

Ecological Headlines: Land at Mudberry Farm, Bosham

Technical Note

Project: BMD.19.005 **Ref:** BMD.19.005.TN.001.EcoHeadlines
Subject: Ecological headlines **Date:** February 2019
Status: FOR INFORMATION **Rev:** -

BACKGROUND

Client Heaver Homes Ltd
Consultant..... Bradley Murphy Design Ltd.

SITE

Location Land at Mudberry Farm, Bosham.
National Grid Reference Approx. centre SU 813 507.
Over-view..... The Site comprises of an area of arable land to the north of Bosham.
Landscape context The Site is located in a rural context north of Bosham, south of the A27.

DEVELOPMENT & PLANNING BACKGROUND

Proposed works The site is being promoted as a housing allocation site for the local plan that could accommodate a large scale, multi-use development, including residential, infrastructure and open space.
Planning stage..... Local Plan Allocation Site – proposed.

ASSESSMENT

Date 4th February 2019
Assessor James Patmore
Data sources *MAGIC*. The Draft Natural England Open Mosaic Habitat Database. The Woodland Trust Ancient Tree Inventory. Readily available maps and imagery, Local Plan Policy and the Local Biological Records Centre.

This Technical Note has been produced to document the ecological headlines of a desk-based assessment with the principle purpose of identifying potential constraints and opportunities and what further survey work would be necessary to take the project forward.

A comprehensive review of likely constraints and opportunities can only be completed following full Extended Phase I and Phase II surveys, a number of which are seasonally constrained.

Declaration of compliance with professional code of ethics or conduct

The information which we have prepared and provided is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bonafide opinions.

Every reasonable attempt has been made to comply with the relevant best practice guidelines and BS42020:2013 (Biodiversity: Code of practice for planning and development).

1. INTRODUCTION

1.1 The Site

1.1.1 The site comprises a series of arable fields and associated drains and margins, situated to the north of the Bosham, Chichester. Other habitats present within the site include a central watercourse, scattered trees, occasional hedgerows, ponds and a small block of woodland. A single farmhouse building is also present within the northern-eastern portion of the site.

1.2 Present Context

1.2.1 The Site is bound to the north by the A27 with further arable land and extensive blocks of woodland beyond, to the east by further arable fields and Fishbourne, to the south by a railway, the village of Broadbridge and Bosham beyond and to the west by further arable and grazing fields.

1.2.2 A review of readily available aerial imagery indicates that there has been little change in the landscape character in the last twenty years with the Site itself under arable management for the duration.

1.3 Ecological assets

1.3.1 Table 1.1 summarises the ecological considerations for this Site.

Table 1.1 Summary of ecological considerations

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
Sites			
Statutory protected sites	None The Site is within the Impact Risk Zones (IRZ) for the local statutory designated sites, in a relevant risk category - residential <i>development of 100 units or more</i> . It also falls within the 'zone of influence' for Chichester & Langstone Harbours SPA (see policy section for more detail).	Chichester Harbour AONB Chichester & Langstone Harbours SPA, Ramsar Pagham Harbour Ramsar Chichester Harbour SSSI Solent Maritime SAC South Downs National Park Brandy Hole Copse LNR Singleton and Cocking Tunnels SSSI	Habitat Regulations Assessment Natural England Consultation Financial contributions to mitigate increased recreational disturbances to European sites. Possibly bespoke mitigation package also required due to scale.
Non-statutory protected sites	None	One Local Wildlife Site – Newells Land Pond & Meadow	Consultation with LPA Local policy requirements
Habitats			
Priority habitats	Deciduous Woodland Pond Hedgerow Chalk river	Coastal saltmarsh Mudflats Coastal and floodplain grazing marsh Deciduous woodland Intertidal substrate foreshore	Avoid habitat Habitat compensation Buffering Replacement of losses Creation and enhancement

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
		Traditional orchard Wood pasture and parkland habitats	
Ancient woodland	None	Ancient and Semi-natural woodland (within 50m) Ancient replanted woodland	Natural England/Forestry Commission consultation may be required. However, there are no ancient woodlands immediately adjacent to Site, with the notable woodlands to the north separated by the A27.
Ancient/veteran trees	None	Veteran tree	None within the Site but tree surveys will be required during planning stage to map and assess the tree resource and to identify any notable trees.
Other notable habitats	Arable margins	Good quality semi-improved grasslands	Generally, the Site habitats are dominated by arable and so habitat areas of interest likely to associated with edges of field, hedgerows, drains and the stream corridor.
Species: Mammals			
Badger	No local records. Some potential due to presence of hedges and small woodland blocks, also road embankment.	Numerous woodland areas to the north but some significant barriers to dispersal are present due to the road network.	A detailed survey would be required at planning stage to assess badger activity and presence of any setts within or near to the Site. Mitigation would include retention and buffering of setts where possible, or sett closures and sett creation elsewhere.
Bats	No local records exist for the Site itself. Bats may forage across the Site using features such as hedges and watercourse. Generally, the Site is dominated by sub-optimal foraging habitat due to the large areas of open, arable fields and as such bat activity would likely be restricted to the linear habitat features associate with the Site, such as ditches, Bosham stream, hedgerows, scattered trees etc	Numerous woodlands are present to the north with good hedgerow networks extending to the east and west. Numerous records of bat species in the locality and also records of licenses required for mitigation for bats on other development sites in the vicinity. Numerous roost sites in the locality including trees,	Surveys would be required at detailed planning stage to assess the Site for potential roost sites and also any key foraging areas. The presence of rare bats species in the locality (such as barbastelle bat) may require further analysis with regard to potential foraging within or across the site and implications of disruption to such activity should the Site

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
	Bat roosting opportunities are likely to be limited to a few mature trees, one farm building.	buildings and other structures.	be developed (if the species is found to utilise parts of the Site). Likely to require retention of key habitat areas for foraging and provision of roosting sites (e.g. features within buildings, installation of bat boxes etc).
Dormouse	No suitable habitat on Site due to isolation from large, suitable woodland blocks.	Large areas of woodland are situated to the north of the Site that may provide habitat for dormouse, although no local records for the area. These areas of woodland are separated by the A27.	Unlikely to be present on Site. Initial habitat surveys required to support planning stage would include appraisal of any suitable areas and linkages.
Other notable mammals	Brown hare may be present within the large open arable fields on Site. Hedgehog may be present in hedgerow features, small woodland area in south and in adjacent residential.	Local record of Polecat – require large areas of habitat with rabbit populations so may occur in nearby woodland/small field parcel areas.	Evidence of and assessment of the Site to support other notable species to be undertaken at planning stage. Mitigation may be needed if key species present.
Otter	No Local records for otter but the onsite stream and series of ditches may provide foraging and community habitat for otter.	Bosham Stream continues to the north and south, linking to a series of ditches. Connectivity under the A27 via a large culvert.	Survey extending beyond site boundary – 200 m to be undertaken at planning stage. Mitigation may be needed if present but generally stream and drain network likely to remain within new development areas, retained and enhanced.
Water vole	Confirmed as present on Site and in the local area. Records for the species present on Site in Bosham stream.	Bosham Stream continues to the north and south, linking to a series of ditches. Connectivity under the A27 via a large culvert. Records of water vole, offsite to the south and also to the north, associated with Bosham stream.	Records of water vole exist for the Site and as such further survey required at planning stage to assess territories and key areas. Retention of Bosham stream and associated drains. Loss of drains to be minimised and any loss to be replaced. Licences may be required for works associated with crossing points and near to watercourses.
Species: Amphibians and reptiles			
Great crested newt	Local records of great crested newt for ponds immediately adjacent to the site in the north-west corner.	There are a series of small ponds in the locality within	Further pond assessments of all ponds within 250 m / 500 m at planning stage including

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
	A pond is also associated with Polthooks Farm in the north-east of the Site which may provide suitable conditions for amphibians including great crested newt.	500m of the Site that may support great crested newt. Ponds to the north are separated by the A27 which is considered to be a significant dispersal barrier to amphibians.	presence/absence and population surveys Mitigation likely to be required in the north-western corner of the Site near to the known population. Mitigation is likely to be limited as ponds would not be directly impacted on and habitat loss would be restricted to arable land only.
Reptiles	Generally, the Site lacks areas of habitat suitable for reptile species such as common lizard and slow worm due to dominance of arable fields. There may be some use of the Site by grass snake associated with the stream corridor and other drain features.	Areas of woodland, scrub and smaller field parcels could provide a range of habitats for reptiles. There are local records for common lizard, slow worm and grass snake in the locality, within 1km of the Site.	Targeted survey at planning stage if small areas of suitable reptile habitat or commuting corridors are identified during the detailed habitat survey of the Site. Mitigation likely to be limited as core habitat feature (stream) to be retained and enhanced. Opportunities to enhance the Site for reptiles.
Other amphibians	One small pond associated with Polthooks Farm may support habitat for species such as common frog and common toad.	Common frog, smooth newt and common toad present in the local area, associated with the smaller pond features. Some connectivity to the Site.	Limited implications if present, aim to retain and enhance pond feature where possible. Opportunities to provide new, small pond features for amphibians as part of the final landscape design for the Scheme.
Species: birds			
Schedule 1	No local records for the Site. Habitats on Site generally limited but could provide foraging habitat for Barn owl and kingfisher.	A number of schedule 1 species recorded locally including barn owl, cetti's warbler, common crossbill, firecrest, hobby and kingfisher. Generally, habitats on Site limited for such species but possibly providing foraging habitat for barn owl along arable edges and foraging/commuting corridors for Kingfisher along Bosham stream.	In order to confirm the species present, breeding bird surveys would be required at planning stage. Presence of schedule 1 birds would require bespoke mitigation (possibly under licence) with regard to nesting sites, working near to active nests and provision of new habitats for such species.
Breeding birds	The Site habitats are limited to large areas of arable field, small features	The surrounding areas support a wider range of	In order to assess the species present, breeding bird

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
	<p>such as hedges and scattered trees and the Bosham Stream corridor. These features are likely to support breeding birds and the farmland areas may support ground nesting species such as skylark</p>	<p>habitats that are likely to support a range of breeding bird species with additional habitat areas such as woodlands, wetlands and grassland.</p>	<p>surveys would be required at planning stage. The presence of breeding birds will require mitigation and habitat replacement. If notable assemblages of farmland breeding species are present then offsite mitigation may be required for loss of farmland habitat for such species.</p>
<p>Wintering birds</p>	<p>The Site habitats are limited to large areas of arable field, small features such as hedges and scattered trees and the Bosham Stream corridor. These features are likely to support wintering birds and the farmland areas may support waders and wildfowl during the winter.</p>	<p>The surrounding areas support a wide range of habitats that are likely to support a more diverse assemblage of wintering species including large areas of coastline and fields near to coastline to the south.</p>	<p>In order to assess the species present, wintering bird surveys would be required at planning stage. The presence of wintering birds will require mitigation and habitat replacement. If notable assemblages of wintering species are present then offsite mitigation may be required for loss of farmland habitat used by such species.</p>
<p>Waders/geese</p>	<p>The Site does not support any mapped areas associated with the <i>Solent Waders and Brent Geese Strategy</i> mapping layers. The Site is situated to the north of mapped areas and is on the eastern extent of the strategy area.</p>	<p>Arable fields to the south of the Site, beyond the A259 and in closer association with the coast provide secondary support areas for geese and waders and also core areas and candidate areas.</p>	<p>The mapped areas are generally distant from the Site and separated by roads and existing residential. Due to the close proximity there will be requirements to meet local policy with regard to recreational pressure on the SPA (see below for more detail) and also a requirement to verify through bird survey that the arable fields within the Site are not used by geese and significant numbers of waders (which the current mapping data suggests).</p>
<p>Farmland birds</p>	<p>There is an arable farmland bird assemblage of four species and grassland farmland bird assemblage of two species within 2 km of the Site, as depicted by <i>MAGIC</i>. These assemblages include corn bunting, grey partridge, lapwing, redshank and turtle dove. Four of these species including corn bunting, grey partridge, redshank and lapwing overlap with the Site and therefore have potential to occur on the Site or immediate surrounds if suitable habitat is present.</p>		<p>In order to assess the species present, breeding bird surveys would be required at planning stage. The presence of breeding birds will require mitigation and habitat replacement. If notable assemblages of</p>

Ecological consideration	Potential to occur on site/confirmed	Within anticipated zone of influence (zone of influence)	Implications
	Generally, it is considered that the intensive arable farming of the Site may limit the distribution of such species but corn bunting and grey partridge could utilise arable edges and hedgerow features.		farmland breeding species are present then offsite mitigation may be required for loss of farmland habitat for such species.
Fish			
Notable fish	A number of protected and notable fish species are associated with the onsite watercourse including Brown Trout, European eel and Bullhead.	The notable fish species are also associated with the Bosham stream catchment to the north and south of the Site.	Consultation with the Environment Agency with regard to fish and ensuring continued use of the watercourse and safe passage for fish. Opportunity to enhance stream corridor for the species. Measures required to ensure no restriction of fish movement and also to ensure water quality is maintained and where possible enhanced.
Invertebrates			
White-clawed crayfish	The Site supports the Bosham Stream, a chalk steam feature and also a series of agricultural drains that may provide some suitability for crayfish.	No local records exist but conditions on Site and in the wider locality (particularly Bosham stream) may be suitable.	Initial habitat appraisal and further surveys if needed at planning stage. Bosham stream corridor retained and buffered with water quality protection measures incorporated into the drainage strategy should crayfish be confirmed as present.
Other notable invertebrates	No records for the Site	Stag Beetle recorded locally.	Retention of key habitat corridors and features. Creation and enhancement to benefit invertebrates in general as part of wider green infrastructure design of the Site.

1.4 Ecological opportunities

1.4.1 Developing the Site offers the following opportunities for biodiversity net gain and supporting local policy based on the current indicative masterplan for the Site:

- Retention and buffering of Bosham stream with bespoke management of the riparian corridor and reduction of arable farming in close proximity.

- Retention and enhancement of existing woodland, hedgerow and tree features within the Site.
- Retention and enhancement of drain features.
- Creation of linear habitat corridors as part of the wider green infrastructure corridor in area of former arable land, improving ecological connectivity and increasing species diversity.
- Increasing number of ponds and wetland areas in an area devoid of such features through habitat creation works and also use of SUDS.
- Targeted species enhancements that could include
 - Bats; Bat friendly planting in soft landscape areas, bat box installation, integration of bat roosting features into buildings, new hedges and linear tree planting.
 - Birds; Boxes/integrated nesting features for key species.
 - Invertebrates; Micro-topographical features within landscape areas, log piles and vegetation heaps in retained and created habitat areas, integrated features such as bug boxes.
 - Amphibians and reptiles; Purpose built habitat piles and hibernacula near to retained and created ponds, new pond features, log and stone piles, etc.
- Use of further mitigation packages (e.g. off-site land or financial contributions) as required to reduce impacts on adjacent sensitive sites.

2. POLICY REVIEW

2.1.1 Table 2.1 summarises the relevant local policy and anticipated implications in relation to the Site.

Table 2.1 Summary of relevant policy and anticipated implication to the proposed development

Local Policy		
Chichester Local Plan – 2014 to 2029		Implications (based on indicative site layout design)
<p>Policy 49 – Biodiversity. Planning permission will be granted for development where it can be demonstrated that the following criteria have been met.</p>	The biodiversity value of the site is safeguarded	<p>Key biodiversity features currently identified (Bosham stream corridor, drains, hedgerows and small woodland block) can be retained and incorporated into new green infrastructure corridors, developed in area of former arable land.</p> <p>The retention of higher value assets and creation of habitats on former agricultural land should allow for an overall net gain in biodiversity value of the Site with regard to habitat and linear features.</p>
	Avoid or mitigate harm to species	<p>The retention of the stream will avoid impacts on key species that may use the corridor (e.g. water voles, kingfisher, grass snake, etc) and green space creation will buffer existing features used by species (e.g. green space adjacent to known newt populations in the north-west). If avoidance is not possible, e.g. loss of arable land that may be used by birds, then on or off-site mitigation could be feasible.</p>
	Incorporate features that enhance the biodiversity as part of good design and sustainable development.	<p>As above, retention of key assets in the design of the scheme, including buffering and connecting to other areas of green infrastructure, both newly created areas and retained areas.</p>
	Protect and retain protected sites, priority habitats and ecology networks	<p>The Site does not directly impact on any protected site (both statutory and non-statutory) and aims to retain areas of Priority habitat within the design (e.g. chalk stream and small area of woodland).</p> <p>A Local Wildlife Site is present to the west and this feature is offsite and will be buffered with landscape areas with limited direct impacts anticipated.</p> <p>The proposed retention of key features and enhancements aim to create corridors through the Site that link to retained and new habitat features, improving ecological connectivity across a former arable site.</p>
	Avoidance of individual or cumulative adverse impacts on sites	<p>The Site design includes for areas of ecological mitigation to minimise effects on adjacent features of interest including provision of recreational areas to reduce pressure on nearby important sites where possible.</p> <p>If further land is required to offset impacts (such as increased recreational pressure or biodiversity offset requirements) then the landowner has alternative land that could be used if required for such measures in the locality or such measures could be agreed through</p>

Local Policy		
Chichester Local Plan – 2014 to 2029		Implications (based on indicative site layout design)
		alternative means (e.g. financial contributions) with the LPA as required (see Policy 50 below).
	The benefits of the development outweigh any adverse impact to biodiversity.	<p>The proposed development aims to achieve a number of benefits as described in the representation documents for the allocation site.</p> <p>Where possible impacts to biodiversity would be avoided through on-site measures with offsite alternatives available if required.</p> <p>Such mitigation and compensation measures are standard and could be secured through planning conditions and/or obligations as required.</p>
Policy 50 Development and Disturbance of Birds in Chichester and Langstone Harbours Special Protection Areas.	<p>Net increases in residential development which incorporates avoidance/mitigation measures, which would avoid any likelihood of a significant effect on the SPA, will not require an ‘appropriate assessment’.</p> <p>Such measures are –</p> <ul style="list-style-type: none"> - A contribution in accordance with the joint mitigation strategy outlined in Phase III of the Solent Disturbance and Mitigation Project; or - A developer provided package of measures associated with the proposed development designed to avoid any significant effect on the SPA; or - a combination of the above. 	<p>The proposed allocation is within the 5.6km ‘zone of influence’ for the SPA and as such the developer would be required to make financial contributions to the Phase III of the Solent Disturbance and Mitigation Project (https://www.southampton.gov.uk/images/solent-recreation-mitigation-strategy_tcm63-398270.pdf) which is a developer funded approach to aim to reduce the impacts of new residents in the catchment of the SPA.</p> <p>The baseline developer contribution is equivalent of £564 per dwelling (though this is likely to be a sliding scale based upon bedroom numbers per dwelling) and will increase on 1 April each year based on Retail Price Index.</p> <p>As such, it is considered that there is a mechanism to mitigate the likely significant affect of the proposed development on the SPA through the above approach. However, it should be noted that the developer may provide alternative mechanisms/approach but this would need to meet the satisfaction of the LPA and Natural England (NE). In the case of this allocation site, it may require a bespoke approach in early consultation with the LPA and NE due to the scale of scheme and possible concentrated impacts on a specific area of the SPA near to the scheme. Additional funding or bespoke, targeted measures may be needed to fully mitigate the likely effects.</p> <p>The assessment as to whether a particular scheme will require additional mitigation is complex and will depend on a range of factors so it is not possible for the Strategy to currently define when development will need to provide further measures. The local planning authority, with advice from Natural England, will consider the mitigation requirements for such housing proposals on a case-by-case basis. Developers are encouraged to hold early discussions with Natural England and the local</p>

Local Policy		
Chichester Local Plan – 2014 to 2029		Implications (based on indicative site layout design)
		planning authority on the mitigation which will be needed for such schemes.
<p>Policy 51 Development and Disturbance of Birds in Pagham Harbour Special Protection Areas.</p>	<p>Net increases in residential development within the 3.5km 'Zone of Influence' are likely to have a significant effect on the Pagham Harbour SPA either alone or in-combination with other developments and will need to be subject to the provisions of the Conservation of Habitats and Species Regulations 2017.</p>	<p>The allocation site is 7.4km from Pagenham Harbour and as such is considered to be beyond the zone of influence and will therefore not be required to meet this Policy.</p> <p>However, the scale of the proposed allocation may trigger the need for bespoke approaches to mitigation as set out above and as such the LPA and NE may require both Policy 50 and 51 to be considered jointly due to in-combination impacts of the scheme with other developments coming forward in the area.</p>
<p>Policy 52 Green Infrastructure. This Policy sets out criteria that must be met in order to allow grant of planning permission. The relevant criteria and implications to development is considered further as set out in this table.</p>	<p>(1) The proposals maintain and where appropriate contribute to the network of green infrastructure i.e. public and private playing fields, recreational open spaces, parklands, allotments and water environments.</p> <p>(3) Where appropriate, the proposals incorporate either improvements to existing green infrastructure or the restoration, enhancement or creation of additional provision/areas.</p> <p>(4) Where appropriate, the proposals incorporate either improvements to existing ecology and biodiversity or the restoration, enhancement or creation of additional habitat and habitat network</p> <p>(5) Where appropriate, the proposals incorporate either improvements to existing trees, woodland, landscape features and hedges or the restoration, enhancement or creation</p>	<p>With regard to biodiversity, as set out above in consideration of Policy 49, key ecological assets have been incorporated into the indicative designs for the scheme to demonstrate how they could be retained and enhanced and incorporated into the wider green infrastructure design for the Site.</p>

Local Policy		
Chichester Local Plan – 2014 to 2029		Implications (based on indicative site layout design)
	of additional provision/areas.	
	(6) Where appropriate, the proposals create new green infrastructure either through on-site provision or financial contributions. Where on-site provision is not possible financial contributions will be required and be negotiated on a site by site basis	<p>The current indicative masterplan demonstrates how the site could deliver green infrastructure including new and retained assets with the site boundaries.</p> <p>As relevant to Policy 50, offsite mitigation packages may be an option for further reducing impacts if required for SPAs and could provide a range of other green infrastructure benefits depending on the type of off-site mitigation agreed.</p>
	(7) The proposals do not lead to the dissection of the linear network of cycleways, public rights of way, bridleways and ecological corridors such as ancient woodlands, hedgerows, ditches and water environments.	As described above with regard to Policy 49, key linear features could be retained, buffered and enhanced within the wider green infrastructure approach as illustrated on the current scheme design plans.

3. DETAILED DESK STUDY SCOPING EXERCISE

3.1 Statutory designated sites of nature conservation importance

3.1.1 A data search on *MAGIC* was completed on 21st January 2019. A summary of features checked is provided in Tables 3.1.

Table 3.1 Summary of statutory nature conservation sites within 2 km of the Site (extending to 10 km for European designated sites)

Site designation	Number of sites					
	Total	On site	0-1 km	1-2 km	2-5 km	5-10 km
AONB	1		1			
LNR	0					
NNR	0					
National Park	1		1			
Ramsar	2		1			1
SSSI	2		1			1
SAC	1		1			
SPA	1		1			
Impact Risk Zone	Yes – Chichester Harbour SSSI and Kingley Vale SSSI.					

3.1.2 The Site itself does not lie within any statutory designated sites of nature conservation importance.

3.1.3 Details of designated sites returned by the desk study within 2 km of the Site are provided in Table 3.2

Table 3.2 Detail of statutory designated sites of nature conservation importance within 2 km of the site, extending to 10 km for sites designated for bats and for European designated sites.

Site	Designation ¹ & area	Proximity (distance/direction) & connectivity to Site	Summary description
Chichester Harbour Ref: 4	AONB 73.16 ha	c. 0.4 km S Separated by roads, connected via tree-lines and hedgerows	The AONB is one of the few remaining undeveloped coastal areas of Southern England which provides habitat for approx. 55,000 birds, oaks and hawthorns and popular boating waters.
Chichester & Langstone Harbours Ref: UK11013	Ramsar SPA 5812.9 ha	c. 0.4 km S Separated by roads, connected via tree-lines and hedgerows	Chichester Harbour consists of large estuarine basin which is of particular importance to breeding birds, waders and wintering wildfowl within the harbour and surrounding pastures and woodlands. The harbour is also home to a variety of notable invertebrate species and wide range of habitats and important plant communities.
Chichester Harbour Ref: 1000116	SSSI 3733.53 ha		
Solent Maritime Ref: UK0030059	SAC 11243.12 ha	c. 0.4 km S	Solent Maritime is the only site to maintain smooth cord-grass within the UK and one of the remaining sites to maintain townsend's cord-grass. The Site also

Site	Designation ¹ & area	Proximity (distance/direction) & connectivity to Site	Summary description
		Separated by roads, connected via tree-lines and hedgerows	contains the second largest group of Atlantic salt meadows in the south/ south-west of England.
South Downs Ref: 10	NP 1653 Sq. km	c. 0.6 km N Separated by the A27 as a significant wildlife barrier	The South Downs NP contains a variety of habitats including ancient woodland, heathland, river valleys, hills and villages. The site is also designated for its internationally and nationally important wildlife species including greater mouse-eared bats, water vole and silver-spotted skipper butterflies.
Brandy Hole Copse Ref: 1009615	LNR 6.54 ha	c. 2.3 km NE Separated by the A27 with connectivity via tree-lines and small woodland parcels	Brandy Hole Copse LNR is cited for having pipistrelle bats on site with habitats including broadleaved woodland, lowland heathland, coniferous woodland, tall herb and fen, open water and bog and flush.
Pagham Harbour Ref: UK11052	Ramsar 5812.9 ha	c. 7.4 km SE Connected to the Site via Chichester and Langstone Harbour and water bodies as stepping stones	Pagham Harbour consists of a variety of habitats such as salt-marsh, tidal mudflats, open waters, reed swamp, wet permanent grassland and shingle. The harbour supports nationally important plant and invertebrate communities and is of national importance for breeding birds and for wintering wildfowl and waders.
Singleton and Cocking Tunnels Ref: 1000400	SSSI 4.8 ha	c. 9.3 km NE Separated by the A27 with connectivity via tree-lines and woodland parcels	Singleton and Cocking Tunnels SSSI support significant numbers of hibernating bats during winter as the only known location for mouse-eared bats in Britain. Other hibernating species include natterer's, daubenton's, brown long-eared and brandt's bats. The tunnels are listed on Schedule 5 and protected under Section 9 of the Wildlife and Countryside Act 1981.
Notes 1. Definitions of abbreviations provided in the Glossary.			

3.1.4 The Site lies within the Impact Risk Zone (IRZ) of Chichester Harbour SSSI and Kingley Vale SSSI. The following have been identified as potential risks and causes of risk to this designated site if such development takes place within the area under assessment:

- **Infrastructure:** Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals;
- Wind & solar energy: Wind turbines;
- **Minerals, oil & gas:** Planning applications for quarries, including new proposals, Review of Minerals Permissions (ROMP), extensions variations to conditions including oil & gas exploration/extraction.
- **Rural non-residential:** Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha;
- **Residential:** Residential development of 100 units or more;
- **Rural residential:** Any residential development of 50 or more houses outside existing settlements/urban areas;

- **Air pollution:** Any industrial/agricultural development that could cause air pollution including industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t;
- **Combustion:** General combustion processes >20MW energy input including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion;
- **Waste:** Landfill including inert landfill, non-hazardous landfill, hazardous landfill;
- **Composting:** Any composting proposal with more than 500 tonnes maximum annual operational throughput including open windrow composting, in-vessel composting, anaerobic digestion, other waste management;
- **Discharges:** Any discharge of water or liquid waste that is discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream (this does not include discharges to mains sewer which are unlikely to pose a risk at this location); and
- **Water supply:** Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply.

3.1.5 For new residential development in this area financial contributions are required to mitigate increased recreational disturbance on coastal SPAs and Ramsar Sites as detailed in local planning policy.

3.2 Non-statutory designated sites of nature conservation importance

3.2.1 There is one non-statutory designated site of nature conservation importance within 2 km of the Site as provided by Sussex Biodiversity Records Centre (SxBRC) [received 28/01/2019].

3.2.2 The Site is Newells Lane Pond & Meadows which is a Local Wildlife Site (LWS) located adjacent to the north-western boundary of the Site. The pond and meadows are separated from the Site by Newells Lane with dense tree coverage providing connectivity to the Site.

3.3 Habitats

3.3.1 A summary of priority and notable habitats within 1km of the site is presented in Table 3.3 below.

Table 3.3 Summary of priority (and notable) habitats within 1 km of the Site

Broad category	Priority Habitat Inventory	Other habitats	On site	0-1 km
Coastal	Saltmarsh			19
	Sand Dunes			
	Vegetated Shingle			
	Maritime Cliffs and Slopes			
	Mudflats			15
	Saline Lagoons			
Grassland	Calaminarian Grassland			
	Coastal and Floodplain Grazing Marsh			1

Broad category	Priority Habitat Inventory	Other habitats	On site	0-1 km
		Good quality semi-improved grassland (non-priority)		7
	Lowland Calcareous Grassland			
	Lowland Dry Acid Grassland			
	Lowland Meadows			
	Purple Moor Grass and Rush Pasture			
	Upland Calcareous Grassland			
	Upland Hay Meadows			
Heath	Lowland Heathland			
	Mountain Heaths and Willow Scrub			
	Upland Heathland			
Limestone pavements	Limestone Pavements			
Marine	Intertidal Substrate Foreshore			1
Wetland	Blanket Bog			
	Lowland Fens			
	Lowland Raised Bog			
	Reedbeds			
	Upland Flushes, Fens and Swamps			
Woodland		Ancient: Semi-natural		15
		Ancient: Replanted		8
	Deciduous Woodland		1	116
		National Inventory of Woodland & Trees	1	
	Traditional Orchards			6
	Wood pasture and Parkland BAP Priority Habitat			2
Other		Fragmented heath (Non-Priority)		
		Grass Moorland (Non-Priority)		
		No main habitat but additional habitat exists		10

Priority habitats

3.3.2 Priority habitats returned by the desk study are listed in Appendix D. In summary, the following UK Priority Habitats occur (as depicted on *MAGIC*) on the Site or within 1 km of the site:

- **Coastal saltmarsh:** 19 parcels – All parcels are located south of the Site associated with Chichester Harbour, with the nearest parcel approximately 0.4 km south;
- **Mudflats:** 15 parcels – All parcels are located south of the Site associated with Chichester Harbour, with the nearest parcel approximately 0.4 km south;
- **Coastal and floodplain grazing marsh:** One parcel – This parcel is located approximately adjacent to the A259 main road south of the Site;

- **Deciduous woodland:** 117 parcels – Parcels are scattered around the Site with the nearest parcel located on the south-eastern part of the Site itself;
- **Intertidal substrate foreshore:** One parcel – This parcel is located 0.4 km south of the Site associated with Chichester Harbour;
- **Traditional orchard:** Six parcels – Parcels are located west and north-west of the Site with the nearest parcel located approximately 0.3 km west of the Site; and
- **Wood pasture and parkland BAP priority habitat:** Two parcels – Both parcels are located east of the Site with the nearest parcel located approximately 0.9 km east of the Site.

3.3.3 There were no mapped Open Mosaic Habitats (OMH) within 1 km of the Site as depicted on Natural England’s Draft OMH Inventory Database (downloaded 17/01/2018). The closest probable OMH to the Site is Ref: 2029 approximately 1.2 km to the south.

Notable habitats

3.3.4 The following non-priority but notable habitats occur within 1 km of the Site:

- **Good quality semi-improved grassland:** Five parcels – Parcels are located north west of the Site with the nearest parcel located approximately 0.2 km north west of the Site adjacent to the A27;
- **Ancient & semi-natural woodland:** 15 parcels – All parcels are located north of the Site with the nearest parcel located approximately 50 m north of the Site adjacent to the A27;
- **Ancient replanted woodland:** Eight parcels – All parcels are located north of the Site with the nearest parcel located approximately 0.2 km north of the Site; and
- **No main habitat but additional habitats present:** Ten parcels – Parcels are scattered around the Site with the nearest parcel located approximately 0.1 km south of the Site close to the A259 main road.

3.3.5 A review of the Woodland Trust Ancient Tree Inventory highlighted one known veteran tree within 1 km of the Site which is an Oak tree, approximately 0.4 km north of the Site, SU8127106484, WT ref: 141544.

3.4 Protected Species

3.4.1 Two statutory designated sites within 10 km of the Site are designated for bats including two designated hibernation tunnels (See Table 3.2).

3.4.2 A search on *MAGIC* returned 26 licence applications within 5 km of the Site relating to European Protected Species; these are detailed in Table 3.4.

Table 3.4 Development license applications within 5 km of the Site identified during the data search

Species	Date	Proximity (distance/direction) & connectivity to Site	Licensed activity
Brown long-eared, Common/ Soprano pipistrelle	12/06/2014 – 30/09/2014	c. 0.5 km N	Damage of a resting place

Common/ Soprano pipistrelle, brown long-eared	30/08/2013 – 01/07/2014	Separated by the A27 with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common pipistrelle, serotine, brown long-eared	10/12/2013 – 30/04/2014	c. 1.8 km N Separated by the A27 with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common/ Soprano pipistrelle	13/10/2017 – 30/10/2022	c. 2.4 km N Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Soprano pipistrelle	04/08/2014 – 31/10/2014	c. 3.2 km NE Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Unknown
Common/ Soprano pipistrelle, serotine, brown long-eared	05/09/2013 – 30/09/2015	c. 2.8 km NE Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Soprano pipistrelle	01/09/2013 – 31/10/2014	c. 3.2 km NE Separated by open habitat with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Brown long-eared, natterers	01/11/2012 – 31/08/2014	c. 3.6 km NE Separated by open habitat with connectivity via tree-lines and woodland parcels	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Brown long-eared, Common/ Soprano pipistrelle	19/09/2014 – 31/07/2019	c. 4.1 km S Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Damage of a resting place Destruction of a resting place
Brown long-eared, common pipistrelle	06/10/2014 – 03/10/2019	c. 4.3 km S Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Destruction of a resting place
	01/03/2015 – 01/03/2020		
Common pipistrelle	03/03/2015 – 31/05/2020	c. 4 km E Separated by open habitat and residential settlement	Destruction of a resting place

		with connectivity via tree-lines and woodland parcels	
Soprano pipistrelle	06/10/2015 – 30/09/2020	c. 4.4 km SE Separated by open habitat with connectivity via tree-lines and woodland parcels	Damage of a resting place
Common/ soprano pipistrelle, natterers	23/11/2012 – 30/09/2014	c. 4.5 km S Separated by open habitat with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common/ soprano pipistrelle, brown long-eared	13/11/2012 – 30/09/2015	c. 3.2 km NE Separated by open habitat	Destruction of a resting place
Common/ soprano pipistrelle	19/11/2013 – 01/11/2017	and residential settlement with connectivity via tree-lines and woodland parcels	
Common pipistrelle, serotine	19/07/2016 – 19/07/2021	c. 4.2 km S Separated by open habitat and residential settlement with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common pipistrelle, brown long-eared	08/03/2010 – 30/09/2010	c. 4.5 km S Separated by open habitat	Destruction of a resting place
Common pipistrelle	11/03/2011 – 28/02/2013	and residential settlement with connectivity via tree-lines and woodland parcels	
Brown long-eared, natterers	01/11/2012 – 31/08/2014	c. 3.4 km NE Separated by open habitat with connectivity via tree-lines and woodland parcels	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Common/ soprano pipistrelle, brown long-eared	27/10/2011 – 01/08/2012	c. 4.6 km S Separated by open habitat with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Soprano pipistrelle	01/11/2017 – 30/09/2019	c. 4.7 km S Separated by open habitat with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common pipistrelle	31/10/2017 – 30/11/2018	c. 1.3 km W Separated by open habitat with connectivity via tree-lines and woodland parcels	Destruction of a resting place
Common/ Soprano pipistrelle	28/11/2014 – 31/10/2019	c. 5 km E	Destruction of a resting place

		Separated by open habitat and residential settlement with connectivity via tree-lines	
Common pipistrelle	09/01/2012 – 31/08/2015	c. 4.1 km E Separated by open habitat and residential settlement with connectivity via tree-lines	Destruction of a resting place
Brown long-eared	17/01/2017 – 17/01/2017	c. 4.6 km SE Separated by open habitat and residential settlement with connectivity via tree-lines	Destruction of a resting place

3.4.3 Table 3.5 summarises the protected species records, provided by SxBRC (returned 28/01/2019) that occur within 2 km of the Site within the last 10 years.

Table 3.5 Protected species recorded within 5 km of the Site (as provided by SxBRC; 28/01/2019)

Species	Level of protection ¹	Summary of records		
		N- ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
Amphibians & Reptiles				
Common frog	UK	1, Located E of the Site with open arable land, settlement and lacking water bodies as potential barriers	0.7 km E (29/09/2016)	0.7 km E (29/09/2016)
Common lizard	UK, (En.)	2, Located SW of the Site with connectivity via grassland habitat and small woodland parcels	1.3 km SW (05/06/2015)	1.3 km SW (05/06/2015)
Common toad	UK, (En.)	1, Located S of the Site with Chichester and Langstone Harbour as a major barrier for movement	2 km S (Mar-May 2012)	2 km S (Mar-May 2012)
Grass snake	UK, (En.)	1, Located S of the Site with residential settlement as a potential barrier for movement	0.2 km S (11/06/2014)	0.2 km S (11/06/2014)
Great crested newt	EU, UK, (En.)	2, Located on Site and W of the Site with connectivity via terrestrial habitat and water bodies	On Site (29/10/2009)	On Site (29/10/2009)
Slow worm	UK, (En.)	45, Located E and SW of the Site with connectivity via grassland habitats and small woodland parcels	0.7 km E (17/09/2015)	1.6 km SW (06/09/2017)
Smooth newt	UK	1,	0.7 km E (03/06/2015)	0.7 km E (03/06/2015)

Species	Level of protection ¹	Summary of records		
		N- ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
		Located E of the Site with potential barriers from residential settlement and connectivity via tree-lines		
Birds				
Barn owl	UK, (En.)	12, Scattered around the Site with connectivity via arable habitat, grasslands and small water bodies	35 m N (08/02/2012)	0.3 km W (28/04/2016)
Cetti's warbler	UK, (En.)	8, Scattered around the Site with connectivity via small water bodies	0.6 km SE (01/06/2017)	1.5 km SE (01/06/2017)
Common crossbill	UK, (En.)	1, Located NW of the Site with connectivity via tree-lines and small woodland parcels	1.1 km NW (04/04/2011)	1.1 km NW (04/04/2011)
Firecrest	UK, (En.)	1, Located SE of the Site with connectivity via small woodland parcels and tree-lines	1.3 km SE (29/08/2011)	1.3 km SE (29/08/2011)
Hobby	UK, (En.)	1, Located E of the Site with connectivity via arable land, tree-lines and small woodland parcels	0.7 km E (29/05/2012)	0.7 km E (29/05/2012)
Kingfisher	EU, UK	1, Located SE of the Site with connectivity via small woodland parcels and arable habitat	1.3 km SE (11/07/2013)	1.3 km SE (11/07/2013)
Mediterranean gull	EU, UK, (En.)	1, Located SW of the Site with connectivity via grassland habitat and small woodland parcels	1.3 km SW (15/06/2009)	1.3 km SW (15/06/2009)
Red kite	EU, UK, (En.)	9, Scattered around the Site with connectivity via arable and sub-urban habitats and small woodland parcels	0.6 km N (12/05/2009)	0.9 km S (12/06/2017)
Bats				
Barbastelle	UK, EU, (En.)	25, Clustered SW of the Site with connectivity via tree-lines and small woodland parcels and potential open, urban barriers	1.3 km SW (03/04/2018)	1.3 km SW (03/04/2018)
Bat sp.	UK, EU, (En.)	2, Located N and NE of the Site with connectivity via tree-lines and small woodland parcels	1.8 km N (13/02/2016)	1.8 km N (13/02/2016)
Brown long-eared	UK, EU, (En.)	7, Located N, S and SW of the Site with connectivity via tree-lines and small woodland parcels	0.5 km N (26/04/2011)	1.3 km SW (17/10/2018)

Species	Level of protection ¹	Summary of records		
		N ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
Common pipistrelle	UK, EU, (En.)	23, Scattered around the Site with connectivity via tree-lines and small woodland parcels	0.4 km W (09/06/2011)	1.3 km SW (17/10/2018)
Daubenton's	UK, EU, (En.)	1, Located SW of the Site with connectivity via tree-lines and small water bodies	1.3 km SW (25/05/2013)	1.3 km SW (25/05/2013)
Leisler's	UK, EU, (En.)	2, Located SW of the Site with connectivity via tree-lines and small woodland parcels	1.3 km SW (09/03/2017)	1.3 km SW (09/03/2017)
Long-eared sp.	UK, EU, (En.)	5, Located N and SW of the Site with connectivity via tree-lines and small woodland parcels	0.5 km N (30/06/2011)	1.3 km SW (15/06/2018)
Myotis sp.	UK, EU, (En.)	10, Located N, S and SW of the Site with connectivity via tree-lines and small water bodies	0.4 km N (19/07/2016)	1.3 km SW (17/10/2018)
Nathusius' pipistrelle	UK, EU, (En.)	28, Clustered SW of the Site with connectivity via tree-lines and small woodland parcels	1.3 km SW (17/10/2018)	1.3 km SW (17/10/2018)
Noctule	UK, EU, (En.)	8, Located N and SW of the Site with connectivity via open areas, tree-lines and small woodland parcels	0.5 km N (19/07/2016)	1.3 km SW (12/07/2018)
Nyctalus sp.	UK, EU, (En.)	2, Located SW of the Site with connectivity via open areas, tree-lines and small woodland parcels	1.6 km SW (21/07/2015)	1.6 km SW (07/08/2015)
Pipistrelle sp.	UK, EU, (En.)	6, Located N, NW and SW of the Site with connectivity via tree-lines and small woodland parcels	0.5 km N (26/04/2011)	1.3 km SW (17/10/2017)
Serotine	UK, EU, (En.)	14, Located N and SW of the Site with connectivity via tree-lines and small woodland parcels	0.5 km N (19/07/2016)	1.6 km SW (01/09/2018)
Soprano pipistrelle	UK, EU, (En.)	22, Scattered around the Site with connectivity via tree-lines and small woodland parcels	0.4 km W (09/06/2011)	1.3 km SW (17/10/2018)
Invertebrates				
Stag beetle	EU, UK, (En.), (L)	14, Scattered around the Site with connectivity via grassland and arable habitats and residential gardens	90 m S (29/06/2011)	0.7 km E (11/07/2016)

Species	Level of protection ¹	Summary of records		
		N- ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
Mammals (Excl. Bats)				
European water vole	UK, (En.), (L)	10, Scattered around the Site including on the Site itself with connectivity via the stream flowing through Site	On Site (22/05/2014)	On Site (22/05/2014)
Plants				
Lizard orchid	UK, (En.), (L)	5, Located SW of the Site with connectivity via grassland habitat and small woodland parcels	0.6 km SW (21/06/2013)	0.6 km SW (21/06/2013)
Notes 1. EU – European; UK – UK; (En) – also a notable species in England, e.g. UK Priority/541 species; (L)- also a Locally important species, e.g. LBAP. Refer to Glossary for details and definitions.				

3.5 Notable species

- 3.5.1 There is an arable farmland bird assemblage of four species and grassland farmland bird assemblage of two species within 2 km of the Site, as depicted by *MAGIC*, as summarised on Table 3.5 below. These assemblages include corn bunting, grey partridge, lapwing, redshank and turtle dove. Four of these species including corn bunting, grey partridge, redshank and lapwing overlapped with the Site and therefore have potential to occur on the Site if suitable habitat is present.

Table 3.5 Farmland bird assemblages in relation to the Site

Farmland bird assemblages	On site	0-1 km	1-2 km
Arable (max number of species)	3	4	4
Grassland (max number of species)	2	2	2
Black grouse			
Cirl bunting			
Corn bunting	✓	✓	✓
Curlew			
Grey partridge	✓	✓	✓
Lapwing	✓	✓	✓
Redshank	✓	✓	✓
Snipe			
Stone curlew			
Tree sparrow			
Turtle dove		✓	✓
Twite			
Yellow wagtail			

- 3.5.2 Table 3.6 summarises the notable species records, provided by SxBRC (received 28/01/2019) that occur within 2 km of the Site and within the last 10 years. This Table excludes any species that are specifically protected (see Table 3.4).

Table 3.6 Notable species recorded within 2 km of the Site (as provided by SxBRC; 28/01/2019)

Species	Status				Summary of records		
	BAP ¹	S41	BoCC ²	Other ³	N- ^o , distribution & connectivity	Distance, direction & date	
						Nearest	Most recent
Birds							
Black-headed gull			A		2, Located S and SW of the Site with connectivity via small water bodies and arable habitats	0.9 km S (18/12/2014)	0.9 km S (18/12/2014)
Bullfinch	UK	✓	A		3, Located W and N of the Site with connectivity via tree-lines, small woodland parcels and arable habitat	0.4 km NW (01/08/2012)	0.4 km NW (01/08/2012)
Common shelduck			A		7, Located S and SW of the Site with connectivity via arable land and grassland habitat	50 m SW (21/05/2012)	0.9 km S (08/05/2016)
Corn bunting	UK	✓	R		1, Located SW of the Site with connectivity via arable and grassland habitat	1.3 km SW (26/06/2011)	1.3 km SW (26/06/2011)
Cuckoo	UK	✓	R		10, Scattered around the Site with connectivity via arable and grassland habitat, woodland parcels and small water bodies	0.6 km W (04/05/2015)	1.3 km SE (23/06/2017)
Curlew	UK	✓	R		11, Scattered around the Site with connectivity via arable land, grasslands and water bodies	0.6 km SE (20/04/2011)	1.9 km S (26/04/2016)
Dunnock	UK	✓	A		15, Scattered around the Site with connectivity via arable habitat and woodland and suburban parcels	0.3 km S (13/04/2010)	1.3 km SW (06/06/2016)
Gadwall			A		1, Located SE of the Site with connectivity via small water bodies	1.3 km SE (03/03/2009)	1.3 km SE (03/03/2009)
Green woodpecker					10, Scattered around the Site with connectivity via small woodland parcels, grassland and arable habitat	0.6 km SE (12/06/2010)	0.6 km W (03/05/2015)
Grey wagtail			R		2, Located N of the Site with connectivity via suburban habitat	0.9 km N (21/06/2010)	0.9 km N (21/06/2010)
Herring gull	UK	✓	R		1,	1.3 km SE (21/02/2014)	1.3 km SE (21/02/2014)

					Located SE of the Site with connectivity via small water bodies		
House martin			A		6, Scattered around the Site with connectivity via suburban and arable habitats	0.9 km N (21/06/2010)	1.1 km SE (06/07/2015)
House sparrow	UK	✓	R		14, Scattered around the Site with connectivity via suburban and arable habitats	0.6 km E (20/04/2011)	1.3 km SW (06/06/2016)
Kestrel			A		14, Scattered around the Site with connectivity via arable, grassland and suburban habitats	0.4 km NW (03/06/2012)	1.3 km SE (23/06/2017)
Lapwing	UK	✓	R		4, Located S and E of the Site with connectivity via small water bodies and arable and grassland habitats	0.4 km S (06/05/2009)	1.3 km E (23/06/2017)
Linnet	UK	✓	R		5, Located NW and SW of the Site with connectivity via arable, grassland and suburban habitats	1.1 km NW (19/05/2011)	1.3 km SW (06/06/2016)
Little egret					2, Located SW and SE of the Site with connectivity via small water bodies, grassland and arable habitat	1.3 km SE (21/02/2014)	1.3 km SE (21/02/2014)
Little grebe					2, Located SW and SE of the Site with low connectivity to the Site	1.3 km SE (16/06/2010)	2 km SW (28/11/2014)
Mallard			A		17, Scattered around the Site with connectivity via small water bodies	50 m S (08/05/2016)	1.3 km SE (23/06/2017)
Marsh tit	UK	✓	R		1, Located NE of the Site with connectivity via woodland parcels and suburban habitat	1.1 km NE (22/06/2010)	1.1 km NE (22/06/2010)
Meadow pipit			A		4, Located SW of the Site with connectivity via small water bodies, grassland and arable habitat	1.3 km SW (09/05/2009)	2 km SW (28/11/2014)
Mistle thrush			R		4, Located N and NE of the Site with connectivity via woodland parcels and arable habitat	0.9 km N (21/06/2010)	0.9 km N (21/06/2010)
Mute swan			A		9, Scattered around the Site with connectivity via small water	0.6 km E (01/11/2010)	1.3 km SE (23/06/2017)

					bodies, grassland and arable habitat		
Nightingale			R		12, Located N, NW and S of the Site with connectivity via woodland parcels and grassland habitat	0.4 km S (14/06/2011)	1.8 km NW (28/05/2017)
Oystercatcher			A		5, Located E and SW of the Site with connectivity via arable habitat and the stream	0.6 km E (21/06/2010)	0.6 km E (21/06/2010)
Redshank			A		8, Located SW, S and SE of the Site with connectivity via small water bodies and the stream	0.6 km SE (20/04/2011)	1.9 km S (21/07/2013)
Reed bunting	UK	✓	A		2, Located SE of the Site with connectivity via arable habitat	0.6 km SE (20/04/2011)	0.6 km SE (20/04/2011)
Skylark	UK	✓	R		20, Scattered around the Site with connectivity via arable and Grassland habitats	50 m S (08/05/2016)	0.9 km S (13/06/2017)
Song thrush	UK	✓	R		9, Scattered around the Site with connectivity via woodland parcels, grassland and arable habitat	0.6 km SE (24/01/2011)	1.8 km NW (07/05/2017)
Starling	UK	✓	R		12, Scattered around the Site with connectivity via woodland parcels, grassland and arable habitat	0.3 km S (15/05/2011)	2 km SW (28/11/2014)
Stock dove			A		15, Scattered around the Site with connectivity via woodland parcels, arable habitat and small water bodies	0.3 km S (13/07/2011)	1.3 km SE (29/07/2015)
Swallow					9, Scattered around the Site with connectivity via suburban gardens, arable and grassland habitats	0.6 km SE (12/06/2010)	0.9 km N (16/06/2011)
Swift			A		1, Located E of the Site with connectivity via arable habitat and tree-lines	0.7 km E (01/06/2009)	0.7 km E (01/06/2009)
Tufted duck					1, Located N of the Site with connectivity via open arable habitat and the stream	1.4 km N (02/06/2014)	1.4 km N (02/06/2014)
Turtle dove	UK	✓	R		31, Clustered NW, W and SW of the Site with connectivity via open arable and grassland habitats	0.4 km NW (19/06/2013)	1.6 km W (23/05/2017)

Wheatear					2, Located SW of the Site with connectivity via grassland and arable habitats	1.3 km SW (09/05/2009)	1.3 km SW (09/05/2009)
Whitethroat					16, Scattered around the Site with connectivity via woodland parcels, grassland and arable habitats	0.6 km SE (20/04/2011)	1.3 km SW (06/06/2017)
Willow warbler			A		3, Scattered around the Site with connectivity via small water bodies, arable and grassland habitats	0.6 km SE (17/06/2009)	1.1 km NW (16/06/2011)
Yellowhammer	UK	✓	R		9, Scattered around the Site with connectivity via woodland strips, grassland and arable habitats	0.6 km S (08/05/2016)	1.3 km SW (06/06/2016)
Fish							
Brown/ Sea trout	UK	✓			1, Located on Site in the stream flowing through the Site	On Site (19/05/2015)	On Site (19/05/2015)
Bullhead				✓	4, Located on Site, N and S of the Site with connectivity via the stream flowing through the Site	On Site (17/05/2012)	0.3 km E (19/05/2015)
European eel	UK	✓			4, Located on site and E and N of the Site with connectivity via the stream flowing through the Site	On Site (19/05/2015)	On Site (19/05/2015)
Invertebrates							
Banded general fly				✓	1, Located SW of the Site with no major flight barriers to the Site	1.3 km SW (09/08/2012)	1.3 km SW (09/08/2012)
Beaded chestnut moth	UK	✓			5, Located S of the Site with settlements as a potential barrier and connectivity via hedgerows	1.4 km S (08/10/2015)	1.4 km S (08/10/2015)
Blood-vein moth	UK	✓			1, Located NW of the Site with connectivity via hedgerows, woodland strips and grassland	0.5 km NW (07/07/2017)	0.5 km NW (07/07/2017)
Buff ermine moth	UK	✓			11, Located NW, S and W of the Site with connectivity via hedgerows, woodland strips and grassland	0.5 km NW (01/07/2016)	1.4 km S (01/06/2017)
Campiglossa malaris (true fly)				✓	1, Located SW of the Site with no major flight barriers to the Site	1.4 km SW (23/08/2012)	1.4 km SW (23/08/2012)
Cinnabar	UK	✓			13, 	0.5 km NW (04/07/2016)	1.4 km S (01/06/2017)

					Scattered around the Site with connectivity via grassland habitat and woodland strips		
Cypress carpet moth				✓	1, Located NW of the Site with connectivity via hedgerows and woodland strips	0.5 km NW (02/07/2017)	0.5 km NW (02/07/2017)
Dark-barred twin-spot carpet moth	UK	✓			3, Located NW and W of the Site with connectivity via woodland strips and residential gardens	0.5 km NW (31/07/2014)	0.5 km NW (31/07/2014)
Dusky brocade moth	UK	✓			1, Located NW of the Site with connectivity via woodland strips	0.5 km NW (07/07/2016)	0.5 km NW (07/07/2016)
Festoon				✓	1, Located NW of the Site with connectivity via woodland strips and hedgerows	0.5 km NW (07/07/2017)	0.5 km NW (07/07/2017)
Garden tiger moth	UK	✓			1, Located E of the Site with connectivity via tree-lines and open habitat	0.7 km E (25/10/2012)	0.7 km E (25/10/2012)
Grizzled skipper	UK	✓		✓	2, Located NW of the Site with connectivity via woodland strips and grassland habitat	1.8 km NW (08/05/2012)	1.8 km NW (08/05/2012)
Gymnosoma rotundatum (true fly)				✓	1, Located SW of the Site with no major flight barriers to the Site	1.3 km SW (23/07/2012)	1.3 km SW (23/07/2012)
Hybrid avens				✓	1, Located N of the Site with connectivity via open habitats and hedgerows	0.6 km N (06/06/2013)	0.6 km N (06/06/2013)
Kent black arches moth				✓	1, Located NW of the Site with connectivity via woodland strips	0.5 km NW (02/07/2017)	0.5 km NW (02/07/2017)
L-album wainscot				✓	1, Located S of the Site with low connectivity and potential residential barriers	1.4 km S (08/10/2015)	1.4 km S (08/10/2015)
Large clothes moth				✓	1, Located NW of the Site with no major flight barriers	0.5 km NW (02/07/2017)	0.5 km NW (02/07/2017)
Little black wasp				✓	1, Located W of the Site with low connectivity to the Site	1.4 km W (23/08/2012)	1.4 km W (23/08/2012)
Merzomyia westermanni (true fly)				✓	2, Located SW of the Site with no major flight barriers to the Site	1.3 km SW (23/08/2012)	1.3 km SW (23/08/2012)
Mottled rustic moth	UK	✓			9, Located NW and S of the Site with connectivity via hedgerows and suburban habitat	0.5 km NW (06/07/2017)	1.4 km S (31/05/2017)

Myopites inulaedyssentericae (true fly)				✓	2, Located SW of the Site with no major flight barriers to the Site	1.3 km SW (09/08/2012)	1.3 km SW (09/08/2012)
Oak hook-tip moth	UK	✓			3, Located W and NW of the Site with connectivity via hedgerows and residential gardens	0.5 km NW (31/07/2014)	0.5 km NW (31/07/2014)
Olive crescent moth	UK	✓		✓	1, Located NW of the Site with connectivity via woodland parcels and strips of woodland	0.5 km NW (07/07/2017)	0.5 km NW (07/07/2017)
Orange footman moth				✓	1, Located S of the Site with low connectivity to the Site via tree-lines with residential barriers	1.4 km S (30/05/2017)	1.4 km S (30/05/2017)
Perennial glasswort				✓	2, Located S of the Site with low connectivity to the Site	0.4 km S (22/09/2009)	0.5 km S (30/10/2009)
Red-green carpet moth				✓	2, Located S of the Site with connectivity via woodland strips with potential urban barriers	1.4 km S (07/10/2015)	1.4 km S (07/10/2015)
Roesel's bush-cricket				✓	2, Located S and N of the Site with connectivity via tree-lines, arable habitat and the stream	0.8 km S (08/08/2013)	2 km N (09/07/2015)
Rustic moth					5, Clustered NW of the Site with connectivity via woodland strips, arable habitat and gardens	0.5 km NW (08/07/2017)	0.5 km NW (08/07/2017)
Sallow moth	UK	✓			2, Located S of the Site with low connectivity to the Site with potential urban barriers	1.4 km S (08/10/2015)	1.4 km S (08/10/2015)
Satin lutestring moth				✓	1, Located NW of the Site with connectivity via woodland strips and verges of the A27	0.5 km NW (06/07/2017)	0.5 km NW (06/07/2017)
September thorn moth	UK	✓			3, Located NW and SW of the Site with connectivity via tree-lines and small woodland parcels	0.5 km NW (31/07/2014)	0.5 km NW (31/07/2014)
Sharp-collared furrow bee				✓	1, Located S of the Site with low connectivity to the Site	1.6 km S (25/08/2016)	1.6 km S (25/08/2016)
Shoulder-striped wainscot moth	UK	✓			1, Located SW of the Site with connectivity via tree-lines and small woodland parcels	1.4 km SW (14/08/2012)	1.4 km SW (14/08/2012)
Small heath butterfly	UK	✓		✓	24, Scattered around the Site with connectivity via woodland edges, road verges and grassland	0.9 km SE (20/07/2016)	0.9 km SE (20/07/2016)

Small phoenix moth	UK	✓			1, Located NW of the Site with connectivity via small woodland parcels and open arable habitat	0.5 km NW (29/07/2014)	0.5 km NW (29/07/2014)
Small square-spot moth	UK	✓			3, Located NW and S of the Site with connectivity via small woodland parcels and tree-lines	0.5 km NW (29/07/2014)	1.4 km S (31/05/2017)
Volucella zonaria (true fly)				✓	1, Located SW of the Site with no major flight barriers to the Site	1.6 km SW (26/06/2017)	1.6 km SW (26/06/2017)
Waste grass-veneer moth				✓	2, Located SW of the Site with connectivity via grassland habitat	1.3 km SW (14/08/2012)	1.3 km SW (14/08/2012)
White admiral	UK	✓		✓	1, Located N of the Site with connectivity via small woodland parcels and woodland strips	2 km N (13/06/2012)	2 km N (13/06/2012)
White ermine	UK	✓			11, Located S and NW of the Site with connectivity via hedgerows, woodland and grassland habitats	0.5 km NW (07/06/2012)	1.4 km S (01/06/2017)
Mammals (Excl. Bats)							
Polecat	UK	✓			3, Located N and SW of the Site with connectivity to the Site via arable habitat, water bodies and the stream	30 m N (21/11/2011)	1.6 km SW (06/04/2013)
West European hedgehog	UK	✓			34, Scattered around the Site with connectivity via gardens, woodland parcels, grassland and arable habitats	30 m SE (Autumn 2017)	0.4 km SE (20/06/2018)
Plants							
Corn mint				✓	1, Located E of the Site with connectivity via woodland parcels and water edges	0.6 km E (27/08/2013)	0.6 km E (27/08/2013)
Crosswort				✓	2, Located NW and SW of the Site with connectivity via road verges	1.1 km NW (13/07/2009)	1.3 km SW (16/09/2009)
Devils'-bit scabious				✓	1, Located N of the Site with connectivity via small woodland parcels and arable habitat	0.9 km N (15/07/2009)	0.9 km N (15/07/2009)
Dwarf spurge				✓	1, Located NW of the Site with connectivity via grassland habitat	1.1 km NW (13/07/2009)	1.1 km NW (13/07/2009)
Eyebright				✓	1, Located NW of the Site with connectivity via grassland habitat	1.8 km NW (13/07/2009)	1.8 km NW (13/07/2009)

Field scabious				✓	1, Located E of the Site with connectivity via roadside verges and grassland habitat	0.6 km E (27/08/2013)	0.6 km E (27/08/2013)
Green-winged orchid				✓	4, Located S and SW of the Site with connectivity via grassland habitat	60 m S (14/03/2013)	60 m S (14/03/2013)
Heath speedwell				✓	1, Located NE of the Site with connectivity via small woodland parcels and grassland habitat	1.1 km NE (01/05/2013)	1.1 km NE (01/05/2013)
Knot grass	UK	✓			3, Located NW and W of the Site with connectivity via arable habitat and residential gardens	0.5 km NW (31/07/2014)	0.5 km NW (31/07/2014)
Large-leaved lime				✓	1, Located W of the Site with connectivity via tree-lines	1.6 km W (13/07/2009)	1.6 km W (13/07/2009)
Lax-flowered sea-lavender				✓	1, Located SW of the Site with low connectivity to the Site	0.6 km SW (16/09/2009)	0.6 km SW (16/09/2009)
Lesser spearwort				✓	1, Located E of the Site with low connectivity to the Site	0.6 km E (12/06/2011)	0.6 km E (12/06/2011)
One-flowered glasswort				✓	1, Located SW of the Site with low connectivity to the Site	0.5 km S (30/10/2009)	0.5 km S (30/10/2009)
Ragged-robin				✓	1, Located E of the Site with connectivity via tree-lines	0.6 km E (12/06/2011)	0.6 km E (12/06/2011)
Spreading hedge-parsley	UK	✓		✓	1, Located directly N of the Site with the A27 as a major barrier	30 m N (14/07/2010)	30 m N (14/07/2010)
Sussex yellow-sorrel				✓	1, Located NW of the Site with connectivity via small woodland parcels and verges of the A27	1.4 km NW (13/07/2009)	1.4 km NW (13/07/2009)
Water speedwell				✓	1, Located SE of the Site with connectivity via wet ditches and the stream	0.8 km (01/01/2010)	0.8 km (01/01/2010)
Welsh poppy				✓	1, Located S of the Site with connectivity via tree lines and gardens	1.2 km S (14/05/2009)	1.2 km S (14/05/2009)
Wild strawberry				✓	1, Located S of the Site with connectivity via grassland habitat and woodland strips	0.4 km S (22/09/2009)	0.4 km S (22/09/2009)
Yellow glasswort				✓	1, Located S of the Site with no major barriers to the Site	0.5 km S (30/10/2009)	0.5 km S (30/10/2009)

Notes

1. Biodiversity Action Plan: UK – UK; L – Local
 2. Birds of Conservation Concern: R - Red listed; A – Amber listed
 2. Other- see text
- Refer to Glossary for definitions

3.5.3 Species listed as ‘Other’ within Table 3.4 include:

- **IUCN Red List (GB)** – corn mint, crosswort, curlew, devil’s-bit scabious, dwarf spurge, European eel, eyebright, green-winged orchid, grizzled skipper, heath speedwell, lesser spearwort, little black wasp, olive crescent moth, true flies (gymnosoma rotundatum, myopites inulaedysentericae, merzomyia westermanni, campiglossa malaris), ragged-robin, small heath butterfly, spreading hedge-parsley, white admiral and wild strawberry;
- **Sussex Rare Species** – banded general, bullhead, cypress carpet moth, festoon, hybrid avens, kent black arches moth, L-album wainscot, large clothes moth, large-leaved lime, lax-flowered sea-lavender, olive-flowered glasswort, orange footman moth, true flies (gymnosoma rotundatum, myopites inulaedysentericae, merzomyia westermanni, Volucella zonaria), perennial glasswort, red-green carpet moth, roesel’s bush-cricket, satin lutestring moth, sharp-collared furrow bee, spreading hedge-parsley, waste grass-veneer moth, water speedwell, welsh poppy and yellow glasswort,
- **Habitats Directive Annex 2 Non-Priority Species** – bullhead; and
- **Nationally Scarce Species** – large leaved lime, lax-flowered sea-lavender, olive-flowered glasswort, perennial glasswort, spreading hedge-parsley, welsh poppy and yellow glasswort.

3.6 Non-native invasive species

3.6.1 Table 3.7 summarises non-native invasive species provided by SxBRC (received 28/01/2019) that occur within 2 km of the Site and within the last 10 years. Qualifying species are those with legislative classification, listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Table 3.7 Non-native invasive species recorded within 2 km of the Site (as provided by SxBRC; 28/01/2019)

Species	Status ^{1,2}	Summary of records		
		N- ^D , distribution & connectivity	Distance, direction & date	
Birds				
Bar-headed goose	S9, INNS	1, Located N of the Site with connectivity via marsh and habitats associated with the chalk stream	1.4 km N (01/06/2014)	1.4 km N (01/06/2014)
Black swan	S9, INNS	14, Scattered around the Site with connectivity via small water bodies	0.6 km SE (09/12/2010)	1.1 km NW (06/02/2016)
Canada goose	S9, INNS	8, Scattered around the Site with connectivity via arable and grassland habitat and small water bodies	0.4 km W (13/05/2012)	0.6 km SE (25/02/2015)
Invertebrates				
Harlequin ladybird	INNS	22,	0.6 km N	0.8 km N

Species	Status ^{1,2}	Summary of records		
		N ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
		Scattered around the Site, mostly NW of the Site with connectivity to the Site via arable habitat, woodland parcels and residential gardens	(02/10/2015)	(02/11/2016)
Horse-chestnut leaf-miner	INNS	1, Located N of the Site with connectivity via verges of the A27 and woodland	1.5 km N (19/07/2009)	1.5 km N (19/07/2009)
Lily beetle	INNS	1, Located N of the Site with connectivity via residential gardens	0.6 km N (31/05/2013)	0.6 km N (31/05/2013)
Mammals (Excl. Bats)				
American mink	S9, INNS	1, Located N of the Site directly adjacent to the Site boundary with connectivity via the stream and no barriers	14 m N (20/04/2015)	14 m N (20/04/2015)
Plants				
Cherry laurel	INNS	3, Located W, S and SE of the Site with connectivity via small woodland parcels and tree-lines	0.3 km SE (04/05/2010)	1.1 km E (19/06/2011)
Cotoneaster sp.	S9, INNS	1, Located SE of the Site with connectivity via small pockets of grassland habitat	1.1 km SE (19/06/2011)	1.1 km SE (19/06/2011)
Evergreen oak	INNS	2, Located W and SW of the Site with connectivity via small woodland parcels and residential gardens	1.3 km SW (19/10/2009)	1.4 km W (08/03/2014)
Hybrid bluebell	INNS	4, Located S and SW of the Site with connectivity via roadside verges and small woodland parcels	60 m S (14/03/2013)	60 m S (14/03/2013)
Indian balsam	S9, INNS	1, Located S of the Site with connectivity via stream margins and water bodies	1.2 km S (01/07/2011)	1.2 km S (01/07/2011)
Japanese knotweed	S9, INNS	3, Located directly adjacent to the Site and SW of the Site with connectivity via woodland parcels and gardens	8 m SW (11/07/2016)	1.4 km SW (05/10/2016)
Japanese rose	S9, INNS	1, Located S of the Site with no major barriers to the Site	1 km S (22/09/2009)	1 km S (22/09/2009)
Least duckweed	INNS	1, Located NW of the Site with minor connectivity via small water bodies	1.1 km NW (02/08/2012)	1.1 km NW (02/08/2012)
Montbretia	S9, INNS	1, Located SE of the Site with connectivity via roadside verges	0.6 km SE (27/08/2013)	0.6 km SE (27/08/2013)
Red valerian	INNS	1,	1.1 km NW	1.1 km NW

Species	Status ^{1,2}	Summary of records		
		N ^o , distribution & connectivity	Distance, direction & date	
			Nearest	Most recent
		Located NW of the Site with connectivity via residential gardens	(13/07/2009)	(13/07/2009)
Rhododendron	S9, INNS	1, Located NW of the Site with connectivity via stream verges and small woodland parcels	1.1 km NW (08/03/2014)	1.1 km NW (08/03/2014)
Three-cornered garlic	S9, INNS	6, Located S and W of the Site with connectivity via woodland strips and hedgerows	1.2 km S (04/05/2010)	1.3 km W (08/03/2014)
Virginia creeper	S9, INNS	1, Located SW of the Site with connectivity via road and railway verges	0.9 km SW (16/09/2009)	0.9 km SW (16/09/2009)
Wall cotoneaster	S9, INNS	1, Located SW of the Site with connectivity via small pockets of grassland habitat	1.3 km SW (19/10/2009)	1.3 km SW (19/10/2009)
Yellow archangel	S9, INNS	2, Located S and NW of the Site with connectivity via woodland strips and tree lines	0.3 km S (04/05/2010)	0.3 km S (04/05/2010)
Notes 1. S9 – Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). 2. INNS – Sussex invasive non-native species (SxBRC 28/01/2019).				

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PLANS

Ecological Constraints: Drawing BMD.19.005.DRE.901 Ecological Assets Plan

Scientific names of species mentioned within this report

Amphibians & Reptiles	
Common frog	<i>Rana temporaria</i>
Common lizard	<i>Zootoca vivipara</i>
Common toad	<i>Bufo bufo</i>
Grass snake	<i>Natrix helvetica</i>
Great crested newt	<i>Triturus cristatus</i>
Slow worm	<i>Anguis fragilis</i>
Smooth newt	<i>Lissotriton vulgaris</i>
Birds	
Bar-headed goose	<i>Anser indicus</i>
Barn owl	<i>Tyto alba</i>
Black grouse	<i>Lyrurus tetrix</i>
Black-headed gull	<i>Chroicocephalus ridibundus</i>
Black redstart	<i>Phoenicurus ochrurus</i>
Black swan	<i>Cygnus atratus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Canada goose	<i>Branta canadensis</i>
Cetti's Warbler	<i>Cettia cetti</i>
Cirl bunting	<i>Emberiza cirius</i>
Common Crossbill	<i>Loxia curvirostra</i>
Common shelduck	<i>Tadorna tadorna</i>
Corn bunting	<i>Emberiza calandra</i>
Cuckoo	<i>Cuculus canorus</i>
Curlew	<i>Numenius arquata</i>
Dunnock	<i>Prunella modularis</i>
Firecrest	<i>Regulus ignicapilla</i>
Gadwall	<i>Anas strepera</i>
Green woodpecker	<i>Picus viridis</i>
Grey partridge	<i>Perdix perdix</i>
Grey wagtail	<i>Motacilla cinerea</i>
Harlequin ladybird	<i>Harmonia axyridis</i>
Herring gull	<i>Larus argentatus</i>
Hobby	<i>Falco subbuteo</i>
House martin	<i>Delichon urbicum</i>
House sparrow	<i>Passer domesticus</i>
Hybrid avens	<i>Geum rivale x urbanum = G. x intermedium</i>
Kestrel	<i>Falco tinnunculus</i>
Kingfisher	<i>Alcedo atthis</i>

Lapwing	<i>Vanellus vanellus</i>
Linnet	<i>Linaria cannabina</i>
Little egret	<i>Egretta garzetta</i>
Little grebe	<i>Tachybaptus ruficollis</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh tit	<i>Poecile palustris</i>
Meadow pipit	<i>Anthus pratensis</i>
Mediterranean Gull	<i>Larus melanocephalus</i>
Mistle thrush	<i>Turdus viscivorus</i>
Mute swan	<i>Cygnus olor</i>
Nightingale	<i>Luscinia megarhynchos</i>
Oystercatcher	<i>Haematopus ostralegus</i>
Red kite	<i>Milvus milvus</i>
Redshank	<i>Tringa totanus</i>
Reed bunting	<i>Emberiza schoeniclus</i>
Skylark	<i>Alauda arvensis</i>
Snipe	<i>Gallinago gallinago</i>
Song thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Stock dove	<i>Columba oenas</i>
Stone curlew	<i>Burhinus oedicephalus</i>
Swallow	<i>Hirundo rustica</i>
Swift	<i>Apus apus</i>
Tree sparrow	<i>Passer montanus</i>
Tufted duck	<i>Aythya fuligula</i>
Turtle dove	<i>Streptopelia turtur</i>
Twite	<i>Linaria flavirostris</i>
Wheatear	<i>Oenanthe oenanthe</i>
Whitethroat	<i>Sylvia communis</i>
Willow warbler	<i>Phylloscopus trochilus</i>
Yellowhammer	<i>Emberiza citrinella</i>
Yellow wagtail	<i>Motacilla flava</i>
Bats	
Alcathoe	<i>Myotis alcathoe</i>
Bat sp.	<i>Chiroptera sp.</i>
Barbastelle	<i>Barbastella barbastellus</i>
Bechstein's	<i>Myotis bechsteinii</i>
Brandt's	<i>Myotis brandti</i>
Brown long-eared	<i>Plecotus auratus</i>

Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Daubenton's	<i>Myotis daubentonii</i>
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>
Grey long-eared bat	<i>Plecotus austriacus</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>
Long-eared sp.	<i>Plecotus sp.</i>
Mouse-eared	<i>Myotis myotis</i>
Myotis sp.	<i>Myotis sp.</i>
Nathusius pipistrelle	<i>Pipistrellus nathusii</i>
Natterer's	<i>Myotis nattereri</i>
Noctule	<i>Nyctalus noctula</i>
Nyctalus sp.	<i>Nyctalus sp.</i>
Pipistrelle sp.	<i>Pipistrellus sp.</i>
Serotine	<i>Eptesicus serotinus</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Whiskered	<i>Myotis mystacinus</i>
Bony fish	
Brown/ sea trout	<i>Salmo trutta</i>
Bullhead	<i>Cottus gobio</i>
European eel	<i>Anguilla anguilla</i>
Invertebrates	
Banded general fly	<i>Stratiomys potamida</i>
Beaded chestnut moth	<i>Agrochola lychnidis</i>
Blood-vein moth	<i>Timandra comae</i>
Buff ermine moth	<i>Spilosoma lutea</i>
Campiglossa malaris	<i>Campiglossa malaris</i>
Cinnabar	<i>Tyria jacobaeae</i>
Cypress carpet moth	<i>Thera cypressata</i>
Dark-barred twin-spot carpet moth	<i>Xanthorhoe ferrugata</i>
Dusky brocade moth	<i>Apamea remissa</i>
Festoon	<i>Apoda limacodes</i>
Garden tiger moth	<i>Arctia caja</i>
Grizzled skipper	<i>Pyrgus malvae</i>
Gymnosoma rotundatum	<i>Gymnosoma rotundatum</i>
Horse-Chestnut Leaf-miner	<i>Cameraria ohridella</i>
Kent black arches moth	<i>Meganola albula</i>
L-album wainscot	<i>Mythimna l-album</i>
Large clothes moth	<i>Morophaga choragella</i>

Lily beetle	<i>Lilioceris lili</i>
Little black wasp	<i>Pemphredon (Cemonus) lethifera</i>
Merzomyia westermanni	<i>Merzomyia westermanni</i>
Mottled rustic moth	<i>Caradrina morpheus</i>
Myopites inulaedyssester-icae	<i>Myopites inulaedyssester-icae</i>
Oak hook-tip moth	<i>Watsonalla binaria</i>
Olive crescent moth	<i>Trisateles emortualis</i>
Orange footman moth	<i>Eilema sororcula</i>
Red-green carpet moth	<i>Chloroclysta siterata</i>
Roesel's bush-cricket	<i>Metrioptera roeselii</i>
Rustic moth	<i>Hoplodrina blanda</i>
Sallow moth	<i>Cirrhia icteritia</i>
Satin lutestring moth	<i>Tetheella fluctuosa</i>
September thorn moth	<i>Ennomos erosaria</i>
Sharp-collared furrow bee	<i>Lasioglossum (Evylaeus) malachurum</i>
Shoulder-striped wainscot moth	<i>Leucania comma</i>
Silver-spotted skipper	<i>Epargyreus clarus</i>
Small heath butterfly	<i>Coenonympha pamphilus</i>
Small phoenix moth	<i>Ecliptopera silaceata</i>
Small square-spot moth	<i>Diarsia rubi</i>
Stag beetle	<i>Lucanus cervus</i>
Volucella zonaria	<i>Volucella zonaria</i>
Waste grass-veneer moth	<i>Pediasia contaminella</i>
White admiral	<i>Limenitis camilla</i>
White ermine	<i>Spilosoma lubricipeda</i>
Mammals (Excl. Bats)	
American mink	<i>Neovison vison</i>
Dormouse	<i>Muscardinus avellanarius</i>
European water vole	<i>Arvicola amphibius</i>
Polecat	<i>Mustela putorius</i>
Water vole	<i>Arvicola amphibius</i>
West European hedgehog	<i>Erinaceus europaeus</i>
Plants	
Cherry laurel	<i>Prunus laurocerasus</i>
Corn mint	<i>Mentha arvensis</i>
Cotoneaster sp.	
Crosswort	<i>Cruciata laevipes</i>
Devils'-bit scabious	<i>Succisa pratensis</i>
Dwarf spurge	<i>Euphorbia exigua</i>

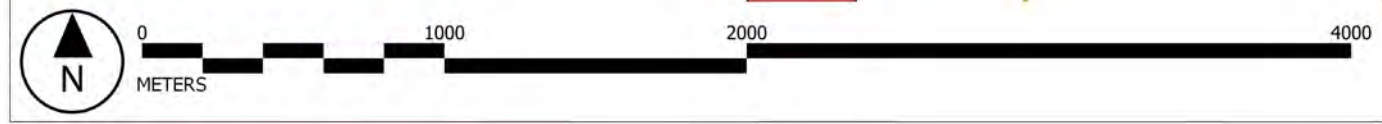
Evergreen oak	<i>Quercus ilex</i>
Eyebright	<i>Euphrasia nemorosa</i>
Field scabious	<i>Knautia arvensis</i>
Green-winged orchid	<i>Anacamptis morio</i>
Hawthorn	<i>Crataegus monogyna</i>
Heath speedwell	<i>Veronica officinalis</i>
Hybrid bluebell	<i>Hyacinthoides non-scripta x hispanica = H. x massartiana</i>
Indian balsam	<i>Impatiens glandulifera</i>
Japanese knotweed	<i>Fallopia japonica</i>
Japanese rose	<i>Rosa rugosa</i>
Knot grass	<i>Acronicta rumicis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Lax-flowered sea-lavender	<i>Limonium humile</i>
Least duckweed	<i>Lemna minuta</i>
Lesser spearwort	<i>Ranunculus flammula</i>
Lizard orchid	<i>Himantoglossum hircinum</i>
Montbretia	<i>Crocsmia pottsii x aurea = C. x crocosmiiflora</i>
Oak	<i>Quercus</i>
One-flowered glasswort	<i>Salicornia pusilla</i>
Perennial glasswort	<i>Sarcocornia perennis</i>
Ragged-robin	<i>Silene flos-cuculi</i>
Red valerian	<i>Centranthus ruber</i>
Rhododendron	<i>Rhododendron ponticum</i>
Spreading hedge-parsley	<i>Torilis arvensis</i>
Sussex yellow-sorrel	<i>Oxalis dillenii</i>
Three-cornered garlic	<i>Allium triquetrum</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Wall cotoneaster	<i>Cotoneaster horizontalis</i>
Water speedwell	<i>Veronica anagallis-aquatica x catenata = V. x lackschewitzii</i>
Welsh poppy	<i>Meconopsis cambrica</i>
Wild strawberry	<i>Fragaria vesca</i>
Yellow archangel	<i>Lamiastrum galeobdolon subsp. argentatum</i>
Yellow glasswort	<i>Salicornia fragilis</i>

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LEGEND

	ANCIENT WOODLAND		TRADITIONAL ORCHARDS
	DECIDUOUS WOODLAND		BRENT GEESE: SECONDARY SUPPORT AREA
	WOOD-PASTURE & PARKLAND		LOW USE AREA
	TRADITIONAL ORCHARD		CORE AREA
	COASTAL & FLOOD-PLAIN GRAZING MARSH		CANDIDATE AREA
	STANDING WATER		SPA SITE
	RESERVOIR		SITE BOUNDARY
	WATERCRESS BEDS		HEDGEROW
	STATUTORY SITE		CHALK STREAM
	NON-STATUTORY SITE		WATERCOURSE/DRAIN
	BARN OWL		A-ROAD
	EUROPEAN WATER VOLE		MINOR ROAD
	GREAT CRESTED NEWT		RAILWAY LINE
	BATS		PRIMARY ROAD
	BULLHEAD		500 M BUFFER
	POND		1 KM BUFFER
	VETERAN TREE		2 KM BUFFER



Rev	Description	Date	
	Purpose of Issue		
For information			
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Client			
KING & CO.			
Project			
MUDBERRY, BOSHAM			
Drawing Title			
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Drawn	Checked	Approved	Date: Survey
DI	HSM	JP	01/02/2019
Job No.	Scale	Sheet Size	Revision
19.005	1:25000	A3	-
Drawing Number		Date: Drawing	
BMD.19.005.DRE.901		01/02/2019	