

**Whitcher Wildlife Ltd.  
Ecological Consultants.**

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**LAND OFF NEW MILL ROAD,  
HOLMFIRTH.**

**OS REF: SE 147-092.**

**EXTENDED PHASE I HABITAT SURVEY.**

**Ref No:- 151047.**

**Date:- 4<sup>th</sup> November 2015.**

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# **1. INTRODUCTION.**

1.1. Prospect Estates are preparing a planning application for the residential development of an area of land off New Mill Road, Holmfirth.

1.2. An extended Phase 1 Habitat survey of the site was commissioned to accompany the application for planning permission on the site.

1.3. Whitcher Wildlife Ltd carried out the survey on the 29<sup>th</sup> October 2015. This report outlines the findings of the survey and makes appropriate recommendations.

1.4. Appendices I to XII of this report provide additional information on specific species and are designed to assist the reader in understanding the contents of this report.

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## 2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society:-

- \* Badger setts.
- \* Badger latrines or dung pits.
- \* Badger snuffle holes and evidence of foraging.
- \* Badger paths.
- \* Badger prints in areas of soft mud.
- \* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Rob Strachan, Tom Moorhouse and Merryll Gelling (2011). *Water Vole Handbook: Third Edition*:-

- \* Water vole burrows.
- \* Water vole faeces and latrines.
- \* Water vole feeding stations.
- \* Water vole runs.
- \* Water vole prints in areas of soft mud.
- \* Water vole lawns.
- \* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter and Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines*:-

- \* Otter prints in soft mud.
- \* Otter spraints.
- \* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for mature trees and derelict buildings and where found these were checked for potential bat roosting sites in line with L Hundt (2012). *Bat Conservation Trust Good Practice Guidelines* by looking for the following signs:-

- \* Holes, cracks or crevices.
- \* Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Ed.*

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.14. This survey was carried out by Steven Whitcher MCIEEM. Since 2002 Steven has gained extensive experience in a professional capacity as an ecological consultant carrying out ecology, protected species and Phase 1 Habitat surveys. Stevens knowledge has been supplemented through the attendance of a variety of courses run by the Chartered Institute of Ecology and Environmental Management (CIEEM), the Bat Conservation Trust (BCT) and the Field Studies Council (FSC) in the relative protected species, plant species and in carrying out Phase 1 Habitat Surveys. Steven holds Natural England Survey Licences in respect of bats, great crested newts, crayfish and barn owls, CCW Survey Licences in respect of bats and great crested newts and an SNH Survey Licence in respect of bats. Steven is also a Registered Consultant with Natural England and is confined spaces trained and qualified in tree climbing and aerial rescue.

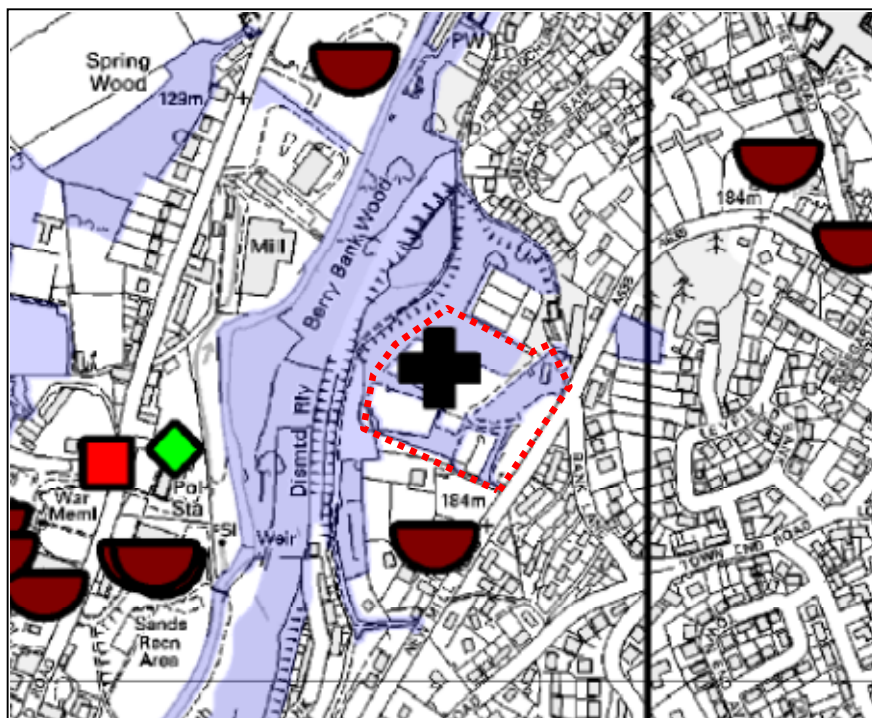
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3.1.4. There are no records of designated sites within or immediately adjacent to the site although there are several records within 1km of the surveyed area.

3.1.5. The closest nationally designated site is Hagg Wood SSSI, which is located over 700m to the north of the surveyed area and is designated due to the woodland habitat present on the site.

3.1.6. There are several Local Wildlife Sites within 1km of the surveyed area including Cliff Wood, Holmroyd Wood and Round Wood. The sites all lie in excess of 800m from the surveyed area and are designated due to the woodland habitats present within the sites.

3.1.7. The site is partially locally designated as a Kirklees Wildlife Habitat Network, as shown by the purple colour on the plan below.



3.1.8. Kirklees Wildlife Habitat Network sites are not designated sites but are sites with valuable connective habitats.

### 3.2. The Surveyed Area.

3.2.1. The surveyed area was an area of land off New Mill Road in Holmfirth, as shown below.



3.2.2. The land surrounding the site comprises a disused railway line and then the River Holme to the west with woodland surrounding the river, to the north there are industrial properties extending to residential housing beyond and to the east and south there are areas of residential housing.



### 3.3. Description of Habitats.

3.3.1. Appendix XIII of this report contains annotated maps marked up with the varying habitats that are cross referenced to target notes in Appendix XIV of this report. The habitats on and adjacent to the site are:-

- Dense/continuous scrub.
- Scattered scrub.
- Mixed semi natural woodland.
- Semi natural broad leaf woodland.
- Improved grassland.
- Scattered broad leaf trees.
- Species poor intact hedgerow.
- Bare ground.
- Buildings.
- Fences.
- Walls.
- Other habitats.

3.3.2. Dense/continuous scrub: There are two types of dense/continuous scrub habitat within the surveyed area.



3.3.2.1. Throughout the site there are areas of dense scrub adjacent to the old car parks that extend throughout the surveyed area. The scrub comprises predominantly goat willow (*Salix caprea*), silver birch (*Betula pendula*) and bramble (*Rubus*

*fruticosus*) with rosebay willowherb (*Chamerion angustifolium*), dog rose (*Rosa canina*), nettle (*Urtica dioica*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), horsetail (*Equisetum sp*), sycamore (*Acer pseudoplatanus*), oak (*Quercus sp*), holly (*Ilex aquifolium*) and horse chestnut (*Aesculus hippocastanum*) also present.



3.3.2.2. To the north of the site there is a bund adjacent to a road and area of tennis courts. The bund comprises scrub of similar species to the main areas of the site but with less dominance from the tree species, bramble (*Rubus fruticosus*) and rosebay willowherb (*Chamerion angustifolium*) are the dominant species with burdock (*Arctium sp*) and dock (*Rumex sp*) also being present.

3.3.3. Scattered scrub: The site is gradually becoming dominated by scrub species within the old car parks that make up the main areas of the site. The scrub species are the same as within the dense/continuous scrub that dominates some areas of the surveyed area.



3.3.4. Mixed semi natural woodland: There are areas between the car parks that comprise semi mature mixed woodland. The areas comprise silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*), conifer, holly (*Ilex aquifolium*), scots pine (*Pinus sylvestris*), hawthorn (*Crataegus monogyna*) and goat willow (*Salix caprea*) with an understory of ivy (*Hedera helix*), bramble (*Rubus fruticosus*) and occasional bracken (*Pteridium aquilinum*).



3.3.5. Semi natural broad leaf woodland: To the west of the site there is a steep bank leading down to the River Holme, which flows a short distance to the west. The woodland extends along an old disused railway line which runs parallel to the river. The woodland comprises sycamore (*Acer pseudoplatanus*), oak (*Quercus sp*), silver birch (*Betula pendula*), holly (*Ilex aquifolium*) and ash (*Fraxinus excelsior*) with an understory of bramble (*Rubus fruticosus*), bracken (*Pteridium aquilinum*), nettle (*Urtica dioica*) and herb Robert (*Geranium robertianum*).



3.3.6. Improved grassland: To the north of the surveyed area there is an area of grassland that is currently untended and only used by occasional dog walkers. The grassland comprises common grass and herb species with a low diversity of species present and was therefore classified as improved grassland. The species present include perennial rye grass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), false oat grass (*Arrhenatherum elatius*), common bent (*Agrostis capillaries*), cocks foot (*Dactylis glomerata*), ribwort plantain (*Plantago lanceolata*), thistle (*Cirsium sp*), red clover (*Trifolium pratense*), bramble (*Rubus fruticosus*), dock (*Rumex sp*), lady's mantle (*Alchemilla mollis*) and creeping buttercup (*Ranunculus repens*).



3.3.7. Scattered broad leaf trees: There are three scattered broad leaf trees in the southeast corner of the site adjacent to New Mill Road. The trees comprise two semi mature Lombardy poplar (*Populus nigra*) and one semi mature sycamore (*Acer pseudoplatanus*).



3.3.8. Species poor intact hedgerow: There are several conifer hedgerows around the site. The hedgerows have predominantly been allowed to become mature and established due to a lack of hedgerow management on the site.



3.3.9. Bare ground: There are two main areas of bare ground within the surveyed area.

3.3.9.1. To the west of the surveyed area there is an area of ground that shows the stumps and stems of Japanese knotweed (*Fallopia japonica*), which appears to have been recently cleared from this area. Therefore the area now comprises bare earth with a covering of recently fallen leaves.



3.3.9.2. To the north of the surveyed area there is also an area of bare ground that comprises compacted limestone. This area creates a parking area for the tennis courts located to the north of the site.



3.3.10. Buildings: There are several buildings of different construction types and uses around the surveyed area and the immediately surrounding area. The buildings have been covered in more detail in section 3.4.5 of this report.



3.3.11. Fences: There are occasional areas of fence around the site including a short section of fence to the east comprising metal posts and wooden rails. To the north there is an area of high mesh fencing around the tennis courts.



3.3.12. Walls: There are several different types of wall construction on the site. The walls include several areas of stone retaining wall to the east, west and south of the site with an area of concrete retaining wall extending along an old car park area to the southeast of the site.



3.3.13. Other habitats: The main areas of the site comprise a series of old tarmac car parks that have been disused for some time.



3.3.13.1. There are also several tarmac access roads leading along the eastern and northeastern sides of the site. The roads are currently used for access to the buildings in the northeast corner of the site.



### **3.4. Description of Fauna.**

3.4.1. No badger setts or other badger field signs were identified within the surveyed area.

3.4.2. Occasional animal paths were identified within the surveyed area although there were no signs to imply that the paths were made by badgers and it is assumed that the paths are due to the area being used by dog walkers.

3.4.3. No watercourses that would provide a suitable habitat for water voles, otters or crayfish were identified within the surveyed area.

3.4.4. The River Holme lies to the west of the surveyed area and may provide a suitable habitat for water voles, otters and crayfish. However the river lies at sufficient distance from the site to remain unaffected by the proposed development and was therefore not surveyed at this time.

3.4.5. Four buildings were identified within the surveyed area, the buildings are covered separately below with the location of each building shown on the plan in Appendix XIII of this report as target notes T5, T13, T14 and T15.

*3.4.5.1. Building 1, T5.*



3.4.5.1.1. Building 1 is a small stone pumping cabinet located towards the southern side of the site in an area of scrub and woodland.

3.4.5.1.2. The building comprises stone walls with a small flat felt covered roof and a louvre door on one elevation of the building.

3.4.5.1.3. The building displayed no bat field signs during this survey and was assessed as displaying no suitable roosting opportunities for significant numbers of bats.

*3.4.5.2. Building 2, T13.*



3.4.5.2.1. Building 2 is a series of two prefabricated concrete garages within flat corrugated roofs located within a locked compound area in the northeast corner of the site.

3.4.5.2.2. The building was not accessible during this survey but was assessed as highly unlikely to provide suitable roosting opportunities for bats due to the construction of the building.

3.5.4.3. *Building 3, T14.*



3.4.5.3.1. Building 3 is a series of several prefabricated concrete garages with flat corrugated roofs located within the same locked compound as Building 2.

3.4.5.3.2. The building was not accessible during this survey but was assessed as highly unlikely to provide suitable roosting opportunities for bats due to the construction of the building.

3.4.5.4. *Building 4, T15.*



3.4.5.4.1. Building 4 is a corrugated tin building located in the northeast corner of the surveyed area adjacent to Buildings 2 and 3.

3.4.5.4.2. The building was not accessible during this survey but was assessed as highly unlikely to provide suitable roosting opportunities for bats due to the construction of the building.

3.4.6. Several retaining walls were identified around the site. The walls were predominantly low and either exposed to passing traffic or covered with dense vegetation. Therefore the walls were assessed as providing no suitable roosting opportunities for bats and no bat field signs were identified around the walls during this survey.

3.4.7. The trees within the surveyed area were assessed for their potential to support roosting bats against the “Bat Conservation Trust, Protocol for the Visual Inspection of Trees”.

3.4.8. All of the trees within the surveyed area were assessed as being Category 3 trees due to the trees being semi mature or sapling trees with no visible cracks or voids that would provide suitable roosting opportunities for roosting bats.

3.4.9. The land within and around the surveyed area was assessed as potentially providing a high value foraging habitat for bats due to the presence of hedgerows, trees lines and sheltered areas within the surveyed area and the presence of high value features such as the River Holme in the immediately surrounding area. A thorough assessment of the bat foraging activity in the area of the site could not be carried out during this daytime survey of the site.

3.4.10. No ponds were identified within 500m of the site whilst on site or on a map of the area. Therefore the site does not provide a suitable habitat for great crested newts.

3.4.11. The buildings, walls and vegetation on the site will provide a suitable nesting habitat for various species of bird during the nesting season. No active nests were identified during this survey because the survey was carried out outside the nesting season.

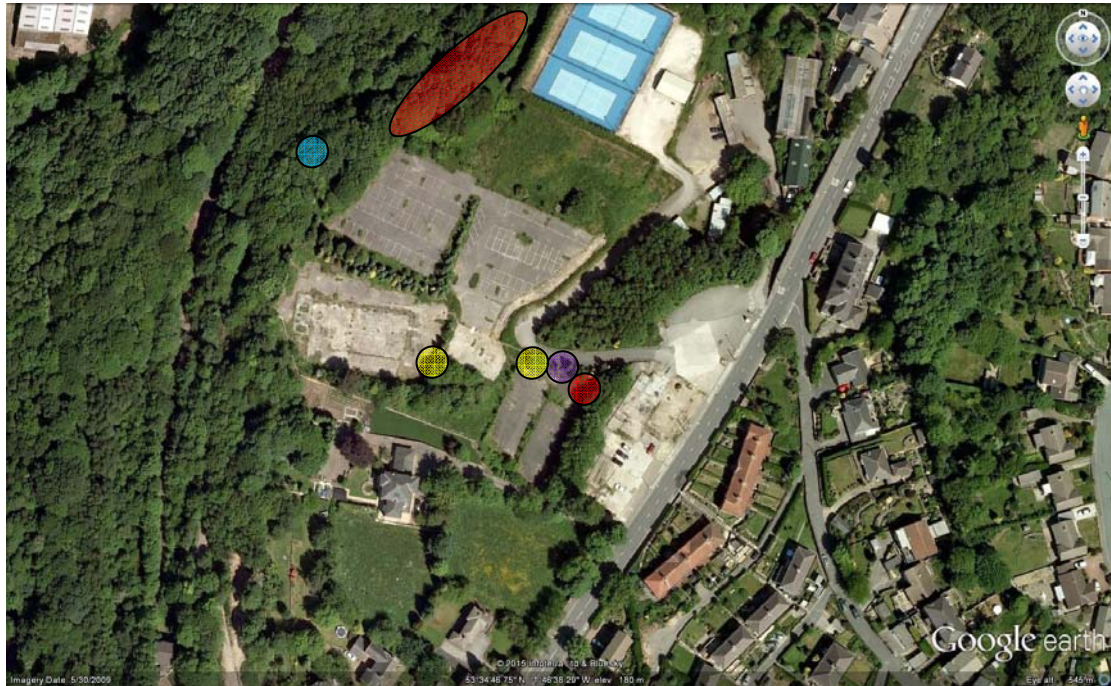
3.4.12. The site provides some potential for reptiles due to the potential refugia within the areas of scrub and the potential for basking on the open hard standing areas. However the site has been assessed as overall providing a low value habitat because it is surrounded by rivers and roads, which will create a barrier to reptile movements. No reptiles were identified during this survey.

3.4.13. The site is connected to further woodland to the west. However the connectivity is broken by the River Holme, which flows parallel to the western boundary of the site. The site is also in Yorkshire, which is not within the common range for hazel dormice. Therefore it is assessed as unlikely that hazel dormice will be present on the site. No hazel dormouse field signs were identified during this survey of the site.

3.4.14. There is some woodland on the site that may provide a suitable habitat for red squirrels. No red squirrels or red squirrel field signs were identified during this survey of the site.

3.4.15. Four invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area during this survey of the site, those species were Japanese Knotweed, Cotoneaster, Montbretia and Himalayan Balsam.

3.4.16. The location of the invasive plant species is shown on the plan below. Japanese Knotweed in red, Cotoneaster in yellow, Montbretia in purple and Himalayan Balsam in blue.



3.4.17. Two areas of Japanese Knotweed were identified within the surveyed area, one large area to the northwest of the site and a further small area to the east of the site.

3.4.17.1. To the northwest there is a large area of bare ground that displays dead stems, stumps and occasional Japanese knotweed plants showing that this area has previously been inundated with the species and they still remain.



3.4.17.2. A further small area showing similar stumps and dead stems of Japanese knotweed was identified at the base of a retaining wall adjacent to one of the parking areas to the east of the site.

3.4.18. Two areas of cotoneaster were identified within the surveyed area, one plant growing towards the south of the site and a further plant identified in garden waste dumped towards the east of the site.

3.4.18.1. The cotoneaster plant identified growing on the site was identified on the corner of an area of scrub adjacent to Building 1. The plant is growing around the bottom of a single conifer tree.

3.4.18.2. A further small area of cotoneaster was identified within an area of garden waste towards the east of the site. It is not clear how long the garden waste has been present on the site although the cotoneaster within the garden waste is currently supporting berries.



3.4.19. A small area of Montbretia was identified at the eastern side of the site adjacent to the garden waste containing the cotoneaster. The area comprises several plants growing in a small clump.



3.4.20. Several Himalayan Balsam plants were identified growing just outside the site boundary within the woodland to the west of the site.



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## **4. EVALUATION OF FINDINGS.**

4.1. West Yorkshire Ecology do not hold any existing records of protected species within or immediately adjacent to the site boundaries. Therefore there will be no impact on known populations of protected species during the development of the site.

4.2. No nationally or locally designated sites lie within the surveyed area or immediately adjacent to the site boundaries. There are sites within 1km of the surveyed area although the sites lie at a sufficient distance from the site to remain unaffected by the proposed development of this site. Therefore there will be no impact on designated sites during the development of the site.

4.3. The site has been partially classified as within the Kirklees Wildlife Habitat Network. These habitats are not designated but are classified as areas that make up important connective habitats throughout the region. Therefore there will potentially be an impact on several areas of Kirklees Wildlife Habitat Network during the development of the site.

4.4. The site comprises an area of old car parks that have remained unused for some time and are therefore becoming overgrown with the habitats on the site being a range of scrub and woodland habitats with large areas of open or hard standing land between.

4.5. The tarmac areas of the car parks now display scattered scrub with dense/continuous scrub along the edges of the car parks where it is assumed there were previous landscaped areas. The areas of scrub, particularly the dense scrub, have some ecological value because they will provide a suitable habitat for some fauna species although the habitats are not assessed as high value or rare habitats. The dense scrub habitat around the car parks does however make up part of the area classified as Kirklees Wildlife Habitat Network.

4.6. There are occasional areas of the landscaping around the car parks that appear to have previously been planted with tree species, which have been left untended and have therefore become established woodland habitats. These areas have some ecological value due to the potential habitat they provide for fauna species but are not high value or rare woodland habitats. The woodland around the car parks also makes up part of the area classified as Kirklees Wildlife Habitat Network. There are also

occasional hedgerows within these areas, predominantly established conifer hedges, which are UK BAP priority habitats.

4.7. To the north of the site there is a small area of improved grassland that lies between the car parks and the adjacent industrial land. This area is assessed as providing some ecological value, although the grassland displayed a low diversity of species during this survey. The diversity may be higher during the summer although it is not assessed that the value of the grassland would be significantly higher if surveyed during the summer months. The grassland does however lie within the area classified as Kirklees Wildlife Habitat Network.

4.8. The remaining habitats within the proposed development site are predominantly hard landscapes such as buildings, roads, walls and fences. Although these areas have some ecological value due to their potential for some fauna species to be present the ecological value of the habitats is assessed as low.

4.9. To the west of the surveyed area and partially within the western extent of the survey area there is an area of established woodland habitat that extends along an old disused railway line and the River Holme. The habitat lies within the area classified as Kirklees Wildlife Habitat Network and is also marked on the MAGIC website as woodland habitat, as shown below.



4.10. A thorough assessment of the value of the woodland could not be made during this survey because the survey was carried out during October, which is not the optimum time for surveys of woodland habitats. However, the woodland was assessed as providing a high value habitat during this survey due to its established nature.

4.11. No badger setts or other badger field signs were identified within the surveyed area and there were no signs to imply that the animal paths identified within the surveyed area were made by badgers. Therefore the development of the site will not have an impact on badgers.

4.12. No watercourses that would provide a suitable habitat for water voles, otters or crayfish were identified within the surveyed area. Therefore there will be no impact on these species during the development of the site.

4.13. The River Holme, which flows to the west of the site, may provide a suitable habitat for water voles, otters or crayfish although the river lies at a sufficient distance from the site to remain unaffected by the proposed development and therefore there will be no impact on these species if they are present along the river.

4.14. Four buildings were identified within the surveyed area, located at T5, T13, T14 and T15 on the plan in Appendix XIII of this report. The buildings were in use at the time of this survey and therefore a thorough inspection of all areas of the buildings was not possible due to limitations on access.

4.15. Although no access could be gained to thoroughly inspect all areas of the buildings during this survey the buildings were all assessed as providing no suitable roosting opportunities for bats or were assessed as highly unlikely to provide suitable roosting opportunities due to the construction types of the buildings. It is therefore unlikely that there will be an impact on roosting bats within the buildings during the development of the site.

4.16. No other roosting opportunities for bats were identified within the retaining walls or trees on the site. Therefore there will be no further impact on roosting bats during the development of the site.

4.17. The land within and around the surveyed area was assessed as potentially providing a moderate value foraging habitat for bats due to the presence of high value foraging features in the surrounding area. However, a thorough assessment of the bat

foraging activity within and around the site could not be made during this daytime survey of the site.

4.18. The development of the site may require the removal of some of the internal vegetation within the site, which will reduce the value of the foraging habitat within the site. The development is therefore unlikely to cause the long term fragmentation of suitable foraging habitats or commuting routes due to the developed land providing a suitable foraging habitat. However, there may be some impact on foraging bats during the development works if precautions are not put in place.

4.19. The development of the site is unlikely to have a major impact on the foraging potential of the land around the site and therefore will not have a major impact on foraging bats in the surrounding area but may cause some minor disturbance if precautions are not put in place during the development works.

4.20. No ponds were identified within 500m of the site whilst on site or on a map of the area. Therefore the site does not provide a suitable habitat for great crested newts and there will be no impact on the species during the proposed development.

4.21. The buildings, walls and vegetation within the surveyed area provide suitable nesting opportunities for various species of bird during the nesting season, which extends from March to September each year. No nests were identified during this survey because the survey was carried out outside the nesting season.

4.22. Any work carried out on the site during the nesting season will potentially have a high impact on any birds present within the surveyed area at that time.

4.23. The site provides some potential habitat for reptiles due to the presence of areas of dense scrub for refugia and open areas of hard standing land for basking. However, the site is surrounded by busy public roads and a river, which will create barriers to reptile movements and therefore the potential for reptiles to be present and the value of the habitat is assessed as low. It is therefore assessed that the development of the site will have a low impact on reptiles.

4.24. The surveyed area has some connectivity to areas of surrounding woodland although the connectivity is broken by the River Holme, to the west. The site is also situated in Yorkshire, which is not within the common range for hazel dormice. Therefore due to the lack of existing records of the species within the area it is

assessed as highly unlikely that hazel dormice will be present on the site or that there will be no impact on the species during the development of the site.

4.25. The woodland on and around the site provides a suitable habitat for red squirrels. However, no red squirrel field signs were identified during this survey and there are no existing records of red squirrels within the surrounding area. Therefore it is assessed as highly unlikely that the development of the site will have an impact on red squirrels.

4.26. Four invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area. Therefore without strict control measures in place during the development there is a high potential for invasive plant species to be spread to other areas.

4.27. Two areas of Japanese Knotweed were identified within the surveyed area. The Japanese knotweed was identified to the northwest and east of the site. In both areas the Japanese Knotweed comprised an area of dead stems with occasional plants and abundant stems. It is therefore unknown whether the plant has simply been cut down or whether it has been treated with herbicide.

4.28. Japanese Knotweed spreads through any part of the plants root system or rhizomes being spread to other areas. Therefore any work carried out within 7m of the plant has the potential to spread the plant to other areas if the work is not covered by control measures.

4.29. Two areas of cotoneaster were identified within the surveyed area, one plant towards the south of the site and further plant matter in tipped garden waste towards the east of the site.

4.30. Cotoneaster spreads by berries present on the plant during the late autumn. Berries were present on both plants during this survey and therefore any work in the area of the plants has the potential to spread the plant to other areas if the work is not covered by control measures.

4.31. A small area of Montbretia was identified towards the east of the site.

4.32. Montbretia spreads from corms produced under the ground. Therefore any work that will directly affect the plant or anywhere within 2m of its base has the potential to spread the plant to other areas.

4.33. Several Himalayan Balsam plants were identified growing within the woodland immediately outside the western boundary of the site.

4.34. Himalayan Balsam spreads by seed with the seeds being present on the plant during the later summer and autumn and remaining viable within the soil for up to two years. Therefore any work carried out within 7m of the plant has the potential to spread the plant to other areas if the work is not covered by control measures.

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## **5. RECOMMENDATIONS.**

5.1. The Kirklees Council website states that “Development proposals involving land identified on the proposals map as part of a wildlife corridor should make provision for the retention of the corridor and the protection of the wildlife value of the land”. It is therefore recommended that the areas of land that are classified as part of the Kirklees Wildlife Habitat Network are retained during the development of the site.

5.2. If it is not deemed possible to retain all of the area classified as Kirklees Wildlife Habitat Network during the development it is recommended that the areas of woodland, particularly the more established areas of woodland to the west of the surveyed area, are given the highest priority and remain unaffected by the development.

5.3. Any plans to remove areas of habitat classified as Kirklees Wildlife Habitat Network should be mitigated for through planting schemes in other areas of the site providing replacement habitat to supplement the habitat lost during the development. This would need to be discussed and agreed with the local council.

5.4. It is recommended that the hedgerows on the site are retained where possible. Where there is a requirement to remove sections of hedgerow it is recommended that the local council are contacted for permission to affect the UK BAP priority habitat prior to the work commencing.

5.5. If the development proposals come within 10m of the woodland to the west of the surveyed area it is recommended that a further assessment of the value of the woodland is carried out at the optimal time of year, that being during the spring. This assessment should be carried out in advance of any works commencing in that area of the site.

5.6. It is recommended that any areas of dense vegetation are removed with care. In the unlikely event that any large animal holes are identified underneath the vegetation the vegetation clearance works should be completed with care and the holes should be cleared of debris. A further assessment of the hole should then be carried out in advance of any works commencing in that area.

5.7. Although the buildings within the surveyed area display a very low potential for roosting bats to be present it is recommended that a further inspection of the interior

of the buildings is carried out in advance of any work commencing on the site to ensure that no bats are present within the buildings and to confirm the low or unsuitable value of the buildings.

5.8. It is recommended that bat activity surveys are carried out in line with the Bat Conservation Trust Good Practice Guidelines recommendations for moderate value foraging habitat, which recommend one transect survey per month from April to September. Automated bat detector surveys should also be carried out at one location for three consecutive nights during each month. Further recommendations should be made based on the findings of these surveys.

5.9. It is ideally recommended that no vegetation clearance or site clearance work commenced during the nesting season, which extends from March to September each year.

5.10. Any work that commences on the site during the nesting season must be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced person. Any nests identified must remain undisturbed until the young have fledged from the nest.

5.11. Due to the low potential for reptiles to be present on the site it is not recommended that further reptile surveys of the site are carried out. It is however recommended that a visual inspection of the site for reptiles is carried out during other surveys required on the site and that the following precautionary measures are implemented during any work on the site.

- All personnel should be briefed on the potential presence of reptiles on the site and how to identify the species.
- Vegetation clearance should initially be carried out to a minimum of 150mm to allow reptiles to escape before the vegetation is removed to ground level.
- If individual reptiles are identified during the work they should be allowed to move off the site of their own accord.
- If large numbers of reptiles (5+) or hibernating reptiles are identified work in that area of the site should cease immediately and further advice should be sought.

5.12. It is ideally recommended that all of the invasive non native plant species identified on the site are completely eradicated prior to any work commencing on the site.

5.13. Alternatively it is recommended that strict control measures suitable to each plant species are implemented for any work within the area of the plants.

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Prepared by:	
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Checked by:	
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## **Appendix I.**

### **BADGER INFORMATION.**

The following background information on the territorial behaviour, ecology and legal protection of badgers is provided to enable the reader to more clearly understand the contents of this report.

#### ***1. Territoriality.***

Badgers live in social groups called clans and are territorial. Each clan territory can vary considerably in size, from 0.2 sq. km to 1.5 sq. km. The average number of badgers in a clan has been calculated to be six but this number can vary between two and twenty badgers. In areas with a significant badger population there will be contiguous clans and a well-defined boundary between clan territories will exist with the badgers scent marking their boundary with areas of dung pits, called latrines. In areas with relatively low badger populations there will be less competition for territory and the amount of territorial markings will be low or even non-existent.

Territorial boundaries can be defined using a technique called bait marking. Over a two-week period badgers are fed at their main setts with food containing coloured plastic pellets, a different colour at each main sett. The colour of pellet found in dung pits and territorial latrines shows what areas each clan of badgers is occupying.

#### ***2. Ecology.***

Badgers are omnivorous but their preferred food source is worms and insects. Worms are most abundant in well-grazed pastureland while mixed woodland is a good source of insects and grubs. Badgers have a soft and supple nose with which they snuffle into the ground to find insects. When they do this they leave distinct round holes known as snuffle holes or grubblings. Badgers easily find worms on the surface of well-grazed pastureland and often leave no visible indications of this foraging.

The badger's most important sense is that of smell. They will use particular paths around their territory repeatedly, following a scent trail from previous use. As a result badger paths become well worn. These paths are important to the badgers and obstruction to these paths will interfere with the badger's movement around their territory.

Badgers mate at any time of year but delayed implantation controls the time of birth. Most cubs are born between January and March but they can be born at any time between December and June. An average of two to three badger cubs are born to each sow and will initially be totally dependent on their mother. Cubs do not appear above ground until during April or May when they are 8 – 10 weeks old and are not fully weaned until June of each year.

### ***3. Badger Setts.***

A badger sett is any structure or place, which displays signs of current or seasonal use by a badger. Within a badger clan territory there can be several badger setts, which are categorised in the following ways.

**Main Sett.** There will normally be one main sett in a territory. This will generally be the largest sett in the territory, typically with five or more entrances, will be permanently occupied throughout the year and used as the breeding sett.

**Outlying Sett.** These are the smallest setts with generally only one or two entrances. They are intermittently occupied and there can be any number in a territory.

**Annex Sett.** A sett of intermediate size, located close to the main sett and connected by well-defined paths. These are occupied for prolonged periods and may be used as a second breeding sett if there are two breeding sows in the clan.

**Subsidiary Sett.** A sett of intermediate size, similar to an annex sett but located at some distance from the main sett and not connected to the main sett by defined paths.

### ***4. Legislation***

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:-

- Willfully kill, injure or take a badger or attempt to do so.
- Cruelly ill-treat a badger.
- Interfere with a sett by doing any of the following:-
  - (i) damaging a badger sett or any part of it
  - (ii) destroying a badger sett
  - (iii) obstructing access to a badger sett
  - (iv) causing a dog to enter a sett
  - (v) disturbing a badger while it is occupying a sett.

Penalties for offences under the Act are up to six months in prison and a fine of £5,000 for each offence.

Disturbance to a badger in a sett can be caused by working close to a sett.

Before any work goes ahead which will cause damage to setts or disturbance to badgers, a licence will be needed from Natural England in accordance with their guidelines. To obtain a licence an application must be made giving at least one months notice. This application must include full justification for the work, the manner in which any work is to be carried out, full supporting information and a named person capable of carrying out specialised badger work, to supervise that licence. Natural England will normally only issue such licences for work to be carried out between the months of July and October inclusive, to avoid the breeding season, although exceptions may be possible if a sound justification can be made.

## **Appendix II. WATER VOLE INFORMATION.**

It is necessary to understand a little about water voles, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

The water vole is the largest of the British voles. It lives in a series of holes or burrows at the waters edge and can be found along the banks of ditches, streams, rivers, lakes and canals. Although water voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The water vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants growing along side the watercourse. Its activity is normally confined to the area within two metres of the watercourse. Bankside vegetation in this area is not only essential for food but also for cover from predators.

The water vole population has been on the decline in recent years. This is partly due to loss of suitable riverside habitats but also due to the increasing population of predators, particularly the escaped American mink. Population decline has been dramatic and has accelerated over the last seven years. Surveys carried out by the Vincent Wildlife Trust show a loss of 67% of occupied sites and of 88% of the remaining population in the last seven years.

The water vole has received limited legal protection since April 1998 when it was included in Schedule 5 of the Wildlife and Countryside Act 1981. Section 9(4) of the Act protects the water vole's place of shelter or protection but does not protect the water vole itself.

From the 6<sup>th</sup> April 2008 water voles received an increased level of protection, becoming fully covered by the provisions of section 9 of the Wildlife and Countryside Act 1981 (as amended).

Full legal protection under the Act makes it an offence to:

- Intentionally kill, injure or take water voles.
- Possess or control live or dead water voles or derivatives.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection.
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.
- Sell water voles or offer or expose for sale or transport for sale.
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles.

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## **Appendix III. OTTER INFORMATION.**

It is necessary to understand a little about otters, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Otters are nocturnal and are active all year round. They are large with an adult male reaching 1.2m from nose to tail and weighing about 10kg.

Otters live by undisturbed waters where there is plenty of cover, mostly by freshwater lakes, rivers and quiet small streams as well as some coasts.

Fish are the otter's main source of food, especially eels and they therefore rely on good fish populations. They also eat amphibians and the occasional bird and small mammal.

An otter may use over 40km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt which is often away from the main river and must be completely undisturbed.

Generally the only evidence seen of the otter is its faeces or 'spraint', which are deposited along a watercourse in prominent positions.

Once found throughout Britain, most of our otter populations crashed in the 1960's due to poisoning from agricultural pesticides which drained into our river systems. Although this threat has passed and otter numbers are slowly beginning to recover, they are still subject to a number of serious pressures.

- Habitat loss through intensive river management for drainage and flood defence and due to agriculture and urban development.
- Inadequate food supplies, mainly fish.
- Disturbance of breeding sites by people and especially dogs.
- Low water quality and low river flows.
- Roads which cross or run alongside, rivers.

The UK Biodiversity Plan (BAP) contains an otter Species Action Plan (SAP) aimed at maintaining its existing range and population status, as well as increasing the number of populations through re-colonisation.

The otter is listed on Appendix 1 of CITES, Appendix II of the Bern Convention and Annexes II and IV of the Habitats Directive. It is protected under Schedule 5 of the WCA 1981 and The Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. The European sub-species is also listed as globally threatened on the IUCN/WCMC RDL.

- 39.**—(1) It is an offence-
- (a) deliberately to capture or kill an otter;
  - (b) deliberately to disturb an otter;
  - (c) to damage or destroy a breeding site or resting place of an otter.

## **Appendix VI. CRAYFISH INFORMATION.**

It is necessary to understand a little about crayfish, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Crayfish are the largest and most mobile freshwater invertebrate. The white-clawed crayfish (*Austropotamobius pallipes*) is the only native crayfish and this is protected under European and UK legislation.

White clawed crayfish are generally found in areas with relatively hard, mineral rich waters on calcareous and rapidly weathering rocks. They can be found in a wide variety of environments including canals, streams, rivers, lakes reservoirs and water-filled quarries.

White clawed crayfish are typically found in water between 0.75 and 1.25m deep but can occur in very shallow streams with as little water as 50mm and in deeper, slow flowing rivers. They are typically found under rocks and submerged logs or among tree roots and in river-banks. White clawed crayfish are omnivorous but primarily carnivorous eating macro invertebrates and carrion when available. They will also eat worms, insect larvae, snails, small fish, macrophytes, algae and calcified plants.

Crayfish can live for up to ten years and generally reach sexual maturity after three to four years. Breeding takes place between September and November when the water temperature drops consistently to below ten degrees centigrade. Females over winter with a clutch of eggs held beneath their tail. These may number from 20 to 120 and hatch on the female. The juveniles are released from the mother from June in the south to August in the north.

The main threat to the indigenous white-clawed crayfish is the spread of introduced non indigenous species, particularly the larger, faster growing and aggressive North American signal crayfish (*pacifastacus leniusculus*). They are also vulnerable to disease, particularly porcelain disease and crayfish plague, and the latter carried by the signal crayfish.

Crayfish are also extremely vulnerable to pollution incidents, particularly those involving biocides, silage and sheep dip.

As a result, white-clawed crayfish are endangered across most of its range and has been given protection under both European and UK legislation.

The white-clawed crayfish is covered by the Conservation of Habitats and Species Regulations 2010 (as amended), and as species listed in Annexes 2 and 5 of the Habitats Directive, which means that Member States should take measures to ensure that the taking of white-clawed crayfish in the wild is compatible with their being maintained at a favourable status.

In 1998, the white-clawed crayfish was added to Schedule 5 of the Wildlife and Countryside Act giving it partial protection in relation to Section 9(1) as far as it relates to taking and in respect of Schedule 9(5). It is therefore an offence to

intentionally take any white-clawed crayfish from the wild and an offence to sell wild crayfish.

Licences are available from English Nature to allow the taking of white-clawed crayfish for certain specified purposes, including scientific or educational purposes and for conservation purposes. An English Nature survey licence is required where any survey is aimed at finding white-clawed crayfish and involves handling them for counting or identification purposes.

An English Nature Conservation Licence is required for the purpose of conserving white-clawed crayfish or introducing them to particular areas.

Non indigenous crayfish species are also covered under the Wildlife and Countryside Act 1981. Section 14 makes it an offence for any person to (a) release or allow to escape, any wild animal which is of a kind not ordinarily resident in or a regular visitor to Great Britain in a wild state or; (b) is included in Schedule 9 of the Wildlife and Countryside Act.

Three species of non-indigenous crayfish are listed on Schedule 9. These are the signal crayfish (*Pacifastacus leniusculus*), the narrow clawed crayfish (*Astacus leptodactylus*) and the noble crayfish (*Astacus astacus*). Any of these three species found during a survey cannot be returned to the wild.

## **Appendix V. BAT INFORMATION.**

It is necessary to understand a little about bats, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

18 species of bat currently reside in Britain, 17 of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to shortage of food, caused by pesticides, as insects are their sole diet, and habitat change.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man made structures and will readily use these to roost and to rear their young.

Bats are protected under the Wildlife and Countryside Act 1981, Regulation 41 of The Conservation of Habitats and Species Regulations 2010, and the Countryside & Rights of Way Act 2000.

It is an offence to intentionally or recklessly kill, injure or capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection.

A breeding or resting site of any bat is known as a bat roost. A bat roost is therefore any structure a bat uses for shelter or protection. Because bats tend to use the same roosts each year, legal opinion is that the roost site is protected whether or not the bats are present at that time.

Bat roosts can be identified by looking for:-

- Suitable holes, cracks and crevices.
- Bat droppings.
- Prey remains.
- By carrying out night observations using a bat detector.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

The person applying for that licence has to be suitably qualified and experienced in bat matters. That person is then responsible for ensuring that the measures contained in the licence are carried out.

## **Appendix VI.**

### **BACKGROUND GREAT CRESTED NEWT INFORMATION.**

The great crested newt population has suffered a major decline in Britain over the last century. Numerous ponds have been lost, unmanaged ponds have become silted up and over-shaded, development has destroyed ponds and associated terrestrial habitat and caused fragmentation of populations. The loss of grassland, scrub and woodland has resulted in fewer opportunities for foraging, dispersal and hibernation.

The UK Biodiversity Plan (BAP) contains a great crested newt Species Action Plan (SAP) aimed at maintaining its existing range and population status, as well as increasing the number of populations through re-colonisation.

The great crested newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. The great crested newt is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a great crested newt.
- Possess or control any live or dead specimen or anything derived from a great crested newt.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt.
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place, which it uses for that purpose.

The great crested newt is also listed on Regulation 41 of the Conservation of Habitats and Species Regulations 2010. Regulation 41 makes it an offence to:

- Deliberately capture or kill a great crested newt
- Deliberately disturb a great crested newt.
- Deliberately take or destroy the eggs of a great crested newt.
- Damage or destroy a breeding site or resting place of a great crested newt.

The legislation applies to all life stages of great crested newts.

The maximum fine on conviction of offences under Section 9 and Regulation 41 currently stands at £5,000. The CroW Act 2000 amendment also allows for a custodial sentence of up to six months instead of, or in addition to, a fine. In addition, items, which may constitute evidence of the commission of an offence, may be seized and detained.

In order to understand the potential effects of development it is essential to understand a little of the great crested newt ecology.

Great crested newts breed in ponds and other water bodies. They can begin to migrate to their breeding ponds as early as the first frost-free days in late January with the

majority reaching their breeding ponds by mid March. Timing will be influenced by a number of factors, mainly evening temperatures above 5°C and recent rain.

The peak egg-laying period is from mid-March to mid-May. The newts will lay their eggs individually, mainly on the leaves of submerged plants. The larva hatch after three weeks and then take another 2-3 months to complete larval development. Adult newts generally leave their breeding ponds from late May onwards.

Once the larvae have completed metamorphosis (the transition from aquatic larvae to land-adapted juveniles, called efts), they emerge from the pond. This emergence begins in late August and generally continues until late October. It takes 2-4 years to reach sexual maturity, during which time the newts will be land based.

Adults and immature newts spend the winter in places that afford protection from frost and flooding. This will generally be underground amongst tree roots, in mammal burrows, or under suitable refuges above ground like deadwood or rubble piles. Hibernation may last from October to February.

Whilst on land, outside the hibernation period, great crested newts will forage at night, taking a wide range of invertebrate prey.

From the above, it can be seen that great crested newts spend the majority of their time on land and only visit the ponds for breeding purposes. As a result, surveys need to be timed very carefully. Terrestrial surveys are very inaccurate and the only time that surveys can be truly thorough is in the narrow window of opportunity between March and September.

Great crested newts will travel large distances between ponds and terrestrial refuges. It is recommended that anywhere within 500m of a pond should be treated as potential great crested newt habitat and should be surveyed and evaluated.

An experienced surveyor must carry out the surveys and must be in possession of an appropriate Natural England great crested newt survey licence.

It is essential that great crested newt surveys are planned well in advance of any development and ideally before Planning Consent is sought. Surveys can only be carried out at the appropriate time of year and repeat surveys are essential. The guidelines suggest that between four and six surveys need to be carried out, three of these between mid-March and mid-June.

If great crested newts are to be effected by any development, a thorough assessment of the population is essential followed by the design of a comprehensive mitigation package. Only when this has been done can a licence application be submitted to Natural England for approval. It takes 30 working days for a licence application to be determined and the period of time that mitigation measures take can be measured in months. It is therefore essential to plan well in advance of development commencing.

## **Appendix VII. NESTING BIRD INFORMATION.**

It is necessary to understand a little about the legal protection offered to nesting birds in order to evaluate the findings of this report.

Part 1.-(1) Of the Wildlife and Countryside Act 1981 states that:-

If any person intentionally:-

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.

Part 1.-(5) of the Act states that:-

If any person intentionally:-

- (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or
- (b) disturbs dependant young of such a bird,

he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September.

It is also worth remembering that some birds nest in trees, scrub and buildings but others are ground nesting.

The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

## **Appendix VIII.**

### **REPTILES - GRASS SNAKE AND ADDER INFORMATION.**

The grass snake (*Natrix natrix*) and the adder (*Vipera berus*) are the two most common snakes to be found in the UK. Adders are found all over Britain while the grass snake becomes rarer towards the north and are rarely found in Scotland.

The grass snake is usually around 120cm long, live in a variety of rough habitats and lay their eggs in warm rotting vegetation. The background colour is dark green and the body is marked with vertical black bars and spots that run along its sides. There is generally a dark collar marking.

The adder is the only native species that is venomous but this is rarely harmful to humans. Adult adders are generally up to 66cm long. Background colouration is a light shade of grey or brown with a black zigzag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.

Both snakes hibernate, spending the winter in burrows or under logs protected from the cold and predators. Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, adders will try to move to damper, cooler sites.

Both snakes are protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

## **Appendix IX. REPTILES - LIZARD INFORMATION.**

The common or viviparous lizard (*Lacerta vivipara*) is one of three species of lizard that occur in the UK. They have a dry scaly skin and are variable in colour ranging from brown or yellow-brown to almost green with varying patterns of spots or stripes. The typical length of an adult is 150mm, including the tail.

Common lizards hibernate over the winter, emerging from February onwards depending upon the weather. They begin to mate in April and May and the young are born in late July or August. The lizard gives birth to live young, hence the term viviparous, meaning live bearing.

The lizards draw their body warmth from the sun and consequently spend long periods basking in the sun. They are commonly seen on road and railway embankments and on walls where they sit for long periods soaking up the heat of the sun before going to find food.

They occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs.

Common lizards hunt insects, spiders, snails and earthworms. They stun their prey by shaking it and then swallow it whole.

At night, and when startled, they will shelter beneath logs or stones or under other refuges that may be available.

Common lizards are protected under schedule 5 of the Wildlife and Countryside Act 1981 (they received greater protection following reviews of the schedules published in 1988 and 1991) and Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended) making it a European Protected Species.

Common lizards should not be confused with the somewhat larger sand lizard (*Lacerta agilis*). These are typically 190mm long and stockier than the common lizard. Their markings are distinctly different being considerably more colourful. Sand lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the sand lizard in the UK is therefore very limited. Sand lizards are a European protected species.

The third species of lizard is the slow worm (*Anguis fragilis*), which is frequently mis-identified as a snake. The firm body of the slow worm is distinctly cylindrical in shape and the tiny smooth scales result in a very smooth, shiny appearance. Colouration is typically a uniform grey to brown although there is a wide variation from straw coloured to almost black and some animals have very fine stripes or a zig-zag along the centre of the back. The typical length of an adult is 400mm.

Slow worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Slow worms hibernate over the winter, emerging from March onwards depending upon the weather. They begin to mate in April and May and six to twelve young are born in August or September.

Their favourite food is slugs but they will also eat insects and spiders.

Slow worms are hard to find. They will bask in the sun but they quickly and quietly move into cover when disturbed and do not generally attract attention as they retreat from a basking spot.

Slow worms are also protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

## **Appendix X. HAZEL DORMOUSE INFORMATION.**

Once widespread throughout the country, dormice declined in both population and distribution during the 20<sup>th</sup> Century; largely due to the loss of habitat. They now have a patchy distribution, primarily in southern England and Wales with some areas of reintroduction in the north of England and Scotland.

The hazel dormouse is listed on Schedules 5 and 6 of the Wildlife and Countryside Act 1981, recently modified by the Countryside and Rights of Way Act 2000. The dormouse is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a dormouse.
- Possess or control any live or dead specimen or anything derived from a dormouse.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse.
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place, which it uses for that purpose.

The hazel dormouse is also listed on Annex II of The Conservation (Natural Habitats &c) Regulations 1994. Regulation 39 makes it an offence to:

- Sell or offer for sale a dormouse.
- Possess or transport for the purpose of sale, any live or dead specimen or anything derived from a dormouse.
- Advertise for buying or selling of any such things.

The legislation applies to all life stages of dormice.

The maximum fine on conviction of offences under Section 9 and Regulation 39 currently stands at £5,000. The CroW Act 2000 amendment also allows for a custodial sentence of up to six months instead of, or in addition to, a fine. In addition, items, which may constitute evidence of the commission of an offence, may be seized and detained.

Hazel dormice are also listed as a priority species on the UK Biodiversity Action Plan (BAP).

Dormice typically occur in diverse deciduous woodland, hedgerows and scrub. They are small mammals with a body size of around 6-9cm (plus tail 5-8cm), an orange/brown colour with white underbellies, black eyes, round ears and furry tails.

The dormouse is a nocturnal animal that is rarely caught and hence easy to overlook. They are highly arboreal, spending most of their time high off the ground, feeding along the branches of trees and shrubs and rarely travelling further than 70m from their nest.

Nests may be created in bushes and shrubs; however, more robust resting places such as hollow tree branches, squirrel dreys, old birds' nests are preferred; with nests also found in bat boxes and bird nest boxes.

For around a third of the year, dormice hibernate on or under the ground from October until March/April. They are therefore, highly sensitive to any disturbance to the ground throughout the winter and spring.

It is virtually impossible to prove that dormice are absent and the only certain way to determine their presence is by surveying. This can be done by using traps and baiting points; although, the best way to establish presence is to look for feeding remains (such as gnawed hazel nuts). The erection of nest boxes or nest tubes will also reveal the presence of dormice; however, they are unlikely to be used immediately.

## **Appendix XI. RED SQUIRREL INFORMATION.**

The red squirrel (*Sciurus vulgaris*) is the only native species of squirrel to England. Believed to once have a population of around 3.5 million in the UK; current population estimates there are around 15,000 red squirrels left in England.

The red squirrel is listed on Schedules 5 and 6 of the Wildlife and Countryside Act 1981, recently modified by the Countryside and Rights of Way Act 2000. The red squirrel is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a red squirrel.
- Possess or control any live or dead specimen or anything derived from a red squirrel.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a red squirrel.
- Intentionally or recklessly disturb a red squirrel while it is occupying a structure or place, which it uses for that purpose.
- Sell, or offer for sale, a red squirrel or any part of a red squirrel.

The grey squirrel is a non-native invasive species which was introduced from North America in 1876. It is covered by Schedule 9 of the Wildlife and Countryside Act 1981 and is recognised as a global threat, being listed on the IUCN international list of 100 worst invasive species.

It is illegal to release or allow a grey squirrel to escape into the wild. Any grey squirrel that is trapped must be humanely dispatched. It is illegal to keep grey squirrels in captivity.

The threat of grey squirrels to red squirrels comes from their ability to live in much denser populations and their capability to decimate food sources before they become viable for red squirrels. Grey squirrels are also carriers of the squirrelpox virus, taking only one individual to introduce the virus to a population of red squirrels. The virus can spread quickly through a population, creating decline up to 25 times quicker than competition alone.

Squirrels are arboreal mammals that like to live in mixed or broadleaf woodlands, but can live in all types of woodland. Due to competition with grey squirrels, red squirrels are increasingly restricted to coniferous woodlands.

Squirrels are active all year round and do not hibernate. They live in dreys, a ball like nest made up of interwoven twigs lined with soft materials such as leaves and moss. Dreys are usually found tight against the tree trunk high up in the tree.

There are 17 large plantation conifer forests within northern England, found in Northumberland, Cumbria, North Yorkshire and Merseyside; which have been designated to help red squirrel conservation. Each reserve is surrounded by a 5km buffer zone to protect from grey squirrels.

## Appendix XII. SCHEDULE 9 INVASIVE PLANT SPECIES.

1. Schedule 9 of the Wildlife and Countryside Act 1981 contains a list of invasive species of plant. Species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.

2. The following is a list of all the species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981.

Common Name	Latin Name
Alexanders, Perfoliate	<i>Smyrniium perfoliatum</i>
Algae, Red	<i>Grateloupia luxurians</i>
Archangel, Variegated Yellow	<i>Lamiastrum galeobdolon subsp. Argentatum</i>
Azalea, Yellow	<i>Rhododendron luteum</i>
Balsam, Himalayan	<i>Impatiens glandulifera</i>
Cotoneaster	<i>Cotoneaster horizontalis</i>
Cotoneaster, Entire Leaved	<i>Cotoneaster integrifolius</i>
Cotoneaster, Himalayan	<i>Cotoneaster simonsii</i>
Cotoneaster, Hollyberry	<i>Cotoneaster bullatus</i>
Cotoneaster, Small Leaved	<i>Cotoneaster microphyllus</i>
Creeper, False Virginia	<i>Parthenocissus inserta</i>
Creeper, Virginia	<i>Parthenocissus quinquefolia</i>
Dewplant, Purple	<i>Disphyma crassifolium</i>
Fanwort (Carolina Water-Shield)	<i>Cabomba caroliniana</i>
Fern, Water	<i>Azolla filiculoides</i>
Fig, Hottentot	<i>Carpobrotus edulis</i>
Garlic, Three-cornered	<i>Allium triquetrum</i>
Hogweed, Giant	<i>Heracleum mantegazzianum</i>
Hyacinth, Water	<i>Eichhornia crassipes</i>
Kelp, Giant	<i>Macrocystis pyrifera</i>
Kelp, Giant	<i>Macrocystis angustifolia</i>
Kelp, Giant	<i>Macrocystis intergrifolia</i>
Kelp, Giant	<i>Macrocystis laevis</i>
Kelp, Japanese	<i>Laminarial japonica</i>

Knotweed, Giant	<i>Fallopia sachalinensis</i>
Knotweed, Hybrid	<i>Fallopia japonica x Fallopia sachalinensis</i>
Knotweed, Japanese	<i>Fallopia japonica</i>
Leek, Few-flowered	<i>Allium paradoxum</i>
Lettuce, Water	<i>Pistia stratiotes</i>
Montbretia	<i>Crocsmia x crocosmiiflora</i>
Parrot's Feather	<i>Myriophyllum aquaticum</i>
Pennywort, Floating	<i>Hydrocotyle ranunculoides</i>
Potato, Duck	<i>Sagittaria latifolia</i>
Primrose, Floating Water	<i>Ludwigia peploides</i>
Primrose, Water	<i>Ludwigia grandiflora</i>
Primrose, Water	<i>Ludwigia uruguayensis</i>
Rhododendron	<i>Rhododendron ponticum</i>
Rhododendron	<i>Rhododendron ponticum x Rhododendron maximum</i>
Rhubarb, Giant	<i>Gunnera tinctoria</i>
Rose, Japanese	<i>Rosa rugosa</i>
Salvinia, Giant	<i>Salvinia molesta</i>
Seafingers, Green	<i>Codium fragile</i>
Seaweed, Californian Red	<i>Pikea californica</i>
Seaweed, Hooked Asparagus	<i>Asparagopsis armata</i>
Seaweed, Japanese	<i>Sargassum muticum</i>
Seaweeds, Laver (except native species)	<i>Porphyra spp except</i>
	<i>p. amethystea</i>
	<i>p. leucosticte</i>
	<i>p. linearis</i>
	<i>p. miniata</i>
	<i>p. purpurea</i>
	<i>p. umbilicalis</i>
Stonecrop, Australian Swamp (New Zealand Pygmyweed)	<i>Crassula helmsii</i>
Wakame	<i>Undaria pinnatifida</i>
Waterweed, Curly	<i>Lagarosiphon major</i>
Waterweeds	<i>All species of the genus Elodea</i>

3. The Government has acknowledged the problems that can be caused by non-native invasive species. In 2008 the Government launched “The Invasive Non-Native Species Framework Strategy for Great Britain”. The strategy provides a framework for a more co-ordinated approach to invasive species management. It seeks to create a stronger sense of shared responsibility across government, key organisations, land managers and the public.

4. The Non Native Species Secretariat has been established to oversee the implementation of the strategy. Details of the secretariat including risk assessments and action plans for some species are available at [www.nonnativespecies.org](http://www.nonnativespecies.org).

5. In general there are four basic methods of controlling weeds; mechanical, chemical, natural and environmental.

5.1. Mechanical control includes cultivation, hoeing, pulling, cutting, raking dredging or other methods to uproot or cut weeds.

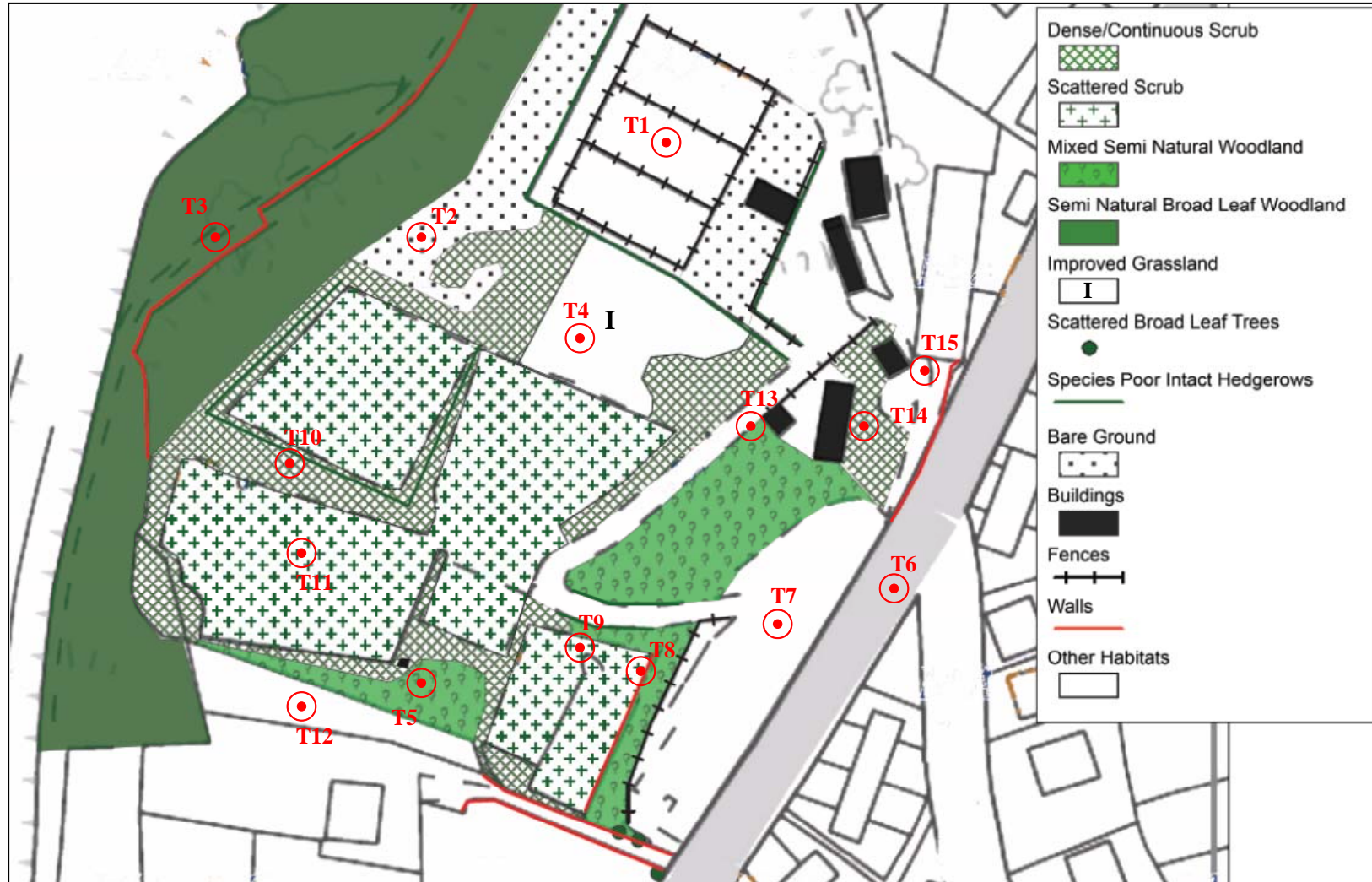
5.2. Where this method is used all plant material must be considered “controlled waste” and must be disposed properly.

5.3. Chemical control uses approved herbicides.

5.4. Natural control uses pests and diseases of the target weed to weaken it and prevent it from becoming a nuisance.

5.5. Environmental control works by altering the environment to make it less suitable for weed growth, for example by increasing or decreasing water velocity.

# Appendix XIII. ANNOTATED MAP OF THE SURVEY AREA.



## **Appendix XIV. TARGET NOTES.**

**T1:** To the north of the surveyed area there is an area of tennis courts with an area of bare ground for parking. These areas have a low ecological value.

**T2:** To the northwest of the surveyed area there is an area that is currently bare ground but also displays Japanese Knotweed stumps and dead stems.

**T3:** The woodland to the west of the surveyed area is established woodland classified as Kirklees Wildlife Habitat Network. This area has been assessed as having a high ecological value although the survey of the woodland was not carried out at an optimum time of year.

**T4:** A small area of improved grassland is located to the north of surveyed area. The grassland is classified as Kirklees Wildlife Habitat Network.

**T5:** Building 1.

**T6:** New Mills Road, a busy public road, lies to the east of the surveyed area.

**T7:** The land to the east of the surveyed area is bare ground that is currently used for parking. This area has a low ecological value.

**T8:** A further small area of Japanese Knotweed stems and stumps was identified in this area.

**T9:** Small areas of cotoneaster and Montbretia were identified in this area.

**T10:** The scrub habitats located between the old hard standing car parks appear to be areas of landscaping that have become overgrown. These areas are classified as Kirklees Wildlife Habitat Network.

**T11:** The main areas of the site are old car parks that are disused and are therefore becoming overgrown with scrub.

**T12:** The land to the south of the surveyed area comprises a private residential property which could not be accessed during this survey.

**T13:** Building 2.

**T14:** Building 3.

**T15:** Building 4.

## Appendix XV. SPECIES LISTS.

### 1. Dense/continuous scrub, main areas.

Species.	DAFOR Assessment.
Goat willow ( <i>Salix caprea</i> )	D
Silver birch ( <i>Betula pendula</i> )	D
Bramble ( <i>Rubus fruticosus</i> )	D
Rosebay willowherb ( <i>Chamerion angustifolium</i> )	A
Dog rose ( <i>Rosa canina</i> )	F
Nettle ( <i>Urtica dioica</i> )	O
Ash ( <i>Fraxinus excelsior</i> )	F
Hawthorn ( <i>Crataegus monogyna</i> )	O
Horsetail ( <i>Equisetum sp</i> )	R
Sycamore ( <i>Acer pseudoplatanus</i> )	F
Oak ( <i>Quercus sp</i> )	O
Holly ( <i>Ilex aquifolium</i> )	O
Horse chestnut ( <i>Aesculus hippocastanum</i> )	R

### 2. Dense/continuous scrub, bund to the north of the site.

Species.	DAFOR Assessment.
Bramble ( <i>Rubus fruticosus</i> )	D
Rosebay willowherb ( <i>Chamerion angustifolium</i> )	D
Goat willow ( <i>Salix caprea</i> )	O
Silver birch ( <i>Betula pendula</i> )	O
Dog rose ( <i>Rosa canina</i> )	O
Nettle ( <i>Urtica dioica</i> )	F
Ash ( <i>Fraxinus excelsior</i> )	O
Hawthorn ( <i>Crataegus monogyna</i> )	F
Horsetail ( <i>Equisetum sp</i> )	R
Sycamore ( <i>Acer pseudoplatanus</i> )	F
Oak ( <i>Quercus sp</i> )	O
Holly ( <i>Ilex aquifolium</i> )	O
Horse chestnut ( <i>Aesculus hippocastanum</i> )	R
Burdock ( <i>Arctium sp</i> )	F
Dock ( <i>Rumex sp</i> )	F

### 3. Mixed semi natural woodland.

Species.	DAFOR Assessment.
Silver birch ( <i>Betula pendula</i> )	A
Sycamore ( <i>Acer pseudoplatanus</i> )	F
Ash ( <i>Fraxinus excelsior</i> )	F
Elder ( <i>Sambucus nigra</i> )	O
Conifer	F
Holly ( <i>Ilex aquifolium</i> )	O
Scots pine ( <i>Pinus sylvestris</i> )	O
Hawthorn ( <i>Crataegus monogyna</i> )	F
Goat willow ( <i>Salix caprea</i> )	F
Ivy ( <i>Hedera helix</i> )	F
Bramble ( <i>Rubus fruticosus</i> )	F
Bracken ( <i>Pteridium aquilinum</i> )	R

### 4. Semi natural broad leaf woodland.

Species.	DAFOR Assessment.
Sycamore ( <i>Acer pseudoplatanus</i> )	A
Oak ( <i>Quercus sp</i> )	F
Silver birch ( <i>Betula pendula</i> )	O
Holly ( <i>Ilex aquifolium</i> )	O
Ash ( <i>Fraxinus excelsior</i> )	F
Bramble ( <i>Rubus fruticosus</i> )	F
Bracken ( <i>Pteridium aquilinum</i> )	F
Nettle ( <i>Urtica dioica</i> )	O
Herb Robert ( <i>Geranium robertianum</i> )	O

5. Improved grassland.

Species.	DAFOR Assessment.
Perennial rye grass ( <i>Lolium perenne</i> )	F
Yorkshire fog ( <i>Holcus lanatus</i> )	F
False oat grass ( <i>Arrhenatherum elatius</i> )	F
Common bent ( <i>Agrostis capillaries</i> )	F
Cocks foot ( <i>Dactylis glomerata</i> )	F
Ribwort plantain ( <i>Plantago lanceolata</i> )	A
Thistle ( <i>Cirsium sp</i> )	A
Red clover ( <i>Trifolium pratense</i> )	A
Bramble ( <i>Rubus fruticosus</i> )	O
Dock ( <i>Rumex sp</i> )	F
Lady's mantle ( <i>Alchemilla mollis</i> )	O
Creeping buttercup ( <i>Ranunculus repens</i> )	F

6. Scattered broad leaf trees.

Species.	DAFOR Assessment.
Lombardy poplar ( <i>Populus nigra</i> )	F
Sycamore ( <i>Acer pseudoplatanus</i> )	F