = very
### Table 2. Collective species list for wetland vegetation in the north of the Site

<table>
<thead>
<tr>
<th>Species common name</th>
<th>Species Latin name</th>
<th>Distribution</th>
<th>Estimated % cover</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Woody species</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osier</td>
<td><em>Salix viminalis</em></td>
<td>LA</td>
<td>8%</td>
</tr>
<tr>
<td>Grey willow</td>
<td><em>Salix cinerea</em></td>
<td>LF</td>
<td>3%</td>
</tr>
<tr>
<td>Goat willow</td>
<td><em>Salix caprea</em></td>
<td>LF</td>
<td>2%</td>
</tr>
<tr>
<td>Alder</td>
<td><em>Alnus glutinosa</em></td>
<td>LF</td>
<td>3%</td>
</tr>
<tr>
<td>Silver birch</td>
<td><em>Betula pendula</em></td>
<td>VL</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Grasses and herbaceous plants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad leaved dock</td>
<td><em>Rumex obtusifolius</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Broad-leaved willow herb</td>
<td><em>Epilobium montanum</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Carnation sedge</td>
<td><em>Carex panicea</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Common nettle</td>
<td><em>Urtica dioica</em></td>
<td>O/VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Compact rush</td>
<td><em>Juncus conglomerates</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Creeping buttercup</td>
<td><em>Ranunculus repens</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Creeping cinquefoil</td>
<td><em>Potentilla reptans</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Field horsetail</td>
<td><em>Equisetum arvense</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Great willowherb</td>
<td><em>Epilobium hirsutum</em></td>
<td>O/LF</td>
<td>1%</td>
</tr>
<tr>
<td>Hard rush</td>
<td><em>Juncus inflexus</em></td>
<td>VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Himalayan balsam</td>
<td><em>Impatiens glandulifera</em></td>
<td>LF/LA</td>
<td>3%</td>
</tr>
<tr>
<td>Jointed rush</td>
<td><em>Juncus articulatus</em></td>
<td>LF</td>
<td>1%</td>
</tr>
<tr>
<td>Meadow buttercup</td>
<td><em>Ranunculus acris</em></td>
<td>O/VL</td>
<td>1%</td>
</tr>
<tr>
<td>Meadow vetchling</td>
<td><em>Lathyrus pratense</em></td>
<td>VLA</td>
<td>1%</td>
</tr>
<tr>
<td>Reed canary-grass</td>
<td><em>Phalaris arundinacea</em></td>
<td>LF/LD</td>
<td>40%</td>
</tr>
<tr>
<td>Rough meadow-grass</td>
<td><em>Poa trivialis</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Sneezewort</td>
<td><em>Achillea ptarmica</em></td>
<td>O/VLF</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Soft rush</td>
<td><em>Juncus effusus</em></td>
<td>O</td>
<td>3%</td>
</tr>
<tr>
<td>Tufted hair-grass</td>
<td><em>Deschampsia cespitosa</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Tufted vetch</td>
<td><em>Vicia cracca</em></td>
<td>VL</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Wild angelica</td>
<td><em>Angelica sylvestris</em></td>
<td>O</td>
<td>1%</td>
</tr>
<tr>
<td>Yellow loosestrife</td>
<td><em>Lysimachia vulgaris</em></td>
<td>VLF</td>
<td>1%</td>
</tr>
<tr>
<td>Yorkshire fog</td>
<td><em>Holcus lanatus</em></td>
<td>F</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Key:** D = Dominant; A = Abundant; F = Frequent; O = Occasional; R = Rare; L = Locally, v = very