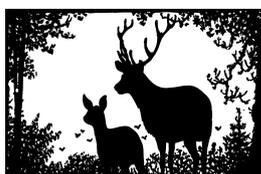


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Special Note

Whilst every effort has been taken to ensure this report accurately identifies potential ecological constraints to development or the likely presence or absence of species and the spatial and temporal use of the site by such species, it must only be viewed as a snap shot in time and should therefore not be viewed as definitive. Because of external influencing factors such as weather, season, access etc. affecting survey results, no liability can be assumed for omissions or changes that may or may not occur after the production of this report. The author of this report must be consulted as to the current applicability of the results if there are any seasonal delays in the use of this report.



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Report February 2009

Appendix 9.13 Extended Phase 1 Habitat Survey (2009)

1.1 Introduction

Purpose of this report

- 1.1.1 This report details the results of an Extended Phase 1 Habitat Survey carried out at a site known as Island Farm, Bridgend, Wales. ELMAW Consulting has been instructed, by HD Ltd, to carry out the Extended Phase 1 Habitat Survey in order to provide an audit of the site's habitats and identify any habitats that may support species of importance.
- 1.1.2 Island Farm is a proposed sporting development which will include rugby league, rugby union, football and boxing facilities, set within a landscaped parkland environment. It will also include a phase II extension to the Science Park, providing low density, high-technology office use, a heritage centre based around the Grade II listed Hut (World War II prison camp) and a wildlife park.
- 1.1.3 This study forms part of the baseline surveys which will inform the Environmental Impact Assessment, to be produced at a later date.

1.2 Methodology

Extended Phase 1 Habitat Survey

- 1.2.1 An Extended Phase 1 Habitat Survey is an adaption of the Phase 1 Habitat Survey audit tool usually mapping the habitat types (at landscape level) which are present within a site, using target notes to denote areas of apparent ecological interest or potential relative importance. However, in this instance, this survey has been extended to include a subjective assessment of habitats in respect to their potential to support notably important and protected species.
- 1.2.2 In addition, the survey introduced some additional habitat types to those traditionally used in a Phase 1 Habitat Survey, which more accurately reflected the habitat conditions on the ground.
- 1.2.3 The survey included an assessment of the habitat types present and their relative ecological interest within the site (Phase 1 Habitat Survey) and an assessment of the potential for all habitats within and immediately adjacent to the site to support Notably Important Species (Protected Species and Species of Principal Importance).
- 1.2.4 In evaluating and surveying the site, three assessment techniques have been applied:
- 1.2.5 A Phase 1 Habitat Survey has been used to accurately qualify and map the full range of habitat types within the site and identify any features of particular ecological interest or importance, or habitats of ecological importance. Important habitats are those listed in the UK, Welsh or local Biodiversity Action Plans or listed within the Natural Environment and Rural Communities (NERC) Act 2006: Section 42 List of Species of Principal Importance for Conservation of Biological Diversity in Wales.
- 1.2.6 All habitats within the site have been assessed for their potential to support Notably

Appendix 9.13 Extended Phase 1 Habitat Survey (2009)

Important Species. This included a walkover survey of all habitats for indicative evidence of important species and an assessment of the potential value of each habitat type for such species.

- 1.2.7 A Phase 1 Habitat Survey is intended to map broad habitat types (e.g. deciduous woodland), and is designed to provide an overview of the habitats, usually at a landscape-wide scale. In this way, areas of particular ecological value can be identified, possibly for further surveys. In this case however, the habitats have been mapped at a much smaller scale, at site level, and additional habitat types introduced to more accurately reflect the composition of the site's habitats and features.
- 1.2.8 All habitats within and immediately adjacent to the site have been assessed for their potential to support notably important species. For the purposes of this report, protected species are those listed on Schedules 1, 5 and 9 of the Wildlife and Countryside Act 1981 (as amended) and those protected under the Conservation (Natural Habitats & c) (Amendment) Regulations 2007 and the Protection of Badgers Act 1992. Notably important species are those listed within the Local and National Biodiversity Action Plans, within the Red Data Book as being Rare or Notable and listed as Species of Principal Importance for Conservation of Biological Diversity in Wales Natural Environment & Rural Communities (NERC) Act 2006: Section 42.
- 1.2.9 In order to assess a habitat or site's potential to support important species, several factors are considered, including (but not limited to):
 - 1.2.10 Habitat structure and type: All species have specific habitat requirements. The structure and form of the habitat is often as important as the type of habitat.
 - 1.2.11 Habitat connectivity: This is particularly important for the less mobile species (e.g. most reptiles, ancient woodland flora), but most species are reluctant to cross large areas of unsuitable habitat. For most species a degree of habitat connectivity is essential to enable them to move through the landscape. Hedgerows, river corridors and roadside verges are all potential dispersal routes between blocks of suitable habitat. Isolated habitats are usually ecologically poorer than those with high levels of connectivity to other areas of semi-natural habitat.
 - 1.2.12 Geographic locality: Many of the rarer species have very restricted geographical ranges, and are often reasonably sedentary, and this factor will have a significant effect on the number of species present at a site.
 - 1.2.13 Known Records: The biological data search (carried out as part of the desktop study) will reveal any known records of protected or notable species within two kilometres of the site, although many species are under-recorded and the lack of records does not indicate a species is not present.
 - 1.2.14 Anecdotal records: Local residents are often aware of the presence of species which are not known to official records centres. Although not always specific or verifiable, local knowledge should not be discounted when assessing a site and evaluating its potential.
 - 1.2.15 Indicative evidence: Certain species (e.g. badgers, bats) leave obvious and unambiguous evidence of their presence in the form of indications such as latrines,

droppings, feeding remains or tracks. Other species which do not leave such indications may be visible during the site survey, depending on the timing of the survey (e.g. basking reptiles, breeding birds).

- 1.2.16 In any site assessment, the combination of these and other factors is used to determine the potential for important species or habitats to be present on site.
- 1.2.17 Where initial surveys and assessments determine the site is likely to support important species or habitats, the Countryside Council for Wales (CCW), the Statutory Organisation for Nature Conservation (in Wales) recommend further surveys, to qualify and quantify the importance of habitats and to determine the presence or likely absence of important species, are carried out prior to the determination of planning permission. The presence of protected species is a material consideration of the local planning authority in the determination of a planning application, therefore, CCW considers that in order for the local planning authority to make an informed decision, information as to the presence or likely absence of such species (as a minimum) is needed prior to the determination of planning permission. Individual local authorities may however require detailed impact assessments and mitigation programmes prior to the determination of planning permission, or they may include such measures as planning conditions or obligations as part of Section 106 Agreements where appropriate.

Desktop Study

- 1.2.18 A data search of the site was made by Wye Valley Surveys for their Ecological Report of August 2002 and therefore has not been included in this study.

Constraints

- 1.2.19 The survey was carried out in February 2009, when the full botanical diversity of the habitats would not have been evident. However, a full botanical species list has been gathered and collated by Wye Valley Surveys Ltd and reported in their 2002 report. Access could be gained to all parts of the site and therefore there were no constraints to the survey.

1.3 Results

Phase 1 Habitat Survey

- 1.3.1 The Island Farm site covers a total area of 52.3 hectares (130 acres) and is situated on land off New Inn Road in Bridgend, Wales.
- 1.3.2 The site which is the subject of this survey covers land which is bounded to the south by New Inn Road, to the east by Ewenny Road, to the west by Merthyr Mawr Road and to the north by the A48. The site consists of mainly arable land with areas of semi-improved and improved grassland, scrub and woodland and is surrounded by countryside to the south and west, with residential areas to the north and east. The railway line bounds the site in the south-eastern corner.
- 1.3.3 The Extended Phase 1 Habitat Survey found a total of sixteen habitat types within the

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site, with Arable Farmland the most dominant of the habitat types. Additional habitat types to those traditionally listed in Phase 1 Habitat Surveys have been included to more accurately describe the site's habitat areas.

- 1.3.4 The additional fifteen habitat types found on the site are; Semi-Natural Broadleaved Woodland (Secondary), Continuous Scrub/Woodland, Continuous Scrub, Scattered Scrub, Intact Hedgerow with Trees, Intact Species Rich Hedgerow without Trees, Scattered Trees, Semi-Improved Species Poor Neutral-Slightly Acidic Grassland, Improved Species Poor Rank Grassland, Improved Species Poor Horse-Grazed Pasture, Ruderals, Ruderals with Developing Scrub, Standing Water (in this case a concrete-lined pond), Bare Ground (tarmacadam hardstanding) and Buildings.

1.4 Habitat and Species Assessment

Arable Farmland

- 1.4.1 Arable Farmland habitat covers the majority of the site (approximately 38.5 ha). Arable Farmland dominates the southern half of the site and also the eastern side, and consists of a total of ten arable fields, each bounded (often on all sides) by Intact, Species Rich Hedgerows without Trees.

Target Notes

Bat Feeding and Foraging Habitat

- 1.4.2 In addition, the hedges bounding the arable fields provide potential feeding and foraging habitat for bats. Bats frequently utilise linear features such as woodland edges to navigate and disperse between roosts and feeding/foraging areas.

Nesting Bird Habitat

- 1.4.3 Whilst the areas of Arable Farmland have limited ecological value, the hedgerows between the arable fields are ecological features which support potential nesting bird habitat.

Dormice (*Muscardinus avellanarius*) Habitat

- 1.4.4 Species specific surveys carried out in 2004 and 2006 found dormice to be extant in all arable field hedgerows.

Semi-Natural Broadleaved Woodland (Secondary)

- 1.4.5 Semi-Natural Broadleaved Woodland (Secondary) covers approximately 2.4 ha of the site. Aside from a small area in the centre of the site (in the Dell Hole) and a very small area in the far west of the site, the main area of this habitat is located in the northern part of the site.
- 1.4.6 The woodland appears to have recently developed (post 1600) and is not particularly species rich and the dominant species of trees include sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), field maple (*Acer camperstre*), ash (*Fraxinus excelsior*) and lime (*Tilia* sp). The understory and shrub layer, whilst in an advanced stage of natural succession, includes hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*) with occasional hazel

(*Corylus avellana*) and dogwood (*Cornus sanquinea*).

- 1.4.7 The ground flora is often absent because of the lack of ground penetrating light, however where some light penetrates, ivy (*Hedera helix*) interspersed with patches of creeping soft grass (*Holcus mollis*) and meadow grass (*Poa humilis*). Growing in darker and damping parts of the woodlands, lower plants such as Hart's tongue fern (*Asplenium scolopendrium*) and broad buckler fern (*Dryopteris dilatata*) can be found dominating the bryophytes.
- 1.4.8 The full species list is found in the Wye Valleys Surveys Report.

Target Notes

Dormouse Habitat

- 1.4.9 The Semi-Natural Broadleaved Woodland (Secondary) areas of habitat on the site provide dormouse habitat. Whilst the understory within the woodland is outgrown and in a number of situations has reached the tree canopy, there is arboreal connectivity and a range of tree species that would provide both foraging and feeding habitat for dormice. The lack of both dense thicket and over mature and moribund trees that would support rot holes and cavities constrains this part of the site's potential to support nesting dormice.

Bat Feeding and Foraging Habitat

- 1.4.10 Open areas and ride and footpath edges to the Semi-Natural Broadleaved Woodland (Secondary) would provide suitable habitat for feeding and foraging of bats and commuting routes between feeding and roosting habitats. The lack of moribund or over mature trees within the woodlands would also constrain on-site roosting of bats within this habitat.

Nesting Bird Habitat

- 1.4.11 The area of Semi-Natural Broadleaved Woodland (Secondary) also provides suitable habitat for nesting birds. The canopy would support typical high forest nesting birds and where the understory is sufficiently dense, nesting scrub birds could be found.

Reptile Habitat

- 1.4.12 Whilst the adjoining bramble scrub and grassland offers better habitat for reptiles than the woodland, there is potential, particularly within the interfaces of wood, scrub and grassland to support a number of common species of reptile. Slow worms (*Anisura fragilis*) and grass snake (*Natrix natrix*) are two species that could be extant within this habitat.

Continuous Scrub/Woodland

- 1.4.13 The single area of Continuous Scrub/Woodland covers an area of 1.68 ha and is located in the north-eastern corner of the site. The area consists of late successional scrub developing into woodland. Species in this area include; willow (*Salix cinerea*), hawthorn, blackthorn, bracken, bramble, dogwood, teasel (*Dipsacus fullonum*), silver birch (*Betula pendula*), hazel, oak, ash and cherry (*Prunus* sp.). Ground flora consists of ivy and ferns.

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Target Notes

Dormouse Habitat

- 1.4.14 The Continuous Scrub/Woodland provides suitable optimal nesting and foraging habitat for dormice as discussed for woodland and hedgerows.

Bat Feeding and Foraging Habitat

- 1.4.15 The Continuous Scrub/Woodland provides suitable habitat for bats to feed and forage where it interfaces with woodland and scrub edges.

Nesting Bird Habitat

- 1.4.16 The Continuous Scrub/Woodland provides optimum habitat for nesting birds, particularly for scrub nesting birds in the densest parts of the habitat.

Potential Reptile Habitat

- 1.4.17 The area of Continuous Scrub/Woodland has the potential to support reptiles, as it provides sub-optimal habitat similar to the conditions found in the woodland habitat. Its potential value increases were it interfaces with grassland or ruderal habitats.

Continuous Scrub

- 1.4.18 Continuous Scrub primarily exists in the northern half of the site, with a small area along an arable field edge in the west of the site and another small area in the extreme southerly tip of the site. The Continuous Scrub is developing around the woodland and hedgerow edges, into the grassland. It is dominated by bramble, with some raspberry (*Rubus idaeus*) clumps and willowherbs. The total area covered by Continuous Scrub is approximately 2.64 ha.
- 1.4.19 Further linear areas of Continuous Scrub are found outside the site boundary on the eastern edge of the site and also between the site's south-east boundary and the railway line. This area consists of dense bramble, with gorse (*Ulex europaea*) and provides optimum dormouse habitat. This area also provides a valuable link to the hedgerows in the south-east corner of the site.
- 1.4.20 These areas provide optimum habitat for dormice and excellent nesting bird habitat. The areas also provide some potential habitat for reptiles, as described above.

Target Notes

Dormouse Habitat

- 1.4.21 The areas of Continuous Scrub provide suitable nesting and foraging habitat for dormice, there is sufficient density to provide shelter and when taken in association with the trees and hedgerows, provides sufficient variety of food.

Nesting Bird Habitat

- 1.4.22 As with the woodland, the areas of Continuous Scrub also provides suitable habitat for scrub nesting birds.

Scattered Scrub

- 1.4.23 A small area of Scattered Scrub exists within one of the areas of Semi-Improved Species poor Neutral-Slightly Acidic Grassland in the north of the site. The area covers a total of 0.05 ha and is indicative of a lack of grassland management with the development of scrub encroachment.

Target Notes

Nesting Bird Habitat

- 1.4.24 The Scattered Scrub provides sub-optimal habitat for nesting birds and is only likely to be used where the individual shrub is sufficiently dense enough.

Intact Hedgerow with Trees

- 1.4.25 There are a number of hedgerows on site which fall into this habitat definition. The total length of these hedgerows is 840 metres. One is on the extreme south-west boundary of the site and the others are in the north of the site, bounding the horse-grazed pasture in the north east of the site. The species which make up these hedgerows include; hazel, blackthorn, apple (*Malus* sp.), oak (*Quercus robur*), bramble, beech (*Fagus sylvatica*), dog rose and elder (*Sambucus nigra*).
- 1.4.26 The bases of the hedges generally consist of ivy, bracken (*Pteridium aquilinum*), bramble and occasional grasses including false oat grass (*Arrhenatherum elatior*) and occasional wood false brome (*Brachypodium sylvaticum*). The trees within the hedgerows include mature and over mature ash and oaks.

Target Notes

Dormouse Habitat

- 1.4.27 The Intact Hedgerows with Trees provide suitable nesting and foraging habitat for dormice and this has been confirmed through species specific surveys as discussed above.

Bat Feeding and Foraging Habitat

- 1.4.28 The Intact Hedgerows with Trees provide suitable habitat along which bats can feed, forage and commute to their other feeding/roosting sites, as discussed above.

Nesting Bird Habitat

- 1.4.29 The Intact Hedgerows with Trees also provide suitable habitat for nesting birds, however the diversity and density of nesting birds will be constrained by the close flailed maintenance of the entire network of hedgerows.

Intact Species Rich Hedgerow without Trees

- 1.4.30 The majority of the hedgerows on the site fall into this habitat category, with the hedges bounding all the arable fields in the south of the site. The total length of these hedgerows is 3,908 metres.
- 1.4.31 The species which make up these hedgerows include; hazel, blackthorn, apple, oak,

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bramble, beech, dog rose and elder.

Target Notes

Dormouse Habitat

- 1.4.32 The Intact Species Rich Hedgerows without Trees provide suitable nesting and foraging habitat for dormice as discussed above.

Bat Feeding and Foraging Habitat

- 1.4.33 The Intact Species Rich Hedgerows without Trees provide suitable habitat along which bats can feed, forage and commute to their other feeding/roosting sites, as discussed above.

Nesting Bird Habitat

- 1.4.34 The Intact Species Rich Hedgerows without Trees also provide suitable habitat for nesting birds but is constrained as discussed above.

Reptile Habitat

- 1.4.35 The hedgerow bottoms support limited potential reptile habitat because of the close cultivation and maintenance. However, if reptiles are found extant in optimal habitat types within the site, it is likely that some of the hedgerows may support foraging and dispersing reptiles at some time during the year. Potential hibernation habitat, particularly on the south facing high banks below a number of hedgerows cannot be precluded.

Scattered Trees

- 1.4.36 There are a small number of Scattered Trees on site, mainly in the south west, located in the arable fields. There are also a number of Scattered Trees within one of the areas of Semi-Improved Species poor Neutral-Slightly Acidic Grassland in the north of the site. As discussed above these trees are mature and over mature ash and oak trees.

Target Notes

Nesting Bird Habitat

- 1.4.37 The Scattered Trees provide suitable habitat for nesting birds.

Bat Roosting Habitat

- 1.4.38 If any of the trees contain cavities, rot holes or woodpecker holes there is the potential for bat roosting. Typically hardwood trees of the age found on site do support cavities and rot holes in one form or another and therefore bat roosting should not be precluded, especially as five species of bat are known to use the site.

Semi-Improved Species Poor Neutral-Slightly Acidic Grassland

- 1.4.39 Semi-Improved Species Poor Neutral-Slightly Acidic Grassland covers approximately 4.24 ha of the site, in two areas, both in the northern half of the site. The eastern area of Semi-Improved Species Poor Neutral-Slightly Acidic Grassland includes developing bramble scrub (not however, suitable for dormice), but the western area

does not contain any developing bramble scrub.

- 1.4.40 Other species that dominate this habitat include, cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanata*), dog rose (*Rosa canina*), and rosebay willowherb (*Chamerion angustifolium*).
- 1.4.41 These areas provide optimum habitat for reptiles.

Target Notes

Potential Reptile Habitat

- 1.4.42 The two areas of Semi-Improved Species Poor Neutral-Slightly Acidic Grassland have the potential to support reptiles, particularly slow worms, grass snake and perhaps common lizards (*Lacerta vivipara*). Where the grassland interfaces with scrub and hedgerows, adder (*Vipera berus*) is also a possibility.

Improved Species Poor Rank Grassland

- 1.4.43 There is one small area of Improved Species Poor Rank Grassland, which covers an area of 0.18 ha in total. It is situated in the north east of the site, adjacent to the site boundary.
- 1.4.44 This area is dominated by rye grass (*Lolium perene*) and appears to have been set-aside from the agricultural cultivation.

Target Notes

Potential Reptile Habitat

- 1.4.45 This area of Improved Species Poor Rank Grassland provides some potentially suitable habitat for reptiles, since it links with areas of scrub and hedgerows. However the area is too small to sustain a population in isolation.

Improved Species Poor Horse Grazed Pasture

- 1.4.46 One area (a single field) of Improved Species Poor Horse Grazed Pasture covering 2.07 ha is found in the north east corner of the site. It is an area of heavily grazed, what appears to be species poor, grassland.

Ruderals

- 1.4.47 A small area of Ruderals, covering an area of 0.03 ha is found in the centre of the site, adjacent to the small area of Semi-Natural Broadleaved Woodland (Secondary). Small patches are also found developing with other areas of grassland, scrub and within the woodland on disturbed and nutrient rich soils. Typical ruderal species found on site include nettle, willow herbs and thistles (*Cirsium* sp).

Ruderals with Developing Scrub

- 1.4.48 There are four main areas of Ruderals with Developing Scrub, totalling 0.19 ha. The areas are located in the far north of the site, between the site boundary and the large area of Semi-Improved Species Poor Neutral-Slightly Acidic Grassland. There is an

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area within the Semi-Improved Species Poor Neutral-Slightly Acidic Grassland, and an area to its south. The final area is located around the Concrete-lined Pond.

- 1.4.49 The species present in these areas include; bramble, rosebay willowherb, with bracken in places, dog rose (saplings), ash, and on the ground, ivy, herbs and grass.

Target Notes

Dormouse Habitat

- 1.4.50 The Ruderals with Developing Scrub provides sub-optimal habitat for dormice, but where it is densest and retaining connectivity with continuous scrub, dormice presence cannot be precluded.

Nesting Bird Habitat

- 1.4.51 The Ruderals with Developing Scrub provides very limited bird nesting potential, but cannot be precluded where it is dense and interfacing with other more suitable nesting bird habitats.

Potential Reptile Habitat

- 1.4.52 The area of Ruderals with Developing Scrub has the potential to support reptiles, as it provides sub-optimal habitat, but its potential can be increased if interfacing with optimal reptile habitat such as the grassland areas.

Standing Water (Concrete-Lined Pond)

- 1.4.53 A single, concrete-lined pond/cattle watering structure is located to the east of the site, in amongst an area of Ruderals with Developing Scrub, at a junction of three hedgerows which bound three arable fields. The pond measures approximately 3m by 3m. The water in the pond is stagnant and there is no aquatic or marginal vegetation, although the Wye Valley surveys recorded three aquatic species of plant.
- 1.4.54 The pond was deemed in previous surveys to have some potential to support great crested newts (*Triturus cristatus*) and therefore a survey was carried out in 2004 but no great crested newts were found.
- 1.4.55 Around the pond is a small area of ruderals with bramble scrub.

Bare Ground and Buildings

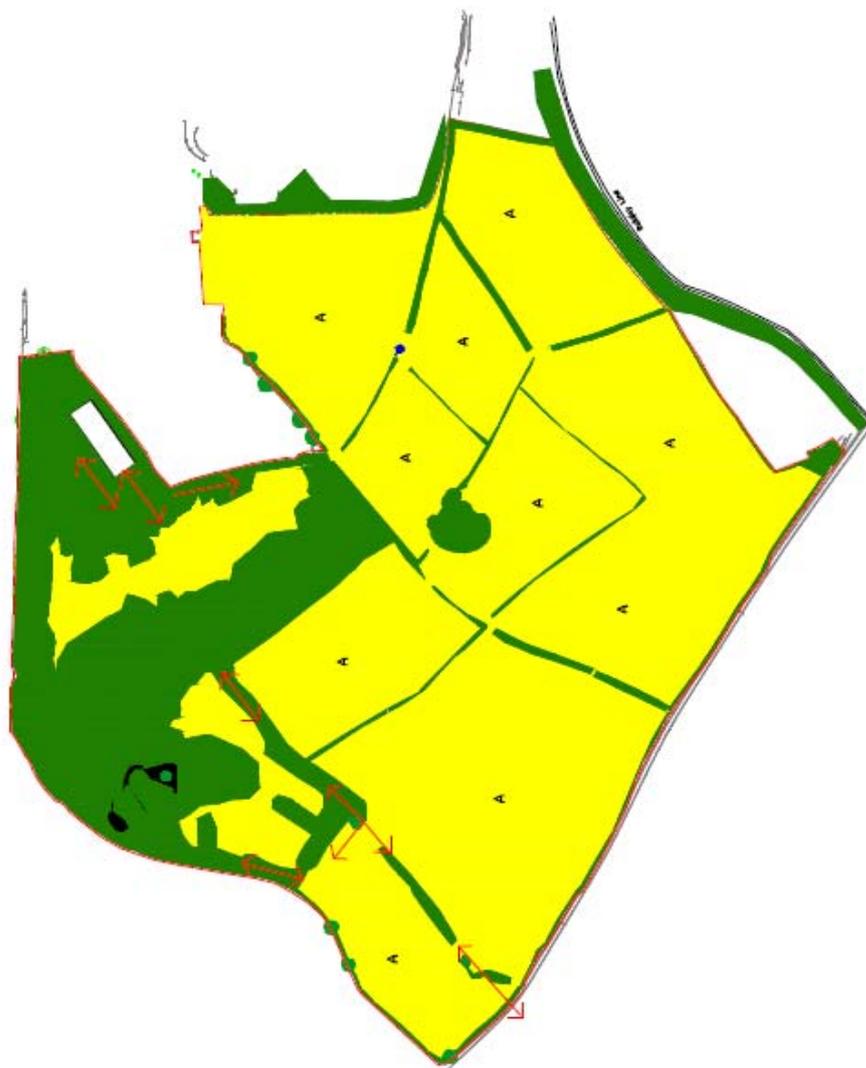
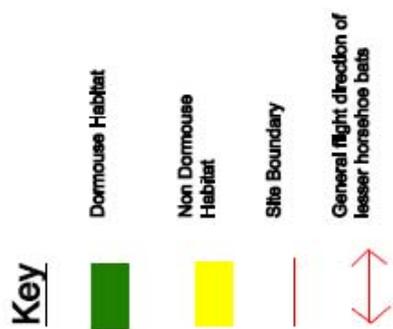
- 1.4.56 Two areas of Bare Ground exist and both are located in the north western corner of the site. The total area covered by this habitat type is 0.22 ha. These two areas consist of tarmacadam hardstanding with small amounts of ruderal encroachment. These areas offer no ecological interest at this time.
- 1.4.57 In the north-eastern corner of the site a Grade II listed Hut (World War II prison camp) is found. The building footprint covers 0.10 ha. This building has been found to support a brown long-eared bat and lesser horseshoe bat roost.

Habitats of Principal Importance

- 1.4.58 The site supports one habitat considered notable under Natural Environment and

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Rural Communities Act 2006: Section 42 List of Habitats of Principal Importance for Conservation of Biological Diversity in Wales, namely, hedgerows. The site includes a total of 4,748 metres of hedgerows, all of which are considered very important habitat for dormice and also for nesting birds and for foraging and commuting bats.



Project Title: Island Farm, Bridgend	
Drawing: Map to show Dormouse Habitat and Lesser Horseshoe Bat Flight Direction	
Date: February 2009	Scale: 1:5000
 ELMAW Consulting Consulting Ecologists & Wildlife Managers 10, The Grange, Bridgend, Bridgend, Bridgend, Bridgend Tel: 01473 345525	

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Breeding Bird Habitat Map

