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ECOLOGICAL CONSULTANTS
Limited Liability Partnership

Warblington School, Havant Extended Phase 1 Habitat Survey

November 2010

Final

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Job Name	Warblington School, Havant
Report title	Extended Phase 1 Survey Report
File reference	5114_X002_rep_SH_PBA021110.doc

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1 Introduction

1.1 Site Description

The site is located in a residential area on the south-eastern side of Havant, Hampshire at National Grid Reference SU 7216 0652. The site is bordered by Warblington School, a local secondary school to the east and Fairfield Infant School to the west. A railway lies at the northern border of the site and houses run along the southern border. The Hayling Billy Line, a disused railway line converted into a footpath and cycleway, runs southeast from the railway along the eastern edge of Fairfield Infant School.

The site is 1.9ha in extent and comprises a playing field used by Warblington School, a linear woodland which lies between the playing field and the houses at the southern boundary, a small section of the Hayling Billy Line, and a woodland which is used by Fairfield Infant School as an environmental teaching area.

1.2 Proposed Works

It is proposed that 80 houses with an access road from New Lane, a central parking area and a central square, will be constructed within the site. The strip of woodland in the south of the site will be retained and a landscape buffer zone planted along the northern edge of the site, between the development and the railway line.

The proposed access road from New Lane will bisect the environmental teaching area, as will a proposed cycleway which will run from New Lane through the woodland and into the rear entrance of the Fairfield Infant School. These proposed access routes will result in the loss of much of the woodland and it has therefore been proposed that a new environmental teaching area is created to the south of Fairfield Infant School outside the boundaries of the study site (Hampshire County Council 2008). This new facility will include: a woodland shelter belt of native trees and shrubs, an open glade, meadow, coppice woodland, a pond/wetland area and various artificial wildlife shelters including bird boxes, bat boxes and hedgehog boxes.

1.3 Background

Ecological surveys were undertaken at the site when it was identified as a potential development site in the Hampshire County Council local development plan. The results of these surveys are outlined below.

2005: a Phase 1 Habitat survey was undertaken by Baker Shepherd Gillespie LLP in May 2005. The site was reported to comprise grassland, woodland, scrub and tall ruderal vegetation. A disused badger (*Meles meles*) sett was present in the environmental teaching area. It was considered that the site then had the potential to support: bat roost(s) within a mature tree in the environmental teaching area, reptiles within the area bordering the railway, nesting birds within the woodland and scrub, and great crested newts (*Triturus cristatus*) within the pond in the environmental teaching area. Further surveys for bats, badgers and amphibians were therefore recommended. The report discussed the likely impacts of the proposed development works and concluded that: (i) if great crested newts were present that they were likely to be adversely affected by the removal of the pond and woodland, (ii) if reptiles were present in the area beside the railway then they may be adversely affected by the proposed planting on the northern border of the site, and (iii) if the works were to be undertaken during nesting season that breeding birds may be adversely affected by the removal of woodland and scrub.

2006: a great crested newt survey was undertaken by Sarah Hobbs of Ecological Planning and Research in April - May 2006. No great crested newts were discovered but medium-large sized populations of smooth newts (*Lissotriton vulgaris*) and common frogs (*Rana temporaria*) were present.

2006: a tree survey was undertaken by Hyland Edgar Driver in 2006. The survey concluded that a mature sycamore (*Acer pseudoplatanus*) on the north-eastern edge of the site should be retained. It described the woodland on the southern border of the site (to the north of the houses) as "an over-mature area of hedgerow and/or scrub" (HED 2006). It also detailed the trees within the environmental teaching area and reported the area to be dominated by young, planted trees with a mix of native species.

1.4 Aims of Study

This study aims to provide a professional judgement-based statement on the likely ecological value of the site through a phase 1 habitat survey which is extended to collect information on the suitability of the habitats present to support protected species.

The survey is informed by a desk study of protected sites, species and habitats in the vicinity of the site. The report provides an assessment of the site's potential to support protected species and includes a summary of legislation and/or policy protection relating to the habitats and/or species present. Recommendations for further survey work and suitable mitigation, compensation and/or enhancement measures are provided.

2 Methodology

2.1 Desk Study

Hampshire Biodiversity Information Centre was contacted for information on statutory and non-statutory sites of nature conservation importance and legally protected species within a 2 km radius of the central grid reference of the site.

The Hampshire Biodiversity Action Plan (HBAP) was consulted for information pertaining to locally important habitats and species of nature conservation interest (<http://www.hampshirebiodiversity.org.uk>). In addition, the Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was searched for information regarding internationally protected sites (e.g. Special Areas of Conservation (SACs) or Special Protection Areas (SPAs)) and for habitat classifications such as Ancient Woodland in and around the site.

2.2 Field Survey

An extended Phase 1 Habitat survey was carried out on the 29th September 2010 by Dr. Samantha Hill MIEEM. This involved walking the site and mapping the nature and extent of the habitats present using the Phase I Habitat Survey methodology (JNCC 2004). In addition, any evidence of protected species was noted, as were features which were considered to have the potential to support protected species.

The weather during the site visit was overcast with 100% cloud cover and rain throughout the day (becoming heavy in the afternoon) and a temperature of 17°C.

3 Results

3.1 Desk Study

3.1.1 Designated Sites

Statutory Sites

Emsworth Harbour lies approximately 1.3km to the south of the study site. This comprises part of the Chichester Harbour Site of Special Scientific Interest (SSSI), the Solent Marine Special Area of Conservation (SAC), the Chichester and Langstone Harbours Special Protection Area (SPA) and

RAMSAR site. These designations have been awarded to this stretch of coastline in recognition of its importance to populations of waders and wildfowl as well as its extensive mudflats, estuarine and saltmarsh habitats. At varying times of the year, this area has internationally important numbers of ringed plover (*Charadrius hiaticula*), grey plover (*Pluvialis squatarola*), redshank (*Tringa tetanus*), black-tailed godwit (*Limosa limosa*), dunlin (*Calidris alpina*), sanderling (*Calidris alba*), curlew (*Numenius arquata*), greenshank (*Tringa nebularia*), shelduck (*Tadorna tadorna*), teal (*Anas crecca*) and dark-bellied Brent geese (*Branta bernicla*) including 5% of the world population of Brent geese.

Non Statutory Sites

There are 13 Sites of Importance for Nature Conservation (SINC's) within 2km of the study site. A brief description of each SINC, along with its distance and bearing from the site is provided in Table 1.

Table 1: Sites of Importance for Nature Conservation within 2km of the study site.

Name	Grid Ref.	Selection Criteria	Size (ha)	Distance and bearing from site (km)
Manor Farm A	SU70000610	Presence of Brent Goose	9.23	1.85 W
Southmoor – Big Field	SU70980487	Semi-natural coastal and estuarine habitats, including saltmarsh, intertidal mudflats, sand dunes, shingle, brackish ponds, grazing marsh and maritime grasslands.	0.49	1.9 SW
Southmoor Reserve	SU71200520	Agriculturally unimproved grasslands, semi-natural coastal and estuarine habitats, a flora and fauna characteristic of unimproved and waterlogged conditions. Presence of divided sedge (<i>Carex divisa</i>)	2.19	1.5 SW
Great Copse	SU71800840	Ancient semi-natural woodlands	5.16	1.8 NW
Battins Copse	SU71850780	Ancient semi-natural woodlands	2.73	1.2 N
Wade Court Park	SU71980531	Supports an outstanding assemblage of little egrets (<i>Egretta garzetta</i>)	1.13	0.9 S
Langstone Mill Pond	SU72050500	Semi-natural coastal and estuarine habitats, a flora and fauna characteristic of unimproved and waterlogged conditions. Presence of large-leaved lime (<i>Tilia platyphyllos</i>)	0.98	1.3 S
Warblington Castle Farm West	SU72670544	Presence of Brent goose	14.60	0.8 SE
Warblington Castle Farm East E	SU73300520	Presence of Brent goose	13.51	1.4 SE
Warblington Castle Farm East D	SU73300560	Presence of Brent goose	18.58	1.0 E-SE
Barton's Copse and The Slip	SU73400850	Ancient semi-natural woodlands	18.28	1.8 NE
Conigar Point Meadows	SU73500530	Agriculturally unimproved grasslands. Presence of smooth brome (<i>Bromus racemosus</i>), distant sedge (<i>Carex distans</i>), wild celery (<i>Apium graveolans</i>), slender hare's-ear (<i>Bupleurum tenuissimum</i>), and common glasswort (<i>Salicornia europaea</i>)	6.07	1.1 E-SE
Brook Farm B	SU73700560	Presence of Brent goose	14.41	1.4 E-SE

3.1.2 Habitats

The strip of woodland which runs along the southern border of the playing field (within the boundaries of the study site) and continues south away from the study site along the Hayling Billy Line, comprises UK Biodiversity Action Plan (BAP) Priority Habitat 'Lowland Mixed Deciduous Woodland'. The UK BAP defines this woodland type as "woodland growing on the full range of soil conditions, from very acidic to base-rich, and takes in most semi-natural woodland in southern and eastern England, and in parts of lowland Wales and Scotland" (UK BAP 2008). The Hampshire Biodiversity Information Centre's records indicate that there are 24 discrete pockets of lowland mixed deciduous woodland within a 2km radius of the study site, including Ancient Woodland sites located approximately 1.8km northeast and 1.8km northwest of the study site.

Approximately 1.3km to the east and approximately 1.4km to the west there are areas of Lowland Meadow which are also a UK BAP priority habitat. Along the coastline, approximately 1.3km south from the study site, there are various coastal UK BAP priority habitats including Coastal Saltmarsh, Intertidal Mudflats, Coastal and Floodplain Grazing Marsh, and Saline Lagoons.

3.1.3 Protected Species

Records of legally protected species within 2km of the study site are provided in the table below (Table 2). There are two species of reptile, 51 species of bird, one plant species, one insect species, and seven species of mammal. Note that species protected through planning policy are discussed in Section 3.1.4.

Table 2: Records of species protected under UK legislation (including the Wildlife and Countryside Act 1981 (as amended), the Protection of Badgers Act 1992, and/or under the Conservation of Habitats and Species Regulations 2010) found within 2km of the study site.

Common Name	Latin Name	Number of records*	Most recent record date	Grid reference of closest record	Distance and bearing of closest record (km)
Grass snake	<i>Natrix natrix</i>	3	1999	SU721065	1 S
Adder	<i>Vipera berus</i>	1	1999	SU730070	0.8 NE
Kingfisher	<i>Alcedo atthis</i>	710	2008	SU720050	1.3 S
Garganey	<i>Anas querquedula</i>	18	2008	SU704054	1.8 SW
Short-eared owl	<i>Asio flammeus</i>	11	2007	SU70	Within 10km grid square containing site
Scaup	<i>Athya marila</i>	116	2004	SU7104	1.7 SW
Ferruginous duck	<i>Aythya nyroca</i>	90	2008	SU7105	1.2 SW
Barnacle goose	<i>Branta leucopsis</i>	15	2008	SU7205	1.3 S
Red-breasted goose	<i>Branta ruficollis</i>	1	2007	SU7205	1.3 S
Eagle owl	<i>Bubo bubo</i>	1	2008	SU7106	0.5 W
Dunlin	<i>Calidris alpina</i>	47	2007	SU7204	1.5 S
Long-tailed duck	<i>Clangula hyemalis</i>	45	2008	SU7205	1.3 S
Little egret	<i>Egretta garzetta</i>	394	2008	SU720058	0.7 S
Merlin	<i>Falco columbarius</i>	31	2007	SU7106	0.5 W
Peregrine falcon	<i>Falco peregrinus</i>	73	2008	SU70	Within 10km grid square containing site
Hobby	<i>Falco subbuteo</i>	32	2007	SU70	Within 10km grid square containing site
Brambling	<i>Fringilla montifringilla</i>	33	2008	SU7305	1 SE
Black-throated diver	<i>Gavia arctica</i>	5	2007	SU7304	1.0 SE
Great northern diver	<i>Gavia immer</i>	4	2008	SU7304	1.0 SE
Red-throated diver	<i>Gavia stellata</i>	22	2007	SU7304	1.0 SE

White-tailed eagle	<i>Haliaeetus albicilla</i>	1	2008	SU7007	1.4 NW
Wryneck	<i>Jynx torquilla</i>	1	2008	SU7104	1.7 SW
Mediterranean gull	<i>Larus melanocephalus</i>	434	2008	SU70	Within 10km grid square containing site
Little gull	<i>Larus minutus</i>	105	2008	SU7304	1.0 SE
Bar-tailed godwit	<i>Limosa lapponica</i>	172	2008	SU726050	1.2 S
Black-tailed godwit	<i>Limosa limosa</i>	110	2008	SU7205	1.3 S
Woodlark	<i>Lullula arborea</i>	7	2007	SU70	Within 10km grid square containing site
Common scoter	<i>Melanitta nigra</i>	23	2007	SU7204	1.5 S
Smew	<i>Mergellus albellus</i>	2	1999	SU7005	1.7 SW
Red kite	<i>Milvus milvus</i>	3	2008	SU70	Within 10km grid square containing site
Whimbrel	<i>Numenius phaeopus</i>	68	2008	SU7206	Within 1km grid square containing site
Osprey	<i>Pandion haliaetus</i>	33	2008	SU725048	1.25 S
Honey buzzard	<i>Pernis apivorus</i>	3	2000	SU70	Within 10km grid square containing site
Ruff	<i>Philomachus pugnax</i>	3	2000	SU7005	1.7 SW
Black redstart	<i>Phoenicurus ochruros</i>	12	2007	SU70	Within 10km grid square containing site
Spoonbill	<i>Platalea leucorodia</i>	12	2007	SU7205	1.3 S
Snow bunting	<i>Plectrophenax nivalis</i>	1	1996	SU7005	1.7 SW
Golden plover	<i>Pluvialis apricaria</i>	186	2008	SU7206	Within 1km grid square containing site
Slavonian grebe	<i>Podiceps auritus</i>	43	2005	SU7105	1.4 S
Pied avocet	<i>Recurvirostra avosetta</i>	17	2006	SU7204	1.5 S
Firecrest	<i>Regulus ignicapilla</i>	21	2008	SU70	Within 10km grid square containing site
Serín	<i>Serinus serinus</i>	2	2004	SU7005	1.7 SW
Common tern	<i>Sterna hirundo</i>	14	2007	SU720074	0.9 N
Arctic tern	<i>Sterna paradisaea</i>	9	2008	SU7104	1.7 SW
Sandwich tern	<i>Sterna sandvicensis</i>	93	2008	SU7206	Within 1km grid square containing site
Little tern	<i>Sternula albifrons</i>	13	2007	SU7104	1.7 SW
Dartford warbler	<i>Sylvia undata</i>	9	2003	SU70	Within 10km grid square containing site
Greenshank	<i>Tringa nebularia</i>	131	2008	SU725045	1.4 SE
Green sandpiper	<i>Tringa ochropus</i>	334	2008	SU7205	1.3 S
Redwing	<i>Turdus iliacus</i>	67	2007	SU721063	0.1 S (also recorded within 1km grid square containing site)
Fieldfare	<i>Turdus pilaris</i>	39	2007	SU7106	0.5 W
Barn owl	<i>Tyto alba</i>	5	2003	SU7205	1.3 S
Hoopoe	<i>Upupa epops</i>	2	2005	SU7105	1.4 S
Bluebell	<i>Hyacinthoides non-scripta</i>	9	2006	SU7206	Within 1km grid square

					containing site
Stag beetle	<i>Lucanus cervus</i>	27	1998	SU720062	0.2 S
Water vole	<i>Arvicola amphibious</i>	1	2009	SU715059	0.7 SW
Serotine	<i>Eptesicus serotinus</i>	3	2002	SU7205	0.7 S
Daubenton's bat	<i>Myotis daubentonii</i>	2	2002	SU7205	0.7 S
Whiskered/Brandt's bat	<i>Myotis spp.</i>	1	2001	SU7107	0.8 NW
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	3	2001	SU717084	1.9 NW
Pipistrelle	<i>Pipistrellus spp.</i>	10	2002	SU721059	0.5 S
Brown long-eared bat	<i>Plecotus auritus</i>	2	2002	SU713064	0.7 W
Badger	<i>Meles meles</i>	1	2006	SU728065	0.5 E

*refers to number of records, records may pertain to more than one individual (details available upon request).

3.1.4 Other Species of Note

In addition to the species listed in Table 2 there are also records of species listed as priority species in the UK BAP and/or in the Hampshire BAP (Appendix I). These comprise one amphibian species, 37 bird species, eight plant species, 51 moth and butterfly species, and two species of mammal (Appendix I).

The Hampshire Biodiversity Information Centre also hold records of a further 87 species which have been recorded within 2km of the study site which are not protected by UK legislation nor listed as priority species within the UK BAP or HBAP, but which are noted as species of conservation concern (for example within the Birds of Conservation Concern list reviewed yearly by the Royal Society of the Protection for Birds (RSPB)) or are protected under European legislation against hunting due to their rare status but are not directly protected under UK legislation (records available upon request).

Records include those of thousands of over-wintering Brent geese which have been recorded within the tidal mudflats, farmland (cereal and pasture) and amenity grassland within the area surrounding the study site. These farmland and grassland sites are considered particularly important to geese during high tide when foraging within the mudflats is not possible and this is recognised in the Brent Goose Strategy of the South East Hampshire Coast (Brent Goose Strategy Group (BGSG) 2002). Research conducted on behalf of the BGSG found that of the sites identified as being of 'major importance' to Brent geese, approximately 40% were classified as 'sports ground' and 20% were classified as 'amenity/recreation ground' (2002). The average size of sites was 14.44 ha with a range of 0.59-103.41ha (BGSG 2002). The playing field within the study site was included in a survey of the use of 400 potential Brent goose feeding sites which was conducted by volunteers over the period 1989-2000 (BGSG 2002). No Brent geese were observed to make use of the site (BGSG 2002).

3.2 Field Survey

The results of the Phase 1 Habitat survey are presented in Figure 1. Target notes to accompany the figure are provided in Appendix III.

3.2.1 Habitats

The site is dominated by a playing field of short, species-poor grassland. To the west of the playing field is an environmental teaching area with young, planted woodland, grassland, scrub and a pond. The southern boundary of the site is defined by a strip of mature woodland and the northern boundary by a railway track with scattered scrub. A tarmac path leads between the planted woodland and the mature woodland and leads to the Hayling Billy Line – a well used footpath and cycleway. The paths are lined by ruderal vegetation and scrub. The mature woodland found along the southern boundary of the site grades into woodland which continues southwards along the eastern verge of the Hayling Billy Line.

The site is predominantly species-poor amenity grassland which is in regular use as a playing field for Warblington School (Photograph 1; Target note 1). The grassland is dominated by species including: annual meadow grass (*Poa annua*), creeping bent (*Agrostis stolonifera*), common bent (*A. capillaries*), red fescue (*Festuca rubra*), daisy (*Bellis perennis*), dandelion (*Taraxacum officinale*), greater plantain (*Plantago major*), and white clover (*Trifolium repens*). The playing field is surrounded by a narrow strip of long grass and tall ruderal vegetation where the grassland has not been mown (Target notes 1, 24 & 26). Species present within this tall vegetation include: Yorkshire fog (*Holcus lanatus*), false oat-grass (*Arrhenatherum elatius*), rough meadow grass (*Poa trivialis*), nettle (*Urtica dioica*), and creeping buttercup (*Ranunculus repens*).

To the west of the playing field is an area of young, planted mixed deciduous woodland (Photograph 2; Target note 31) used as an environmental teaching area by Fairfield Infant School. Planted tree species include: common hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), sycamore, silver birch (*Betula pendula*), ash (*Fraxinus excelsior*), English oak (*Quercus robur*), cherry (*Prunus spp.*), holly (*Ilex aquifolium*), and hazel (*Corylus avellana*). Ground flora at the time of the survey was sparse with blackberry (*Rubus fruticosus*), nettle, false oat-grass, ivy (*Hedera helix*), and cleavers (*Galium aparine*). Within the woodland are cleared areas with grasses and ruderal vegetation (Target note 27 & 28; Photographs 3 & 4), a seating area covered with woodchip (Target note 28; Photograph 5) and a pond (Target note 29 & 30; Photographs 6 & 7). The pond is approximately 4x7m and is dominated by emergent yellow iris (*Iris pseudoacorus*) with a small (2x3m) area of open water (Photograph 6). The pond has shallow, sloping vegetated banks and is surrounded by a wooden and chainlink fence with a small wooden viewing platform present in the eastern end (Photograph 7). A willow (*Salix spp.*) at the eastern end of the pond provides a small amount of shade over the pond.

A second area of woodland, dominated by elder (*Sambucus nigra*) and common hawthorn, runs along the southern edge of the playing field (Photograph 8) and extends west and south along the Hayling Billy Line on the western edge of the site (Target notes 2, 3 & 38). The woodland is sparse with many dead and fallen trees. Blackberry and elder scrub has invaded large areas of the woodland and ivy covers many of the trees and dominates the ground layer.

A strip of managed grassland runs along the eastern edge of the Hayling Billy Line (Target note 37) and the eastern verge of New Lane (Target note 36; Photograph 9) with species including: annual meadow grass, perennial rye grass (*Lolium perenne*), false oat-grass, rough meadow grass, wall barley (*Hordeum murinum*), cow parsley (*Anthriscus sylvestris*) and white clover. The grassland is bordered by scrub dominated by blackberry (Target note 35).

A high metal fence divides the playing field and woodland from the railway track located to the north of the study site. Along the railway track are occasional trees and planted scrub (Target notes 24 & 25; Photograph 10) including common hawthorn, elder, butterfly bush (*Buddleja davidii*) and blackberry.

3.2.2 Protected Species

Amphibians

The pond was visually inspected for evidence of amphibians, such as the presence of live or dead animals, eggs, immature stage animals or folded leaves (evidence that newts may have laid eggs on the vegetation in the past). It was not possible to access the water's edge, and the inspection was hampered by heavy rain, but the visual inspection did not yield any evidence of the presence of amphibians.

The pond is considered to be suitable for amphibians such as great crested newts as it is comprised of still water with plentiful aquatic vegetation and vegetated, gently-sloping banks with few overhanging trees to shade the pond. The woodland surrounding the pond provides suitable terrestrial habitat for newts in that it contains trees and scrub with areas of grassland.

The caretaker at Fairfield Infant School reported that vegetation had recently been cleared from the pond when smooth newts and frogs, but not great crested newts, were seen to be present.

Badgers

There is a disused badger sett (Target note 34) within the planted woodland (Target note 31). The sett has five holes which are all filled with detritus and covered with ivy. Several animal paths are present within the woodland to the south of the playing field (Target note 2) but no evidence of the presence of badgers was detected in this area.

Bats

No bats, or evidence of the presence of bats, were observed within the site. Many of the trees to the north and south of the playing field include (i) ivy covering, (ii) cavities, (iii) dead wood, and/or (iv) loose bark (Target notes 4 – 19; 25) and may support roosting bats. Although the scope of this survey did not include a full assessment of the potential for bat roosts in trees it is considered that the planted woodland in the west of the site is unlikely to provide shelter for roosting bats as the trees are generally young and don't include the features listed above.

In general, the woodland, grassland and scrub habitat on site is considered to be suitable for foraging and commuting bats.

Birds

Wood pigeons (*Columba palumbus*), starlings (*Sturnus vulgaris*), blackbirds (*Turdus merula*) and robins (*Erithacus rubecula*) were observed in the woodland to the south of the playing field, while magpies (*Pica pica*) and carrion crows (*Corvus corone*) were observed foraging within the playing field. No birds were observed within the planted woodland but this may be as a result of the heavy rain that persisted throughout the survey of the planted woodland. All woodland and scrub habitat is considered to be suitable for nesting birds and all of the habitats within the site may support foraging and sheltering birds.

Invertebrates

Phase 1 habitat survey is unlikely to reveal rare or protected invertebrates. However, many common species of hymenoptera were observed within the woodland to the south of the playing field, possibly because of the presence of dead wood, flowering plants and bare ground. The site in general is suitable for many species of invertebrates including lepidoptera (butterflies and moths) within the woodland, grassland and scrub, and coleopterans (beetles) within the woodland.

Plants

Phase 1 habitat survey does not constitute a detailed botanical survey and no rare or protected plant species were evident during the survey.

Reptiles

No evidence of the presence of reptiles was observed. However, the rain on the day of the survey made it unlikely that reptiles would have been evident. The habitat along the railway track is considered to be generally suitable for reptiles in that it includes bare ground, trees, scrub and tall vegetation which jointly provide suitable conditions for shelter and foraging by reptiles.

3.2.3 Other Species of Note

Black, shiny droppings with remains of insects and berries considered likely to be produced by hedgehog (*Erinaceus europaeus*) were discovered in the woodland to the south of the playing field.

4 Discussion

4.1 Constraints on Study Information

The activity of some species of birds, reptiles and invertebrates may have been limited by the heavy rain that persisted throughout the survey. However, it is considered that the general assessment of the habitats present has not been compromised by the survey conditions and the conclusions of this report are robust.

Scrub in the north-western corner of the plantation woodland, leading to the railway line to the north and New Lane to the west, is dense, could not be accessed during the survey and was therefore assessed from adjacent areas. Any important species or features within this dense scrub will not therefore have been surveyed or recorded.

4.2 Legislation and Policy Guidance

4.2.1 *Amphibians*

Great crested newts and their habitats in water and on land are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended) and under the Conservation of Habitats and Species Regulations 2010. In summary, these make it an offence to i) damage or destroy a breeding site or resting place, ii) obstruct any place used for shelter or protection; iii) disturb a great crested newt and to iv) kill, injure or take any great crested newt.

Smooth newts, common frogs and common toads are protected under the WCA 1981 (as amended) against sale only.

Great crested newts and common toads are also listed as priority species in the UK Biodiversity Action Plan (BAP) and afforded protection through planning policy as a result of the provisions of section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (see Section 4.2.6).

4.2.2 *Badgers*

Badgers are protected under the Protection of Badgers Act 1992. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, and to intentionally or recklessly interfere with a sett. Sett interference includes damaging, destroying or obstructing an entrance to a sett as well as causing disturbance to badgers within the sett.

A sett is defined as 'any structure or place which displays signs indicating current use by a badger'. Licenses may be granted by Natural England to derogate responsibility for offences committed under the Act including sett interference. These licenses will normally specify that works will have to be undertaken between 1st July and 30th November to avoid the disturbance of breeding badgers.

4.2.3 *Bats*

Bats are protected under the WCA 1981 (as amended) and under the Conservation of Habitats and Species Regulations 2010. Taken together, offences of relevance to this report under these pieces of legislation are to:

- Intentionally or deliberately kill, injure or take a bat;
- Intentionally or recklessly obstruct access to, damage or destroy a breeding site or resting place (even if bats are not occupying the roost at the time);
- Intentionally disturb a bat while it is occupying a structure or place that it uses for shelter or protection, or deliberately disturb a bat such that it is likely to:

- (a) impair their ability i. to survive, breed or rear or nurture their young; or ii. to hibernate or migrate;
- (b) affect significantly the local distribution or abundance of that species.

In addition noctules (*Nyctalus noctula*), soprano pipistrelles (*Pipistrellus pygmaeus*), barbastelles (*Barbastella barbastellus*), brown long-eared bats (*Plectotus auritus*), greater horseshoe bats (*Rhinolophus ferrumequinum*), lesser horseshoe bats (*Rhinolophus hipposideros*) and bechstein's bat (*Myotis bechsteinii*) are listed as priority species under the UK BAP and afforded protection through planning policy as a result of the provisions of section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (see Section 4.2.6).

4.2.4 Birds

Nesting birds are protected under the WCA 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.

Certain birds are listed under Schedule 1 of the WCA 1981 (as amended); these birds enjoy further protection under the Act in that it is an offence to disturb these birds or their offspring when nesting.

4.2.5 Reptiles

All reptile species native to the UK are protected by the WCA 1981 (as amended). In summary, the Act makes it illegal to intentionally kill, injure or sell any species of reptile native to the UK.

In addition slow worms (*Anguis fragilis*), grass snakes (*Natrix natrix*), adders (*Vipera berus*), and common lizards (*Zootoca vivipara*) are listed as priority species under the UK BAP and afforded protection through planning policy as a result of the provisions of section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (see Section 4.2.6).

4.2.6 Planning Policy Statement 9: (PPS9)

PPS9 encapsulates the Government's national policies on protection of biodiversity and geological conservation through the planning system.

Policies in PPS9 are taken into account by local planning authorities in the preparation of local planning documents and when making decisions on individual planning applications. The aims of PPS9 are to conserve sites of biological and geological value, protect species, promote sustainable development, conserve, enhance and restore the diversity of England's wildlife and geology and contribute to rural renewal and urban renaissance. To achieve this, plans and policies should promote opportunities for the incorporation of beneficial biodiversity designs within developments and the avoidance of harm through planning decisions. Where this cannot be achieved impacts should be mitigated or compensation provided. If significant harm cannot be avoided then permission should not be granted.

As a direct result of the signing of the Convention on Biological Diversity at the Earth Summit in 1992 the Government has drawn up a national strategy to conserve threatened native species and habitats - the UK Biodiversity Action Plan (UK Biodiversity Partnership 2006). The UK Biodiversity Reporting and Information Group (BRIG) reviewed the habitats and species identified as priorities for nature conservation action within the UK Biodiversity Action Plan resulting in a revised list being approved by Government in August 2007. This list of species and habitats in England was taken forward in August 2008 to inform the new list of species of principal importance for nature conservation, which are required to be identified by the Secretary of State under Section 41 of the Natural Environment and Rural Communities Act 2006.

PPS9 provides guidance on the treatment of species of principal importance and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

4.3 Potential Impacts

The proposed works will result in the loss of: (i) the playing field and surrounding ruderal vegetation (Target notes 1, 24 & 26), (ii) some of the planted woodland which includes trees, scrub, grassland and the pond (Target notes 27 - 32), and (iii) the grassland adjacent to New Lane.

The woodland to the south of the playing field is to be unaffected by the proposed scheme but may be indirectly impacted by the introduction of new lighting, increased noise disturbance, and/or predators in the form of domestic cats and dogs.

The proposed works include planting along the railway track on the northern border of the site to act as an acoustic buffer from the noise of the railway. It is also proposed that a new environmental teaching area be created to the south of the Fairfield Infant School outside the boundaries of the study site. This new area will include: a woodland shelter belt of native trees and shrubs, an open glade, meadow, coppice woodland, a pond and wetland area and various artificial wildlife shelters including bird, bat and hedgehog boxes.

4.3.1 Designated Sites

The designation of the Chichester Harbour SSSI, the Solent Marine SAC, the Chichester and Langstone Harbours SPA and RAMSAR site seeks to protect large and diverse populations of waders including an overwintering population of Brent geese. In addition, five of the fourteen SINCS found within 2km of the study site are designated as a result of their populations of Brent geese. It is considered that the playing fields within the site are suitable to be used by foraging Brent geese during the winter months. However, the site is unlikely to support significant numbers of the species due to its (i) small size (the playing field is approximately 1.1ha and the survey commissioned by the BGSF found that the average size of a site with Brent geese was 14.4ha (range 0.59-103.41ha) and the size of the site was correlated with both the number of geese present as well as the frequency of use of the site), and (ii) lack of shallow freshwater pools (BGSF 2002).

Furthermore, although the survey was not undertaken at the optimal time of year to observe Brent geese (numbers peak in January although they can be present from mid-September to March/April) none were observed using the field during the long-term study of Brent geese within the study site (BGSF 2002). It is therefore considered unlikely that Brent geese are making use of the playing field and that the loss of this habitat will not therefore adversely impact upon any nearby site designated for its populations of Brent geese.

Wade Court Park SINC is designated due to its population of little egrets (*Egretta garzetta*). These birds are present in open aquatic sites throughout the year in Hampshire (Hampshire Ornithological Society 2008). The site does not have the open water habitat necessary to support little egret and it is therefore considered that the loss of the study site will not impact upon the interest for which the Wade Court Park SINC is designated.

All other protected sites within 2km of the study site are designated for their botanical interest and the proposed works will not impact upon these sites.

4.3.2 Habitats

The woodland to the south of the playing field is Lowland Mixed Deciduous Woodland which is a UK BAP priority habitat. However, the woodland is sparse with up to two rows of well-spaced trees dominated by mature elder and common hawthorn. The woodland is likely to have originally been planted as a hedgerow (as it was described in HED 2006) which, following the

decline and decay of trees, has become sparse and is now dominated by scrub in places. Although it is doubtful as to whether the habitat qualifies as UK BAP priority habitat, it is considered that it is valuable to local biodiversity in that it contains many mature trees and dead wood which will support a range of mammals, including hedgehogs and bats (see discussion below), as well as woodland invertebrates including various hymenopterans such as the wool carder bee (*Anthidium manicatu*) and wasps such as *Ectemnius borealis* and *E. cavifrons*. The proposed development is unlikely to impact upon this habitat as the woodland will remain undisturbed.

The pond is not considered to qualify as the Pond UK BAP priority habitat as (i) there is no evidence that rare species are present, (ii) it is unlikely to contain exceptional assemblages of key biotic groups, and (iii) it is not of 'high ecological quality'. Although a specific survey of the pond has not been undertaken, its relatively young age together with its relatively small size and lack of variation in conditions make it unlikely to be ecologically valuable. It is therefore considered that the proposed development works are unlikely to adversely impact a pond of sufficient quality to be regarded as a Pond UK BAP priority habitat.

The HBAP identifies Standing Open Water as a priority habitat and confirms "village and school ponds" are included in this category and should be protected. A HBAP priority habitat may be lost during the development works, however, the proposed environmental teaching area will include a new pond and it is anticipated that there will be no net loss of Standing Open Water Habitat.

4.3.3 Protected Species

4.3.3.1 Amphibians

The site contains habitat suitable for great crested newts in that the pond (Target note 29) provides suitable breeding habitat and the woodland, scrub and grassland habitat surrounding the pond (Target note 31) provides suitable terrestrial habitat. However, it is considered unlikely that great crested newts are present within the pond, and therefore within the surrounding terrestrial habitat, as (i) there are no records of great crested newts within 2km of the study site, (ii) the survey undertaken in 2006 revealed that no great crested newts were present, and (iii) evidence provided by the caretaker, who regularly visits and maintains the pond, indicates that great crested newts have not colonised the pond since the previous survey. It is therefore considered unlikely that great crested newts are associated with the site and consequently there are no likely impacts on great crested newts as a result of the proposed works.

The pond is known to support other amphibians, such as smooth newts and frogs. These animals are protected by UK legislation against sale only and the proposed works will not result in an offence under UK legislation with regard to these species.

4.3.3.2 Badgers

There is no evidence to indicate recent use of the sett in the woodland (Target note 34) and no other evidence of badger activity was discovered in the remainder of the site. At the present time it is therefore considered that the works are unlikely to result in an offence under UK legislation with regard to badgers as: (i) badgers are unlikely to be within the site and therefore unlikely to be harmed by the works and (ii) the sett does not fall within the definition of a set in current use (Natural England 2009) and is not therefore protected against interference.

However, badgers are known to re-open old setts and, as there are records of badgers within 500m of the study site and badgers are a very dynamic species, it is possible that the woodland sett may come back into use. If an active badger sett is present at the time of the proposed works there is the potential, without suitable mitigation measures, for badgers to be killed or injured or their setts disturbed, which are offences under UK legislation.

4.3.3.3 Bats

Roosting bats

No evidence of bats was discovered during the survey although a detailed survey of the trees within the site falls beyond the scope of this study. However, it is clear that many include features which may provide roosting opportunities for bats. If any trees with bat roost potential are removed without appropriate mitigation during the proposed works there is a probability that bats will be harmed or their roosts damaged which would result in an offence under UK legislation.

Foraging and commuting bats

The site contains habitat suitable for foraging and commuting bats. Serotines (*Eptesicus serotinus*), Daubenton's bat (*Myotis daubentonii*), whiskered/Brandt's bat (*Myotis mystacinus/Myotis brandtii*), brown long-eared bats, and common pipistrelles (*Pipistrellus pipistrellus*) have been recorded within 2km of the study site. It is considered that the site would provide suitable foraging habitat for: (i) serotines which are known to forage around streetlights and playing fields, (ii) whiskered bats which will forage around parks and hedges, and (iii) common pipistrelles which are known to forage within parkland, woodland, and urban sites (Joint Nature Conservation Committee 2001).

The proposed works will result in a loss of habitat suitable for foraging for bats as the playing field and planted woodland will be removed. However, the creation of a new environmental teaching area to the south of Fairfield Infant School will include suitable foraging habitat and will be connected to the site by the Hayling Billy Line along which bats can be expected to commute. It is therefore considered that the loss of foraging habitat for bats will be temporary and mitigated by the creation of the new environmental teaching area.

The woodland/scrub to the south of the playing field and along the Hayling Billy Line is likely to be used by bats commuting in the wider area. Bats have been recorded within parkland to the north-west of the site and to the south of the site (location description is classified but likely refers to sightings along the Hayling Billy Line to the south). The Hayling Billy Line may therefore provide an important commuting route for bats, connecting the parkland to the northwest of the site with the farmland, woodland and marshland along the coast to the south of the site. The Hayling Billy Line and the strip of woodland to the south of the playing field will not be directly affected by the proposed works although some indirect adverse impacts may result from new lighting associated with the scheme.

4.3.3.4 Birds

Breeding birds

The areas of woodland and scrub which will be lost during the proposed works comprise suitable habitat for breeding birds. There is therefore the potential for an offence under the WCA 1981 (as amended) should this habitat be removed or disturbed during the bird breeding season in that nesting birds, their nests, or their offspring may be harmed.

Birds observed within the site during survey

Wood pigeons, starlings, blackbirds and robins were observed in the woodland to the south of the playing field. Magpies and carrion crows were observed foraging within the playing field. These species are all common and widespread and do not enjoy protection within the UK (apart from when breeding, see below) with the exception of starlings which are listed as priority species by the UK BAP and are listed as a species of principle importance by virtue of s41 NERC 2006. As outlined above, all species listed within Section 41 enjoy protection under PPS9 and the presence of starlings within the site should be considered a 'material consideration' when the planning application is determined.

Starlings may make use of the woodland and scrub within the site for foraging and shelter throughout the year but are more likely to forage for invertebrates within the playing field during the winter months (Moss 2006). The loss of the playing field and planted woodland will not fragment or isolate habitats that are significant in supporting the local starling population as there are plenty of suitable alternative foraging opportunities in the area surrounding the site. As such it is considered that the local starling population will not be affected by the proposed development.

Birds present within the study site

The data search revealed that species of bird that are either legally protected and/or conservation priorities are present within the wider area and that these species use habitats that are present on site.

46 redwings were recorded approximately 100m to the south of the site along the Hayling Billy Line in 1996, there are two records from the same year of up to 20 birds within the 1km grid square containing the site and a further 63 records of many hundreds of birds within 2km of the site. Fieldfare was recorded approximately 500m to the west of the site in 2003 and records of several hundred birds have been made within 2km of the site (Table 2). Redwing and fieldfare are both listed in Schedule 1 of the WCA 1981 (as amended) which means they are protected against killing, capture or injury and their nesting sites are protected against disturbance. Redwing and fieldfare are also listed within the Red List of the Birds of Conservation Concern (Eaton *et al.* 2009) due to the decline in the breeding populations of these species in northern England and Scotland. Although redwing and fieldfare do not breed in the south of England, they overwinter throughout England, gathering at coastal sites in large flocks in the autumn and gradually moving inland throughout the winter, foraging on berries and invertebrates and moving on when food stocks are depleted (Svensson & Grant 1999; Parkin & Knox 2010). Both fieldfare and redwing are present in the local area and may make use of the site as the habitats within the site provide suitable, albeit low quality, foraging habitat. However, the loss of the playing field and woodland are unlikely to cause significant adverse impact on these species as they are likely to use the site only occasionally as they pass through to preferred habitat within 800m of the site to the east and to the south where there are arable farms with hedgerows and woodland.

House sparrows are listed in the UK BAP, are afforded protected through s41 NERC 2006 and are on the Red List of the Birds of Conservation Concern (Eaton *et al.* 2009). There are 26 records of house sparrow relating to hundreds of individuals from within 2km of the site (Appendix I). House sparrows nest in and around houses and forage within a variety of habitats including gardens, farmland, woodland and scrub. House sparrows can be expected to be present within the woodland and scrub in the site but any loss of this habitat to be more than offset by the introduction of the new gardens and greenspaces proposed within the proposed development. Furthermore, the site is surrounded by alternative habitat suitable for foraging house sparrows and the works are not considered likely to result in a significant overall decrease in foraging habitat such that the local population is likely to be affected, even temporarily.

4.3.3.5 Reptiles

The desk study revealed that grass snakes (*Natrix natrix*) and adders (*Vipera berus*) have been discovered within 2km of the site. Grass snakes are unlikely to be present within the site as there are no significant waterbodies nearby. However, habitat adjacent to the site boundary, along the railway is suitable for all three species of common reptiles: adders, slow worm and common lizard. Although no evidence of reptiles was discovered within the site during the survey, the scrub, bare ground and tall grassland along the railway track provide suitable habitat for foraging and sheltering reptiles. This habitat is not likely to be removed during the proposed works therefore it is unlikely that an offence will be committed under the WCA 1981 (as amended) with regard to reptiles. However, the proposed planting of the buffer zone on the northern edge of the site can be expected to result in increased shading of the railway line beyond the site

boundaries, thereby reducing its suitability for reptiles. The proposed works therefore have the potential to result in a decrease of the suitability of the reptile habitat associated with the site.

4.3.4 Invertebrates

It falls beyond the scope of a Phase 1 habitat survey to record rare or notable invertebrates. However, there are many records of rare invertebrates within the area surrounding the site (Table 1, Appendix I). Most of these records refer to moths or butterflies listed in the UK BAP and/or afforded protection by virtue of s41 NERC Act 2006 (Appendix I). Of these species, the following are known to forage, shelter and/or breed within woodland, scrub and grassland such as those found on the site: grey dagger (*Acronicta psi*), knot grass (*Acronicta rumnicis*), brown-spot pinion (*Agrochola litura*), beaded chestnut (*Agrochola lychnidis*), green-brindled crescent (*Allophyes oxyacanthae*), ear moth (*Amphipoea oculea*), dusky brocade (*Apamea remissa*), centre-barred sallow (*Atethmia centrigo*), mottled rustic (*Caradrina morpheus*), figure of eight (*Diloba caeruleocephala*), small phoenix (*Ecliptopera silaceata*), September thorn (*Ennomos erosaria*), dusky thorn (*Ennomos fuscantaria*), dot moth (*Melanchra persicariae*), rosy minor (*Mesoligia literosa*), shoulder-striped wainscot (*Mythimna comma*), dark spinach (*Pelurga comitata*), white ermine (*Spilosoma lubricipeda*), buff ermine (*Spilosoma luteum*), the spinach (*Eulithis mellinata*), ghost moth (*Hepialus humuli*), the rustic (*Hoplodrina blanda*), brindled beauty (*Lycia hirtaria*), the lackey (*Malacosoma neustria*), feathered gothic (*Tholera decimalis*), blood-vein (*Timandra comae*), the cinnabar (*Tyria jacobaeae*) and the dark-barred twin-spot carpet (*Xanthorhoe ferrugata*).

The proposed works will remove woodland, scrub and grassland habitat likely to be used for foraging, shelter and breeding by these species. However, the planting of the woodland shelter belt of native trees and shrubs, the open glade, and meadow and coppice woodland in the new environmental teaching area will replace and increase the quality of the habitat available to butterflies and moths, including those listed above.

There are 63 records of stag beetle (*Lucannus cervus*) within 2km of the study site, with the closest being recorded only 200m south of the study site. The dead trees and trees with dead branches found within the woodland to the south of the playing field and along the Hayling Billy Line are suitable for use by stag beetles. These areas will not be affected by the proposed works and as a result there will be no direct impact upon stag beetles. It is also unlikely that impacts as a result of increased public use will result in an impact as the majority of the stag beetle's life cycle is spent deep within large sections of dead wood where they cannot be affected by disturbance.

4.3.5 Hedgehog

Hedgehog droppings were discovered in the woodland to the south of the playing field. Hedgehogs are listed as priority species within the UK BAP and afforded protection as species of principle importance under s41 of the NERC Act 2006. The woodland, grassland and scrub within the study site are suitable for sheltering and foraging hedgehogs and as such the removal of these habitats during the proposed works may adversely affect hedgehogs. The proposed works include the planting of new woodland and grassland and the installation of hedgehog boxes within the new educational area and it is therefore considered that the habitat available to hedgehogs is likely to be enhanced by the proposed works.

5 Recommendations

5.1 Further Survey

5.1.1 Great Crested Newts

The existing pond is not likely to support great crested newts and no further survey is considered necessary unless changes occur either to the status of great crested newts within the local area or the condition of the pond habitat. However, it is recommended that liaison with the local

authority ecologist is undertaken before the planning application is submitted to ensure this is agreed in order to avoid an objection in relation to the adequacy of the baseline information upon submission.

5.1.2 Bats

As the Phase 1 Habitat survey identified that there are trees within the study site which have features suitable for roosting bats, and bats have been recorded in the local area, it is recommended that a survey is undertaken to assess the potential for bat roosts being present within trees on the site. This survey should be undertaken in accordance with best practice methodology and involve the examination of trees from the ground (with the aid of binoculars) to record and assess features which may be used by roosting bats such as dense ivy, loose bark and cavities and for evidence of the presence of bats such as live or dead bats, droppings and scratch marks. Such a survey may be undertaken at any time of the year but best practice guidelines (BCT 2007) recommend that tree surveys are most effectively undertaken in the winter when foliage, which may obstruct the surveyor's view, is absent.

5.1.3 Badgers

Immediately preceding the commencement of the works or destruction of the sett a survey by a suitably experienced ecologist for evidence to indicate that the sett is in current use is recommended. If badgers are present and the sett is active then a license from Natural England is likely to be required before works can proceed. If, however the survey reveals no evidence to indicate current use, the sett can be destroyed.

5.1.4 Scrub removal

The scrub in the northwest corner of the study site was too dense to be accessed during the survey and assessment as to whether a badger sett, or any other valued features, is present was compromised. Although there were no indicative signs that badgers are present a precautionary approach is recommended such that scrub removal should be supervised by a suitably qualified ecologist.

5.2 Mitigation, Compensation and Enhancement Measures

5.2.1 Woodland and Scrub

The area of woodland to the south of the playing field is to be retained and supports a range of mammals, bird and invertebrate species. Measures to minimise and manage the impacts of public access and domestic pets should be included in scheme design. Suitable measures may include substantial enhancement to the scrub present along the woodland edge by planting native, berry-bearing species, such as common hawthorn, blackthorn and rose. These species will assist in limiting and/or managing public access as well as provide habitat suitable for foraging and shelter for species associated with the site and wider area, including hedgehog, redwing and fieldfare.

Dead wood, and particularly large logs and fallen branches, within the woodland should be retained as many species, including stag beetles, rely upon dead wood to complete their life cycle. The addition of bird and bat boxes and hedgehog houses into the woodland will also enhance conditions for a variety of species.

All planting undertaken within the development site should make use of native species, and where possible, fruiting species such as common hawthorn, blackthorn and rose should be included as these will provide food and shelter for many species of birds and mammals including hedgehogs, fieldfare and redwing.

5.2.2 Pond

It is recommended that the pond within the planted woodland is retained. Although the pond does not contain great crested newts, it is known to be used by at least two species of amphibian and will support many invertebrate species. The pond should be managed on rotation within the winter months to ensure that the water levels and the areas free of vegetation are maintained. If the pond cannot be retained it is recommended that the removal works are undertaken during the winter months when the impact on amphibians and other sensitive receptors is likely to be minimal.

5.2.3 Built Environment

The site and its surroundings support species that are afforded legal protection in addition to others that are recognised as priorities for conservation. It is therefore recommended that building design incorporates features such as integral bird or bat boxes and vegetated roofs. These features will jointly deliver wider biodiversity benefits.

Lighting required by the scheme should be minimised generally and specifically directed away from the woodland and other boundary features.

5.2.4 Bats

As a matter of good practice, and in keeping with PPS9, as bats are likely to use the woodland strip to the south of the playing field and the Hayling Billy Line the continuity and quality of these habitats should be maintained and lighting scheme should ensure this feature remains unlit.

Bat boxes are to be installed in the new environmental teaching area and it is recommended that bat boxes are also installed in the retained woodland within the site. Consideration should also be given to installing integral bat boxes within the design of new buildings. The new planting to be undertaken during the proposed works along the railway on the northern edge of the study site should include a mixture of native deciduous trees and scrub as this will provide suitable habitat for foraging and commuting bats. Lighting from the development should be directed away from this new planting to maximise the value of the habitat for bats. (Additional information on bats and lighting in **Bats and Lighting in the UK** (Bat Conservation Trust 2008).

5.2.5 Breeding birds

Any necessary tree and scrub removal should be undertaken outside of the bird breeding season (avoid March to August inclusive) to minimise the chance of causing harm to breeding birds, their nests or offspring. If trees or scrub must be removed during this time a nesting bird check should be undertaken by a suitably qualified ecologist and, assuming no active nests are found, vegetation removal should be completed quickly thereafter. If nests are discovered then removal may not proceed until the young have fledged the nest.

5.2.6 Reptiles

The habitat along the railway on the northern edge of the study site is considered to be suitable for reptiles. However, the proposed planting can be expected to result in shading in this area which may decrease the number and extent of suitable basking and foraging areas. It is therefore recommended that simple measures, such as the inclusion of log piles located in sunny spots within areas of long grass or scrub, be included to provide new or replacement opportunities for basking and sheltering reptiles.

5.2.7 Ecological Management Plan

The site currently includes woodland, scrub, wetland and grassland habitats that support legally protected species and others which are identified for conservation action. The Phase 1 habitat survey reported here cannot capture and record all valued species associated with the site. However recommendations for some additional survey work along with general measures that will enhance biodiversity have been set out above. The outcome of these surveys and the

suggested measures should inform scheme design and the future management of key features managed through an Ecological Management Plan.

6 Summary

A development of 80 dwellings is proposed within an area adjacent to Warblington School in Havant, Hampshire. The site comprises a playing field, a linear woodland which lies between the playing field and the houses at the southern boundary, a small section of the Hayling Billy Line, and a woodland which is used by Fairfield Infant School as an environmental teaching area. It is proposed that the new development will result in the loss of the playing field and most of the planted woodland which may include trees, scrub, grassland and a pond. The planted woodland will be replaced with a new wooded area with a pond and meadow which is to be established to the south of the study site. The linear woodland will be retained and a landscape buffer zone is to be planted along the northern edge of the site.

This report presents the outcome of an extended Phase 1 Habitat Survey which was undertaken by Dr. Samantha Hill MIEEM on 29th September 2010.

The site was found to be dominated by a playing field of short, species-poor grassland. The planted woodland was found to contain young, planted woodland, scrub and a pond. The linear woodland was found to be dominated by sparse, mature common hawthorn and elder interspersed with scrub.

The pond is suitable for amphibians such as great crested newts, but great crested newts were considered unlikely to be in the pond as: (i) there are no records of great crested newt within 2km of the study site, (ii) the survey undertaken in 2006 revealed that no great crested newts were present, and (iii) evidence provided by the caretaker, who regularly visits and maintains the pond, indicates that great crested newts have not colonised the pond since the previous survey.

A disused badger sett was discovered in the planted woodland. It is considered that the sett is not protected under UK legislation as it is not in current use.

Hedgehog droppings were discovered in the mature broad-leaved woodland. The woodland, grassland and scrub to be removed during the proposed works may adversely affect hedgehogs; however, the proposed planting of woodland, grassland, and the installation of hedgehog boxes within the new educational area will more than compensate for the lost habitat.

Wood pigeons, starlings, blackbirds, robins, magpies and carrion crows were observed within the site and the woodland and scrub to be lost during the proposed works comprise suitable bird breeding habitat. Starlings are afforded protection by virtue of the provisions of s41 NERC 2006 and therefore, through PPS9 their presence should be considered a material consideration when the planning application is determined.

A full survey of the roosting potential of the trees was not undertaken but features within the trees surrounding the playing field were noted and may provide roosting opportunities to bats. The woodland, grassland and scrub habitat on site is considered to be suitable for foraging and commuting bats.

The habitat along the railway track is considered to be suitable for reptiles. This habitat will not be removed during the proposed works but the proposed planting in this area may decrease the suitability of this habitat for reptiles.

The presence of bat roosts in trees, and breeding birds within the woodland and scrub, are considered to be potential ecological constraints to development.

The following recommendations were made:

- i) liaison with the local authority ecologist to ensure that no objection will be raised on submission in relation to the need for re-survey of the pond for great crested newts;
- ii) a survey should be undertaken to establish if bats are roosting within trees on the site;
- iii) the disused badger sett should be examined immediately preceding any works impacting the sett (including the blocking of the sett) to establish if badgers have re-colonised the sett;
- iv) the works targeting trees and scrub should take place outside of the bird breeding season to avoid impacts to breeding birds; and
- v) if the inaccessible scrub in the northwest corner needs to be removed this should be supervised by an ecologist.

Mitigation and habitat enhancement measures were also provided.

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Appendices

Appendix I: Desk Study Results

Group	Common Name	Latin Name	Status	Number of records*	Most recent record date	Grid reference of closest record	Distance and bearing from site of closest record (km)
Amphibians	Common toad	<i>Bufo bufo</i>	UKBAP NERC s41	1	2001	SU71700840	1.9 N
Birds	Reed warbler	<i>Acrocephalus scirpaceus</i>	HBAP	65	2007	SU720050	1.5 S
	Skylark	<i>Alauda arvensis</i>	UKBAP HBAP NERC s41	47	2007	SU7305	1.5 SE
	Gadwall	<i>Anas strepera</i>	HBAP	183	2008	SU7305	1.1 SE
	White-fronted goose	<i>Anser albifrons</i>	HBAP	5	2005	SU7205	0.7 S
	Tree pipit	<i>Anthus trivialis</i>	UKBAP NERC s41	9	2004	SU7304	1.0 SE
	Turnstone	<i>Arenaria interpres</i>	HBAP	67	2008	SU7304	1.0 SE
	Pochard	<i>Aythya ferina</i>	HBAP	173	2008	SU7104	1.7 SW
	Sanderling	<i>Calidris alba</i>	HBAP	29	2007	SU7204	1.5 S
	Red knot	<i>Calidris canutus</i>	HBAP	86	2007	SU726050	1.4 SE
	Lesser redpoll	<i>Carduelis cabaret</i>	UKBAP NERC s41	48	2008	SU7106	0.5 W
	Linnet	<i>Carduelis cannabina</i>	UKBAP HBAP NERC s41	53	2007	SU7207	0.9 N
	Common cuckoo	<i>Cuculus canorus</i>	UKBAP NERC s41	62	2007	SU7205	1.3 S
	Lesser spotted woodpecker	<i>Dendrocopos minor</i>	UKBAP HBAP NERC s41	3	2000	SU715053	1.3 SW
	Corn bunting	<i>Emberiza calandra</i>	UKBAP HBAP NERC s41	2	2002	SU735054	1.6 SE
	Yellowhammer	<i>Emberiza citronella</i>	UKBAP NERC s41	23	2007	SU7305	1.1 S
	Reed bunting	<i>Emberiza schoeniclus</i>	UKBAP HBAP NERC	48	2007	SU7305	1.1 S

			s41				
	Snipe	<i>Gallinago gallinago</i>	HBAP	53	2008	SU7204	1.5 S
	Common grasshopper warbler	<i>Locustella naevia</i>	UKBAP HBAP NERC s41	7	2004	SU7104	1.7 SW
	Nightingale	<i>Luscinia megarinchos</i>	HBAP	1	2000	SU730065	0.7 E
	Velvet scoter	<i>Melanitta fusca</i>	HBAP	1	2007	SU7104	1.7 SW
	Goosander	<i>Mergus merganser</i>	HBAP	72	2008	SU7205	1.3 S
	Red-breasted merganser	<i>Mergus serrator</i>	HBAP	72	2008	SU7204	1.5 S
	Yellow wagtail	<i>Motacilla flava</i>	HBAP	78	2008	SU7106	0.5 W
	Spotted flycatcher	<i>Muscicapa striata</i>	UKBAP HBAP NERC s41	28	2007	SU7206	Within 1km grid square containing site
	Eurasian curlew	<i>Numenius arquata</i>	UKBAP NERC s41	70	2007	SU7204	1.5 S
	House sparrow	<i>Passer domesticus</i>	UKBAP NERC s41	26	2008	SU71700840	1.26 N
	Eurasian tree sparrow	<i>Passer montanus</i>	UKBAP HBAP NERC s41	2	2003	Within 10km grid square	
	Grey partridge	<i>Perdix perdix</i>	UKBAP HBAP NERC s41	1	1996	SU7206	Within 1km grid square containing site
	Grey plover	<i>Pluvialis squatarola</i>	HBAP	39	2007	SU7205	1.3 S
	Whinchat	<i>Saxicola rubetra</i>	HBAP	73	2007	SU7205	1.3 S
	Arctic skua	<i>Stercorarius parasiticus</i>	UKBAP	2	2000	SU7104	1.7 SW
	Turtle dove	<i>Streptopelia turtur</i>	UKBAP HBAP NERC s41	7	2003	SU7305	1.0 S
	Starling	<i>Sturnus vulgaris</i>	UKBAP NERC s41	81	2008	SU7207	0.8 NE
	Redshank	<i>Tringa tetanus</i>	HBAP	49	2008	SU7206	Within 1km grid square containing site
	Song thrush	<i>Turdus philomelos</i>	UKBAP HBAP NERC s41	33	2007	SU7305	1.0 S
	Ring ouzel	<i>Turdus torquatus</i>	UKBAP NERC s41	1	1996	SU7104	1.7 SW
	Northern	<i>Vanellus vanellus</i>	UKBAP	70	2007	SU7205	1.3 S

	lapwing		HBAP NERC s41				
Plants	Slender hare's ear	<i>Bupleurum tenuissimum</i>	UKBAP HBAP NERC s41	6	2008	SU7104	1.7 SW
	Divided sedge	<i>Carex divisa</i>	UKBAP HBAP NERC s41	8	2006	SU713052	1.6 SW
	Cornflower	<i>Centaurea cyanus</i>	UKBAP HBAP NERC s41	1	2008	SU708054	1.6 SW
	Golden-samphire	<i>Inula crithmoides</i>	HBAP	10	2006	SU724052	1.1 S
	Curved hard grass	<i>Parpholis incurve</i>	HBAP	2	1997	SU7205	1.3 S
	Stiff saltmarsh grass	<i>Puccinellia rupestris</i>	HBAP	2	2006	SU713051	1.5 SW
	Stream water-crowfoot	<i>Ranunculus penicillatus</i>	HBAP	3	1998	SU715057	0.8 SW
	Sea clover	<i>Trifolium squamosum</i>	HBAP	1	2009	SU735051	1.9 SE
Invertebrates	Grey dagger	<i>Acrnicta psi</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Knot grass	<i>Acronicta rumicis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Brown-spot pinion	<i>Agrochola litura</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Beaded chestnut	<i>Agrochola lychnidis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Green-brindled crescent	<i>Allophyes oxyacanthae</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Ear moth	<i>Amphipoea oculea</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Mouse moth	<i>Amphipyra tragopoginis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Dusky brocade	<i>Apamea remissa</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Garden tiger	<i>Arctia caja</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Centre-barred sallow	<i>Atethmia centrargo</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Minor shoulder-knot	<i>Brachylomia viminalis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Mottled rustic	<i>Caradrina Morpheus</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW

	The Crescent	<i>Celaena leucostigma</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Small heath	<i>Coenonympha pamphilus</i>	UKBAP NERC s41	5	2000	SU7204	1.5 S
	Starwort	<i>Cucullia asteris</i>	HBAP	2	2000	SU7204	1.5 S
	Small blue	<i>Cupido minimus</i>	UKBAP HBAP NERC s41	1	2001	SU71700840	1.9 NW
	Oak lutestring	<i>Cymatophorima diluta</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Small square-spot	<i>Diarsia rubi</i>	UKBAP NERC s41	2	2001	SU7205	0.7 S
	Figure of eight	<i>Diloba aeruleocephala</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Small phoenix	<i>Ecliptopera silaceata</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	September thorn	<i>Ennomos erosaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Dusky thorn	<i>Ennomos fuscantaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	The spinach	<i>Eulithis mellinata</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Small emerald	<i>Hemistola chrysoprasaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Ghost moth	<i>Hepialus humuli</i>	UKBAP NERC s41	1	2000	SU7204	1.5 S
	Grayling	<i>Hipparchia semele</i>	UKBAP NERC s41	1	2001	SU7204	1.5 S
	The rustic	<i>Hoplodrina blanda</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Rosy rustic	<i>Hydraecia micacea</i>	UKBAP NERC s41	3	2000	SU7204	1.5 S
	Wall	<i>Lasiommata megera</i>	UKBAP NERC s41	1	2006	SU729064	0.6 E
	White admiral	<i>Limenitis camilla</i>	UKBAP NERC s41	1	1998	SU7407	2.0 NE
	Brindled beauty	<i>Lycia hirtaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	V-moth	<i>Macaria wauaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	The lackey	<i>Malacosoma</i>	UKBAP	1	2000	SU7108	1.6 NW

		<i>Neustria</i>	NERC s41				
	Dot moth	<i>Melanchra persicariae</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Rosy minor	<i>Mesoligia literosa</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Shoulder-striped Wainscot	<i>Mythimna comma</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Matthew's wainscot	<i>Mythimna favicolor</i>	HBAP	1	2000	SU7204	1.5 S
	Powdered Quaker	<i>Orthosia gracilis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Dark spinach	<i>Pelurga comitata</i>	UKBAP NERC s41	1	2000	SU7204	1.5 S
	Mullein wave	<i>Scopula marginepunctata</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Striped lychnis	<i>Schargacucullia lychnitis</i>	UKBAP HBAP NERC s41	1	2000	SU7108	1.6 NW
	White ermine	<i>Spilosoma lubricipeda</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Buff ermine	<i>Spilosoma luteum</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Water ermine	<i>Spilosoma urticae</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Hedge rustic	<i>Tholera cespitis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Feathered gothic	<i>Tholera decimalis</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Blood-vein	<i>Timandra comae</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Cinnabar	<i>Tyria jacobaeae</i>	UKBAP NERC s41	3	2005	SU7204	1.5 S
	Oak hook-tip	<i>Watsonalla binaria</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Sallow	<i>Xanthia icteritia</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
	Dark-barred twin-spot carpet	<i>Xanthorhoe furrugata</i>	UKBAP NERC s41	1	2000	SU7108	1.6 NW
Mammals	Common seal	<i>Phoca vitulina</i>	UKBAP NERC s41	1	1999	SU709048	2.0 SW
	West European	<i>Erinaceus</i>	UKBAP	2	2008	SU719064	0.1 SW

	hedgehog	europaeus	NERC s41				
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Appendix II: Target Notes to Accompany Figure 1

1. Semi-improved amenity grassland in current use as a playing field. Dominated by grasses such as: annual meadow grass *Poa annua*, creeping bent *Agrostis stolonifera*, common bent *Agrostis capillaries*, red fescue *Festuca rubra*, with common forbs such as daisy *Bellis perennis*, dandelion *Taraxacum officinale*, greater plantain *Plantago major*, white clover *Trifolium repens*, red clover *Trifolium pretense*, yarrow *Achillea millefolium*, and charlock *Sinapis arvensis*. Taller vegetation dominates in a thin strip around the edge of the field where mowing has not regularly occurred. This strip contains species listed above as well as: Yorkshire fog *Holcus lanatus*, false oat-grass *Arrhenatherum elatius*, rough meadow grass *Poa trivialis*, nettles *Urtica dioica*, creeping buttercup *Ranunculus repens*, meadow buttercup *Ranunculus acris* and ribwort plantain *Plantago lanceolata*.
2. Mature broad-leaved woodland on steep bank dominated by elder *Sambucus nigra*, and common hawthorn *Crataegus monogyna* with field maple *Acer campestre*, Sycamore *Acer pseudoplatanus* and holly *Ilex aquifolium*. Dense ivy *Hedera helix* cover on trees and ground. Many dead or dying trees as well as fallen but live trees. Scrub predominates at base of slope. Ground flora includes blackberry, *Rubus fruticosus*, elder saplings, wood sorrel *Oxalis acetosella*, nettles, dock *Rumex spp.*, wood avens *Geum urbanum*, rough meadow grass, Yorkshire fog, false oat grass, hedge bindweed *Calystegia sepium*, hogweed *Heracleum sphondylium*, and cleavers *Galium apine*. Hedgehog droppings present. Occasional animal paths run along fence between woodland and gardens to the south of the site. Rodent holes present. Many Hymenoptera present.
3. As above but here the woodland is more open with more scrub present. Animal and human paths run through area and along metal fence at rear of woodland.
4. Dead tree covered by ivy. Approximately 5m in height with a trunk diameter of 20cm. Animal path beside.
5. Dead tree with light ivy covering. Approximately 8m in height with a trunk diameter of 25cm. Animal path beside.
6. Mature elder approximately 8-10m with a trunk diameter of 1m. Splits into six branches at 1m from base. Dense ivy at base. Dead wood on branches. Bird nests present.
7. Mature elder fallen to ground but still some live branches. Approximately 6m in length. Trunk splits into four sections at base with a width of 10-40cm each. Dense ivy covers tree. Lots of dead wood present.
8. Mature common hawthorn with much dead wood. Approximately 6m by 30cm. Covered with dense ivy.
9. As 8. 10m x 20cm.
10. Mature common hawthorn with much dead wood and covered by dense ivy. Approximately 8m in height. Trunk is 60cm wide at base but splits into three branches at approximately 1m.
11. Mature common hawthorn with dense ivy cover. Approximately 10m x 25cm.
12. Mature common hawthorn with some dead wood and covered by dense ivy at base. Approximately 7m in height. Trunk is 60cm wide at base but splits into three branches (40cm, 15cm, 15cm) at approximately 1m.
13. Dead common hawthorn covered by dense ivy. Mature common hawthorn with much dead wood and covered by dense ivy.
14. Mature common hawthorn covered by dense ivy. Approximately 8m by 50cm.
15. Mature coppiced elder with much dead wood. Many stems from base (5-15cm each) with a height of 8m. Few small crevices present and small patches of loose bark.
16. Mature common hawthorn with much dead wood. Approximately 8-10m in height. Trunk splits into five from base with diameters of 5-50cm each. Large downward-sloping crevices near base (approximately 1.5m in length and 50cm in width). Loose bark, cavities and dead wood on branches.
17. Mature common hawthorn with a height of 6m and a trunk diameter of 15cm. Some dead wood present. Crevice (20cm x 4cm) approximately 1m from base, downward sloping but doesn't lead to cavity.

18. Over-mature, coppiced common hawthorn. Approximately 8-10m in height. Trunk splits into six at base with each branch 10-20cm in width. Light ivy covering. Some dead wood. Small downward-sloping crevices.
19. As 18.
20. Mature sycamore. Approximately 15-20m in height with a trunk width of 1m at the base.
21. Mature ash *Fraxinus excelsior*. Approximately 20m in height with a trunk width of 1m at the base.
22. Single-storey derelict building with cement walls and a flat asphalt roof. No glass in windows and no doors present.
23. Mature sycamore. Approximately 18-20m in height with a trunk width of 35cm at the base.
24. Tall ruderal vegetation lines high metal fence beside railway track. Dominated by false oat grass, rough meadow grass, Yorkshire fog, blackberry, yarrow, nettle, ivy, plantain, hogweed, common ragwort *Senecio jacobaea*, cleavers, butterfly-bush *Buddleja davidii*, thistle *Cirsium arvense*, hedge bindweed, and fat hen *Chenopodium album*. Beside railway track is bare ground with occasional patches of scrub including blackberry and butterfly-bush.
25. Mature elder covered with dense ivy. Approximately 6m in height with a trunk diameter of 40cm. Some dead wood present. Three mature, coppiced common hawthorn to west approximately 6m in height.
26. Tall ruderal vegetation with elder saplings, nettles, plantain, white clover, yarrow, sorrel, dandelions, ragwort, and fat hen.
27. Grass-covered footpath leading into woodland. Annual meadow grass, rough meadow grass, Yorkshire fog, red fescue, creeping and meadow buttercup, cleavers, and nettles present.
28. Wood-chip covered path leads from 27. into clearing in woodland with wooden seating area. Ruderal vegetation lines the path and seating area.
29. Artificial pond. Open water surface area of 2m x 3m but edges obscured by emergent vegetation. Emergent vegetation dominated by yellow iris *Iris pseudoacorus*, with bog bean *Menyanthes trifoliata*, and common reed *Phragmites australis*. Surrounded by wooden and chainlink fence. Walkway to east with wooden planks. Broken glass bottles present of walkway.
30. Emergent vegetation dominated by yellow iris.
31. Planted broadleaved woodland dominated by common hawthorn, field maple, sycamore, silver birch *Betula pendula*, ash, English oak *Quercus robur*, cherry *Prunus spp.*, holly and hazel *Corylus avellana*. Light ivy on some trees and ground. Trees are young, approximately 10-15m in height with trunk diameters of 5-40cm. Sparse ground flora with ivy, blackberry, nettles, false oat grass, and cleavers. Mud footpaths present throughout woodland.
32. Scrub dominated by blackberry.
33. Mature horse chestnut *Aesculus hippocastanum* with a height of approximately 15-20m and a trunk diameter of 1m. Likely to have been present before woodland was planted. Ivy covering was once present but has been cut at base and is now dying back
34. Disused badger sett with five holes. Holes covered with organic detritus and ivy. Considered likely to have been disused for many years.
35. Mature lilac *Syringa sp.* Likely to have been present before woodland was planted. No cracks or crevices considered to be suitable for use by roosting bats. Considered to have negligible potential for roosting bats.
36. Semi-improved mown grassland with short wooden posts. Annual meadow grass, perennial rye grass *Lolium perenne*, white clover, cow parsley *Anthriscus sylvestris*, rough meadow grass, wall barley *Hordeum murinum*, dandelion, plantain and dock present.
37. Hayling Billy Line. Well used cycle and footpath with asphalt covering lined with ruderal vegetation and scrub.
38. Mature broad-leaved woodland continues from 3. and turns southwards, following edge of Hayling Billy Line. Dominated by mature sycamore. Cherry *Prunus spp.* common

hawthorn and holly also present. Ivy present on trees and ground. Ground flora dominated by blackberry, nettles, dock, rough meadow grass, Yorkshire fog, false oat grass, hedge bindweed and cleavers.

Appendix III: Photographs

Photograph 1: View of the playing field looking east towards Warblington School.



Photograph 2: View of the planted woodland (environmental teaching area) facing west from the playing field.



Photograph 3: Area of grassland within planted woodland (Target note 27).



Photograph 4: Woodchip path leading through woodland with pond in distance.



Photograph 5: Seating area in clearing within environmental teaching area.



Photograph 6: Open water within the pond fringed by yellow iris.



Photograph 7: View of pond from east. Note fence surrounding pond and viewing platform.



Photograph 9: Strip of grassland bordered with shrub found on the eastern verge of New Lane.



Photograph 8: Mature broad-leaved woodland on southern edge of playing field.



Photograph 10: Scrub and trees located along metal fence of railway line in background, playing field in foreground. View from playing field looking north.



Figures

Figure 1. Phase 1 Habitat Map.

Phase 1 Habitat Survey



Legend

-  Target notes
-  Amenity grassland
-  Plantation broad-leaved woodland
-  Semi natural broad-leaved woodland
-  Semi-improved neutral grassland
-  Hard standing
-  Pond
-  Marginal vegetation
-  Scattered scrub
-  Fence
-  Buildings
-  Scattered broad-leaved trees
-  Disused badger sett

baker
shepherd
gillespie

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ECOLOGICAL CONSULTANTS
Limited Liability Partnership

Date	OCT'10	Checked	SH	Scale	NTS
Drawn	SW	Approved	SH	Job Ref	5114
Status	FINAL				

Dwg No. FIGURE 1