



**Linden Ltd. t/a Linden Homes Southern and
Ankers and Rawlings Developments**

Havant Business Park, Bedhampton

A080628/Extended Phase 1 Habitat Survey

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Contents Page

Executive Summary	5
1.0 Introduction	7
1.1 Background	7
1.2 Site Location and General Description	7
1.3 Development Proposals	7
1.4 Survey and Reporting Objectives	7
2.0 Desk Study	9
2.1 Methodology.....	9
2.2 Data Search Results	10
3.0 Survey Methodology.....	17
3.1 Habitats	17
3.2 Protected and Notable Species.....	17
3.3 Invasive Species	19
3.4 Limitations.....	19
4.0 Survey Results.....	21
4.1 Habitats	21
4.2 Protected and Notable Species.....	25
4.3 Invasive Species	29
5.0 Ecological Impacts and Recommendations.....	30
5.1 Statutory and Non-statutory Sites	30
5.2 Habitats	31



5.3 Protected and Notable Species.....32

5.4 Invasive Species 36

5.5 Further Surveys 38

6.0 References.....40

Appendix Contents

- Appendix A - Figures
- Appendix B – Biodiversity and Environmental Legislation, Conventions & Threatened Lists
- Appendix C – Data Search Results.
- Appendix D – Wildlife Box
- Appendix E – Wildlife Friendly Planting
- Appendix F - Bats and Lighting

Executive Summary

Site Description and Scope of Works		
Havant Business Park is located near Bedhampton in Hampshire, and is centred about Ordnance Survey grid reference SU696 064. The site is approximately 2 hectares in size. The site currently comprises two large single storey commercial units with large areas of hardstanding. The proposed development is to demolish the current buildings on site and replace them with 86 residential units.		
Potential Constraints	Yes	No
Bats		
Has the site been assessed for bats?	✓	
Are there any structures or trees on site which have the potential to support roosting bats? (see section 5.3.3)		✓
Breeding Birds including Barn Owls		
Has the site been assessed for breeding birds including barn owls?	✓	
Will areas of hedgerow, scrub, woodland, trees or other features likely to be used by nesting birds be affected by the proposal? (see section 5.3.5)		✓
Badgers		
Has the site been assessed for badgers?	✓	
Is there any evidence of badgers on or near the application site including setts, foraging or commuting? (see section 5.3.4)	✓	
Great crested newts		
Has the site been assessed for great crested newts?	✓	
Is there suitable habitat for great crested newts on, or close to the application site? (see section 5.3.1)		✓
Reptiles		
Has the site been assessed for reptiles?	✓	
Is there suitable habitat on the site for reptiles? (see section 5.3.2)		✓
Dormice		
Has the site been assessed for dormice?	✓	
Is there suitable habitat on the site for dormice? (see section 5.3.7)		✓
Water vole		
Has the site been assessed for water vole?	✓	
Is there suitable habitat on the site for water vole? (see section 5.3.8)		✓
Have details of biodiversity enhancements been included with the application?	✓	



Recommendations	Yes	No
Are further surveys recommended to inform the ecological impact assessment?	✓	
Badger It is recommended that an update badger survey is carried out prior to the development commencing.		
Is mitigation (including avoidance/compensation) and enhancement recommended?	✓	
Avoidance General recommendations are provided at this stage for retention and enhancement of the following habitats within the final site plan where possible: It is recommended that: - a SuDS system is implemented to avoid any indirect impacts on water quality of the Farlington Marsh LNR; - scrub habitat is retained within the Masterplan where possible;; - vegetation clearance and any works to the chalk cliff take place between October and February wherever possible to avoid the breeding bird season; - dead wood on site be placed elsewhere within the site; - lighting be directed away from the dense scrub boundaries where possible within the final development; - Where Cotoneaster is present within the vegetation that is to be removed appropriately. Enhancement It is recommended that native trees and shrubs are incorporated where possible within the final design. This could benefit species such as birds, bats, and dormice. It is recommended that an appropriate lighting regime should be included in the final design to minimise the impact on commuting and foraging bats. Additionally a 3m buffer from the boundary of the site should be included in the final masterplan retain commuting and foraging bat habitat and allow badgers to continue to forage and commute.		



1.0 Introduction

1.1 Background

WYG was commissioned by Linden Ltd. t/a Linden Homes Southern and Ankers and Rawlings Developments on the 22nd January 2013 to undertake an extended Phase 1 habitat survey at Havant Business Park ('the site'). The site location is shown in Figure 1, Appendix A.

1.2 Site Location and General Description

Havant Business Park is located near Bedhampton in Hampshire, centred about Ordnance Survey grid reference SU696 064. The site is approximately 2 hectares and currently comprises two large single storey commercial units with large areas of hardstanding. The boundary of the site is dominated by high chalk cliffs. The site is situated within an urban residential setting, bounded to the north by Portsdown Hill Road and the west by the A3(M).

1.3 Development Proposals

The proposed development is to demolish the current buildings on site and replace them with 86 residential units and associated infrastructure and green space. Under the current masterplan, the only habitats to be impacted are the hard standing / ornamental / buildings, and that the cliffs / scrub will remain intact.

1.4 Survey and Reporting Objectives

The ecological investigations undertaken by WYG included the following objectives:

- A desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest, and records of protected/notable species within the site and its environs;
- An extended Phase 1 habitat survey involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and a reconnaissance survey for evidence of protected fauna or habitats capable of supporting such species;
- An external and internal investigation of the buildings for their potential to support bats; and



- An assessment of the potential ecological constraints to the proposed works at the site and recommendations for further survey, avoidance, mitigation and enhancement where appropriate.



2.0 Desk Study

2.1 Methodology

Information was gathered from Hampshire Biodiversity Information Centre (HBIC) the ecological records centre for Hampshire regarding the presence of nature conservation designations and protected and notable species within 2km of the proposed development site. In addition, a search for designations was made of Natural England's interactive, web-based MAGIC (Multi Agency Geographic Information for the Countryside) database.

The data search covers:

- Statutory nature conservation designations, such as National Nature Reserves and Sites of Special Scientific Interest;
- Non-statutory nature conservation designations, such as Wildlife Sites;
- Protected species, such as badgers, great crested newts and bats; and
- Notable species, such as those listed in the local Biodiversity Action Plan.

Neither the data search nor this report reviews landscape designations such as whether the site lies within a Conservation Area or whether there are any Tree Preservation Orders (TPOs) on the sites.

2.2 Data Search Results

2.2.1 Statutory Sites

Four statutory designated sites exist within 2km of the proposed development site. These are detailed in the table below.

Table 1: Statutory designated sites within 2km of the site.

Site Name	Distance from the site	Reasons for designation
Solent Special Area for Conservation (SAC):	0.88km south of the site	The Solent SAC is designated for its mosaic of habitats. The primary habitat for its designation are the coastal lagoons. Other notable habitats present include: sandbanks which are slightly covered by sea water all the time, mudflats and sandflats not covered by seawater at low tide, annual vegetation of drift lines, perennial vegetation of stony banks, <i>Salicornia</i> and other annuals colonising mud and sand and Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes').
Chichester and Langstone Harbours Special Protected Area (SPA) and Ramsar site:	0.88km south of the site	Chichester and Langstone Harbours are located on the south coast of England in Hampshire and West Sussex. They are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially <i>Enteromorpha</i> species, and eelgrasses <i>Zostera</i> spp. The basin contains a wide range of coastal habitats supporting important plant and animal communities. The site is of particular significance for waterbirds, especially in migration periods and in winter. It also

		supports important colonies of breeding terns.
Langstone Harbour Site of Special Scientific Interest (SSSI)	0.88km south of the site	Langstone Harbour SSSI is a tidal basin which at high water resembles an almost landlocked lake. The harbour includes one of the largest areas of mixed saltmarsh on the south coast, and extensive cord-grass <i>Spartina anglica</i> marsh in an advanced state of degeneration. The harbour is of international importance as there is a rich intertidal system supporting high densities of intertidal invertebrates and large populations of migrant and overwintering waders and wildfowl, dependent upon them and upon the extensive beds of eelgrass <i>Zostera</i> species. The <i>Zostera angustifolia</i> and <i>Z. noltii</i> beds are among the largest in Britain. The harbour is among the twenty most important intertidal areas in Britain as a summer and autumn assembly ground for waders during the moult (when they require abundant high protein food) and as a post-moult wintering ground.
Farlington Marshes Local Nature Reserve (LNR):	1.11km south west of the site	Farlington Marshes LNR lies within Langstone Harbour SSSI. It is a peninsula of grassland and marsh on reclaimed tidal silt protected by a sea wall. Its vegetation is strongly influenced by drainage water from the chalk and by brackish water infiltration. The marshes embrace a variety of habitats – brackish marsh, fresh marsh, a large lagoon with associated reed <i>Phragmites</i> beds, <i>Agrostis stolonifera</i> grassland and scrub. It is a vital high water wader roost for the Harbour and a major feeding ground for Brent geese after the <i>Zostera</i> beds in the Harbour have been consumed. Few comparable sites have survived agricultural improvement on the south and east coasts of England, where the habitat was formerly common: the grassland flora is especially rich for reclaimed silt, and includes over 50 species of grasses.

2.2.2 Non-statutory Sites

Thirty four non-statutory sites were noted within 2km of the site. Including thirty three Sites of Importance for Nature Conservation (SINC) and one Road Verge of Ecological Importance (RVEI). The closest two are listed below. For a comprehensive list, see Appendix C.

Table 2: Non-statutory sites within 2km of the site.

Site Name	Distance from the site	Interest Features
Manor Farm A SINC	0.36km S	A site which regularly supports a significant population of species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle; <i>Branta bernicla bernicla</i> (Dark-Bellied Brent Goose) [UKBAP]
Fields off Havant Road SINC	0.42km W	A site which supports one or more notable species and a site which regularly supports a significant population of species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle; <i>Branta bernicla bernicla</i> (Dark-Bellied Brent Goose) [UKBAP] <i>Euphorbia exigua</i> (Dwarf Spurge) [NI]

2.2.3 Protected and Notable Species

Invertebrates (includes White-clawed Crayfish)

The local records centre provided 15 records of stag beetle (*Lucanus cervus*) within 2km of the site between 1998-2007. The closest being approximately 0.58km north east of the site. In addition 60 records of UK or Hampshire Biodiversity Action Plan (BAP) species were recorded. Species include Mouse Moth (*Amphipyra tragopoginis*) (UK BAP), small heath (*Coenonympha pamphilus*) (UK BAP), small blue (*Cupido minimus*) (UK and Hampshire BAP, and (*Atylotus latistriatus*) (Hampshire BAP).

These are comprehensively detailed in Appendix C.

Great Crested Newts

No records of great crested newt (*Triturus cristatus*) were returned from the HBIC data search.

Reptiles

The local records centre provided 22 records of slow worm (*Anguis fragilis*) within 2km of the proposed development site between 2008-2009. The closest record being for approximately 0.71km south east of the site. Five records of common lizard (*Zootoca vivipara*) were returned between 2001-2008. The closest being from approximately 1.36km south west of the site.

Birds

60 records of birds listed under Schedule 1 of the Wildlife and Countryside Act (1981) were returned. Those with potential to be present on the site are listed in the table below.

Table 3: Birds with potential to be on the site and listed under Schedule 1 of the Wildlife and Countryside Act (1981) recorded within 2 km from the site.

Common Name	Latin Name	Distance from the site	Designated
Northern Goshawk	<i>Accipiter gentilis</i>	Within 10km SW	Wildlife and Countryside Act Schedule 1
Merlin	<i>Falco columbarius</i>	1.46km SSE	Wildlife and Countryside Act Schedule 1; BAP (Hampshire)
Peregrine Falcon	<i>Falco peregrinus</i>	Within 10km S/ SW	Wildlife and Countryside Act Schedule 1
Eurasian Hobby	<i>Falco subbuteo</i>	Within 10km S/ SW	Wildlife and Countryside Act Schedule 1; BAP (Hampshire)
Brambling	<i>Fringilla montifringilla</i>	0.57km SE	Wildlife and Countryside Act Schedule 1
Red-backed Shrike	<i>Lanius collurio</i>	Within 2km SW	Wildlife and Countryside Act Schedule 1; Red List; BAP (UK)
Mediterranean Gull	<i>Larus melanocephalus</i>	0.57km SE	Wildlife and Countryside Act Schedule 1; BAP (UK)
Little Gull	<i>Larus minutus</i>	1.28km SE	Wildlife and Countryside Act Schedule 1
Black-tailed Godwit	<i>Limosa limosa</i>	1.46km SSE	Wildlife and Countryside Act Schedule 1; BAP (Hampshire)
Wood Lark	<i>Lullula arborea</i>	Within 2km SW	Wildlife and Countryside Act Schedule 1; BAP (UK, Hampshire)
Red Kite	<i>Milvus milvus</i>	0.57km SE	Wildlife and Countryside Act Schedule 1; BAP (Hampshire)
Whimbrel	<i>Numenius</i>	1.46km SSE	Wildlife and Countryside Act Schedule 1; Red



Common Name	Latin Name	Distance from the site	Designated
	<i>phaeopus</i>		List
Osprey	<i>Pandion haliaetus</i>	1.46km SSE	Wildlife and Countryside Act Schedule 1
Ruff	<i>Philomachus pugnax</i>	1.46km SSE	Wildlife and Countryside Act Schedule 1; Red List
Black Redstart	<i>Phoenicurus ochruros</i>	Within 2km SW/S	Wildlife and Countryside Act Schedule 1
Firecrest	<i>Regulus ignicapilla</i>	0.57km SE	Wildlife and Countryside Act Schedule 1; BAP (Hampshire)
Fieldfare	<i>Turdus pilaris</i>	0.57km SE	Wildlife and Countryside Act Schedule 1; Red List
Barn Owl	<i>Tyto alba</i>	1.52km SSW	Wildlife and Countryside Act Schedule 1; Red List
Hoopoe	<i>Upupa epops</i>	1.98km SE	Wildlife and Countryside Act Schedule 1

Bats

A number of bat records were returned within 2 km of the site between 1998 and 2010 as shown in the table below.

Table 4: Bat records within 2 km of the site.]

Common Name	Latin Name	Nearest recorded to the site	Number of records within 2 km of the site
Serotine	<i>Eptesicus serotinus</i>	0.57km SE	3
Unidentified Bat	<i>Myotis</i>	0.57km SE	1
Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>	1.52km ENE	1
Noctule Bat	<i>Nyctalus noctula</i>	0.57km SE	3
Pipistrellus	<i>Pipistrellus</i>	0.82km WSW	7
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	0.78km SE	3
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	0.78km SE	2
Brown Long-eared Bat	<i>Plecotus auritus</i>	1.7km E	1

Badgers

The local records centre provided one record of badger (*Meles meles*) within 2 km of the site in 2009. This was approximately 0.72 km south west of the site.

European Water Voles

The local records centre provided 38 records of European water vole (*Arvicola amphibius*) within 2km of the site between 2000-2012. The closest record was approximately 1.52km south west of the site.



Hazel Dormouse

The local records centre provided seven records of hazel dormouse (*Muscardinus avellanarius*) between 2007-2009 which were recorded 0.85km to the north west of the site.

Other species:

West European Hedgehog.

The west European hedgehog (*Erinaceus europaeus*) is a UK BAP species. The local records centre provided 5 records for this species between 1998-2008. The closest record being approximately 0.51km north west the site.

3.0 Survey Methodology

An extended Phase 1 habitat survey was conducted within the predicted zone of influence¹ at Havant Business Park on 28th January 2013 by WYG ecologist Isla Hoffmann. All areas of the site were investigated, including those parts that are not expected to be affected directly by the works but may be indirectly impacted upon.

3.1 Habitats

The vegetation and habitat types within the site were noted during the walkover survey in accordance with the categories specified for a Phase 1 Vegetation and Habitat Survey (Joint Nature Conservation Committee, 2010). Dominant plant species were recorded for each habitat present.

3.2 Protected and Notable Species

The site was inspected for evidence of and its potential to support protected or notable species, especially those listed under the *Conservation of Habitats and Species (Amendment) Regulations 2012*, the *Wildlife & Countryside Act 1981* (as amended), including those given extra protection under the *Natural Environment and Rural Communities (NERC) Act 2006* and *Countryside & Rights of Way (CROW) Act 2000*, and listed on the UK and local Biodiversity Action Plans.

The following species were considered:

3.2.1 Great Crested Newts

The site was appraised for its suitability to support great-crested newts. The assessment was based on guidance outlined in the Joint Nature Conservation Committees' published *Herpetofauna Workers' Manual* (Joint Nature Conservation Committee, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Beckett & Foster, 2001).

The *Great Crested Newt Mitigation Guidelines*, (Natural England, 2001) will be used to assess if an offence is likely to be committed under the Wildlife and Countryside Act 1981, if the proposed development goes ahead without any further great crested newt surveys.

¹ **Zone of influence:** the area that may be affected by the biophysical changes caused by the activities associated with the development.

It is recommended by Natural England that the Oldham *et al.* (2000) Habitat Suitability Index (HSI) would have been applied to ponds on site and to those within 500m of the site. There are no ponds located within the site boundaries; three ditches are located within 500m. However, these ditches were deemed sufficiently far from the sites for an impact to great crested newts to be considered unlikely in accordance with The Natural England Risk Calculator.

3.2.2 Reptiles

The site was appraised for its suitability to support reptiles. The assessment was based on guidance outlined in the Joint Nature Conservation Committees' published *Herpetofauna Workers' Manual* (Joint Nature Conservation Committee, 2003).

3.2.3 Bats

The buildings/trees within the boundary were appraised by an experienced ecologist from WYG for their suitability to support breeding, resting and hibernating bats using survey methods based on those outlined in the Bat Conservation Trust's *Bat Surveys: Good Practice Guidelines* (2012) and English Nature's *Bat Mitigation Guidelines* (2004).

3.2.4 Badgers

The site was surveyed for evidence of badger setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria (Harris, Cresswell & Jefferies, 1989). Where access was possible a 30m buffer zone around the expected zone of influence was surveyed as recommended in English Nature's *Badgers and Development* (2002).

3.2.5 Water Voles

Following methods set out in the Water Vole Conservation Handbook (Strachan & Moorhouse, 2006), an assessment of waterbodies within and adjacent to the site was undertaken to determine their suitability to support water voles and a search for evidence of activity was undertaken, including droppings, latrines, burrows, footprints and feeding lawns, of any areas considered suitable.

3.2.6 Otters

Water courses on site were assessed for their suitability to support otters. This assessment was based on guidance outlined in Chanin, P. (2003).

3.2.7 Other Species

The site was also appraised for its suitability to support other protected or notable fauna including mammals, birds and invertebrates in accordance with the Institute for Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (2012). Evidence of any current or historical presence of such species was recorded.

3.3 Invasive Species

The site was searched for evidence of invasive plant species, such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, New Zealand pygmyweed *Crassula helmsii*, horizontal cotoneaster *Cotoneaster horizontalis*, rhododendron *Rhododendron ponticum* and floating pennywort *Hydrocotyle ranunculoides* (see Appendix B Table B2 for full list).

3.4 Limitations

The comprehensiveness of any ecological assessment will be limited by the season in which surveys are undertaken. This survey was completed in January, which is outside the recommended time period for completing phase 1 surveys. However, given the nature of the habitats present on site (hard standing and buildings), this is not considered to represent a limitation to the survey findings.

To determine likely presence or absence of protected species usually requires multiple visits at suitable times of the year. As a result, this survey focuses on assessing the *potential* of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to the *National Planning Policy Framework* (NPPF, 2012), especially those given protection under UK or European wildlife legislation.

This report cannot therefore be considered a comprehensive assessment of the ecological interest of the site. However, it does provide an assessment of the ecological interest present on the day of the visit and highlights areas where further survey work may be recommended.

The details of this report will remain valid for a period of two years. Beyond this period, if works have not yet been undertaken, it is recommended that a new review of the ecological conditions is undertaken.



As recommended by English Nature's *Badgers and Development* (2002), a 30m buffer around the site should be investigated for evidence of badger activity where possible. At this site access was not gained to the surrounding properties.

4.0 Survey Results

An extended Phase 1 habitat plan showing the location of key ecological features is included in Appendix A.

4.1 Habitats

4.1.1 Building

Two buildings were present on site and a substation was also present (TN4). The two buildings were metal clad, corrugated buildings. One was occupied by a Homebase (TN5) store with no roof void. The second was occupied by AMF Bowling (TN6). This building had a false ceiling inside and had potential to have a roof void. Both buildings had plastic soffit borders.

4.1.2 Hard Standing

The site was dominated by large expanses of hard standing. These consisted, roadways, footpaths, the car park (Picture 1), yard space, and the outdoor area to the south of the eastern most industrial unit currently occupied by 'Homebase'. This was in good repair.



Picture 1:

A large expanse of hard standing; the car park.

4.1.3 Coniferous Tree

Several semi-mature trees were present on site, within scrub along the boundaries. This was a pine species (*Pinus sp.*).

4.1.4 Broadleaved Tree

A number of semi-mature trees were present on site, along boundaries or in rows within the car park area. These trees were Sycamore (*Acer pseudoplatanus*).

4.1.5 Chalk Cliff

The site was predominantly surrounded by a man-made chalk cliff habitat along the eastern boundary (TN1, Picture 2 and 3), the southern boundary (TN2) and part of the northern boundary (TN3). This was mostly intact but of a crumbling nature. What vegetation present, was encroaching either from the top or the bottom of the cliff.



Picture 2:

An area of chalk cliff within the eastern boundary of the site.



Picture 3:

An area of chalk cliff within the eastern boundary of the site.

4.1.6 Fence

The majority of the site is surrounded by a wire mesh fence approximately 2 metres on height.

4.1.7 Wall

A small concrete wall approximately 1 metre in height was present on site. The wall was present along part of the northern and southern boundaries.

4.1.8 Species Poor Hedgerow

In accordance with the Hedgerow Regulations 1997, a species poor hedgerow was enclosing the outdoor area to the east of the eastern industrial unit known as the 'Homebase' building. This comprised *Cotoneaster* species and is considered to have been planted relatively recently.

4.1.9 Bare Ground

An area of bare ground was present to the west of the western most industrial unit, known as 'AMF Bowling'. This comprised an area of recently cleared scrub with several stumps and wood chippings scattered throughout as seen in Picture 4.



Picture 4:

The area of bare ground located to the west of the western most industrial unit currently known as 'AMF Bowling'.

4.1.10 Amenity Grassland

Several small area of amenity grassland were present towards the eastern extent of the site. Species included: daisy (*Bellis perennis*), dandelion (*Taraxacum officinale*), cut leaved cranesbil, (*Geranium dissectum*), bristley oxtongue (*Picris echinoides*), common ragwort (*Senecio jacobaea*), common fleabane

(*Pulicaria dysenterica*), speedwell species (*Veronica sp.*), bedstraw (*Galium sp.*), clover (*Trifolium sp.*) and red fescue (*Festuca rubra*).

4.1.11 Dense and Continuous Scrub

Much of the perimeter of the site was dominated by dense continuous scrub (Picture 5). Areas of note were the eastern boundary and south eastern corner, the western half of the northern boundary and the northern extent of the western boundary. These areas were frequently dominated by butterfly bush (*Buddleja davidii*) ivy (*Hedra sp.*), holly (*Ilex ilex*), shrubs, cotoneaster species, rose species (*Rosa sp.*) and bramble species (*Rubra sp.*). Throughout the scrub were occasional trees of hazel (*Corylus avellana*), field maple (*Acer campestre*), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), and holm oak (*Quercus ilex*).



Picture 5:

An area of scrub to the east of the site.

4.2 Protected and Notable Species

4.2.1 Great Crested Newts

No water bodies were present on site for breeding great crested newts. The boundaries of the site possessed habitat such as rubble from the cliff and associated scrub areas that could potentially be used by great crested newts during their terrestrial phase, for commuting and foraging. Based on this evidence the boundaries of the site are deemed to be of **moderate potential** for great crested newts. However, the development footprint of the site as outlined in the current masterplan is dominated by hardstanding which is considered to be of **negligible potential** for great crested newts.

Three waterbodies were identified within 500m of the site, all having poor connectivity to the site. The closest being 290m north of the site. A barrier exists between this ditch and the site in the form of the B2177. The next nearest waterbody is 354m from the site. The B2177 and a substantial residential area act as a barrier to commuting great crested newts. The third waterbody is 365m northwest of the site. The A3(M) exists between the site and this water body and acts as a major barrier. The Natural England Risk Calculator was used to determine if an offence under the Conservation of Habitats and Species Regulations (Amendment) 2012 was likely to result from the development proposals, should great crested newts be present in these waterbodies. The calculator indicated that an offence was '**highly unlikely**' (see figure 1), therefore no HSI was conducted.

Figure 1: Natural England Risk Calculator

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
Maximum:		0.04
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

4.2.2 Reptiles

Scrub habitat was present along many of the site boundaries. This affords potentially suitable habitat for reptiles. However, reptiles require habitats that give them both protection from predators and offer them basking opportunities. The steep cliff banks surrounding much of the site reduce the amount of sunlight reaching the ground and therefore reduce basking opportunities. Based on this evidence the site is considered to be of **low potential** for reptiles. In the current masterplan, these areas are not going to be impacted by the development footprint.

4.2.3 Bats

Roosting bats

The site did not contain any mature trees that had potential to be used by roosting bats. The two buildings present on site were built from concrete block with metal cladding and had corrugated roofs. The eastern most industrial unit currently occupied by 'Homebase' building contained no roof void, thus providing no internal roosting potential for bats. The building was in good repair, providing no cracks or crevices in which bats would roost externally. The western most industrial unit, currently occupied by 'AMF Bowling' contained a lowered false ceiling which could provide a draught free roof void. However, this building was also in good repair and provided no points for bats to enter to roost. The highly disturbed nature of the buildings and the presence of lighting also reduces the buildings potential for bats. As such, both of the buildings on site were of **negligible potential** for bats.

Foraging and commuting bats

The site was dominated by hardstanding, providing low potential for foraging bats. The boundaries of the site, along the chalk cliffs, and dense continuous scrub lines were considered to have **negligible potential** for foraging and commuting bats.

4.2.4 Badgers

The site contained several areas of scrub around the boundaries and chalk cliffs.

A number of holes were identified on site that had potential to be badger setts. Some were on the south eastern extent of the site (TN7, Picture 6) and another along the southern boundary of the site (TN8). These setts are not currently in use, but have potential to become used in the future. In addition snuffle holes were found on the south eastern extent of the site close to the potential sett (TN9, Picture 7).

Mammal tracks were noted on site, likely to be attributed to badgers; two at the eastern extent of the site (TN11 and TN12) and another in the south eastern corner of the site (TN10). These signs identified indicate that the site has **moderate potential** for badgers.



Picture 6:

Potential badger sett (TN7)



Picture 7:

Badger snuffle holes (TN9)

4.2.5 Breeding Birds

A number of birds were recorded on site during the Extended Phase 1 Habitat survey including robin (*Erithacus rebecula*), black bird (*Turdus merula*), long tailed tit (*Aegithalos caudatus*) and gull species (*Larus sp.*). The site contains a number of habitats, such as the scrub surrounding much of the site, potentially suitable to support nesting birds. The site is considered to have **moderate potential** for common/ garden nesting birds. The highly disturbed nature of the buildings and nature of the construction of buildings and hardstanding across the proposed works area provide **negligible potential** for breeding birds.



Picture 8:

A robin in the scrub area at the eastern extent of the site.

Wintering birds.

Due to the proximity of the site to the SPA, wintering birds should be considered. Brent Geese have been recorded in the wider area. However, the habitats present on site do not offer the wide open grassy spaces and sight lines required for this species, and they are also heavily modified and disturbed habitats. As such the site is considered to be of **negligible potential** for wintering birds.

4.2.6 Dormice

The site was bounded by areas of dense and continuous scrub to the south, east, west and northwest. It is understood that these areas are outside the proposed working area. These areas of continuous scrub contained hazel and bramble sp, both of which could potentially provide a food source for dormice. The site adjoins the vegetation along the A3(M) and as such has potential connectivity to the wider countryside and woodlands to the north of the site via the vegetation along the A3(M) corridor. The scrub on site is however dominated by butterfly bush which is considered to hold little value for dormice, as a result the site is considered to have **low potential** for dormice.

4.2.7 Otter

No waterbodies were present on the site. As no suitable habitat was present on site, the site is considered to be of **negligible potential** for otter.



4.2.8 Water vole

No waterbodies were present on the site. As no suitable habitat was present on site, the site is considered to be of **negligible potential** for water vole.

4.3 Invasive Species

Cotoneaster species were noted on the site within areas of ornamental planting. Not all species of *Cotoneaster* are listed under Schedule 9 of the Wildlife and Countryside Act. It was not possible to identify which species of *cotoneaster* was present on site.

5.0 Ecological Impacts and Recommendations

5.1 Statutory and Non-statutory Sites

Langstone Harbour SSSI, Chichester and Langstone Harbours SPA and Ramsar sites and the Solent SAC, are the closest statutory designated sites to the proposed development site. They overlap and lie approximately 0.88km south of the site. These are designated for their estuarine habitat matrices and are known to support important bird populations. There are public rights of way that run along the north and eastern boundaries of these sites.

The information in this report does not constitute a full Appropriate Assessment under the Habitats and Species Regulations, however, it does aim to provide evidence to allow the LPA to determine whether there will be a likely significant effect of the proposed development alone or in-combination.

The habitats present on the site itself are not considered to offer suitable high tide roosting or foraging sites to those bird species for which the SPA is designated. No direct impacts on habitat availability for waders and waterfowl or on their behaviour are anticipated as a result of the proposed development of the site.

From previous experience it is understood that Natural England may have concerns around any applications for more than 5 houses to be located within 1km of the SPA. The proposed development at the site is for approximately 86 houses. Bidbury Mead recreational ground is 0.8 km east of the site, which will provide some space for recreational activities and dog walking, however it is not as aesthetically pleasing as the SPA. The driving distance from the site to the SPA is 1.7km and the walking distance is 1.6km and as such it is considered that there is potential for an increase in visitors to the SPA. The particular concern relates to dog walking and the disturbance to wintering birds using the SPA. As such, we recommend that a **screening letter is sent to Natural England to confirm whether they require a Habitats Regulations Assessment for the proposed development.** Open space provisions have been considered as part of the development which are likely to involve the creation of a small area of open space within the development site, as well as financial contributions to recreational areas within the vicinity of the site, likely to be Bidbury Mead recreational space to the east of the site and in addition utilising existing footpath links that connect with the area of open space land to the north of the site along Scratchface Lane. ..



Farlington Marshes LNR is designated for its intertidal marsh and grassland and associated flora and fauna. It is located approximately 0.11km south west of the site. This site contains no public rights of way and hence it is not considered that the development will have a significant negative impact on this designated site. However, during the Masterplanning process, it is important to ensure that the watertable of this nearby Local Nature Reserve is not impacted as a result of the development. Advice will be sought from drainage engineers.

Manor Farm A SINC lies approximately 0.36km south of the site and contains public right of way to the eastern extent of the site which is easily accessible from the development site by foot. One of the SINC's designation features is the presence of dark bellied geese. The proposed development could potentially lead to increase in recreational pressure within Manor Farm A SINC, particularly with regards to dog walkers, which may disturb the brent geese. . Fields off Havant Road SINC lies approximately 0.42km west of the site. No public right of way exists on this site, therefore the development is considered to lead to no increased recreational pressure.

5.2 Habitats

The site is dominated by two warehouse type buildings (Homebase and AMF Bowling) and large areas of associated hardstanding (car park and yard areas). The site is surrounded by chalk cliffs and associated scrub.

As the site stands, the majority of the site is considered to be of low ecological interest, however, the perimeters of the site, along the boundary where the chalk cliffs are present is considered to have potential to support some rare and notable species. The current proposed masterplan (PP1169 110-00 SK1) indicates that the chalk cliffs and scrub habitat will be retained as part of the proposed development, and hence the majority of the site that will be developed is existing hardstanding and buildings. As such, the works area is considered to have negligible biodiversity potential.

However, if plans change and the areas of scrub will be affected by the proposed works, potential impacts on protected and notable species should be considered.

5.3 Protected and Notable Species

5.3.1 Great Crested Newts

The great crested newt and its habitat are protected under the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species (Amendment) Regulations 2012* (see Appendix B).

Although there are no records for great crested newts within the wider area, this does not confirm absence of the species.

The Natural England Risk Calculator determined that an offence under the Conservation of Habitats and Species Regulations (Amendment) 2012 was unlikely to result from the development proposals, should great crested newts be present in these water bodies. This is due to the large distance of the pond from the site and the small size of the proposed development site, as well as the lack of suitable terrestrial habitat for great crested newts within the site. Great crested newts are not considered to represent a constraint to works, and further great crested newt **surveys are not recommended**.

5.3.2 Reptiles

All species of native reptiles are protected under the *Wildlife and Countryside Act 1981* (as amended). The sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are further protected under *Conservation of Habitats and Species (Amendment) Regulations 2012*.

The development footprint itself comprises hardstanding and buildings and hence the development site is not considered suitable to support reptiles. The chalk cliffs and scrub habitat will not be impacted, however this area also provides limited habitat for reptiles as whilst the scrub present around the site boundaries provide potentially suitable habitat for reptiles, there are limited open areas which are not shaded to allow reptiles to bask. Reptiles are not considered to represent a constraint to works, and **no further reptile surveys** are recommended.

5.3.3 Bats

Breeding, Resting and Hibernating Bats

All species of British bats and their roosts are fully protected under the *Wildlife & Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species (Amendment) Regulations 2012* (see Appendix B).



The habitats and buildings present on site provided little potential for roosting, resting and hibernating bats. As such, roosting bats are not considered to represent a constraint to works, and **no further bat surveys** are recommended.

Foraging and Commuting Bats

ODPM 06/2005: Biodiversity and Geological Conservation, the circular that accompanied the now redundant Planning Policy Statement 9 (PPS9) but which itself is still valid, requests that mitigating for impacts caused by developments to foraging and commuting routes should be considered when determining planning applications.

The proposed works area is considered to hold negligible value to foraging and commuting bats, being hard standing and buildings.

The habitats around the boundaries of the site have some low potential to be utilised by bats for foraging and commuting. It is understood that the scrub habitat will not be directly impacted, and only the areas of existing hardstanding as such **no further bat activity surveys are recommended**. A 3m buffer is recommended around the margins of the site to retain the foraging and commuting habitat for bats within the scrub habitat.

Disturbance of bats e.g. through lighting of commuting and foraging habitat (i.e. scrub around the edges of the site) should be kept to a minimum. The lighting across the development footprint should be sensitively designed with bats in mind.

Permanent lighting on site should be minimised in proximity to the boundary vegetation.

5.3.4 Badgers

Badger and their setts are protected under the *Protection of Badgers Act 1992* and the NPPF (see Appendix B) stipulates that considering their welfare and mitigating for damage to their habitat are material considerations when considering planning applications.

Holes potentially large enough to support badger were recorded on site, but not within the proposed works area. The closest hole was approximately 5 meters away from the nearest proposed development on the current masterplan. The setts on site are not currently in use, but have potential to become used in the future.



Badgers are not currently considered to represent a constraint to works. However, as badgers are a highly mobile species, it is recommended that an **update badger survey** is carried out prior to the development commencing to confirm whether any active badger setts are present that could be disturbed by the proposed works, and to inform any necessary mitigation or licensing requirements.

The following methodologies are recommended to avoid disturbance to badgers during works:

- Prior to works commencing, badgers must be excluded from any setts that will be lost as a result of the development proposals. This must be carried out under a **Natural England development licence**. The licence will also need to include any setts, within 30m of the works, that may be disturbed.
- Consideration should be given to the placement of any **topsoil storage**, or piles of materials that may create mounds suitable for sett creation. It is recommended that any such piles are placed well away from identified badger activity, and are checked on a daily basis by construction staff to ensure that no badger activity has taken place. If the mounds are to be in place for a significant period of time, the safest approach may be to temporarily fence them to ensure that badgers cannot access the fresh soil.
- It is recommended that **night working is kept to a minimum** whenever possible to avoid disturbance to badgers, any works within 30m of a sett should cease at least two hours before sunset. If flood lighting is to be used, we advise pointing it away from known areas of badger activity.
- It is recommended that an **earth ramp** is left into any excavations left open overnight, or a wooden ramp installed to allow any animals that fall in to escape.
- It is also recommended that any **pipes** that need to be left over night on site are capped to avoid animals becoming trapped.



5.3.5 Breeding Birds

All nesting birds are protected from disturbance whilst nesting by the *Wildlife and Countryside Act 1981* (as amended) (see Appendix B).

The dense continuous scrub that borders the site provides nesting habitat for a range of bird species. It is therefore recommended that any vegetation removal (including ornamental planting), or works to the cliff face (should they be required) be undertaken outside nesting bird season, which is from March to September inclusive. If this is not possible, it is recommended that a nesting bird check of all vegetation due for removal is carried out by a suitably qualified ecologist prior to works. If any nesting birds are found during this check a five metre stand-off from the nest must be maintained until all of the young have fledged.

Assuming the above precautions are followed, nesting birds are not considered to represent a constraint to works.

5.3.6 Dormice

Dormice and their habitat are fully protected under the *Wildlife & Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species (Amendment) Regulations 2012* (see Appendix B).

The dense and continuous scrub around much of the perimeter of the site holds poor potential for dormice. No further dormouse surveys are recommended.

5.3.7 Otter

The otter and its habitat are protected under *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species (Amendment) Regulations 2012*. The European sub-species is listed as globally threatened in the IUCN Red List (see Appendix B).

As no suitable habitat was present on site **no further surveys are recommended.**



5.3.8 Water vole

Water voles and their habitat are protected under *Wildlife and Countryside Act 1981* (as amended) (see Appendix B).

As no suitable habitat was present on site **no further surveys are recommended.**

5.4 Invasive Species

The *Wildlife and Countryside Act 1981* (as amended) recognises several invasive plant species list in Schedule 9 of the Act (see Appendix B, Table B2).

Cotoneaster sp. was recorded in the areas of amenity planting within the car park. Many Cotoneaster sp. species are present within Schedule 9 of the Wildlife and Countryside Act. As this hedgerow is understood to be being retained within the final development, this does not present a constraint to works. However, it is recommended that Contoneasters are not included within the final landscape plan.

Where Cotoneaster is present within the vegetation that is to be removed, this should be removed and disposed of responsibly by mulching or burning. Roots should be fully excavated. Wheels of vehicles should be rinsed down with water to prevent *cotoneaster* spreading into the wider countryside. Post construction, any *cotoneaster* growth should be monitored and where necessary controlled.

No other invasive species were recorded during the survey either on or adjacent to the site; therefore, they are not considered to represent a constraint and no further recommendations are provided.



5.5 Enhancement

Under the National Planning Policy Framework (March 2012), developments should aim to deliver net gains for biodiversity where possible. Therefore, we have included some suggestions below and in the appendix for easily-implemented enhancements that could be appropriate for this site.

In keeping with National Planning Policy, a number of potential biodiversity enhancements could be incorporated into the final design where appropriate.

It is recommended that native trees and shrubs are incorporated where possible within the final design. This could benefit species such as birds, bats, and dormice. Recommendations are also made to provide additional nesting / roosting and feeding opportunities for birds, bats and invertebrates within the final design.

The removal of invasive species of cotoneaster from the scrub surrounding the site could potentially enhance the biodiversity value of the chalk cliff area.

6.0 Summary of Recommendations

6.1 Recommendations for avoidance

It is recommended that a screening letter is sent to Natural England to confirm whether they require a Habitats Regulations Assessment for the proposed development. Open space provisions have been considered as part of the development which are likely to involve the creation of a small area of open space within the development site, as well as financial contributions to recreational areas within the vicinity of the site, likely to be Bidbury Mead recreational space to the east of the site and in addition utilising existing footpath links that connect with the area of open space land to the north of the site along Scratchface Lane.

- It is recommended that a SuDS system is implemented to avoid any indirect impacts on water quality of the Farlington Marsh LNR.
- It is recommended that the scrub habitat is retained within the Masterplan where possible, and it is understood that this is the case within the current masterplan.
- It is also recommended that vegetation clearance and any works to the chalk cliff take place between October and February wherever possible to avoid the breeding bird season (although this may change following the results of the bat survey). If this is not possible, then a thorough check for nesting birds should be completed immediately prior to site clearance. If any active nests are found they must be retained, together with a suitable vegetated buffer until all the young have fledged.
- If any dead wood is found during site clearance, it is recommended that it be placed elsewhere within the site, to be retained within the final development as stag beetles have been recorded from the wider area.
- Recommendations are made to direct lighting away from the dense scrub boundaries where possible within the final development, to retain dark corridors for commuting bats within and around the final development.
- Where Cotoneaster is present within the vegetation that is to be removed, this should be removed and disposed of responsibly by mulching or burning. Roots should be fully excavated.



Wheels of vehicles should be rinsed down with water to prevent cotoneaster spreading into the wider countryside. Post construction, any cotoneaster growth should be monitored and where necessary controlled.

6.2 Further Surveys

European Protected Sites: Given the distance to Langstone Chichester and Langstone Harbours SPA and Ramsar sites and the Solent SAC, it is recommended that a screening letter is sent to Natural England to confirm whether they are likely to require a Habitats Regulations Assessment for the proposed development

Badgers: It is recommended that an **update badger survey** is carried out prior to the development commencing.

6.3 Enhancement

In keeping with National Planning Policy, a number of potential biodiversity enhancements could be incorporated into the final design where appropriate.

It is recommended that native trees and shrubs are incorporated where possible within the final design. This could benefit species such as birds, bats, and dormice. Recommendations are also made to provide additional nesting / roosting and feeding opportunities for birds, bats and invertebrates within the final design.



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Appendix A - Figures



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Legend

- ▲ Snuffle Holes
- Badger Sett
- Coniferous Tree
- Broadleaved Tree
- Mammal Tracks
- - - Chalk Cliff
- + + + Fence
- Wall
- Species-Poor Intact Headgerow
- ▤ Bare Ground
- Amenity Grassland
- ▨ Dense or Continuous Scrub
- Buildings
- Hard Standing

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WYG Environment
creative minds safe hands

Project: Havant Business Park

Drawing Title: Figure 1:
Extended Phase One Habitat Plan

Scale at A3:	Drawn by: Date:	Checked By: Date:	Approved By: Date:
	IH 29/01/13	EH 29/01/13	CM 29/01/13
Project No:	Office	Type	Drawing No: Figure 1
A080628	45	94	Revision

Base map provided by WYG



Appendix B – Biodiversity and Environmental Legislation, Conventions & Threatened Lists



Introduction

The UK has ratified a number of Conventions and implemented legislation pertaining to the protection of biodiversity and habitats, either independently or as member state of the European Union. These are defined and summarised below.

Lists of threatened, endangered and extinct species are also provided, together with a summary explanation of each.

Bern Convention (1982)

The *Convention on the Conservation of European Wildlife and Natural Habitats* (the *Bern Convention*) was adopted in Bern, Switzerland in 1979, and was ratified in 1982. Its aims are to protect wild plants and animals and their habitats listed in Appendices 1 and 2 of the Convention, and regulate the exploitation of species listed in Appendix 3. The regulation imposes legal obligations on participating countries to protect over 500 plant species and more than 1000 animals.

To meet its obligations imposed by the Convention, the European Community adopted the *EC Birds Directive* (1979) and the *EC Habitats Directive* (1992 – see below). Since the Lisbon Treaty, in force since 1st December 2009, European legislation has been adopted by the European Union.

Biodiversity Action Plan (BAP)

The UK *Biodiversity Action Plan* (UKBAP – UK Steering Group, 1995; UK Biodiversity Group, 1998 - 2000) lists and prioritises habitats and species and sets national targets to be achieved. The intent of the UKBAP, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

The UKBAP has recently undergone a review (Biodiversity Reporting and Information Group, June 2007) resulting in the identification of 391 'Priority' Species Action Plans (SAPs), 45 'Priority' Habitat Action Plans and 162 Local Biodiversity Action Plans.

Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities.



Birds Directive (BD)

The *EC Directive on the Conservation of Wild Birds* (791409/EEC) or '*Birds Directive*' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.

Birds of Conservation Concern (BoCC)

This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).

The latest report was produced in 2009 (Eaton *et al*, 2009) and identified 52 red list species, 126 amber species, and 68 green species. The criteria are complex, but generally:

- Red list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years.
- Amber list species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK.
- Green list species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed

Bonn Convention

The Convention on the Conservation of Migratory Species of Wild Animals or '*Bonn Convention*' was adopted in Bonn, Germany in 1979 and came into force in 1985. Participating states agree to work together to preserve migratory species and their habitats by providing strict protection to species listed in Appendix I of the Convention. It also establishes agreements for the conservation and management of migratory species listed in Appendix II.



Havant Business Park: Extended Phase 1 Habitat Survey

In the UK, the requirements of the convention are implemented via the *Wildlife & Countryside Act 1981* (as amended), *Wildlife (Northern Ireland) Order 1985*, *Nature Conservation and Amenity Lands (Northern Ireland) Order 1985* and the *Countryside and Rights of Way Act 2000* (CROW).

Global IUCN Red List

The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe.

The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Habitats Directive

The *Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora*, or the '*Habitats Directive*', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes.

In the UK, the *Habitats Directive* is transposed into national law via the *Conservation of Habitats and Species (Amendment) Regulations 2012* in England, Scotland and Wales, and via the *Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended)* in Northern Ireland.

Protection of Badgers Act 1992 (PBA 1992)

The main legislation protecting badgers in England and Wales is the *Protection of Badgers Act 1992* (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger"



National Planning Policy Framework (2012)

Following the publication of the National Planning Policy Framework (NPPF) in March 2012, *Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation (2005)* has been withdrawn. However, *ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System* (the guidance document that accompanied PPS9) has not been withdrawn and, where more detailed guidance is required than is given within the NPPF, local planning authorities will continue to rely on ODPM 06/2005.

This guidance requires local planning authorities to take account of the conservation of protected species when determining planning applications and makes the presence of a protected species a material consideration when assessing a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.

In the case of European Protected Species such as bats, planning policy emphasises that strict statutory provisions apply (including the *Conservation of Habitats and Species (Amendment) Regulations 2012*), to which a planning authority must have due regard.

Where developments requiring planning permission are likely to impact upon protected species it is necessary that protected species surveys are undertaken and submitted to meet the requirements of paragraph 98 of ODPM Circular 06/2005 which states that:

'The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'

General guidance within the body of the NPPF which are also potentially relevant to the possible presence of bats at the site includes the following statements:

"The planning system should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the wider benefits of ecosystem services;*
- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity,*



Havant Business Park: Extended Phase 1 Habitat Survey

including by establishing coherent ecological networks that are more resilient to current and future pressures"

"Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged."

"When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;"*

Species of Principal Importance in England

Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the *Natural Environment and rural Communities (NERC) Act 2006*, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 habitats of principal importance and 1,150 species of principal importance.

The Conservation of Habitats and Species (Amendment) Regulations 2012

The *Conservation of Habitats and Species (Amendment) Regulations 2012* came into force on 16th August 2012 and amend the *Conservation of Habitats and Species Regulations 2010* to ensure the various provisions of Directive 92/43/EC ('the Habitats Directive') are transposed in a clear manner.

Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I or II of the Habitats Directive respectively) to the European Commission. These sites, if ratified by the European Commission, are then designated as Special Protection Areas (SPAs) within six years. The 2012 amendments include that public bodies help preserve, maintain and re-establish habitats for wild birds.

The Regulations also make it an offence to deliberately capture, kill, disturb or trade in the animals listed in Schedule 2, or pick, uproot, destroy, or trade in the plants listed in Schedule 5 (see Table B1).



Table B1 Schedules of the Conservation of Habitats and Species (Amendment) Regulations 2012

Schedule 2 – European Protected Species of Animals		Schedule 5 – European Protected Species of Plant	
Common name	Scientific name	Common name	Scientific name
Horseshoe bats	Rhinolophidae - all species	Dock, Shore	<i>Rumex rupestris</i>
Common bats	Vespertilionidae - all species	Killarney Fern	<i>Trichomanes speciosum</i>
Wild Cat	<i>Felis silvestris</i>	Early Gentian	<i>Gentianella anglica</i>
Dolphins, porpoises and whales	Cetacea – all species	Lady's-slipper	<i>Cypripedium calceolus</i>
Dormouse	<i>Muscardinus avellanarius</i>	Creeping Marshwort	<i>Apium repens</i>
Pool Frog	<i>Rana lessonae</i>	Slender Naiad	<i>Najas flexilis</i>
Sand Lizard	<i>Lacerta agilis</i>	Fen Orchid	<i>Liparis loeselii</i>
Fisher's Estuarine Moth	<i>Gortyna borelii lunata</i>	Plantain, Floating-leaved water	<i>Luronium natans</i>
Newt, Great Crested	<i>Triturus cristatus</i>	Yellow Marsh Saxifrage	<i>Saxifraga hirculus</i>
Otter	<i>Lutra lutra</i>		
Lesser Whirlpool Ram's-horn Snail	<i>Anisus vorticulus</i>		
Smooth Snake	<i>Coronella austriaca</i>		
Sturgeon	<i>Acipenser sturio</i>		
Natterjack Toad	<i>Bufo calamita</i>		
Marine Turtles	<i>Caretta caretta</i> , <i>Chelonia mydas</i> , <i>Lepidochelys kempii</i> , <i>Eretmochelys imbricata</i> , <i>Dermochelys coriacea</i>		

The Hedgerow Regulations 1997



Havant Business Park: Extended Phase 1 Habitat Survey

The *Hedgerow Regulations 1997* were made under Section 97 of the *Environment Act 1995* and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

Wildlife and Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the '*Bern Convention*' and the *Birds Directive* are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird,
- take, damage or destroy the nest of any wild bird while that nest is in use, or
- take or destroy an egg of any wild bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5,
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places.
- The Act also prohibits certain methods of killing, injuring, or taking wild animals

Finally, the Act also makes it an offence (subject to exceptions) to:

- intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant,
- unless an authorised person, intentionally uproot any wild plant not included in Schedule 8,
- sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.



Havant Business Park: Extended Phase 1 Habitat Survey

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

Table B2 provides a comprehensive list of plant species listed in this schedule. It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Table B2 Invasive plant species listed in Schedule 9 of the *Wildlife & Countryside Act 1981* (as amended)

Common name	Scientific name
Perfoliate alexanders	<i>Smyrniun perfoliatum</i>
Red algae	<i>Grateloupia luxurians</i>
Variagated yellow archangel	<i>Lamiastrum galeobdolon</i> subsp. <i>argentatum</i>
Yellow azalea	<i>Rhododendron luteum</i>
Himalayan balsam	<i>Impatiens glandulifera</i>
Cotoneaster	<i>Cotoneaster horizontalis</i>
Entire-leaved cotoneaster	<i>Cotoneaster integrifolius</i>
Himalayan cotoneaster	<i>Cotoneaster simonsii</i>
Hollyberry cotoneaster	<i>Cotoneaster bullatus</i>
Small-leaved cotoneaster	<i>Cotoneaster microphyllus</i>
False Virginia creeper	<i>Parthenocissus inserta</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Purple dewplant	<i>Disphyma crassifolium</i>
Fanwort or Carolina water-shield	<i>Cabomba caroliniana</i>
Water fern	<i>Azolla filiculoides</i>
Hottentot fig	<i>Carpobrotus edulis</i>
Three-cornered garlic	<i>Allium triquetrum</i>
Giant hogweed	<i>Heracleum mantegazzianum</i>
Water hyacinth	<i>Eichhornia crassipes</i>
Giant kelp	<i>Macrocystis</i> spp.
Giant knotweed	<i>Fallopia sachalinensis</i>



Common name	Scientific name
Hybrid knotweed	<i>Fallopia japonica</i> × <i>Fallopia sachalinensis</i>
Japanese knotweed	<i>Fallopia japonica</i>
Few-flowered garlic	<i>Allium paradoxum</i>
Water lettuce	<i>Pistia stratiotes</i>
Parrot's-feather	<i>Myriophyllum aquaticum</i>
Floating pennywort	<i>Hydrocotyle ranunculoides</i>
Duck potato	<i>Sagittaria latifolia</i>
Floating water primrose	<i>Ludwigia peploides</i>
Water primrose	<i>Ludwigia grandiflora</i>
Water primrose	<i>Ludwigia uruguayensis</i>
Rhododendron	<i>Rhododendron ponticum</i>
Rhododendron	<i>Rhododendron ponticum</i> × <i>Rhododendron maximum</i>
Giant rhubarb	<i>Gunnera tinctoria</i>
Japanese rose	<i>Rosa rugosa</i>
Giant salvinia	<i>Salvinia molesta</i>
Green seafingers	<i>Codium fragile</i>
Californian red seaweed	<i>Pilea californica</i>
Hooked asparagus seaweed	<i>Asparagopsis armata</i>
Japanese seaweed	<i>Sargassum muticum</i>
Laver seaweeds (except native species)	<i>Porphyra</i> spp
Australian swamp stonecrop or New Zealand pygmyweed	<i>Crassula helmsii</i>
Wakame	<i>Undaria pinnatifida</i>
Curly waterweed	<i>Lagarosiphon major</i>
Waterweeds	<i>Elodea</i> spp.



Appendix C – Data Search Results



Hampshire Biodiversity
Information Centre

HBIC
1st Floor
Elizabeth II Court West,
The Castle,
Winchester
SO23 8UD.

Tel (01962) 832325
Fax (01962) 832117

enquiries.hbic@hants.gov.uk
www.hants.gov.uk/biodiversity/hbic

Miss Isla Hoffmann
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The Loft
St Clair's Farm
Wickham Road
Droxford
SP32 3PW

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Our ref: HBIC Data Requests 2012-2013, 3965

Your ref: A080628/4594/584/Droxford/IH

Date: 06 February 2013

Dear Miss Hoffmann,

RE: ECOLOGICAL DATA SEARCH: HAVANT BUSINESS PARK, BEDHAMPTON

Thank you for filling in our online form on 24 January 2013 expressing your interest in the above data search. Please find attached:

1. A map showing Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), RAMSAR sites, National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within your area of interest. There are no other statutory designated sites within your search area other than those shown on the map attached.
2. A map showing Sites of Importance for Nature Conservation (SINCs) Road Verges of Ecological Importance (RVEI), sites which are included in the November 2010 Solent Wader and Brent Goose Strategy and sites that appear on the Hampshire Ancient Woodland Inventory within your area of interest.
3. A table listing the SINCs within your area of interest and their qualifying criteria.
4. A copy of the criteria used to designate Sites of Importance for Nature Conservation in Portsmouth.
5. A table listing the RVEIs within your area of interest and their mowing regimes.
6. A table listing the sites within your search area included in the Solent Wader and Brent Goose Strategy.
7. A table detailing any protected and notable species currently on the HBIC database found within the vicinity of your search area. Please

note that quantities of '0' (zero) indicate that the species was 'present' but the number of individuals seen was not recorded.

8. A map showing BAP Priority Habitat information within your area of interest. Click here for the [BAP Habitats Legend](#)
9. A map showing BAP Broad Habitat information within your area of interest. Click here for the [BAP Habitats Legend](#)

Please note the following points:

- If you have problems viewing any of the links in this document please connect to the internet and try again. If this doesn't work please get in touch and we will email you the supporting documents you need.
- The attached maps contain some areas with no designation. This may be due to the fact that we currently do not hold any ecological survey information on these areas of land. It should not be taken to mean that there is no ecological interest present.
- The boundaries for statutory sites have been provided to HBIC, by Natural England (NE), as digital data. The digital data is indicative not definitive. Paper maps produced by NE at the time the sites were designated show the official site boundaries.
- To view the designation criteria for Sites of Importance for Nature Conservation in Hampshire please follow this link: [Criteria for SINCs in Hampshire](#)
- HBIC do not currently hold notable/protected species information for certain taxonomic groups. Details of contacts who may be able to assist you in providing the relevant information for Hampshire can be found here: [Hampshire County Recorders list](#)
- The Hampshire Inventory of Ancient Woodland is a provisional inventory that was published in 1995 by Hampshire County Council on behalf of English Nature (as Natural England were previously known). Sites that appear on the Inventory are over 2 hectares and include ancient semi-natural woodland and ancient replanted woodland.
- The location of species records are based on [Ordnance Survey National Grid References](#), click here to view an explanatory note on this system.
- The data supplied to you is subject to our [Data Users Declaration](#) (click to view) which you read and agreed to when you submitted your data request form.
- Our [Hampshire County Recorders](#) (click here to view details) would be very grateful for copies of any species records you make in Hampshire.
- The [caveats and statuses of each BAP Priority Habitat](#) can be viewed by clicking on this link.

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An invoice for **£150** (plus VAT) will be forwarded to you in due course to cover the cost of extracting the information.

If you require any further information or have any additional queries, please do not hesitate to contact me.

Yours sincerely



David Byett

Assistant Data Officer

direct line: 01962 832325 / email: david.byett@hants.gov.uk

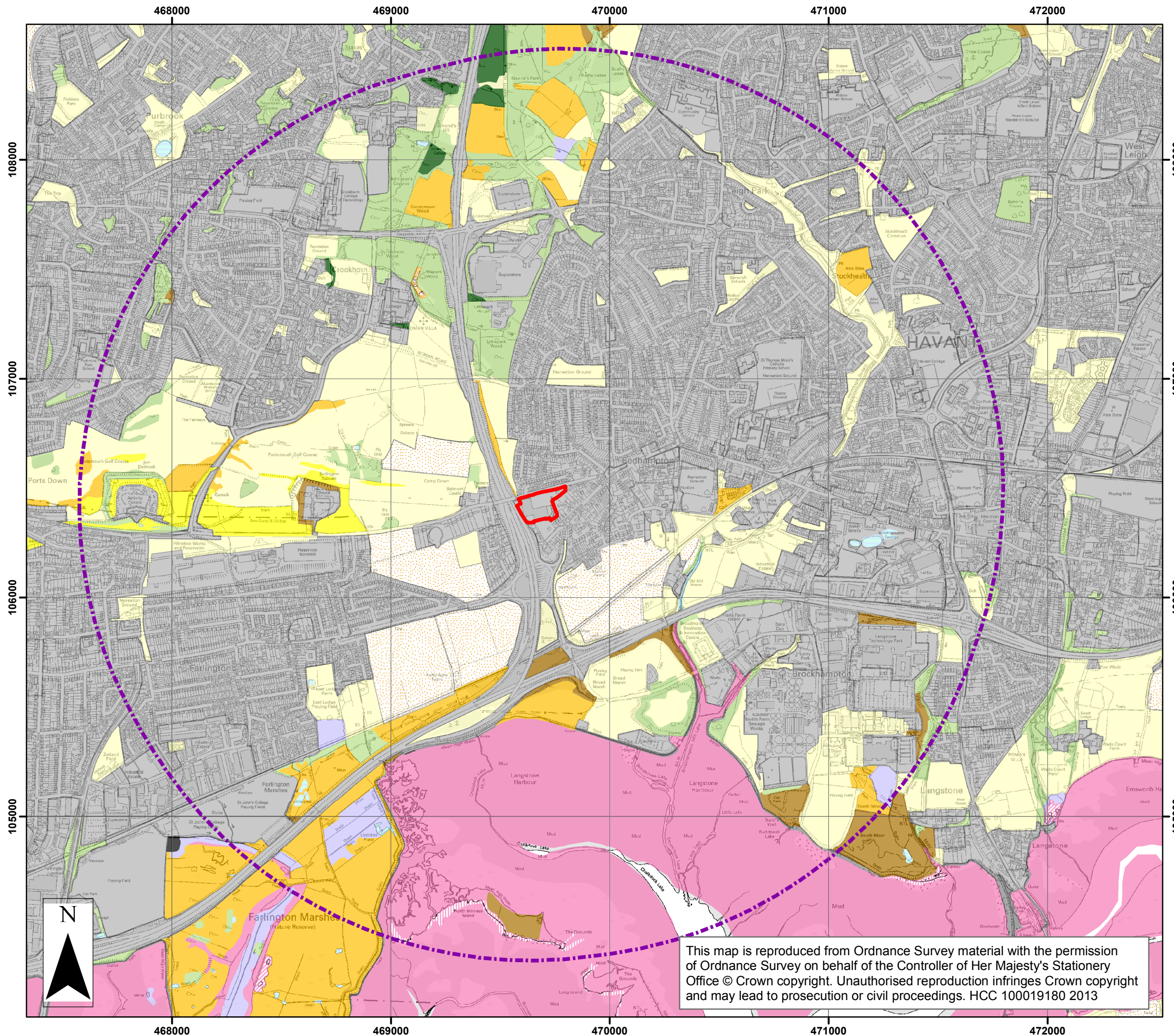
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Hampshire Biodiversity
Information Centre

HBIC Ref: 3965

BAP Broad Habitat Information
within 2km of
Havant Business Park
(SU 696 064) based on
Hampshire County Council's
habitat/land use mapping
(see explanatory note for
details of the origin and
accuracy of this data)

Key

-  Site
-  2km Search Area

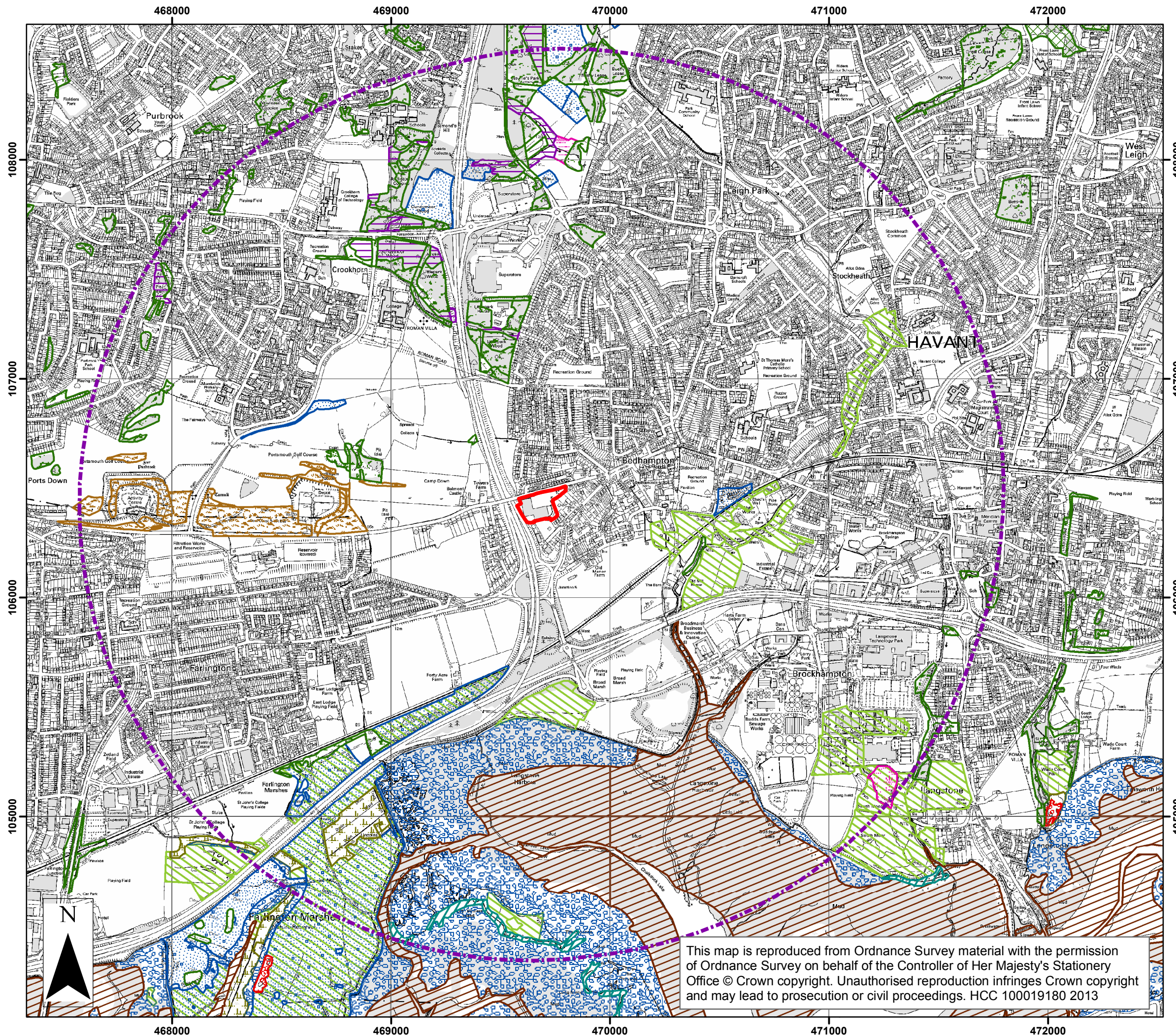
Some Habitats may overlap.
Please see 'UK BAP Habitats
Legend' for full Legend, there
is a link to this in your covering
letter.

Date created: 06/02/2013

Scale at A3: 1:17,000

0 100 200 400 600 800 1,000
Meters

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Hampshire Biodiversity
Information Centre

HBIC Ref: 3965

BAP Priority Habitat Information
within 2km of
Havant Business Park
(SU 696 064) based on
Hampshire County Council's
habitat/land use mapping
(see explanatory note for
details of the origin and
accuracy of this data)

Key

- Site
- 2km Search Area

Some Habitats may overlap.
Please see 'UK BAP Habitats
Legend' for full Legend, there
is a link to this in your covering
letter.

Date created: 06/02/2013

Scale at A3: 1:17,000

0 100 200 400 600 800 1,000
Meters

Details of Road Verges of Ecological Importance (RVEIs) within the search area: 2km of Havant Business Park (SU 696 064)

RVEI Reference	RVEI Name	Grid Reference	Description	Designation	Interest Type	Interest Features	Period of Interest	Management required	Length (m)
RV069	B2177 Portsdown Hill Road	SU68350629	Both sides of Portsdown Hill Road, between C423 Crookhorn Lane and Farlington Redoubt entrance	RVEI	Chalk Flora	Anacamptis pyramidalis(Pyramidal Orchid), Echium vulgare (Viper's-bugloss)	Jun-Aug	September cut only	525

Please see [RVEIs in Hampshire](#) for further details of Road Verges of Ecological Importance in Hampshire.

Details of Sites of Importance for Nature Conservation (SINCs) within the search area: 2km of Havant Business Park (SU 696 064)

SINC Ref	SINC Name	Central Grid Ref.	SINC Criteria	Species supported that meet Section 6 of SINC Selection Criteria	Area (ha)
HV0002	Portsmouth Golf Course West	SU67700665	2B/2D		2.62
HV0003	Fort Purbrook	SU67800650	2A/6A	Onobrychis viciifolia (Sainfoin) [NI] Spiranthes spiralis (Autumn Lady's-Tresses) [NI]	5.53
HV0004	Purbrook Park Wood	SU67800680	1A		1.47
HV0005	Sandy Dell	SU67900740	1A		1.30
HV0006	Fort Purbrook Paddock 1 (Havant)	SU68050645	2B/6A	Cupido minimus (Small Blue) [CS] Spiranthes spiralis (Autumn Lady's-Tresses) [NI]	2.77
HV0007	Fort Purbrook Paddock 2 (Havant)	SU68200640	2B/6A	Spiranthes spiralis (Autumn Lady's-Tresses) [NI]	0.86
HV0011	Portsmouth Golf Course East	SU68500662	2A/2B/2D		2.28
HV0014	Field East of Farlington Redoubt (North)	SU68790639	2D		0.79
HV0016	Gundymoor Wood (West)	SU68850760	1A		1.14
HV0017	Portsmouth City Golf Course Copse	SU68900660	1B/2D/6A	Ophrys insectifera (Fly Orchid) [NR]	1.99
HV0019	Camp Down Grassland Remnants	SU69000651	2D		0.66
HV0020	Gundymoor Wood (Main)	SU69000750	1A		3.12
HV0024	Forty Acres Farm B	SU69080568	6B	Branta bernicla bernicla (Dark-Bellied Brent Goose) [UKBAP]	12.62
HV0025	Johnston's Coppice	SU69100790	1A		8.19
HV0027	Fields off Havant Road	SU69180613	6A/6B	Branta bernicla bernicla (Dark-Bellied Brent Goose) [UKBAP] Euphorbia exigua (Dwarf Spurge) [NI]	12.24
HV0028	Farlington Marshes Grassland (North-East)	SU69200550	2A/4A		2.69
HV0029	Littlepark Wood (West)	SU69200750	1A/1Cii		4.14
HV0030	Meadow Adjacent to Johnston's Copse	SU69200780	1A/2B/5B		9.28
HV0033	Neville's Park West Wood	SU69480843	1B		4.72
HV0034	Littlepark Wood (East)	SU69500710	1A/1Cii		5.87
HV0035	Hulbert Road Meadow	SU69500800	2D/5B		2.85
HV0037	Neville's Park East Wood	SU69600850	1A		9.07

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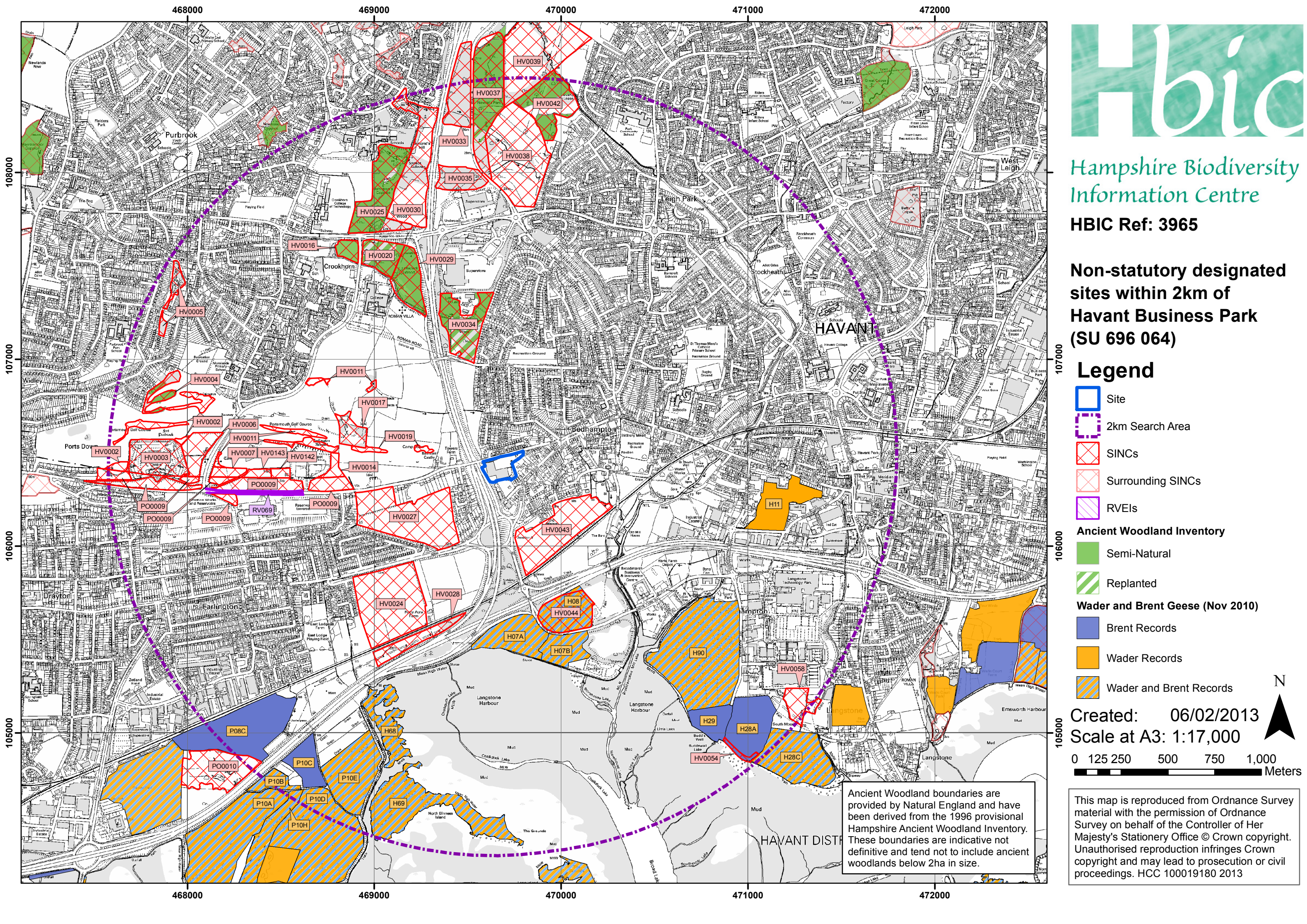
Hampshire Biodiversity Information Centre

SINC Ref	SINC Name	Central Grid Ref.	SINC Criteria	Species supported that meet Section 6 of SINC Selection Criteria	Area (ha)
HV0038	Neville's Park Areas 4-10	SU69800810	1B/1Cii/2A/2D	Bromus commutatus (Meadow Brome) [CS]	13.35
HV0039	Neville's Park Areas 2 & 3	SU69800860	2A		14.04
HV0042	Bushy Lease	SU69900840	1A		6.38
HV0043	Manor Farm A	SU70000610	6B	Branta bernicla bernicla (Dark-Bellied Brent Goose) [UKBAP]	9.23
HV0044	Broadmarsh Playing Field	SU70020563	6B	Branta bernicla bernicla (Dark-Bellied Brent Goose) [UKBAP]	5.01
HV0054	Southmoor - Big Field (south edge)	SU70980487	4A		0.49
HV0058	Southmoor Reserve	SU71200520	2A/4A/5B/6A	Carex divisa (Divided Sedge) [NR]	2.19
HV0142	Fort Purbrook Paddock 4 (Havant)	SU68500640	2B		0.50
HV0143	Fort Purbrook Paddock 3 (Havant)	SU68400640	2B		0.62
PO0009	South of Fort Purbrook & adjacent Farlington Redoubt	SU67840633	P1.2/P1.3/P4.1	Cupido minimus (Small Blue) [CS] Spiranthes spiralis (Autumn Lady's-Tresses) [NI]	8.49
PO0010	East of Farlington Playing Fields	SU68100480	P1.3/P2.1/P4.1	Carex divisa (Divided Sedge) [NR] Ononis spinosa (Spiny Restharrow) [CS]	6.60

Please see [Criteria for SINC in Hampshire](#) for more information on Sites of Importance for Nature Conservation in Hampshire. If there are any criteria beginning with a 'P' in the SINC table below, these denote SINC in Portsmouth, designated using different criteria (see accompanying document.)

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Hampshire Biodiversity
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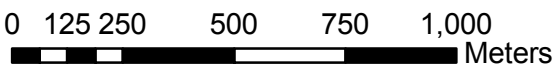
HBIC Ref: 3965

Non-statutory designated
sites within 2km of
Havant Business Park
(SU 696 064)

Legend

- Site
- 2km Search Area
- SINCs
- Surrounding SINCs
- RVEIs
- Ancient Woodland Inventory
 - Semi-Natural
 - Replanted
- Wader and Brent Geese (Nov 2010)
 - Brent Records
 - Wader Records
 - Wader and Brent Records

Created: 06/02/2013
Scale at A3: 1:17,000



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Ancient Woodland boundaries are provided by Natural England and have been derived from the 1996 provisional Hampshire Ancient Woodland Inventory. These boundaries are indicative not definitive and tend not to include ancient woodlands below 2ha in size.

Protected and Notable Species Records

Search Area: **2km of Havant Business Park (SU 696 064)**

Date: **06/02/13**

HBIC Ref: **3965**

See this [Legislation Explanatory Document](#) for a document explaining notable species statuses and legislation.

HBIC has its own extensive database of habitat and higher plant data for the County. In addition, HBIC hold copies of datasets belonging to partner organisations. Through data exchange agreements with these organisations HBIC is provided with regular database updates and can supply species information on their behalf. HBIC currently holds copies of the following datasets:

- Botanical Society of the British Isles' (BSBI) vascular plant database for Hampshire
- Butterfly Conservation's butterfly and moth database for Hampshire
- Hampshire Ornithological Society (HOS) bird records
- Hampshire Bat Group (HBG) Records of bat roost visits and sightings
- Data administered by the Hampshire Wildlife Trust (HWT) on behalf of the species recording groups below:
 - Hampshire Amphibian and Reptile Group (HARG)
 - Hampshire Mammal Group (HMG) (excluding records for bats and badgers)
- UK Bees, Wasps and Ants Recording Society (BWARS) the full dataset as of January 2012

It is important that these species recording groups (where relevant to the data provided) are acknowledged in any document produced by the data requester where data is incorporated into the document, as a matter of course.

The following are Protected and notable species records from the above datasets within the search area recorded in the last 15 years:

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Amphibians & Reptiles</i>								
<i>Anguis fragilis</i>	Slow-worm	UKBAP WCA_s5s91(t)	SU69140553	Farlington Marshes	2009	2009	1	4
			SU69560558	Hamble-le-rice	2008	2008	4	1
			SU69720566	Hamble-le-rice	2008	2008	2	4
			SU69910573	Hamble-le-rice	2008	2008	4	2

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU69910575	Hamble-le-rice	2008	2008	4	4
			SU69990581	Hamble-le-rice	2008	2008	1	1
			SU70000579	Hamble-le-rice	2008	2008	5	3
			SU70010574	Hamble-le-rice	2008	2008	1	1
			SU70010577	Hamble-le-rice	2008	2008	5	5
			SU70040583	Hamble-le-rice	2008	2008	1	1
			SU70090582	Hamble-le-rice	2008	2008	4	1
			SU70100581	Hamble-le-rice	2008	2008	1	1
			SU70180588	Hamble-le-rice	2008	2008	3	2
			SU70250587	Hamble-le-rice	2008	2008	1	1
			SU70330590	Hamble-le-rice	2008	2008	1	1
			SU70380593	Hamble-le-rice	2008	2008	4	2
			SU70440597	Hamble-le-rice	2008	2008	4	2
			SU70640599	Hamble-le-rice	2008	2008	4	2
			SU70660599	Hamble-le-rice	2008	2008	1	1
			SU70760599	Hamble-le-rice	2008	2008	2	1
			SU70760600	Hamble-le-rice	2008	2008	1	1
			SU70850599	Hamble-le-rice	2008	2008	2	2
<i>Bufo bufo</i>	Common Toad	UKBAP	SU6804	Farlington Marsh	2001	2001	1	1
			SU686051	Farlington Marshes Hwt Reserve: Compartment 11	1999	1999	1	0
			SU687073	Sandy Brow Crookhorn	1999	1999	1	19
<i>Zootoca vivipara</i>	Common Lizard	UKBAP WCA_s5s91(t)	SU678066	College Rd, Portsmouth Golf Course	2006	2007	2	44
			SU678066	Portsmouth Golf Course	2006	2006	1	46
			SU686050	Farlington Marshes Hwt Reserve, Compartment 11 - Entrance	2002	2002	1	2
			SU686051	Farlington Marshes (n Of M27)	2008	2008	1	1
			SU688053	Farlington Marshes Hwt Reserve: Compartment 11	2001	2001	1	1
Birds								

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Accipiter gentilis</i>	Northern Goshawk	Sensitive WCA_s1s1 CR	SU60	Sensitive	1996	1997	2	1
<i>Acrocephalus paludicola</i>	Aquatic Warbler	BOCC_Red UKBAP HBAP	SU6804	Lh Farlington Marshes	1993	2008	21	2
<i>Acrocephalus scirpaceus</i>	Eurasian Reed Warbler	HBAP	SU6804	Lh Farlington Marshes	1993	2011	68	8
			SU6905	Lh Farlington Marshes	2006	2006	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2004	3	1
			SU7005	Lh Budds Farm Sewage Farm	2003	2007	13	2
			SU7006	Havant	2011	2011	1	1
			SU7007	Lh Bedhampton	2004	2004	2	2
			SU7104	Ch Langstone Mill Pond	1996	2006	6	6
			SU7104	Lh Langstone South Moor	2004	2007	7	4
<i>Alauda arvensis</i>	Sky Lark	BOCC_Red HBAP	SU6705	Drayton	2010	2010	1	0
			SU6804	Lh Farlington Marshes	1993	2010	55	9
			SU6904	Lh Langstone Hbr Islands (rspb)	1996	2004	5	66
			SU6905	Lh Farlington Marshes	2010	2010	1	0
			SU7004	Lh Langstone Hbr Islands (rspb)	2003	2007	3	60
			SU7005	Lh Broadmarsh/bedhampton Shore	2004	2010	22	9
			SU7104	Lh Langstone South Moor	1994	2007	3	3
			SU7106	Havant	2010	2010	1	0
<i>Alcedo atthis</i>	Common Kingfisher	WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	210	9
			SU6805	Lh Farlington Marshes	2009	2009	1	1
			SU6904	Lh Langstone Harbour	2002	2002	3	1
			SU6905	Lh Broadmarsh/bedhampton Shore	2005	2005	1	1
			SU6905	Lh Farlington Marshes	2007	2008	3	1
			SU6905	Lh Langstone Harbour	1999	2003	10	2
			SU700084	Lh Hermitage Stream Bedhampton	2002	2002	1	1
			SU7005	Lh Bedhampton	2006	2006	2	1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005	Lh Broadmarsh/bedhampton Shore	1994	2009	212	8
			SU7005	Lh Budds Farm Sewage Farm	1996	2007	18	2
			SU7005	Lh Langstone Harbour	2003	2008	17	2
			SU7005	Lh Langstone South Moor	2005	2005	1	1
			SU7005	Lh South Moorlangstone Harbour	2010	2010	3	0
			SU7006	Lh Bedhampton Mill Pond	1993	2010	41	3
			SU7006	Lh Hermitage Stream Bedhampton	1994	2007	30	2
			SU7007	Lh Bedhampton	2004	2005	12	1
			SU7007	Lh Hermitage Stream Bedhampton	2008	2009	14	1
			SU704056	Lh Hermitage Stream Bedhampton	1999	1999	1	1
			SU704063	Lh Hermitage Stream Bedhampton	2003	2003	1	1
			SU705050	Lh Bedhampton Mill Pond	1998	1998	1	2
			SU705062	Lh Bedhampton Water Works	1998	1998	1	1
			SU706056	Lh Broadmarsh/bedhampton Shore	2000	2000	1	1
			SU706056	Lh Brockhampton Stream	2006	2006	1	2
			SU706057	Lh Broadmarsh/bedhampton Shore	2000	2001	2	1
			SU706062	Lh Bedhampton Water Works	1998	1998	1	1
			SU706062	Lh Hermitage Stream Bedhampton	1998	1998	1	1
			SU708057	Lh Brockhampton Stream	2009	2009	1	1
			SU708058	Lh Brockhampton Stream	2000	2009	28	2
			SU7104	Ch Langstone Mill Pond	1996	2007	32	2
			SU7104	Lh Hayling Oysterbeds	2005	2005	1	1
			SU7104	Lh Langstone Harbour	2002	2008	6	2
			SU7104	Lh Langstone South Moor	1994	2007	32	2
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	1998	2009	3	1
			SU7105	Ch Langstone Mill Pond	1994	2003	2	1
			SU7105	Lh Langstone Harbour	2007	2007	1	1
			SU7105	Lh Langstone South Moor	2008	2008	1	1
			SU7106	Havant	2005	2010	2	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Anas clypeata</i>	Northern Shoveler	CR	SU6804	Lh Farlington Marshes	1994	2010	275	99
			SU6804	Lh Langstone Harbour	1993	1999	44	76
			SU6905	Lh Farlington Marshes	2008	2010	8	60
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	17
			SU7005	Lh Budds Farm Sewage Farm	1994	2010	149	95
			SU7005	Lh Langstone Harbour	2001	2001	1	2
			SU7104	Ch Langstone Mill Pond	2003	2005	2	1
<i>Anas querquedula</i>	Garganey	WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	124	5
			SU6805	Farlington	2002	2002	2	2
			SU6905	Lh Farlington Marshes	2009	2009	1	1
			SU7004	Lh Langstone Harbour	2000	2000	1	3
			SU7005	Lh Budds Farm Sewage Farm	1994	2010	19	2
			SU7005	Lh Langstone Harbour	2000	2000	1	1
			SU704054	Lh Langstone Harbour	2000	2000	1	1
<i>Anas strepera</i>	Gadwall	HBAP	SU6804	Lh Farlington Marshes	1994	2010	328	9
			SU6804	Lh Langstone Harbour	1993	1998	10	7
			SU6905	Lh Farlington Marshes	2009	2010	3	25
			SU7004	Lh Langstone Hbr Islands (rspb)	1996	2007	3	2
			SU7005	Lh Budds Farm Sewage Farm	1993	2010	106	9
			SU7006	Lh Bedhampton Mill Pond	1993	2008	46	9
			SU7104	Ch Langstone Mill Pond	2003	2003	1	1
			SU7104	Lh Langstone Harbour	2003	2003	2	7
<i>Anser albifrons</i>	Greater White-fronted Goose	HBAP	SU6804	Lh Farlington Marshes	1996	2010	22	8
			SU7005	Lh Broadmarsh/bedhampton Shore	2005	2005	1	12
			SU7104	Ch Langstone Mill Pond	2001	2001	1	13
<i>Anser albifrons subsp. flavirostris</i>	Anser albifrons subsp. flavirostris	BOCC_Red UKBAP HBAP	SU6804	Lh Farlington Marshes	2000	2007	2	1
<i>Anthus petrosus</i>	Rock Pipit	CR	SU6804	Lh Farlington Marshes	1993	2010	144	9

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6804	Lh Langstone Harbour	2007	2007	1	1
			SU690048	Lh Langstone Harbour	2002	2002	1	1
			SU6904	Lh Langstone Hbr Islands (rsbp)	1996	2005	7	8
			SU6905	Lh Broadmarsh/bedhampton Shore	1998	1998	1	1
			SU695055	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
			SU696055	Lh Broadmarsh/bedhampton Shore	2009	2010	4	1
			SU7004	Lh Budds Farm Sewage Farm	2000	2000	1	15
			SU7005	Lh Broadmarsh/bedhampton Shore	1998	2007	44	6
			SU7005	Lh Budds Farm Sewage Farm	1995	2010	24	8
			SU7005	Lh Langstone Harbour	1999	1999	1	5
			SU7007	Lh Bedhampton	2003	2003	1	1
			SU706056	Lh Budds Farm Sewage Farm	1999	1999	1	4
			SU7104	Lh Langstone Harbour	2004	2004	1	4
			SU7104	Lh Langstone South Moor	1993	2007	49	8
			SU7104	Lh South Moor, Langstone Harbour	2009	2009	1	1
			SU7105	Lh Langstone South Moor	2003	2003	1	1
			SU7105	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Anthus petrosus subsp. littoralis</i>	Anthus petrosus subsp. littoralis	CR	SU6804	Lh Farlington Marshes	1993	2007	6	3
			SU7104	Lh Langstone South Moor	2005	2007	3	2
<i>Anthus spinoletta</i>	Water Pipit	CS	SU6804	Lh Farlington Marshes	1993	2010	348	5
			SU7005	Lh Broadmarsh/bedhampton Shore	1999	2005	5	1
			SU7005	Lh Budds Farm Sewage Farm	1993	2000	26	7
			SU7104	Lh Langstone South Moor	1994	2007	30	5
			SU7104	Lh South Moorlangstone Harbour	2010	2010	2	0
<i>Anthus trivialis</i>	Tree Pipit	BOCC_Red UKBAP	SU6804	Lh Farlington Marshes	1993	2010	38	3
			SU7005	Lh Broadmarsh/bedhampton Shore	1997	2004	4	2
			SU7104	Lh Langstone South Moor	1997	1997	1	2
			SU7106	Havant	2002	2002	1	1
<i>Ardea cinerea</i>	Grey Heron	CS	SU6804	Lh Farlington Marshes	1995	2007	91	9
			SU6804	Lh Langstone Harbour	1994	2007	17	6

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6805	Lh Farlington Marshes	1997	1997	1	2
			SU683050	Lh St John's College Playing Fields	2006	2006	1	2
			SU6904	Lh Langstone Harbour	1996	1997	2	28
			SU693046	Lh Langstone Hbr Islands (rspb)	2004	2004	1	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	1
			SU7005	Lh Budds Farm Sewage Farm	2006	2009	4	1
			SU7006	Lh Bedhampton Mill Pond	2007	2007	1	1
<i>Ardea purpurea</i>	Purple Heron	WCA_s1s1	SU6804	Lh Farlington Marshes	2001	2002	4	1
<i>Arenaria interpres</i>	Ruddy Turnstone	HBAP	SU6804	Lh Farlington Marshes	1994	2010	27	85
			SU6804	Lh Langstone Harbour	1994	1999	21	85
			SU6904	Lh Langstone Harbour	1996	2003	5	55
			SU6905	Lh Farlington Marshes	2008	2010	2	1
			SU6905	Lh Langstone Harbour	1995	2001	8	68
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	0
			SU698048	Lh Langstone Harbour	2004	2004	1	33
			SU698048	Lh Langstone Hbr Islands (rspb)	2005	2005	3	96
			SU7004	Lh Langstone Harbour	1994	2007	20	9
			SU7004	Lh Langstone Harbour Rspb Reserve	2008	2008	1	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	4
			SU7005	Lh Bedhampton	2009	2009	1	12
			SU7005	Lh Langstone Harbour	1998	2004	4	80
			SU7005	Lh Langstone Hbr Islands (rspb)	2004	2004	1	233
<i>Asio flammeus</i>	Short-eared Owl	Sensitive	SU7104	Lh Langstone Harbour	2002	2002	1	15
			SU7104	Lh Langstone South Moor	1999	2004	2	60
			SU60X	Sensitive	1993	2009	20	6
			SU60X	Sensitive	1993	2010	225	6
			SU70C	Sensitive	1993	2007	3	3
<i>Asio otus</i>	Long-eared Owl	Sensitive	SU70C	Sensitive	1995	2002	2	1
			SU70C	Sensitive	1995	2002	6	1
			SU60X	Sensitive	1996	2009	34	1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		CR	SU60X	Sensitive	2009	2009	1	1
<i>Aythya ferina</i>	Common Pochard	HBAP CS	SU6804	Lh Farlington Marshes	1994	2009	98	9
			SU7005	Lh Budds Farm Sewage Farm	1994	2010	151	9
			SU7006	Lh Bedhampton Mill Pond	2006	2006	1	1
			SU7104	Lh Langstone Harbour	2000	2000	1	1
<i>Aythya marila</i>	Greater Scaup	BOCC_Red UKBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1996	2010	17	2
			SU6804	Lh Langstone Harbour	1994	1998	10	2
			SU6904	Lh Langstone Harbour	1994	1998	4	5
			SU6905	He Hook With Warsash	1999	1999	1	2
			SU6905	Lh Langstone Harbour	1999	1999	1	2
			SU7004	Lh Langstone Harbour	1994	2003	15	2
			SU7005	Lh Broadmarsh/bedhampton Shore	1996	1999	2	2
			SU7005	Lh Budds Farm Sewage Farm	1996	2004	57	2
			SU7005	Lh Langstone Harbour	1995	2003	6	2
			SU7104	Lh Langstone Harbour	2002	2003	4	2
<i>Aythya nyroca</i>	Ferruginous Duck		SU6804	Lh Farlington Marshes	2000	2000	2	1
			SU7005	Lh Budds Farm Sewage Farm	1999	2004	6	1
<i>Botaurus stellaris</i>	Great Bittern	BOCC_Red UKBAP HBAP WCA_s1s1	SU6804	Lh Farlington Marshes	2005	2006	9	1
<i>Branta leucopsis</i>	Barnacle Goose		SU6804	Lh Farlington Marshes	1996	2010	61	8
			SU687047	Lh Farlington Marshes	2009	2009	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2007	2007	1	2
<i>Bubo bubo</i>	Eurasian Eagle Owl		SU7106	Havant	2008	2008	1	1
<i>Burhinus oedicephalus</i>	Stone-curlew	Sensitive UKBAP HBAP WCA_s1s1 CS	SU60	Sensitive	2002	2002	1	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Calcarius lapponicus</i>	Lapland Longspur	WCA_s1s1	SU6804	Farlington Marshes	2010	2010	29	4
			SU6804	Lh Farlington Marshes	1996	2011	4	1
			SU6905	Farlington Marshes	2010	2010	1	4
<i>Calidris alba</i>	Sanderling	HBAP	SU6804	Lh Farlington Marshes	1999	2009	12	2
			SU6905	Lh Farlington Marshes	2008	2008	1	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	1
			SU7005	Lh Langstone Harbour	1996	2004	3	5
<i>Calidris alpina</i>	Dunlin	BOCC_Red HBAP	SU6804	Lh Farlington Marshes	2001	2010	104	97
			SU6804	Lh Langstone Harbour	1993	2003	23	64
			SU6904	Lh Langstone Harbour	1996	2008	6	4
			SU6905	Lh Farlington Marshes	2009	2010	3	30
			SU698048	Lh Langstone Hbr Islands (rspb)	2005	2005	1	2
			SU7004	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
			SU7004	Lh Langstone Hbr Islands (rspb)	2005	2007	5	6
			SU7005	Lh Langstone Harbour	1998	1998	1	2000
			SU7007	Lh Bedhampton	2003	2003	1	150
<i>Calidris canutus</i>	Red Knot	HBAP	SU7104	Lh Langstone South Moor	1999	1999	1	2
			SU6804	Lh Farlington Marshes	1999	2010	120	9
			SU6804	Lh Langstone Harbour	1993	2004	49	91
			SU6904	Lh Langstone Harbour	1996	2004	4	900
			SU6905	Lh Broadmarsh/bedhampton Shore	2007	2007	1	5
			SU6905	Lh Farlington Marshes	2007	2010	10	80
			SU6905	Lh Langstone Harbour	2001	2001	1	383
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	0
			SU7004	Lh Langstone Harbour	1996	2009	11	73
			SU7004	Lh Langstone Hbr Islands (rspb)	2005	2007	4	6
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2005	2	3
			SU7005	Lh Budds Farm Sewage Farm	2007	2007	1	8
			SU7005	Lh Langstone Harbour	1999	1999	4	97
			SU705052	Lh Langstone Harbour	1998	1998	1	42

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7104	Ch Langstone Mill Pond	2007	2007	1	540
			SU7104	Lh Langstone Harbour	1999	2001	4	450
			SU7104	Lh Langstone South Moor	2004	2004	1	37
<i>Calidris maritima</i>	Purple Sandpiper	WCA_s1s1	SU6804	Lh Farlington Marshes	2010	2010	2	0
			SU6904	Lh Langstone Harbour	2010	2010	2	0
<i>Calidris temminckii</i>	Temminck's Stint	BOCC_Red WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2008	28	4
<i>Caprimulgus europaeus</i>	European Nightjar	Sensitive BOCC_Red UKBAP HBAP CI	SU70E	Sensitive	2010	2010	2	4
<i>Carduelis cabaret</i>	Lesser Redpoll	BOCC_Red UKBAP	SU6804	Farlington Marshes	2010	2010	1	1
			SU6804	Lh Farlington Marshes	1993	2009	85	9
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2008	26	7
			SU7005	Lh Budds Farm Sewage Farm	2003	2003	3	5
			SU7104	Ch Langstone Mill Pond	2006	2006	1	3
			SU7104	Lh Langstone South Moor	2003	2003	1	1
			SU7106	Havant	2005	2005	1	1
<i>Carduelis cannabina</i>	Common Linnet	BOCC_Red HBAP	SU6804	Lh Farlington Marshes	1993	2011	155	90
			SU6808	Waterlooville	2011	2011	1	2
			SU6904	Lh Langstone Hbr Islands (rspb)	1996	2003	2	82
			SU6905	Lh Farlington Marshes	2009	2009	1	25
			SU691046	Lh Langstone Hbr Islands (rspb)	2003	2003	1	9
			SU693057	Lh Bedhampton	1999	1999	1	50
			SU7004	Lh Langstone Harbour	2011	2011	1	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	60
			SU7005	Broadmarsh/bedhampton Shore	2010	2010	1	2
			SU7005	Lh Broadmarsh/bedhampton Shore	1996	2007	21	95
			SU7005	Lh Budds Farm Sewage Farm	2004	2006	3	40

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7104	Lh Langstone South Moor	1999	2006	4	6
<i>Carduelis flavirostris</i>	Twite	BOCC_Red	SU6804	Lh Farlington Marshes	1993	2009	25	8
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2003	1	3
			SU7007	Lh Bedhampton	2003	2003	1	3
			SU7104	Lh Langstone South Moor	2003	2003	20	3
			SU7105	Lh Langstone South Moor	2003	2003	2	3
<i>Carduelis spinus</i>	Eurasian Siskin	CI	SU6706	Drayton	1997	1997	1	20
			SU6804	Lh Farlington Marshes	1993	2008	119	9
			SU6805	Lh Farlington Marshes	1995	1998	2	8
			SU6905	Lh Farlington Marshes	2008	2008	1	15
			SU7005	Broadmarsh/bedhampton Shore	2010	2010	1	5
			SU7005	Lh Broadmarsh/bedhampton Shore	1999	2007	41	7
			SU7005	Lh Budds Farm Sewage Farm	2001	2006	4	5
			SU7006	Lh Bedhampton Mill Pond	2003	2004	3	15
			SU7006	Lh Hermitage Stream Bedhampton	2001	2001	1	19
			SU7007	Lh Bedhampton	1994	2006	4	6
			SU7104	Ch Langstone Mill Pond	2006	2007	2	4
			SU7104	Lh Langstone South Moor	2004	2006	2	3
<i>Cettia cetti</i>	Cetti's Warbler	HBAP WCA_s1s1 CS	SU7107	Ha Leigh Park Havant	2006	2006	1	1
			SU6804	Lh Farlington Marshes	1996	2011	166	9
			SU6805	Lh Farlington Marshes	2004	2004	1	21
			SU685046	Lh Farlington Marshes	2010	2011	2	1
			SU689049	Lh Farlington Marshes	1999	1999	1	1
			SU6904	Lh Langstone Harbour	2011	2011	1	1
			SU6905	Lh Farlington Marshes	2009	2011	7	2
			SU7004	Lh Langstone Harbour	2011	2011	2	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2002	2	1
			SU7005	Lh Budds Farm Sewage Farm	2003	2011	20	1
			SU7104	Ch Langstone Mill Pond	2001	2008	35	6
			SU7104	Lh Langstone South Moor	2007	2007	4	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7104	Lh South Moor, Langstone Harbour	2009	2009	1	1
			SU7105	Ch Langstone Mill Pond	2002	2003	2	1
			SU712049	Lh Langstone South Moor	2007	2007	2	1
<i>Charadrius dubius</i>	Little Plover	Sensitive WCA_s1s1 CS	SU60X	Sensitive	1993	2010	376	9
			SU60X	Sensitive	2008	2008	1	1
			SU70C	Sensitive	1995	1997	4	2
<i>Chlidonias niger</i>	Black Tern	WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2008	9	4
			SU6805	Farlington	2002	2002	1	1
			SU6905	Lh Farlington Marshes	2010	2010	1	0
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	2
			SU7005	Lh Broadmarsh/bedhampton Shore	1999	1999	5	4
			SU7005	Lh Budds Farm Sewage Farm	2010	2010	3	0
<i>Circus aeruginosus</i>	Eurasian Marsh Harrier	WCA_s1s1 CR	SU6804	Lh Farlington Marshes	1994	2010	155	2
			SU6804	Lh Langstone Harbour	1993	2006	9	2
			SU6905	Lh Farlington Marshes	2006	2010	3	1
			SU695045	Lh Langstone Harbour	2010	2010	1	0
			SU7004	Lh Langstone Harbour	2008	2008	1	1
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	1
			SU7005	Lh Budds Farm Sewage Farm	2006	2006	2	1
			SU7005	Lh Langstone Harbour	1999	1999	1	1
			SU7104	Lh Langstone Harbour	2003	2007	2	1
<i>Circus cyaneus</i>	Hen Harrier	Sensitive BOCC_Red HBAP WCA_s1s1	SU60X	Sensitive	1993	2010	20	1
			SU60X	Sensitive	1997	2003	3	1
			SU70C	Sensitive	2007	2007	2	1
			SU70C	Sensitive	2010	2010	4	0
<i>Clangula hyemalis</i>	Long-tailed Duck	WCA_s1s1	SU6804	Lh Farlington Marshes	1998	2010	10	2
			SU6804	Lh Langstone Harbour	1998	1998	1	1
			SU7004	Lh Langstone Harbour	2001	2009	10	2
			SU7005	Lh Broadmarsh/bedhampton Shore	2001	2010	7	2
			SU7005	Lh Budds Farm Sewage Farm	2010	2010	3	0

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005 SU704054 SU7105	Lh Langstone Harbour Lh Langstone Harbour Ch Langstone	2001 2001 2005	2009 2001 2005	11 2 1	2 1 1
<i>Coccothraustes coccothraustes</i>	Hawfinch	BOCC_Red UKBAP HBAP CI	SU6706	Cosham	2002	2002	1	1
<i>Cuculus canorus</i>	Common Cuckoo	BOCC_Red UKBAP	SU6804 SU6805 SU690053 SU6904 SU693046 SU7004 SU7004 SU7005 SU7005 SU7104 SU7104 SU7108	Lh Farlington Marshes Lh Farlington Marshes Lh Langstone Harbour Lh Langstone Harbour Rspb Reserve Lh Langstone Hbr Islands (rspb) Lh Budds Farm Sewage Farm Lh Langstone Hbr Islands (rspb) Lh Broadmarsh/bedhampton Shore Lh Budds Farm Sewage Farm Ch Langstone Mill Pond Lh Langstone South Moor Ha Leigh Park Havant	1993 1994 2001 2008 2005 2004 2007 2003 2004 2001 2004 2010	2010 1999 2001 2008 2005 2004 2007 2005 2006 2001 2006 2010	100 2 1 2 2 1 1 9 7 1 6 2	7 1 2 1 2 1 1 2 1 1 2 1
<i>Cygnus columbianus</i>	Tundra Swan	HBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1999	2000	2	3
<i>Cygnus cygnus</i>	Whooper Swan	WCA_s1s1	SU6804	Lh Farlington Marshes	2008	2008	6	1
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	BOCC_Red HBAP	SU6804 SU6907 SU7007 SU715053	Lh Farlington Marshes Johnstons Copse Havant Lh Bedhampton Ch Langstone	1993 1993 1994 1998	1997 1997 2000 1998	2 6 2 1	1 2 1 1
<i>Egretta garzetta</i>	Little Egret	HBAP CR	SU6706 SU6706 SU6804 SU6804	Drayton Fort Purbrook Lh Farlington Marshes Lh Langstone Harbour	2000 2004 1994 1993	2000 2004 2010 1999	2 1 305 40	2 1 9 9

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6805	Farlington	2002	2002	1	1
			SU6904	Lh Langstone Harbour	1993	1999	24	8
			SU6905	Lh Farlington Marshes	2008	2010	8	26
			SU7004	Ch Chichester Harbour	1993	2002	2	1
			SU7004	Lh Langstone Harbour	1993	2003	21	7
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	19
			SU7005	Lh Broadmarsh/bedhampton Shore	1994	2010	3	2
			SU7005	Lh Budds Farm Sewage Farm	1996	2009	4	3
			SU7005	Lh Langstone Harbour	1993	1998	2	6
			SU7006	Lh Bedhampton Mill Pond	2001	2001	1	1
			SU7104	Ch Langstone	2004	2004	2	4
			SU7104	Ch Langstone Mill Pond	2005	2008	39	94
			SU7104	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
			SU7104	Lh Langstone Harbour	1994	1999	16	8
			SU7104	Lh Langstone South Moor	1994	2007	15	8
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	1998	1998	1	19
			SU7105	Ch Langstone Mill Pond	2007	2010	5	72
			SU7106	Havant	2001	2003	2	1
			SU7108	Ha Leigh Park Havant	2000	2009	16	8
<i>Emberiza calandra</i>	Corn Bunting	BOCC_Red HBAP CS	SU6804	Lh Farlington Marshes	1993	2011	3	8
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2002	1	1
<i>Emberiza citrinella</i>	Yellowhammer	BOCC_Red UKBAP	SU6707	Purbrook	2011	2011	1	1
			SU6804	Lh Farlington Marshes	1994	2007	21	1
			SU6808	Waterlooville	2011	2011	2	3
			SU7005	Lh Broadmarsh/bedhampton Shore	1999	2007	5	2
			SU7005	Lh Budds Farm Sewage Farm	2003	2005	2	3
			SU7008	Ha Leigh Park Havant	2011	2011	3	3
			SU7104	Lh Langstone South Moor	2003	2004	2	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Emberiza schoeniclus</i>	Reed Bunting	UKBAP HBAP	SU6804	Farlington Marshes	2010	2010	17	3
			SU6804	Lh Farlington Marshes	1996	2011	40	8
			SU684055	Farlington	2010	2010	1	1
			SU684055	Farlington Marshes	2010	2010	3	2
			SU6905	Farlington Marshes	2010	2010	2	4
			SU6905	Lh Farlington Marshes	2007	2011	3	4
			SU7004	Lh Langstone Harbour	1993	2011	2	1
			SU7005	Broadmarsh/bedhampton Shore	2010	2010	1	1
			SU7005	Farlington Marshes	2010	2010	1	2
			SU7005	Lh Broadmarsh/bedhampton Shore	2004	2008	18	5
			SU7005	Lh Budds Farm Sewage Farm	2006	2007	3	1
			SU7005	Lh Farlington Marshes	2007	2007	1	2
			SU7104	Ch Langstone Mill Pond	2004	2004	1	1
			SU7104	Lh Langstone South Moor	1994	2007	9	3
			SU7104	South Moor, Langstone Harbour	2010	2010	1	1
<i>Falco columbarius</i>	Merlin	HBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2010	156	2
			SU6804	Lh Langstone Harbour	1993	2007	100	3
			SU6904	Lh Farlington Marshes	2002	2008	2	1
			SU6904	Lh Langstone Harbour	1994	1999	17	1
			SU6904	Lh Langstone Hbr Islands (rspb)	1996	2002	2	1
			SU6905	Lh Farlington Marshes	2007	2010	6	1
			SU6905	Lh Langstone Harbour	1999	2008	2	1
			SU7004	Lh Langstone Hbr Islands (rspb)	1996	2007	5	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1999	2010	4	1
			SU7005	Lh Budds Farm Sewage Farm	1999	1999	1	1
			SU7104	Lh Langstone Harbour	1993	2001	5	1
			SU7104	Lh Langstone South Moor	2002	2002	1	1
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Falco peregrinus</i>	Peregrine Falcon	Sensitive WCA_s1s1	SU60	Sensitive	1993	2007	7	2
			SU60	Sensitive	1993	2010	154	3

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		CR	SU60	Sensitive	1996	2010	11	1
			SU60	Sensitive	1997	1998	2	1
			SU60	Sensitive	2000	2000	1	1
			SU60	Sensitive	2001	2001	1	1
			SU60	Sensitive	2001	2001	1	1
			SU60	Sensitive	2006	2006	1	2
			SU60	Sensitive	2008	2008	1	1
			SU70	Sensitive	1994	2008	28	2
			SU70	Sensitive	1994	2010	5	1
			SU70	Sensitive	1997	2010	14	2
			SU70	Sensitive	2000	2004	2	1
			SU70	Sensitive	2003	2003	1	1
			SU70	Sensitive	2010	2010	1	0
<i>Falco subbuteo</i>	Eurasian Hobby	Sensitive HBAP WCA_s1s1 CI	SU60X	Sensitive	1993	2010	273	2
			SU60X	Sensitive	1996	2010	3	1
			SU60X	Sensitive	2005	2005	2	1
			SU70C	Sensitive	1995	2010	3	1
			SU70C	Sensitive	1995	2010	4	1
			SU70C	Sensitive	2007	2007	1	1
			SU70D	Sensitive	1995	1997	2	1
			SU70D	Sensitive	1995	2001	4	1
			SU70D	Sensitive	1999	2003	2	2
			SU70E	Sensitive	2006	2006	1	1
<i>Ficedula hypoleuca</i>	Pied Flycatcher	CR	SU6804	Lh Farlington Marshes	1993	2011	37	3
			su7005	South Moor, Langstone Harbour	2010	2010	1	1
			SU7104	South Moor, Langstone Harbour	2010	2010	1	1
<i>Fringilla montifringilla</i>	Brambling	WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2005	8	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2005	2008	16	8
			SU7006	Lh Bedhampton Mill Pond	2005	2005	1	1
			SU703063	Lh Bedhampton	2003	2003	1	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7104	Lh Langstone South Moor	2003	2003	1	2
<i>Gallinago gallinago</i>	Common Snipe	HBAP CS	SU6804	Lh Farlington Marshes	1994	2010	345	98
			SU6905	Lh Farlington Marshes	2007	2008	4	6
			SU7004	Lh Langstone Hbr Islands (rspb)	1996	2007	2	26
			SU7005	Lh Broadmarsh/bedhampton Shore	2004	2007	5	8
			SU7005	Lh Budds Farm Sewage Farm	1995	2003	6	20
			SU7104	Lh Langstone South Moor	1996	2008	16	8
			SU7106	Havant	2010	2010	1	0
<i>Gavia arctica</i>	Black-throated Diver	UKBAP WCA_s1s1	SU7104	Lh Langstone Harbour	1997	2002	2	2
<i>Gavia immer</i>	Great Northern Diver	WCA_s1s1	SU6804	Lh Farlington Marshes	2001	2005	2	1
			SU6904	Lh Langstone Harbour	1999	2001	2	1
			SU6905	Lh Langstone Harbour	1999	1999	1	1
			SU700050	Lh Langstone Harbour	2001	2001	1	1
			SU7004	Lh Langstone Harbour	1999	2009	3	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2009	2009	1	2
			SU7005	Lh Langstone Harbour	1993	2009	6	1
<i>Gavia stellata</i>	Red-throated Diver	WCA_s1s1	SU7104	Lh Langstone Harbour	2006	2006	1	1
			SU6804	Lh Farlington Marshes	2002	2008	2	1
			SU6804	Lh Langstone Harbour	1993	1998	3	1
			SU6904	Lh Langstone Harbour	1998	2002	2	1
			SU7004	Lh Langstone Harbour	2003	2003	2	1
			SU7005	Lh Bedhampton	2006	2006	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2006	2006	1	1
			SU7005	Lh Budds Farm Sewage Farm	2004	2004	1	1
			SU7005	Lh Langstone Harbour	1997	2003	6	1
			SU7104	Ch Emsworth	2006	2006	1	1
<i>Glareola pratincola</i>	Collared Pratincole		SU7104	Lh Langstone Harbour	2006	2006	1	1
			SU7104	Lh Langstone South Moor	2006	2006	2	1
			SU6804	Lh Farlington Marshes	2005	2005	1	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	CS	SU6804	Lh Farlington Marshes	2000	2010	60	9
			SU6804	Lh Langstone Harbour	1994	2003	9	760
			SU683050	Lh St John's College Playing Fields	2002	2006	3	52
			SU6905	Lh Farlington Marshes	2007	2010	10	250
			SU7004	Lh Langstone Hbr Islands (rsbp)	2007	2007	1	34
			SU7005	Lh Broadmarsh/bedhampton Shore	2001	2007	26	94
			SU7005	Lh Budds Farm Sewage Farm	2005	2009	8	43
			SU7006	Lh Bedhampton	1998	2006	2	7
			SU7006	Lh Bedhampton Water Works	2005	2005	1	7
			SU7007	Lh Bedhampton	2005	2006	4	46
			SU708062	Lh Bedhampton	2002	2004	5	23
			SU7104	Lh Langstone Harbour	1995	2001	2	277
			SU7104	Lh Langstone South Moor	2005	2007	11	8
			SU7106	Havant	2004	2004	1	1
<i>Haliaeetus albicilla</i>	White-tailed Eagle	BOCC_Red WCA_s1s1	SU7007	Lh Bedhampton	2008	2008	1	1
<i>Ixobrychus minutus</i>	Little Bittern	WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2009	16	2
			SU6805	Lh Farlington Marshes	1997	1997	1	1
<i>Jynx torquilla</i>	Eurasian Wryneck	BOCC_Red UKBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	67	2
			SU6805	Farlington	2002	2002	2	1
			SU690048	Lh Farlington Marshes	2008	2008	1	1
			SU7104	Lh Langstone South Moor	2008	2008	1	1
<i>Lanius collurio</i>	Red-backed Shrike	BOCC_Red UKBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2005	19	1
<i>Larus argentatus</i>	Herring Gull	BOCC_Red CR	SU6804	Lh Farlington Marshes	1997	2001	3	40
			SU7004	Lh Langstone Harbour	1995	2003	2	300
			SU7005	Lh Broadmarsh/bedhampton Shore	2001	2007	3	370
<i>Larus fuscus</i>	Lesser Black-backed Gull	CR	SU6804	Lh Farlington Marshes	1994	2008	174	9
			SU6804	Lh Langstone Harbour	1993	1997	20	6

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7004	Lh Langstone Harbour	1999	2003	4	4
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	6	3
			SU7005	Lh Broadmarsh/bedhampton Shore	1998	2007	4	4
			SU7005	Lh Budds Farm Sewage Farm	2006	2007	2	1
			SU7005	Lh Langstone Harbour	1995	2002	9	9
			SU7104	Lh Langstone Harbour	1999	1999	1	1
<i>Larus marinus</i>	Great Black-backed Gull	CR	SU6804	Lh Farlington Marshes	2001	2010	11	51
			SU6904	Lh Langstone Harbour Rspb Reserve	2008	2008	2	5
			SU7004	Lh Langstone Harbour Rspb Reserve	2008	2008	2	49
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	5	47
<i>Larus melanocephalus</i>	Mediterranean Gull	Sensitive HBAP WCA_s1s1 CR	SU60T	Sensitive	2006	2006	1	1
			SU60X	Sensitive	1993	2010	690	8
			SU60X	Sensitive	1994	2010	14	9
			SU60X	Sensitive	1997	2009	3	10
			SU60X	Sensitive	2001	2006	3	8
			SU60X	Sensitive	2002	2002	1	1
			SU60Y	Sensitive	2000	2000	1	1
			SU60Y	Sensitive	2003	2003	1	1
			SU70C	Sensitive	1993	2007	25	94
			SU70C	Sensitive	1993	2010	140	9
			SU70C	Sensitive	1994	2010	49	83
			SU70C	Sensitive	1999	2010	14	50
			SU70C	Sensitive	2001	2001	1	1
			SU70C	Sensitive	2001	2001	1	2
			SU70C	Sensitive	2007	2007	1	2
			SU70D	Sensitive	2001	2001	1	1
			SU70D	Sensitive	2001	2001	1	2
			SU70D	Sensitive	2002	2002	1	3
			SU70D	Sensitive	2009	2009	1	3
			SU70E	Sensitive	1993	2001	3	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Larus minutus</i>	Little Gull	WCA_s1s1	SU6804	Lh Farlington Marshes	1995	2010	99	4
			SU6905	Lh Langstone Harbour	2000	2002	5	1
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	1
			SU7004	Lh Langstone Harbour	1996	2001	7	2
			SU7005	Lh Broadmarsh/bedhampton Shore	1998	2001	19	4
			SU7005	Lh Budds Farm Sewage Farm	1995	2008	42	3
			SU7005	Lh Langstone Harbour	1993	2002	15	9
			SU704054	Lh Langstone Harbour	2001	2001	1	1
			SU707052	Lh Budds Farm Sewage Farm	2008	2008	1	3
			SU7104	Lh Langstone Harbour	1994	2001	2	1
<i>Larus ridibundus</i>	Black-headed Gull	CR	SU6804	Lh Farlington Marshes	1995	2010	49	800
			SU6805	Farlington	2002	2002	1	3000
			SU683050	Lh St John's College Playing Fields	2002	2006	5	330
			SU6905	Lh Farlington Marshes	2006	2010	9	750
			SU6905	Lh Langstone Harbour	2008	2008	1	2000
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	2	4351
			SU7005	Lh Broadmarsh/bedhampton Shore	1998	1998	1	2000
			SU7005	Lh Budds Farm Sewage Farm	2000	2010	10	80
			SU7005	Lh Langstone Harbour	1995	2000	6	976
			SU7104	Lh Langstone Harbour	1996	2001	2	680
<i>Limosa lapponica</i>	Bar-tailed Godwit	HBAP	SU7105	Ch Langstone	2009	2009	1	150
			SU6804	Lh Farlington Marshes	1997	2010	34	8
			SU6804	Lh Langstone Harbour	1993	2006	13	74
			SU6904	Lh Langstone Harbour	1996	2003	6	71
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	44
			SU7004	Lh Langstone Harbour	1996	2003	26	94
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	9	9
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2004	2	300
			SU7005	Lh Budds Farm Sewage Farm	2004	2004	1	2
			SU7005	Lh Langstone Harbour	1996	2001	7	83

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU70770499	Lh Langstone Harbour	2010	2010	1	0
			SU7104	Ch Langstone	2006	2006	1	160
			SU7104	Lh Langstone Harbour	1996	2001	6	96
			SU7104	Lh Langstone South Moor	1999	1999	1	3
			SU7105	Ch Langstone	2000	2009	3	300
			SU7105	Lh Langstone Harbour	2003	2010	4	82
<i>Limosa limosa</i>	Black-tailed Godwit	BOCC_Red HBAP WCA_s1s1 CI	SU6804	Lh Farlington Marshes	1994	2010	185	95
			SU6804	Lh Langstone Harbour	1993	2007	136	95
			SU683050	Lh St John's College Playing Fields	2005	2005	1	20
			SU6904	Lh Langstone Harbour	1996	1998	4	87
			SU6905	Lh Farlington Marshes	2007	2010	15	90
			SU6905	Lh Langstone Harbour	1996	1998	7	85
			SU7004	Lh Langstone Harbour	1995	2003	7	74
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2010	3	58
			SU7005	Lh Budds Farm Sewage Farm	2004	2009	3	40
			SU7005	Lh Langstone Harbour	1998	2001	2	80
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7104	Lh Langstone Harbour	1996	2001	4	95
			SU7104	Lh Langstone South Moor	2006	2006	1	1
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	2006	2007	5	58
			SU7105	Lh Langstone Harbour	2008	2008	1	65
<i>Locustella luscinioides</i>	Savi's Warbler	BOCC_Red UKBAP WCA_s1s1 CI	SU6804	Lh Farlington Marshes	2001	2011	6	1
<i>Locustella naevia</i>	Common Grasshopper Warbler	BOCC_Red UKBAP HBAP	SU6804	Lh Farlington Marshes	1993	2009	51	9
			SU6805	Farlington	2002	2002	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2004	2	1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		CR	SU710067 SU7104	Lh Hermitage Stream Bedhampton Lh Langstone South Moor	2002 1997	2002 2004	1 2	1 1
<i>Loxia curvirostra</i>	Common Crossbill	WCA_s1s1 CS	SU6804 SU7005	Lh Farlington Marshes Lh Broadmarsh/bedhampton Shore	1997 2005	1997 2005	1 2	1 4
<i>Lullula arborea</i>	Wood Lark	Sensitive UKBAP HBAP WCA_s1s1 CI	SU70C	Sensitive	2005	2010	5	3
<i>Luscinia megarhynchos</i>	Common Nightingale	HBAP CS	SU6804 SU6808 SU6908 SU7005	Lh Farlington Marshes Waterlooville Sz39 Lh South Moor, Langstone Harbour	1993 2011 1999 2011	2011 2011 1999 2011	19 1 1 1	1 1 1 1
<i>Melanitta fusca</i>	Velvet Scoter	WCA_s1s1	SU6904 SU7005 SU7104	Lh Langstone Harbour Lh Budds Farm Sewage Farm Lh Langstone Harbour	2007 2010 2007	2007 2010 2007	1 1 1	2 0 2
<i>Melanitta nigra</i>	Common Scoter	BOCC_Red UKBAP HBAP WCA_s1s1	SU6904 SU7004 SU7005 SU7104 SU7104	Lh Langstone Harbour Lh Langstone Harbour Lh Langstone Harbour Lh Langstone Harbour Lh Langstone South Moor	2007 1996 1996 1996 2006	2007 2009 2002 2003 2006	1 13 3 2 1	3 2 1 1 1
<i>Mergellus albellus</i>	Smew		SU6905 SU7004 SU7005	Lh Langstone Harbour Lh Langstone Hbr Islands (rspb) Lh Langstone Harbour	1999 1999 1997	1999 1999 1997	1 1 1	1 1 1
<i>Mergus merganser</i>	Goosander	HBAP CR	SU6804 SU6904 SU6905 SU700050 SU7004 SU7005	Lh Farlington Marshes Lh Langstone Harbour Lh Langstone Harbour Ch Langstone Mill Pond Lh Langstone Harbour Lh Broadmarsh/bedhampton Shore	1995 1995 1999 1999 1993 1998	2010 1997 1999 1999 2002 2000	4 2 1 1 7 7	6 1 1 1 3 1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005	Lh Budds Farm Sewage Farm	1993	2008	8	2
			SU7005	Lh Langstone Harbour	1993	1999	30	4
			SU7006	Lh Bedhampton Mill Pond	1999	1999	1	1
			SU7006	Lh Hermitage Stream Bedhampton	2000	2000	1	1
			SU7104	Lh Langstone Harbour	1994	1997	4	3
			SU7105	Ch Langstone	1999	1999	1	1
<i>Mergus serrator</i>	Red-breasted Merganser	HBAP	SU6804	Lh Farlington Marshes	1995	2010	20	6
			SU6804	Lh Langstone Harbour	1994	2007	5	60
			SU6905	Lh Farlington Marshes	2009	2010	4	40
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	0
			SU7004	Lh Langstone Harbour	1995	2009	10	90
			SU7005	Lh Budds Farm Sewage Farm	1996	2010	2	1
			SU7005	Lh Langstone Harbour	2009	2009	1	40
			SU7104	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
			SU7104	Lh Langstone Harbour	2002	2006	6	82
			SU7105	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Milvus migrans</i>	Black Kite		SU7107	Havant	2009	2009	1	1
<i>Milvus milvus</i>	Red Kite	Sensitive HBAP WCA_s1s1 CR	SU60X	Sensitive	1996	2010	7	2
			SU70C	Sensitive	2009	2009	1	1
			SU70D	Sensitive	2010	2010	2	0
			SU70E	Sensitive	2009	2009	1	2
<i>Motacilla flava</i>	Yellow Wagtail	BOCC_Red HBAP CR	SU6804	Lh Farlington Marshes	1993	2011	476	97
			SU6904	Lh Langstone Harbour	1993	2004	2	5
			SU6905	Lh Farlington Marshes	2007	2011	6	6
			SU7004	Lh Langstone Hbr Islands (rsph)	2003	2003	4	2
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2005	14	8
			SU7005	Lh Budds Farm Sewage Farm	1996	2010	8	8
			SU7005	Lh Langstone Harbour	2008	2008	1	30
			SU7005	Lh South Moorlangstone Harbour	2010	2010	3	0
			SU7006	Lh Bedhampton	1998	1998	1	19

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU704055	Lh Broadmarsh/bedhampton Shore	2011	2011	1	10
			SU7104	Lh Langstone South Moor	1994	2007	19	9
			SU7104	Lh South Moor, Langstone Harbour	2009	2009	2	9
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Lh Langstone South Moor	1995	2006	2	67
			SU7106	Havant	2002	2002	1	1
<i>Motacilla flava subsp. flava</i>	Blue-Headed Wagtail	BOCC_Red HBAP CR	SU6804	Lh Farlington Marshes	1994	2006	12	3
			SU6804	Farlington Marshes	2010	2010	4	3
			SU6804	Lh Farlington Marshes	1994	2011	129	5
			SU6805	Farlington	1997	1997	1	1
			SU687047	Lh Farlington Marshes	2011	2011	1	1
			SU6905	Lh Farlington Marshes	2008	2008	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2004	2	1
			su7005	South Moor, Langstone Harbour	2010	2010	1	1
			SU7006	Lh Bedhampton Mill Pond	2001	2003	2	1
			SU7006	Lh Hermitage Stream Bedhampton	1998	1998	1	1
			SU7007	Lh Bedhampton	2005	2005	1	2
			SU7007	Lh Hermitage Stream Bedhampton	2009	2009	1	1
			SU704055	Lh Broadmarsh/bedhampton Shore	2011	2011	1	1
			SU708058	Lh Brockhampton Stream	2003	2003	1	1
			SU7104	Lh Langstone South Moor	1994	2007	5	1
			SU7104	South Moor, Langstone Harbour	2010	2010	1	1
			SU6804	Lh Farlington Marshes	1995	2010	47	93
			SU6804	Lh Langstone Harbour	1993	2006	13	550
			SU6805	Lh Langstone Harbour	1998	1998	1	205
			SU683050	Lh St John's College Playing Fields	2001	2006	20	83
			SU688070	Portsdown Hill	1998	1998	1	105
			SU690066	Portsdown Hill	1998	1998	1	13

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6905	Lh Farlington Marshes	2007	2010	10	250
			SU692068	Lh Bedhampton	2001	2003	2	77
			SU7004	Lh Langstone Harbour	1994	2000	12	700
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	80
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2007	3	1
			SU7104	Lh Langstone Harbour	1994	1999	6	9
			SU7104	Lh Langstone South Moor	2004	2007	14	9
<i>Numenius phaeopus</i>	Whimbrel	BOCC_Red WCA_s1s1	SU6804	Lh Farlington Marshes	1996	2010	64	9
			SU6804	Lh Langstone Harbour	1993	2006	43	93
			SU6904	Lh Langstone Harbour	1994	2003	10	59
			SU6905	Lh Broadmarsh/bedhampton Shore	2003	2003	1	3
			SU6905	Lh Farlington Marshes	2007	2007	1	15
			SU6905	Lh Langstone Harbour	1996	1999	7	8
			SU700050	Lh Langstone Harbour	2001	2001	2	3
			SU7004	Lh Langstone Harbour	1994	2003	9	9
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	5
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2010	2	9
			SU7005	Lh Budds Farm Sewage Farm	2006	2010	2	1
			SU7005	Lh Langstone Harbour	1996	2008	7	8
			SU7104	Ch Langstone Mill Pond	2007	2007	1	1
			SU7104	Lh Langstone Harbour	1993	2003	8	8
			SU7104	Lh Langstone South Moor	1999	2006	3	8
<i>Oenanthe oenanthe</i>	Northern Wheatear	CS	SU6804	Lh Farlington Marshes	1993	2011	1192	97
			SU6805	Farlington	2002	2002	1	2
			SU686047	Lh Farlington Marshes	2011	2011	1	3
			SU6904	Lh Langstone Harbour	1994	2011	3	1
			SU6905	Lh Farlington Marshes	2007	2011	14	7
			SU693046	Lh Langstone Hbr Islands (rspb)	2005	2005	2	1
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1994	2010	63	8

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005	Lh Budds Farm Sewage Farm	1993	2006	6	4
			SU7005	Lh Langstone Harbour	2006	2008	2	2
			SU7005	Lh Langstone South Moor	2003	2008	2	1
			SU7005	Lh South Moor, Langstone Harbour	2011	2011	3	4
			SU7005	Lh South Moorlangstone Harbour	2010	2010	3	0
			SU7006	Lh Bedhampton	1998	1998	1	1
			SU7006	Lh Hermitage Stream Bedhampton	2001	2003	2	2
			SU704055	Lh Broadmarsh/bedhampton Shore	2011	2011	1	1
			SU7104	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
			SU7104	Lh Langstone South Moor	1993	2008	93	9
			SU7104	Lh South Moorlangstone Harbour	2010	2010	3	0
			SU7105	Lh South Moor, Langstone Harbour	2011	2011	2	2
<i>Pandion haliaetus</i>	Osprey	WCA_s1s1	SU6804	Lh Farlington Marshes	2002	2010	71	2
			SU6804	Lh Langstone Harbour	1993	2007	10	2
			SU6805	Farlington	2002	2002	2	2
			SU6904	Lh Langstone Harbour	1995	1999	3	1
			SU6904	Lh Langstone Harbour Rspb Reserve	2008	2008	9	2
			SU6905	Lh Farlington Marshes	2008	2010	8	2
			SU6905	Lh Langstone Harbour	1997	2008	2	1
			SU695045	Lh Langstone Harbour	2010	2010	1	0
			SU7004	Lh Langstone Harbour	2003	2006	2	1
			SU7004	Lh Langstone Harbour Rspb Reserve	2008	2008	9	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	2	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2010	2	1
			SU7005	Lh Budds Farm Sewage Farm	2008	2010	5	1
			SU7005	Lh Langstone Harbour	2000	2010	3	1
			SU7104	Lh Hayling Oysterbeds	2007	2007	1	1
			SU7104	Lh Langstone Harbour	2002	2002	1	2
			SU7104	Lh Langstone South Moor	2006	2008	2	1
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Panurus biarmicus</i>	Bearded Tit	HBAP WCA_s1s1 CR	SU6804	Farlington Marshes	2010	2010	31	8
			SU6804	Lh Farlington Marshes	1993	2011	427	9
			SU68540469	Farlington Marshes	2010	2010	1	2
			SU686047	Lh Farlington Marshes	2008	2008	1	5
			SU6904	Lh Langstone Harbour	2008	2011	2	5
			SU6905	Farlington Marshes	2010	2010	2	12
			SU6905	Lh Farlington Marshes	2009	2011	3	2
			SU7005	Lh Farlington Marshes	2011	2011	1	2
<i>Passer domesticus</i>	House Sparrow	BOCC_Red UKBAP	SU6707	Purbrook	2011	2011	1	1
			SU6804	Lh Farlington Marshes	1999	2007	8	7
			SU6806	Purbrook	2011	2011	1	0
			SU6808	Waterlooville	2011	2011	2	5
			SU7004	Lh Langstone Harbour	2011	2011	1	5
			SU7006	Havant	2011	2011	1	6
			SU7006	Lh Bedhampton	2009	2009	1	32
			SU7008	Ha Leigh Park Havant	2011	2011	1	0
<i>Passer montanus</i>	Eurasian Tree Sparrow	Sensitive BOCC_Red UKBAP HBAP CR	SU60X	Sensitive	1995	2005	3	2
			SU70C	Sensitive	2003	2003	1	1
<i>Perdix perdix</i>	Grey Partridge	BOCC_Red UKBAP HBAP	SU6805	Ne Polecat Corner	2004	2004	1	14
<i>Pernis apivorus</i>	European Honey-buzzard	Sensitive HBAP WCA_s1s1 CR	SU60	Sensitive	1999	2008	5	3
			SU70	Sensitive	2000	2000	1	1
			SU70	Sensitive	2000	2000	1	1
			SU70	Sensitive	2000	2000	1	3
			SU70	Sensitive	2010	2010	1	0

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Phalaropus lobatus</i>	Red-necked Phalarope	BOCC_Red UKBAP WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	11	1
<i>Philomachus pugnax</i>	Ruff	BOCC_Red WCA_s1s1	SU6804 SU683050 SU7005	Lh Farlington Marshes Lh St John's College Playing Fields Lh Langstone Harbour	1993 2003 1996	2010 2003 2000	226 3 2	5 1 6
<i>Phoenicurus ochruros</i>	Black Redstart	Sensitive WCA_s1s1 CR	SU60X SU60X SU60X SU70C SU70C	Sensitive Sensitive Sensitive Sensitive Sensitive	1995 2009 2010 1996 1996	2009 2010 2010 1997 1998	17 3 1 3 2	1 1 0 1 1
<i>Phoenicurus phoenicurus</i>	Common Redstart	CI	SU6804 SU684046 SU6904 SU6905 SU7004 SU7005 SU7005 SU7007 SU704055 SU7104 SU7104	Lh Farlington Marshes Lh Farlington Marshes Lh Farlington Marshes Lh Farlington Marshes Lh Langstone South Moor Lh Broadmarsh/bedhampton Shore Lh Budds Farm Sewage Farm Lh Bedhampton Lh Broadmarsh/bedhampton Shore Ch Langstone Mill Pond Lh Langstone South Moor	1993 2009 2008 2008 2006 1994 2004 2004 2011 1998 1994	2011 2009 2008 2008 2006 2005 2004 2004 2011 1998 2007	297 1 1 1 1 6 1 1 1 1 15	9 1 1 1 1 3 1 1 2 1 3
<i>Platalea leucorodia</i>	Eurasian Spoonbill	WCA_s1s1	SU6804 SU6804 SU6905 SU7004 SU7005 SU7104	Lh Farlington Marshes Lh Langstone Harbour Lh Farlington Marshes Lh Langstone Hbr Islands (rspb) Lh Langstone Harbour Ch Langstone Mill Pond	1995 2009 2007 2007 2002 2002	2009 2009 2009 2007 2002 2002	103 1 2 3 1 1	4 1 1 3 1 1
<i>Plectrophenax nivalis</i>	Snow Bunting	WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2005	6	3
<i>Pluvialis apricaria</i>	European Golden	HBAP	SU6804	Lh Farlington Marshes	1994	2010	194	98

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
	Plover		SU6804	Lh Langstone Harbour	1993	1999	10	9
			SU688045	Lh Farlington Marshes	2009	2009	1	5
			SU6904	Lh Farlington Marshes	2003	2003	1	2
			SU6904	Lh Langstone Harbour	2003	2003	2	1
			SU6905	Lh Farlington Marshes	2008	2010	3	60
			SU7005	Lh Broadmarsh/bedhampton Shore	2003	2007	6	8
			SU7005	Lh Budds Farm Sewage Farm	2010	2010	1	0
			SU7104	Ch Chichester Hbr Hampshire Sectors	1997	1999	4	400
			SU7104	Ch Emsworth	2006	2006	1	500
			SU7104	Ch Langstone	2005	2006	3	90
			SU7104	Ch Langstone Mill Pond	1997	2007	3	600
			SU7104	Lh Langstone South Moor	1995	2005	5	700
			SU7105	Ch Chichester Hbr Hampshire Sectors	1999	1999	1	150
			SU7105	Ch Langstone	2000	2009	5	350
			SU7105	Lh Langstone Harbour	2007	2008	2	40
<i>Pluvialis squatarola</i>	Grey Plover	HBAP CI	SU6804	Lh Farlington Marshes	2002	2010	53	96
			SU6804	Lh Langstone Harbour	1993	2006	27	99
			SU6904	Lh Langstone Harbour	1995	2008	6	950
			SU6905	Lh Farlington Marshes	2008	2010	8	70
			SU6905	Lh Langstone Harbour	1999	1999	1	24
			SU7004	Lh Langstone Hbr Islands (rsbp)	2005	2007	2	42
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Podiceps auritus</i>	Slavonian Grebe	HBAP WCA_s1s1	SU6804	Lh Farlington Marshes	2004	2007	2	2
			SU6804	Lh Langstone Harbour	1997	1997	1	1
			SU6904	Lh Langstone Harbour	1994	1998	8	2
			SU7004	Lh Langstone Harbour	1993	2009	13	2
			SU7005	Lh Broadmarsh/bedhampton Shore	2009	2009	2	2
			SU7005	Lh Langstone Harbour	1996	2002	2	2
			SU7104	Lh Langstone Harbour	1994	2003	15	3
			SU7105	Lh Langstone Harbour	2003	2003	1	1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Podiceps cristatus</i>	Great Crested Grebe	CI	SU6804	Lh Farlington Marshes	1997	2010	13	9
			SU6804	Lh Langstone Harbour	1995	2009	8	58
			SU6904	Lh Langstone Harbour	1994	2003	13	52
			SU6905	Lh Farlington Marshes	2010	2010	2	0
			SU6905	Lh Langstone Harbour	1994	2010	6	85
			SU7004	Lh Langstone Harbour	1995	2009	16	9
			SU7005	Lh Budds Farm Sewage Farm	2010	2010	1	0
			SU7005	Lh Langstone Harbour	1995	1999	5	42
			SU7104	Lh Langstone Harbour	1998	1999	3	96
<i>Podiceps nigricollis</i>	Black-necked Grebe	HBAP WCA_s1s1	SU6804	Lh Farlington Marshes	2001	2010	3	4
			SU6804	Lh Langstone Harbour	1993	2009	6	6
			SU6904	Lh Langstone Harbour	1994	2009	28	8
			SU6905	He Hook With Warsash	1999	1999	1	2
			SU6905	Lh Langstone Harbour	1994	2001	16	7
			SU692052	Lh Langstone Harbour	2000	2000	1	1
			SU697048	Langstone Harbour, Chalkdock Lake	2002	2002	1	9
			SU700050	Lh Langstone Harbour	2001	2001	2	3
			SU7004	Lh Langstone Harbour	1993	2009	84	9
			SU7005	Lh Broadmarsh/bedhampton Shore	2001	2009	2	1
			SU7005	Lh Budds Farm Sewage Farm	1995	2010	5	2
			SU7005	Lh Langstone Harbour	2000	2009	6	4
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7006	Lh Langstone Harbour	2008	2008	1	1
			SU7104	Lh Langstone Harbour	2000	2006	12	9
<i>Poecile palustris</i>	Marsh Tit	BOCC_Red	SU6904	Lh Farlington Marshes	1998	1998	1	1
			SU7005	Lh Budds Farm Sewage Farm	2002	2002	1	1
			SU7108	Ha Leigh Park Havant	2006	2006	2	1
<i>Porzana porzana</i>	Spotted Crake	WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2010	106	2
			SU6905	Lh Farlington Marshes	2007	2009	3	1
<i>Pyrrhula pyrrhula</i>	Common Bullfinch	HBAP	SU6707	Purbrook	2011	2011	1	2

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6804	Lh Farlington Marshes	1993	2009	99	6
			SU6805	Lh Farlington Marshes	1994	1999	11	2
			SU6808	Waterlooville	2011	2011	1	1
			su686053	Lh Farlington Marshes	2009	2009	1	2
			SU6904	Lh Farlington Marshes	1999	1999	1	1
			SU6905	Lh Farlington Marshes	2004	2004	1	2
			SU7005	Lh Broadmarsh/bedhampton Shore	2002	2007	16	9
			SU7005	Lh Budds Farm Sewage Farm	2000	2006	2	2
			SU7005	Lh Langstone Harbour	2002	2002	1	2
			SU7007	Lh Hermitage Stream Bedhampton	2009	2009	1	1
			SU7008	Ha Leigh Park Havant	2011	2011	2	1
			SU7104	Ch Langstone Mill Pond	2007	2007	1	3
			SU7104	Lh Langstone South Moor	2004	2007	4	2
			SU7108	Havant	2011	2011	1	2
<i>Rallus aquaticus</i>	Water Rail	CS	SU6804	Lh Farlington Marshes	1993	2010	178	9
			SU6904	Lh Langstone Harbour	2008	2008	1	1
			SU6905	Lh Farlington Marshes	2008	2010	2	1
			SU7005	Lh Budds Farm Sewage Farm	1994	2010	37	2
			SU7005	Lh South Moor, Langstone Harbour	2009	2009	1	1
			SU7006	Lh Hermitage Stream Bedhampton	2000	2000	1	1
			SU7007	Ha Leigh Park Havant	2010	2010	3	0
			SU7007	Lh Hermitage Stream Bedhampton	2008	2009	8	1
			SU7104	Ch Langstone Mill Pond	1999	2007	8	2
			SU7104	Lh Langstone South Moor	1999	1999	1	1
			SU7105	Havant	2005	2005	1	1
<i>Recurvirostra avosetta</i>	Pied Avocet	WCA_s1s1 CR	SU6804	Lh Farlington Marshes	1993	2010	451	9
			SU6804	Lh Langstone Harbour	1997	2009	20	9
			SU6904	Lh Langstone Harbour	2003	2003	1	3
			SU6905	Lh Farlington Marshes	2007	2010	9	4
			SU7004	Lh Langstone Harbour	2003	2003	1	4

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2001	9	1
			SU7005	Lh Budds Farm Sewage Farm	2002	2002	1	3
			SU7005	Lh Langstone Harbour	1999	2002	2	1
			SU7104	Lh Langstone Harbour	2006	2006	1	2
<i>Regulus ignicapilla</i>	Firecrest	Sensitive HBAP WCA_s1s1 CS	SU60X	Sensitive	1993	2011	36	2
			SU60X	Sensitive	1998	1998	4	2
			SU60X	Sensitive	2003	2003	1	1
			SU70C	Sensitive	1995	2010	8	1
			SU70C	Sensitive	2008	2008	1	1
			SU70D	Sensitive	2001	2002	2	1
			SU70D	Sensitive	2004	2004	1	1
			SU70D	Sensitive	2008	2008	1	1
			SU70E	Sensitive	2011	2011	3	1
<i>Riparia riparia</i>	Sand Martin	CS	SU6804	Lh Farlington Marshes	1993	2010	335	90
			SU6905	Lh Langstone Harbour	2003	2003	1	2
			SU7004	Lh Langstone Harbour	2001	2001	1	16
			SU7005	Lh Broadmarsh/bedhampton Shore	1996	2003	8	5
			SU7005	Lh Budds Farm Sewage Farm	1995	2009	31	7
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7007	Lh Bedhampton	2005	2005	1	1
			SU7104	Lh Langstone South Moor	1996	2007	4	6
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	1997	1997	1	1
<i>Saxicola rubetra</i>	Whinchat	HBAP CR	SU6804	Lh Farlington Marshes	1993	2011	668	97
			SU6805	Farlington	2002	2002	2	5
			SU6806	Portsdown Hill	2000	2000	1	1
			SU686047	Lh Farlington Marshes	2011	2011	1	1
			SU6905	Lh Farlington Marshes	2008	2010	5	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1994	2007	30	7
			SU7005	Lh Budds Farm Sewage Farm	2006	2006	1	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7005	Lh South Moor, Langstone Harbour	2011	2011	2	3
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7006	Lh Hermitage Stream Bedhampton	2001	2003	2	1
			SU7104	Lh Langstone South Moor	1994	2007	27	4
			SU7104	Lh South Moor, Langstone Harbour	2009	2009	1	1
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Serinus serinus</i>	European Serin	WCA_s1s1	SU7005	Lh Broadmarsh/bedhampton Shore	2004	2004	1	1
<i>Stercorarius parasiticus</i>	Arctic Skua	BOCC_Red UKBAP	SU6804	Lh Farlington Marshes	2002	2003	3	1
			SU6804	Lh Langstone Harbour	1993	2003	5	1
			SU7104	Lh Langstone South Moor	2000	2000	2	1
<i>Sterna dougallii</i>	Roseate Tern	Sensitive BOCC_Red UKBAP HBAP WCA_s1s1 CR	SU60	Sensitive	2002	2002	1	1
<i>Sterna hirundo</i>	Common Tern	CR	SU6804	Lh Farlington Marshes	2002	2010	18	9
			SU7004	Lh Langstone Harbour	1995	2002	3	42
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	3	87
			SU7005	Lh Langstone Harbour	1996	2001	3	9
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7104	Lh Langstone Harbour	1995	2000	2	25
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Sterna paradisaea</i>	Arctic Tern		SU6804	Lh Farlington Marshes	1995	1999	2	3
			SU6804	Lh Langstone Harbour	1994	2003	2	2
			SU6904	Lh Langstone Harbour	2006	2006	1	1
			SU7004	Lh Langstone Harbour	1997	1997	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1998	1998	1	3
			SU7005	Lh Langstone Harbour	1999	1999	1	2
			SU7104	Lh Langstone Harbour	2001	2003	2	19

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Sterna sandvicensis</i>	Sandwich Tern	CR	SU6804	Lh Farlington Marshes	1995	2010	13	3
			SU6804	Lh Langstone Harbour	2003	2003	1	1
			SU6905	Lh Farlington Marshes	2008	2010	2	1
			SU6905	Lh Langstone Harbour	1995	2003	3	2
			SU7004	Lh Langstone Harbour	1995	2003	5	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2003	2007	7	9
			SU7005	Lh Broadmarsh/bedhampton Shore	2001	2009	4	2
			SU7005	Lh Budds Farm Sewage Farm	2008	2008	1	2
			SU7005	Lh Langstone Harbour	2000	2008	10	5
			SU7104	Ch Langstone	2004	2004	1	1
			SU7104	Lh Langstone Harbour	1993	2003	2	1
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	2007	2007	1	1
<i>Sternula albifrons</i>	Little Tern	HBAP WCA_s1s1 CR	SU6804	Lh Farlington Marshes	1996	2010	13	7
			SU6904	Lh Langstone Harbour	1994	1999	3	2
			SU6905	Lh Farlington Marshes	2009	2010	2	40
			SU7004	Lh Langstone Harbour	1994	2001	4	90
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	8	6
			SU7005	Lh Farlington Marshes	2010	2010	1	0
			SU7104	Lh Langstone Harbour	1999	1999	1	4
<i>Streptopelia turtur</i>	European Turtle Dove	BOCC_Red UKBAP HBAP	SU6804	Lh Farlington Marshes	1993	2007	47	3
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2002	2	2
			SU7005	Lh Budds Farm Sewage Farm	2003	2003	1	1
<i>Sturnus vulgaris</i>	Common Starling	BOCC_Red	SU6705	Farlington	2007	2007	2	9
			SU6804	Farlington Marshes	2010	2010	7	500
			SU6804	Langstone Harbour	2010	2010	2	100
			SU6804	Lh Farlington Marshes	1993	2011	203	90
			SU6805	Farlington	1997	2000	2	4000
			SU6806	Purbrook	2011	2011	1	0
			SU6808	Waterlooville	2011	2011	5	4

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6904	Lh Langstone Harbour	2001	2001	1	2000
			SU6904	Lh Langstone Hbr Islands (rsbp)	2004	2004	1	280
			SU6905	Farlington Marshes	2010	2010	4	500
			SU6905	Lh Farlington Marshes	2007	2011	12	650
			SU7004	Lh Langstone Harbour	1993	2011	2	29
			SU7005	Broadmarsh/bedhampton Shore	2010	2010	1	82
			SU7005	Farlington Marshes	2010	2010	1	100
			SU7005	Lh Broadmarsh/bedhampton Shore	2004	2008	42	90
			SU7005	Lh Budds Farm Sewage Farm	1996	2006	5	600
			SU7005	Lh Farlington Marshes	2007	2011	2	100
			su7005	South Moor, Langstone Harbour	2010	2010	1	300
			SU7006	Lh Broadmarsh/bedhampton Shore	2004	2004	1	300
			SU7008	Ha Leigh Park Havant	2011	2011	3	75
			SU7104	Lh Langstone South Moor	2006	2006	1	1250
<i>Sylvia nisoria</i>	Barred Warbler	Sensitive HBAP WCA_s1s1 CI	SU6804	Lh Farlington Marshes	2000	2000	1	1
			SU689049	Lh Farlington Marshes	2003	2003	1	1
<i>Sylvia undata</i>	Dartford Warbler		SU60X	Sensitive	1993	2011	139	5
			SU60X	Sensitive	2002	2002	1	1
			SU70C	Sensitive	1993	2003	5	1
			SU70C	Sensitive	2000	2000	3	1
<i>Tadorna ferruginea</i>	Ruddy Shelduck	CI	SU6804	Lh Farlington Marshes	1995	2010	26	4
			SU6904	Lh Langstone Harbour	1999	1999	1	4
			SU6905	Lh Farlington Marshes	2010	2010	1	0
			SU7005	Lh Budds Farm Sewage Farm	2005	2005	1	1
			SU704055	Lh Broadmarsh/bedhampton Shore	2010	2010	1	0
<i>Tadorna tadorna</i>	Common Shelduck		SU6804	Lh Farlington Marshes	1996	2010	81	94
			SU6804	Lh Langstone Harbour	1995	2006	35	90
			SU6904	Lh Langstone Harbour	1993	2000	3	15
			SU6905	Lh Farlington Marshes	2007	2010	5	90
			SU7004	Lh Langstone Harbour	1993	2000	16	8

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7004	Lh Langstone Harbour Rspb Reserve	2008	2009	3	7
			SU7004	Lh Langstone Hbr Islands (rspb)	2007	2007	5	30
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2001	8	7
			SU7005	Lh Budds Farm Sewage Farm	1996	2010	47	9
			SU7005	Lh Langstone Harbour	1996	2008	3	2
			SU7006	Lh Bedhampton Mill Pond	2000	2000	1	1
			SU7104	Ch Langstone Mill Pond	2001	2001	1	1
			SU7104	Lh Langstone South Moor	2006	2006	1	6
			SU7105	Lh Langstone Harbour	2007	2007	1	60
<i>Tringa glareola</i>	Wood Sandpiper	WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2007	45	5
<i>Tringa nebularia</i>	Common Greenshank	WCA_s1s1	SU6804	Lh Farlington Marshes	1994	2010	257	9
			SU6804	Lh Langstone Harbour	1993	2007	148	9
			SU6904	Lh Langstone Harbour	2002	2002	1	1
			SU6905	Lh Farlington Marshes	2007	2010	13	4
			SU6905	Lh Langstone Harbour	2001	2001	1	1
			SU695051	Lh Langstone Harbour	2003	2003	2	2
			SU700050	Ch Chichester Hbr Hampshire Sectors	1999	1999	2	1
			SU700050	Lh Langstone Harbour	2001	2001	1	1
			SU7004	Lh Langstone Harbour	1996	2002	2	2
			SU7004	Lh Langstone Hbr Islands (rspb)	2005	2005	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2000	2008	5	25
			SU7005	Lh Budds Farm Sewage Farm	2004	2005	2	1
			SU7005	Lh Langstone Harbour	1996	2004	2	1
			SU708058	Lh Brockhampton Stream	2008	2008	1	1
			SU7104	Ch Langstone	2006	2006	2	4
			SU7104	Lh Langstone Harbour	2006	2007	4	1
			SU7104	Lh Langstone South Moor	1996	2006	4	2
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7105	Ch Langstone	2000	2007	3	3
			SU7105	Lh Langstone Harbour	2007	2010	3	1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Tringa ochropus</i>	Green Sandpiper	WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	389	9
			SU6905	He Hook With Warsash	1999	1999	1	2
			SU6905	Lh Farlington Marshes	2008	2009	5	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1997	2007	4	2
			SU7005	Lh Budds Farm Sewage Farm	1993	2010	104	9
			SU7005	Lh Langstone Harbour	2008	2008	2	1
			SU7005	Lh South Moorlangstone Harbour	2010	2010	2	0
			SU7006	Lh Bedhampton Water Works	1995	2000	11	2
			SU7006	Lh Hermitage Stream Bedhampton	1997	2008	34	4
			SU7007	Ha Leigh Park Havant	2010	2010	33	0
			SU7007	Lh Bedhampton	2004	2005	10	1
			SU7007	Lh Hermitage Stream Bedhampton	2008	2009	39	5
			SU703058	Lh Hermitage Stream Bedhampton	2000	2000	1	1
			SU707053	Lh Bedhampton	2009	2009	1	2
			SU7104	Ch Langstone Mill Pond	1997	2006	5	1
			SU7104	Lh Langstone Harbour	2003	2003	1	1
			SU7104	Lh Langstone South Moor	1994	2005	47	2
			SU7104	Lh South Moorlangstone Harbour	2010	2010	3	0
			SU7105	Ch Langstone	1999	1999	1	2
			SU7105	Lh Langstone South Moor	2003	2003	1	1
			SU7106	Havant	2001	2010	3	5
<i>Tringa totanus</i>	Common Redshank	HBAP	SU6804	Lh Farlington Marshes	1995	2010	141	9
			SU6804	Lh Langstone Harbour	1993	2004	57	730
			SU6904	Lh Langstone Harbour	1993	2003	6	70
			SU6905	Lh Farlington Marshes	2007	2010	11	400
			SU7004	Lh Langstone Harbour	1993	2001	6	97
			SU7005	Lh Budds Farm Sewage Farm	2008	2010	10	87
			SU7005	Lh Langstone Harbour	2000	2000	1	160
			SU7007	Lh Bedhampton	2005	2005	1	1
<i>Turdus iliacus</i>	Redwing	BOCC_Red	SU6707	Purbrook	2011	2011	1	100

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		WCA_s1s1	SU6804	Lh Farlington Marshes	1993	2010	70	80
			SU6805	Lh Farlington Marshes	1997	1997	2	35
			SU6806	Purbrook	2011	2011	1	0
			SU684055	Farlington	2010	2010	1	0
			SU7005	Lh Broadmarsh/bedhampton Shore	2005	2007	23	9
			SU7005	Lh Budds Farm Sewage Farm	1996	2010	2	1
			SU7005	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7007	Lh Bedhampton	1996	2005	3	40
			SU7008	Ha Leigh Park Havant	2011	2011	2	95
			SU7104	Lh Langstone South Moor	2005	2005	1	16
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
			SU7106	Havant	1996	1998	2	3
			SU7107	Havant	2004	2004	2	10
			SU7108	Ha Leigh Park Havant	2005	2005	1	2
<i>Turdus philomelos</i>	Song Thrush	BOCC_Red HBAP	SU67900730	Sandy Dell/Widley Park	2010	2010	1	0
			SU6804	Lh Farlington Marshes	1993	2011	63	8
			SU6806	Purbrook	2011	2011	1	2
			SU6808	Waterlooville	2011	2011	2	7
			SU7004	Lh Langstone Harbour	2011	2011	2	1
			SU7005	Lh Broadmarsh/bedhampton Shore	2005	2010	18	8
			SU7008	Ha Leigh Park Havant	2011	2011	4	3
			SU7104	Lh South Moorlangstone Harbour	2010	2010	1	0
<i>Turdus pilaris</i>	Fieldfare	BOCC_Red WCA_s1s1	SU6707	Purbrook	2011	2011	1	250
			SU6804	Lh Farlington Marshes	1994	2010	27	9
			SU6806	Purbrook	2011	2011	1	0
			SU683050	Lh St John's College Playing Fields	2003	2003	1	1
			SU7005	Lh Broadmarsh/bedhampton Shore	1994	2007	21	7
			SU7006	Lh Bedhampton	2003	2003	1	123
			SU7006	Lh Bedhampton Water Works	1999	1999	1	2
			SU7007	Lh Bedhampton	2003	2003	1	16

sharing information about Hampshire's wildlife

The Hampshire Biodiversity Information Centre Partnership includes local authorities, government agencies, wildlife charities and biological recording groups.

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU7104	Lh Langstone South Moor	2003	2004	2	15
			SU7106	Havant	2003	2003	1	6
<i>Turdus torquatus</i>	Ring Ouzel	BOCC_Red UKBAP	SU6804	Lh Farlington Marshes	1993	2010	30	3
			SU6805	Farlington	2003	2003	1	1
			SU7005	Lh Budds Farm Sewage Farm	2011	2011	1	1
			SU704055	Lh Broadmarsh/bedhampton Shore	2011	2011	1	1
<i>Tyto alba</i>	Barn Owl	WCA_s1s1	SU6804	Lh Farlington Marshes	1995	2010	36	1
			SU6905	Lh Langstone Harbour	2004	2004	1	1
			SU7104	Lh Langstone South Moor	1999	2003	2	1
			SU7105	Lh Brockhampton Stream	2010	2010	1	0
<i>Upupa epops</i>	Hoopoe	WCA_s1s1	SU7105	Ch Langstone	2005	2005	1	1
<i>Vanellus vanellus</i>	Northern Lapwing	BOCC_Red UKBAP HBAP	SU6804	Lh Farlington Marshes	1993	2010	45	809
			SU6804	Lh Langstone Harbour	1993	2006	52	760
			SU683050	Lh St John's College Playing Fields	2001	2003	7	95
			SU6905	Drayton	1997	1997	1	250
			SU6905	Lh Bedhampton	1999	1999	1	270
			SU6905	Lh Farlington Marshes	2007	2007	2	350
			SU6905	Lh Langstone Harbour	1994	1997	3	216
			SU691056	Lh Bedhampton	1999	1999	1	134
			SU7005	Lh Broadmarsh/bedhampton Shore	2006	2006	2	2
			SU7006	Lh Bedhampton Mill Pond	2007	2007	1	1
			SU7007	Lh Bedhampton	2004	2004	2	23
			SU7104	Lh Langstone South Moor	2006	2007	4	8
			SU7105	Lh Langstone Harbour	2007	2007	2	150
Higher plants - Conifers								
<i>Juniperus communis</i>	Juniper	UKBAP HBAP	SU68800640	Field East of Farlington Redoubt	2001	2001	1	0
Higher plants - Flowering Plants								
<i>Agrostemma githago</i>	Corncockle	CR	SU708054	Southmoor Lane, Bedhampton	2008	2008	1	4

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Alisma lanceolatum</i>	Narrow-leaved Water-plantain	CR	SU68500665	Portsmouth Golf Course East	2006	2006	1 *	0
<i>Allium schoenoprasum</i>	Chives	NS CI	SU675065	Crookhorn Golf Course West	2004	2004	1	100
<i>Alopecurus bulbosus</i>	Bulbous Foxtail	NS HBAP CR	SU687046	Farlington Marshes	2002	2002	1	0
<i>Anisantha rigida</i>	Ripgut Brome	CS	SU698056	A27(t) Junction At Broadmarsh, Havant	2007	2007	1	0
<i>Anthriscus caucalis</i>	Bur Chervil	CR	SU698055	Broadmarsh, Bedhampton	1999	1999	1	1
			SU698056	Broadmarsh	1999	1999	1	1
			SU7004	Long Island	2004	2004	1	0
			SU706052	Sewage Works	2006	2006	2	4
			SU712049	South Moor	1999	1999	1	1
<i>Artemisia absinthium</i>	Wormwood	CS	SU692053	Broadmarsh, Bedhampton	1999	1999	1	1
<i>Bupleurum tenuissimum</i>	Slender Hare's-ear	IUCN_GB_2001: VU NS UKBAP HBAP CR	SU6804	Farlington Marshes	1977	2001	2	0
			SU7104	Havant Langstone South Moor	2008	2008	1	0
			SU7104	Langstone	1999	1999	1	1
			SU711048	South Moor	1997	1997	1	1
<i>Carex divisa</i>	Divided Sedge	IUCN_GB_2001: VU NS UKBAP HBAP CS	SU6804	Farlington Marsh	2003	2003	1	0
			SU704060	Bedhampton	1997	1997	1	1
			SU71000500	Southmoor HWT Reserve	2006	2010	3 *	0
			SU712049	South Moor	1999	1999	1	1
			SU712051	South Moor Langstone	2009	2009	1	0
			SU71220512	East Southmoor HWT Reserve - Grazing Marsh	2003	2003	1 *	0
			SU713052	Langstone	1998	1998	1	1
			SU71330513	East Southmoor HWT Reserve - Small Paddock	2003	2003	1 *	0

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Centaurea cyanus</i>	Cornflower	UKBAP HBAP CR	SU708054	Southmoor Lane, Bedhampton	2008	2008	1	3
<i>Eleocharis uniglumis</i>	Slender Spike-rush	CS	SU71000500 SU713052	Southmoor HWT Reserve Langstone	2006 1998	2010 1998	3 * 1	0 1
<i>Euphorbia exigua</i>	Dwarf Spurge	IUCN_GB_2001: NT	SU68110612 SU69190616	East and West of Gilman Road UE5 Land at Portsdown Hill	2011 2008	2011 2008	1 * 1 *	0 0
<i>Euphrasia pseudokernerii</i>	Eyebright	IUCN_GB_2001: EN NS UKBAP HBAP CR	SU678064	Fort Purbrook	2000	2000	1	0
<i>Galium parisiense</i>	Wall Bedstraw	IUCN_GB_2001: VU NS HBAP CR	SU688051 SU688053	Solent Way, Bedhampton Farlington Marshes Hwt Reserve	2007 2007	2008 2007	2 1	0 0
<i>Geranium purpureum</i>	Little-robin	NR, NS HBAP CR	SU7004	Long Island	2004	2004	1	5000
<i>Geranium rotundifolium</i>	Round-leaved Crane's-bill	CS	SU6806 SU7005 SU7005 SU7104	Fort Purbrook, Crookhorn Budds Farm, Bedhampton Sewage Works Havant Langstone Ship Inn	1998 2008 1997 2008	1998 2008 1997 2008	1 1 2 1	1 1 1 0
<i>Glebionis segetum</i>	Corn Marigold	IUCN_GB_2001: VU	SU708054	Southmoor Lane, Bedhampton	2008	2008	1	5
<i>Hippophae rhamnoides</i>	Sea-buckthorn	NS CI	SU6905	Solent Way, Bedhampton	2007	2008	2	0
<i>Hordeum marinum</i>	Sea Barley	IUCN_GB_2001: VU	SU6804 SU6804	Farlington Marsh Farlington Marshes	2001 1990	2001 2001	1 6	1 1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		NS UKBAP HBAP CR	SU686047	Farlington Marshes	2012	2012	1	0
			SU687047	Farlington Marshes	1987	2012	4	1
<i>Inula crithmoides</i>	Golden-samphire	NS HBAP	SU6804	Farlington Marsh	2001	2001	1	1
			SU689046	Farlington	2006	2006	2	15
			SU689051	Broadmarsh	2006	2006	1	0
			SU690047	Farlington Marshes	2006	2006	1	0
			SU6905	Broadmarsh, Bedhampton	1999	1999	1	1
			SU6905	Solent Way (foreshore), Bedhampton	2007	2008	2	0
			SU691053	Broadmarsh	2006	2006	1	0
			SU696054	Broadmarsh, Bedhampton	2009	2009	1	0
			SU700053	Broadmarsh	2006	2006	1	0
			SU7004	Langstone	1997	1997	1	1
			SU7005	Sewage Works	1997	1997	1	1
			SU701053	Langstone Harbour, Broadmarsh	2006	2006	1	2
			SU703053	Bedhampton Creek	2006	2006	1	2
			SU703054	Bedhampton Creek	2006	2006	1	4
			SU703055	Bedhampton Creek	2006	2006	1	1
			SU704055	Bedhampton Creek	2006	2006	1	1
			SU709049	Broad Lake	1998	1998	1	1
			SU71000500	Southmoor HWT Reserve	2010	2010	1 *	0
			SU7104	Langstone	1999	1999	1	0
<i>Lathyrus hirsutus</i>	Hairy Vetchling	NR	SU69800555	Broad Marsh	2003	2003	1	0
			SU700055	Broadmarsh	2006	2006	1	0
			SU7005	Havant Broadmarsh	2008	2008	3	0
			SU703055	Broadmarsh Hill	2002	2010	4	0
			SU703055	S Of Harts Farm Way W Of Brockhampton	2005	2006	2	0
			SU70310553	Broadmarsh Hill	2002	2002	1	1

sharing information about Hampshire's wildlife

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<i>Limonium humile</i>	Lax-flowered Sea-lavender	NS CS	SU689053	Farlington Marshes	2001	2001	1	0
			SU692053	Broadmarsh, Bedhampton	2001	2001	1	1
			SU699052	Farlington	1999	1999	1	1
<i>Meconopsis cambrica</i>	Welsh Poppy	NS	SU7005	Broadmarsh, Bedhampton (car Park)	2008	2008	1	0
<i>Misopates orontium</i>	Weasel's-snout	IUCN_GB_2001: VU	SU698056	A27(t) Junction At Broadmarsh, Havant	2007	2007	1	0
<i>Myosurus minimus</i>	Mousetail	IUCN_GB_2001: VU	SU708051	Budds Mound Havant	2000	2000	1	1
<i>Onobrychis viciifolia</i>	Sainfoin	IUCN_GB_2001: NT	SU6706	Portsmouth Portsdown	2008	2008	1	0
			SU68580614	East and West of Gilman Road	2011	2011	1 *	0
<i>Ononis spinosa</i>	Spiny Restharrow	CS	SU6804	Farlington Marshes	1990	2001	3	1
<i>Ophrys insectifera</i>	Fly Orchid	IUCN_GB_2001: VU UKBAP CS	SU685066	Crookhorn Golf Course East	2004	2006	3	18
			SU68900658	Portsmouth City Golf Course Copse (Grassland)	2006	2006	1 *	0
			SU68900660	Portsmouth City Golf Course Copse	2001	2001	1 *	8
			SU689066	Ports Down Golf Course	1999	2012	3	18
<i>Orobanche hederæ</i>	Ivy Broomrape	CR	SU7106	Havant Town	2008	2008	1	0
<i>Parapholis incurva</i>	Curved Hard-grass	NS HBAP CS	SU6905	Broadmarsh, Bedhampton	1999	1999	1	1
			SU71000500	Southmoor HWT Reserve	2010	2010	1 *	0
<i>Petroselinum segetum</i>	Corn Parsley	CS	SU68480620	East and West of Gilman Road	2011	2011	1 *	0
			SU687046	Farlington	1999	1999	1	1
<i>Poa compressa</i>	Flattened Meadow-grass	CS	SU68110612	East and West of Gilman Road	2011	2011	1 *	0
<i>Poa infirma</i>	Early Meadow-grass	NS	SU709052	Sewage Works	2006	2006	1	0
<i>Polypogon monspeliensis</i>	Annual Beard-grass	NS HBAP	SU6804	Farlington Marshes	1990	2001	3	200
			SU68630481	Farlington Marsh	2001	2001	1	1
			SU698055	Broadmarsh, Bedhampton	2008	2008	1	0
			SU698056	A27(t) Junction At Broadmarsh, Havant	2007	2007	1	0
<i>Puccinellia rupestris</i>	Stiff Saltmarsh-grass	NS	SU6804	Farlington Marshes	2010	2010	1	0

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		HBAP	SU687046 SU6905 SU708049 SU713051	Farlington Marshes Broadmarsh, Bedhampton Broad Lake Langstone	2001 1999 2006 1998	2001 1999 2006 1998	1 1 1 1	0 1 0 1
<i>Ranunculus baudotii</i>	Brackish Water-crowfoot	CS	SU6804 SU6804 SU7106 SU717062	Farlington Marsh Farlington Marshes, Pond Edge Havant Town Centre Havant Park	2007 2003 2008 1997	2007 2003 2008 1997	2 1 1 1	0 0 0 1
<i>Ranunculus penicillatus</i>	Stream Water-crowfoot	HBAP	SU705062 SU708058 SU715057 SU717061	Bedhampton Sewage Works Langstone Havant Park	1997 1997 1998 2012	1997 1997 1998 2012	1 1 1 1	1 1 1 0
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot	CR	SU6804	Langstone Harbour	1997	1997	1	1
<i>Raphanus raphanistrum</i> <i>subsp. maritimus</i>	Sea Radish	CS	SU69800555 SU7104	Broad Marsh South Moor	2003 1997	2003 1997	1 * 1	0 1
<i>Ruppia maritima</i>	Beaked Tasselweed	CS	SU6804	Farlington Marshes	1993	2001	2	1
<i>Sagina maritima</i>	Sea Pearlwort	CS	SU7004	Langstone	1997	1997	1	1
<i>Salicornia dolichostachya</i>	Long-spiked Glasswort	CS	SU689045 SU689050 SU690052	Farlington Farlington Marshes Solent Way, Farlington	1999 2009 2009	2009 2009 2009	2 1 1	1 0 0
<i>Salicornia europaea</i>	Common Glasswort	CR	SU689052	Farlington Marshes	2009	2009	1	0
<i>Salicornia fragilis</i>	Yellow Glasswort	NS CS	SU690051	Farlington Marshes	2009	2009	1	0
<i>Salicornia pusilla</i>	One-flowered Glasswort	NS HBAP CS	SU689052	Farlington	1999	1999	1	1
<i>Samolus valerandi</i>	Brookweed	CS	SU702059 SU703057 SU703059	Hermitage Stream, Bedhampton Bedhampton Creek Sewage Works, Brockhampton	1997 2009 1997	1997 2009 1997	1 1 1	0 0 1

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU703060	Mill Stream, Bedhampton	1990	1997	2	0
			SU703061	Bedhampton	1989	1997	2	1
			SU704062	Hermitage Stream North Of Bedhampton Mill	1997	1997	1	0
			SU7104	Havant Langstone South Moor	2008	2008	1	0
<i>Sarcocornia perennis</i>	Perennial Glasswort	NS	SU689045	Farlington	2009	2009	1	0
			SU689052	Farlington Marshes	2009	2009	1	0
<i>Saxifraga tridactylites</i>	Rue-leaved Saxifrage	CS	SU7106	Havant Town	2008	2008	1	0
<i>Seriphidium maritimum</i>	Sea Wormwood	CS	SU689051	Solent Way (foreshore), Bedhampton	2007	2008	2	0
			SU689052	Langstone Harbour	2008	2008	1	4
			SU689053	Farlington Marshes	1998	2001	2	1
			SU6904	Farlington Marsh	2001	2001	1	1
			SU6905	Broadmarsh, Bedhampton	1999	1999	1	1
			SU699053	Langstone Harbour	2008	2008	1	4
			SU7004	Langstone	1997	1997	1	1
			SU7104	Langstone	1999	1999	1	0
<i>Sorbus rupicola</i>	Rock Whitebeam	NS	SU68900660	Portsmouth City Golf Course Copse	2001	2001	1	0
<i>Spartina maritima</i> x <i>alterniflora</i> = <i>S. x townsendii</i>	Townsend's Cord-grass	IUCN_GB_2001: EN NS UKBAP	SU687046	Farlington Marshes	2001	2001	1	0
<i>Spergula arvensis</i>	Corn Spurrey	IUCN_GB_2001: VU	SU7005	Havant Southmoor Lane	2008	2008	1	0
<i>Spiranthes spiralis</i>	Autumn Lady's-tresses	IUCN_GB_2001: NT	SU675065	Crookhorn Golf Course West	2004	2004	1	12
			SU677063	Portsmouth Hill	2010	2010	1	6
			SU679064	Fort Purbrook	2005	2005	1	6
			SU68000625	Field to West Gilman Road	2012	2012	1 *	0
			SU68000635	Fort Purbrook Paddock 1	2004	2004	1 *	0
			SU680065	Fort Purbrook Paddock	2004	2004	1	0
			SU681063	Crookhorn Lane, Portsmouth Hill	2011	2011	1	9
			SU68140607	East and West of Gilman Road	2011	2011	1 *	0

sharing information about Hampshire's wildlife

The Hampshire Biodiversity Information Centre Partnership includes local authorities, government agencies, wildlife charities and biological recording groups.

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU682064	Portsdown	2007	2007	1	2
			SU68220625	Fort Purbrook Field South	2010	2010	1	0
			SU68480620	East and West of Gilman Road	2011	2011	1 *	0
			SU68580614	East and West of Gilman Road	2011	2011	1 *	0
			SU686062	Portsdown Hill	2010	2010	1	54
			SU686063	Farlington Redoubt Entrance	2011	2011	1	50
<i>Stachys arvensis</i>	Field Woundwort	IUCN_GB_2001: NT	SU698056	A27(t) Junction At Broadmarsh, Havant	2007	2007	1	0
<i>Thesium humifusum</i>	Bastard-toadflax	NS HBAP CS	SU6706	Portsmouth Portsdown East Of London Road	2008	2008	1	0
<i>Torilis nodosa</i>	Knotted Hedge-parsley	CR	SU687047 SU7005 SU709056	Farlington Marshes Havant Southmoor Lane Southmoor Lane In Havant	2011 2008 2005	2011 2008 2005	1 1 1	6 0 0
<i>Trifolium squamosum</i>	Sea Clover	NS HBAP CR	SU688047	Farlington	1999	1999	1	1
<i>Veronica anagallis-aquatica</i>	Blue Water-Speedwell	CI	SU70480623	Hermitage Stream	2002	2002	1	1
<i>Veronica catenata</i>	Pink Water-Speedwell	CI	SU684046	Farlington Marshes	2001	2001	1	0
<i>X Agropogon littoralis</i>	Perennial Beard-grass	CR	SU6804 SU686046	Farlington Marshes Farlington Marshes	1931 1990	2001 2001	10 3	6 6
<i>Zostera noltei</i>	Dwarf Eelgrass	IUCN_GB_2001: VU NS HBAP CS	SU6904 SU6905	Langstone Harbour Langstone Harbour, Bedhampton	1956 2004	2004 2004	3 1	0 0
Invertebrates - Coleoptera								
<i>Lucanus cervus</i>	Stag Beetle	EU_Hab_2np NS UKBAP HBAP	SU6705 SU677058 SU677058	Su6705 18 Eveleyn Road, Farlington, Portsmouth, Hampshire, Po6 1dl. Su677058	2002 1998 1998	2002 1998 1998	1 1 1	1 1 1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU679057	7 Eveleigh Rd, Farlington, Portsmouth, Hants, Po6 1dh	1998	1998	1	1
			SU679057	Su679057	1998	2007	4	1
			SU679058	15 Eveleigh Road, Farlington, Portsmouth, Po6 1dh.	1998	1998	1	1
			SU679058	Su679058	1998	2007	7	1
			SU684060	Su684060	2002	2002	1	1
			SU689059	Su689059	2007	2007	2	1
			SU701067	Havant Borough	1998	1998	1	2
			SU705068	Havant Borough	1998	1998	1	1
			SU7106	Havant Area 7106	2002	2002	1	1
			SU7106	Su7106	2002	2002	1	1
			SU712068	Havant Borough	1998	1998	1	1
			SU717065	Su717065	2002	2002	1	1
Invertebrates - Diptera								
Atylotus latistriatus	Atylotus latistriatus	IUCN_GB_pre94: R HBAP	SU68450475	Farlington Marshes Hwt Reserve: Compartment 9	1999	1999	1	1
Myopites eximius	Myopites eximius	IUCN_GB_pre94: R	SU695045	Langstone Harbour Rspb Reserve, North Binness Island	2000	2000	1	1
Myopites inulaedyssentericae	Myopites inulaedyssentericae	IUCN_GB_pre94: R	SU688053	Farlington Marsh Hwt Reserve (n)	1998	1998	1	1
			SU689053	Farlington Marshes Hwt Reserve, Compartment 13	1999	1999	1	1
Odontomyia tigrina	Odontomyia tigrina	NN	SU686051	Farlington Marshes Hwt Reserve: Compartment 11	1987	2002	5	5
Pherbellia griseola	Pherbellia griseola	NN	SU686051	Farlington Marshes Hwt Reserve, Compartment 11	1999	1999	2	1
			SU688053	Farlington Marsh Hwt Reserve (n)	2000	2000	1	2
Psacadina verbekei	Psacadina verbekei	NN	SU686051	Farlington Marshes Hwt Reserve, Compartment 11	2000	2000	1	1
			SU688053	Farlington Marsh Hwt Reserve (n)	2000	2000	1	1

sharing information about Hampshire's wildlife

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<i>Psacadina zernyi</i>	Psacadina zernyi	IUCN_GB_pre94: VU	SU686051	Farlington Marshes Hwt Reserve, Compartment 11	1999	1999	1	1
			SU688053	Farlington Marsh Hwt Reserve (n)	1999	2000	2	1
<i>Solva marginata</i>	Drab Wood-soldierfly	NN	SU686051	Farlington Marshes Hwt Reserve: Compartment 11	1999	1999	1	1
<i>Stratiomys potamida</i>	Stratiomys potamida	NN	SU686051	Farlington Marshes Hwt Reserve: Compartment 11	2002	2003	2	1
			SU688053	Farlington Marshes Hwt Reserve: North Section	1987	1999	2	1
<i>Stratiomys singularior</i>	Stratiomys singularior	NN	SU686048	Farlington Marshes Hwt Reserve: Compartment 4	2000	2000	1	1
			SU686051	Farlington Marshes Hwt Reserve: Compartment 11	1999	1999	1	1
<i>Urophora quadrifasciata</i>	Urophora quadrifasciata	HBAP	SU688053	Farlington Marsh Hwt Reserve (n)	1998	1998	1	4
			SU692055	Farlington Marshes Hwt Reserve, Compartment 15	1999	1999	1	1
<i>Vanoyia tenuicornis</i>	Long-horned Soldier	NN	SU686051	Farlington Marshes Hwt Reserve: Compartment 11	1999	1999	1	1
<i>Volucella zonaria</i>	Volucella zonaria	NN	SU688053	Farlington Marshes Hwt Reserve: North Section	1993	2002	2	1
<i>Xanthandrus comtus</i>	Xanthandrus comtus	NN	SU68950535	Farlington Marshes Hwt Reserve: Compartment 14	2002	2002	1	1
Invertebrates - Hymenoptera								
<i>Andrena (Micrandrena) minutuloides</i>	Andrena (Micrandrena) minutuloides	NS	SU6805	Farlington Marshes Nr North Of Road	2002	2002	1	0
Invertebrates - Lepidoptera								
<i>Acronicta psi</i>	Grey Dagger	UKBAP	SU6706	1-km Square Su6706	2000	2000	1	0
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Acronicta rumicis</i>	Knot Grass	UKBAP	SU6706	1-km Square Su6706	2000	2000	1	0
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Adela croesella</i>	Small Barred Long-horn	CR	SU675065	Crookhorn Golf Course West	2006	2006	1	100
<i>Agdistis bennetii</i>	Saltmarsh Plume	CR	SU7104	Langstone	1997	1997	1	1

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Agrochola litura</i>	Brown-spot Pinion	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Agrochola lychnidis</i>	Beaded Chestnut	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Allophytes oxyacanthae</i>	Green-brindled Crescent	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Amphipoea fucosa</i>	Saltern Ear	CS	SU68560476	Farlington Marsh	1995	1998	16	9
<i>Amphipoea oculatea</i>	Ear Moth	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Amphipyra tragopoginis</i>	Mouse Moth	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Apamea remissa</i>	Dusky Brocade	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1995 2000	2002 2000	3 1	4 0
<i>Apoda limacodes</i>	Festoon	HBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Aporophyla lutulenta</i>	Deep-brown Dart	UKBAP	SU68560476	Farlington Marsh	1997	1997	1	1
<i>Arctia caja</i>	Garden Tiger	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Argynnis aglaja</i>	Dark Green Fritillary	CS	SU6706 SU675063	Fort Purbrook Portsdown Hill, East	1998 1998	1998 1998	1 1	0 0
<i>Argynnis paphia</i>	Silver-washed Fritillary	HBAP CI	SU6807	Johnston Coppic	1997	1997	1	0
<i>Asteroscopus sphinx</i>	Sprawler	UKBAP CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Atethmia centrargo</i>	Centre-barred Sallow	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Brachylomia viminalis</i>	Minor Shoulder-knot	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Calamotropha paludella</i>	Bulrush Veneer	NS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Caradrina morpheus</i>	Mottled Rustic	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Catarhoe cuculata</i>	Royal Mantle	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Celaena leucostigma</i>	Crescent	UKBAP CS	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1995 2000	1998 2000	15 1	9 0
<i>Cerapteryx graminis</i>	Antler Moth	CS	SU68560476	Farlington Marsh	1995	1997	7	2
<i>Coenonympha pamphilus</i>	Small Heath	IUCN_GB_2001: NT UKBAP	SU675063 SU675063 SU677063 SU6804	Portsdown (east) Portsdown Hill, East Fort Purbrook Farlington Marsh North	2009 1996 2011 2007	2009 1998 2011 2007	1 3 1 2	1 0 1 0

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU6804	Farlington Marshes	2007	2011	10	5
			SU6804	Farlington Marshes Route C Transect: Section No 1	2004	2011	5	1
			SU6804	Farlington Marshes Route C Transect: Section No 2	2001	2011	93	9
			SU6804	Farlington Marshes Route C Transect: Section No 3	2001	2011	86	9
			SU6804	Farlington Marshes Route C Transect: Section No 4	2001	2011	73	9
			SU6804	Farlington Marshes Route C Transect: Section No 5	2001	2011	72	8
			SU6804	Farlington Marshes Route C Transect: Section No 6	2001	2011	51	8
			SU687045	Farlington Marshes Route A Transect: Section No 1	2001	2010	96	9
			SU687047	Farlington Marshes Route A Transect: Section No 5	2001	2010	16	5
			SU687049	Farlington Marshes Route A Transect: Section No 4	2001	2010	70	7
			SU688052	Farlington Marshes Route B Transect: Section No 6	2004	2006	5	1
			SU689045	Farlington Marshes Route A Transect: Section No 2	2001	2010	83	9
			SU689048	Farlington Marshes Route A Transect: Section No 3	2001	2010	61	9
			SU7105	Unknown	1998	1998	1	0
			SU713051	Southmoor, Brockhampton	2003	2003	1	1
<i>Cryphia muralis</i>	Marbled Green	CS	SU6706	1-km Square Su6706	2000	2000	1	0
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Cupido minimus</i>	Small Blue	IUCN_GB_2001: NT UKBAP	SU675063	Portsdown	2010	2010	2	10
			SU675063	Portsdown (e)	2011	2011	1	8
			SU675063	Portsdown (east)	2009	2009	2	4

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		HBAP CS	SU675063	Portsdown East	2011	2011	1	8
			SU675063	Portsdown Hill (east)	2003	2007	3	6
			SU675063	Portsdown Hill (footpath South Of Fort Purbrook)	2011	2011	1	3
			SU675063	Portsdown Hill, East	1996	2006	4	11
			SU677063	Fort Purbrook	2011	2011	1	1
			SU677063	Portsdown Hill (footpath South Of Fort Purbrook)	2011	2011	1	3
			SU677063	Portsdown Hill, Fort Purbeck	2004	2004	1	4
			SU677064	Fort Purbrook	2006	2006	1	1
			SU678063	Fort Purbeck	2001	2001	1	0
			SU678063	Fort Purbrook	2011	2011	4	7
			SU679064	Fort Purbrook	2006	2006	1	1
			SU6806	Unknown	1998	1998	1	0
			SU681064	Portsdown Hill	1997	1997	1	0
			SU682063	Portsdown (east)	2009	2009	1	2
			SU686063	Farlington Redoubt (entrance Banks)	1998	1998	1	0
<i>Cymatophorima diluta</i>	Oak Lutestring	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Diarsia rubi</i>	Small Square-spot	UKBAP	SU6706	1-km Square Su6706	2000	2000	1	0
			SU68560476	Farlington Marsh	1995	2002	21	9
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Diloba caeruleocephala</i>	Figure of Eight	UKBAP CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Ecliptopera silaceata</i>	Small Phoenix	UKBAP	SU6706	1-km Square Su6706	2000	2000	1	0
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Ennomos erosaria</i>	September Thorn	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Ennomos fuscantaria</i>	Dusky Thorn	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Epirrhoe rivata</i>	Wood Carpet	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Erynnis tages</i>	Dingy Skipper	IUCN_GB_2001: VU	SU6706	Fort Purbrook	1998	1998	1	0
			SU675063	Portsdown Hill, East	1996	1998	3	0

sharing information about Hampshire's wildlife

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
		UKBAP CI	SU675065	Fort Purbeck	2004	2004	1	2
<i>Eulithis mellinata</i>	Spinach	UKBAP	SU6706 SU7108	1-km Square Su6706 1-km Square Su7108	2000 2000	2000 2000	1 1	0 0
<i>Eupithecia simpliciata</i>	Plain Pug	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Eupithecia venosata</i>	Netted Pug	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Euxoa tritici</i>	White-line Dart	UKBAP CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Hadena confusa</i>	Marbled Coronet	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Hemistola chrysoprasaria</i>	Small Emerald	UKBAP	SU6706 SU7108	1-km Square Su6706 1-km Square Su7108	2000 2000	2000 2000	1 1	0 0
<i>Hepialus humuli</i>	Ghost Moth	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Hipparchia semele</i>	Grayling	IUCN_GB_2001: VU UKBAP	SU6804	Farlington Marshes Route C Transect: Section No 3	2007	2007	1	1
			SU6804	Farlington Marshes Route C Transect: Section No 4	2007	2007	1	3
			SU6804	Farlington Marshes Route C Transect: Section No 5	2007	2007	1	2
<i>Homoeosoma nebulella</i>	Large Clouded Knot-horn	NS	SU6804	1-km Square Su6804	2000	2000	1	0
<i>Hoplodrina blanda</i>	Rustic	UKBAP	SU6706	1-km Square Su6706	2000	2000	1	0
			SU68560476	Farlington Marsh	1995	1997	13	7
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Hydraecia micacea</i>	Rosy Rustic	UKBAP	SU68560476	Farlington Marsh	1995	1998	38	9
			SU7108	1-km Square Su7108	2000	2000	1	0
<i>Hydraecia petasitis</i>	Butterbur	CR	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Idaea emarginata</i>	Small Scallop	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Lacanobia suasa</i>	Dog's Tooth	CS	SU6706	1-km Square Su6706	2000	2000	1	0
			SU68560476	Farlington Marsh	1995	1998	25	9
			SU7108	1-km Square Su7108	2000	2000	1	0

sharing information about Hampshire's wildlife

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<i>Lasiommata megera</i>	Wall	IUCN_GB_2001: NT UKBAP CS	SU6706	Fort Purbrook	1998	1998	1	0
<i>Leucoma salicis</i>	White Satin Moth	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Limenitis camilla</i>	White Admiral	IUCN_GB_2001: VU UKBAP	SU6707 SU6807	Purbrook Johnston Coppic	2009 1997	2009 1997	1 1	1 0
<i>Lycia hirtaria</i>	Brindled Beauty	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Macaria wauaria</i>	V-moth	UKBAP CR	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Malacosoma neustria</i>	Lackey	UKBAP	SU6706 SU6804 SU6804 SU700054 SU7108	1-km Square Su6706 1-km Square Su6804 Farlington Marshes Nr, Portsmouth Broadmarsh, Langstone Harbour 1-km Square Su7108	2000 2000 1997 2008 2000	2000 2000 1997 2008 2000	1 1 1 1 1	0 0 0 45 0
<i>Melanchra persicariae</i>	Dot Moth	UKBAP	SU6706 SU7108	1-km Square Su6706 1-km Square Su7108	2000 2000	2000 2000	1 1	0 0
<i>Mesoleuca albicillata</i>	Beautiful Carpet	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Mesoligia literosa</i>	Rosy Minor	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Metzneria aestivella</i>	Carline Neb	CR	SU6706	Portsdown	1999	1999	1	1
<i>Mythimna comma</i>	Shoulder-striped Wainscot	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Neosphaleroptera nubilana</i>	Deep Brown Shade	CR	SU6804	Farlington Marshes Nr, Portsmouth	1997	1997	1	1
<i>Nymphalis polychloros</i>	Nymphalis polychloros	IUCN_GB_2001: RE	SU688053	Farlington Marshes Hwt Reserve: North Section	1997	1997	1	1
<i>Orthosia gracilis</i>	Powdered Quaker	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Pammene gallicana</i>	Purple-shaded Piercer	CR	SU6706	Portsdown	1999	1999	1	0
<i>Panemeria tenebrata</i>	Small Yellow Underwing	CS	SU686051 SU688050	Farlington Marshes Hwt Reserve: Compartment 11 Farlington Marshes Hwt Reserve:	2000 2000	2000 2000	1 1	1 1

sharing information about Hampshire's wildlife

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			SU689053	Compartment 2 Farlington Marshes Hwt Reserve: Compartment 13	2000	2000	1	1
<i>Pediasia aridella</i>	Salt-marsh Grass- veneer	NS	SU6804	1-km Square Su6804	2000	2000	1	0
<i>Pediasia contaminella</i>	Waste Grass-veneer	NS	SU6804	1-km Square Su6804	2000	2000	1	0
<i>Pempelia genistella</i>	Gorse Knot-horn	NS HBAP	SU6804	1-km Square Su6804	2000	2000	1	0
<i>Plusia festucae</i>	Gold Spot	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Polymixis flavicincta</i>	Large Ranunculus	CS	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Psamathocrita argentella</i>	Silvery Neb	IUCN_GB_pre94: VU	SU6804	Farlington Marshes Nr, Portsmouth	2001	2001	1	0
<i>Rhizedra lutosa</i>	Large Wainscot	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1995 2000	1998 2000	22 1	9 0
<i>Satyrrium w-album</i>	White-letter Hairstreak	IUCN_GB_2001: EN UKBAP HBAP CS	SU687052 SU688053	Farlington Marshes Farlington Marshes Hwt Reserve: North Section	1997 1997	1997 1997	1 1	0 1
<i>Scopula marginepunctata</i>	Mullein Wave	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1995 2000	1997 2000	2 1	1 0
<i>Shargacucullia lychnitis</i>	Striped Lychnis	UKBAP HBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Sitochroa palealis</i>	Sulphur Pearl	NN	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Spilosoma lubricipeda</i>	White Ermine	UKBAP	SU6706 SU7108	1-km Square Su6706 1-km Square Su7108	2000 2000	2000 2000	1 1	0 0
<i>Spilosoma luteum</i>	Buff Ermine	UKBAP	SU6706 SU7108	1-km Square Su6706 1-km Square Su7108	2000 2000	2000 2000	1 1	0 0
<i>Spilosoma urticae</i>	Water Ermine	HBAP CR	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Tethea or</i>	Poplar Lutestring	CS	SU7108	1-km Square Su7108	2000	2000	1	0

sharing information about Hampshire's wildlife

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<i>Thiotricha subocellea</i>	Eyelet Sober	CR	SU6706	Portsdown	1999	1999	1	1
<i>Tholera cespitis</i>	Hedge Rustic	UKBAP CS	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1995 2000	1998 2000	9 1	3 0
<i>Tholera decimalis</i>	Feathered Gothic	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1996 2000	1997 2000	5 1	4 0
<i>Timandra comae</i>	Blood-Vein	UKBAP	SU6706 SU6804 SU7108	1-km Square Su6706 1-km Square Su6804 1-km Square Su7108	2000 2000 2000	2000 2000 2000	1 1 1	0 0 0
<i>Tyria jacobaeae</i>	Cinnabar	UKBAP	SU6706 SU678063 SU6804 SU6804 SU6804 SU6804 SU6804 SU68950535 SU7104 SU7108 SU711049	1-km Square Su6706 Fort Purbrook 1-km Square Su6804 Farlington Marshes Nr, Portsmouth Farlington Marshes Route C Transect: Section No 3 Farlington Marshes Route C Transect: Section No 5 Farlington Marshes Hwt Reserve: Compartment 14 South Moor 1-km Square Su7108 Southmoor Hwt Reserve	2000 2001 2000 2001 2004 2004 1999 2005 2000 2004	2000 2001 2000 2001 2004 2004 1999 2005 2000 2004	1 1 1 1 1 1 1 1 1 1	0 3 0 0 1 1 1 12 0 0
<i>Watsonalla binaria</i>	Oak Hook-tip	UKBAP	SU7108	1-km Square Su7108	2000	2000	1	0
<i>Xanthia gilvago</i>	Dusky-lemon Sallow	UKBAP CR	SU702075	10 St Johns Road, Bedhampton	2004	2004	1	1
<i>Xanthia icteritia</i>	Sallow	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1997 2000	1997 2000	1 1	1 0
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet	UKBAP	SU68560476 SU7108	Farlington Marsh 1-km Square Su7108	1997 2000	1997 2000	1 1	1 0
<i>Xestia baja</i>	Dotted Clay	CS	SU7108	1-km Square Su7108	2000	2000	1	0
Mammals - Marine								

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
<i>Phoca vitulina</i>	Common Seal	EU_Hab_2np UKBAP	SU694047	Langstone Harbour	1999	1999	1	1
			SU702051	Langstone Harbour	1999	1999	1	1
			SU705050	Langstone Harbour	1998	1998	1	1
			SU709048	Langstone Harbour	1999	1999	1	1
Mammals - Terrestrial (bats)								
<i>Eptesicus serotinus</i>	Serotine	Sensitive	SU7006	Sensitive	2008	2008	1	0
		EU_Hab_4	SU7107	Sensitive	2001	2001	1	0
		HBAP	SU7107	Sensitive	2010	2010	5	21
		WCA_s5s94b						
		WCA_s5s94c						
		HabReg_s2						
<i>Myotis</i>	Unidentified Bat	Sensitive	SU7006	Sensitive	2008	2008	1	1
		WCA_s5s94b						
		WCA_s5s94c						
		HabReg_s2						
<i>Myotis mystacinus/brandtii</i>	Whiskered/Brandt's Bat	Sensitive	SU7107	Sensitive	2001	2001	1	1
		WCA_s5s94b						
		WCA_s5s94c						
		HabReg_s2						
<i>Nyctalus noctula</i>	Noctule Bat	Sensitive	SU6804	Sensitive	2004	2005	2	5
		EU_Hab_4	SU7006	Sensitive	2008	2008	1	1
		UKBAP	SU7107	Sensitive	2010	2010	1	1
		WCA_s5s94b						
		WCA_s5s94c						
		HabReg_s2						
<i>Pipistrellus</i>	Pipistrellus	Sensitive	SU685055	Sensitive	1999	1999	2	0
		WCA_s5s94b	SU685071	Sensitive	1998	1998	1	3
		WCA_s5s94c	SU688062	Sensitive	1999	2000	2	2
		HabReg_s2	SU703072	Sensitive	2002	2002	1	1
			SU704072	Sensitive	2002	2002	1	0

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU704077	Sensitive	2003	2003	1	1
			SU713073	Sensitive	2010	2010	1	1
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	Sensitive EU_Hab_4 HBAP WCA_s5s94b WCA_s5s94c HabReg_s2	SU701058	Sensitive	2008	2009	2	1
			SU707060	Sensitive	2008	2009	3	1
			SU713066	Sensitive	2010	2010	1	2
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	Sensitive EU_Hab_4 UKBAP HBAP WCA_s5s94b WCA_s5s94c HabReg_s2	SU701058	Sensitive	2008	2008	2	1
			SU707060	Sensitive	2008	2009	3	1
<i>Plecotus auritus</i>	Brown Long-eared Bat	Sensitive EU_Hab_4 UKBAP WCA_s5s94b WCA_s5s94c HabReg_s2	SU713064	Sensitive	1999	1999	1	0
Mammals - Terrestrial (non-bats)								
<i>Arvicola amphibius</i>	European Water Vole	UKBAP HBAP WCA_s5s91(k) WCA_s5s91(t) WCA_s5s94a WCA_s5s94b WCA_s5s94c CI	SU68100490	St John's College Playing Fields	2009	2009	1	0
			SU68100490	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68140490	St John's College Playing Fields	2009	2009	1	0
			SU68140490	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68210489	St John's College Playing Fields	2009	2009	1	0
			SU68210489	St John's College Playing Fields,	2009	2009	1	0

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
				Farlington				
			SU68230490	St John's College Playing Fields	2009	2009	1	0
			SU68230490	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68240489	St John's College Playing Fields	2009	2009	1	0
			SU68240489	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68250489	St John's College Playing Fields	2009	2009	1	0
			SU68250489	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68260489	St John's College Playing Fields	2009	2009	1	0
			SU68260489	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68270488	St John's College Playing Fields	2009	2009	1	0
			SU68270488	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68330487	St John's College Playing Fields	2009	2009	1	0
			SU68330487	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68390485	St John's College Playing Fields	2009	2009	1	0
			SU68390485	St John's College Playing Fields, Farlington	2009	2009	1	0
			SU68400484	Farlington	2012	2012	1	0
			SU68450482	Farlington Marshes	2009	2009	2	0
			SU68460479	Farlington Marshes	2009	2009	2	0
			SU685046	Farlington Marsh Site 17 (2000)	2000	2000	1	0
			SU68510478	Farlington Marshes	2009	2009	2	0
			SU68520477	Farlington Marshes	2009	2009	2	0
			SU68530474	Farlington Marshes	2009	2009	1	0
			SU68530476	Farlington Marshes	2009	2009	2	0
			SU68540472	Farlington Marshes	2009	2009	2	0

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Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records	Max Count
			SU686046	Farlington Marsh Site 22	2003	2003	1	0
			SU689044	Farlington Marsh Site 7 (2000)	2000	2000	1	0
			SU68960472	Farlington Marshes	2009	2009	2	0
			SU690046	Farlington Marsh Site 8 (2000)	2000	2000	1	0
			SU690049	Farlington Marsh Site 10 (2000)	2000	2000	1	0
			SU690050	Farlington Marsh Site 11 (2000)	2000	2000	1	0
			SU690050	Farlington Marsh Site 12 (2000)	2000	2000	1	0
			SU69010481	Farlington Marshes	2009	2009	2	0
			SU715059	Havant	2009	2009	1	2
<i>Erinaceus europaeus</i>	West European Hedgehog	UKBAP	SU681058	Eveleigh Road, Farlington	2007	2007	1	0
			SU683060	Grant Road	2006	2006	1	0
			SU688053	Farlington Marshes Hwt Reserve: North Section	1998	1998	1	0
			SU69500690	Scratchface Lane 1	2005	2005	1	0
			SU706076	Purbrook Way, Leigh Park, Havant	2008	2008	1	3
<i>Meles meles</i>	Eurasian Badger	Sensitive	SU6806	Sensitive	2009	2009	1	1
<i>Muscardinus avellanarius</i>	Hazel Dormouse	Sensitive	SU6907	Sensitive	2007	2007	1	0
		EU_Hab_4	SU6907	Sensitive	2007	2007	1	2
		UKBAP	SU6907	Sensitive	2007	2007	1	2
		HBAP	SU6907	Sensitive	2007	2007	1	21
		WCA_s5s94b	SU6907	Sensitive	2007	2007	1	3
		WCA_s5s94c	SU6907	Sensitive	2007	2007	1	1
		HabReg_s2	SU6907	Sensitive	2009	2009	1	1
		CI	SU6907	Sensitive	2009	2009	1	1

* Indicates some of these records are unconfirmed

Confidential records

HBIC holds a small number of records that are to be treated as confidential. Confidentiality can be for a variety of reasons and may relate to a whole site or only to specific species. These records may be withheld or released depending on the nature of the data request and in accordance with the Environmental Information Regulations 2004.

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Sensitive species

A small number of species are considered as sensitive by the relevant specialist species recording groups and will be indicated as such on all lists. Species may be considered sensitive for a variety of reasons. Location details for these records will not be disclosed unless the relevant species recording group has given their permission. Grid references will be altered to give a less precise position. Contact HBIC if further information is needed on these records.

Further notes

- Records of species such as the Nationally Rare Box (*Buxus sempervirens*) may not appear on the list as there may be many records but their provenance is not known.
- The location names, where shown, are the originals given by the recorders and may not match any formal name for the location or other colloquial names by which the location may also be known.
- The grid references, where shown, are the originals given by the recorders and may indicate the specific location of the species, a central grid reference representing a larger survey area, or a grid square.
- Where species have been deemed as 'sensitive' by the relevant specialist species recording group the location name will not be shown and the grid reference will have been altered to give a less precise position specified by the species recording group.
- Many of the records have been supplied by specialist species recording groups. Whilst every reasonable effort is made to validate information supplied to the Hampshire Biodiversity Information Centre the accuracy or comprehensiveness of this information cannot be guaranteed.
- Records do not necessarily represent evidence of breeding at a site; please contact HBIC if further details are required for any of these records.
- Whilst a species may have been recorded at a site, this does not indicate that the species is still present. Equally, the absence of a species from a site does not signify that it is absent, only that it has not been recorded, that the site has not been surveyed for this species, or that HBIC has not been informed of its presence.
- Quantities of '0' (zero) indicate that the species was 'present' but the number of individuals seen was not recorded. Negative quantities correspond to the DAFOR scale (plus very rare and 'locally' criteria) as follows:
 - -1 = Dominant (DAFOR)
 - -2 = Abundant (DAFOR)
 - -3 = Frequent (DAFOR)
 - -4 = Occasional (DAFOR)
 - -5 = Rare (DAFOR)
 - -6 = Very Rare
 - -21 = Locally Dominant
 - -22 = Locally Abundant
 - -23 = Locally Frequent

- Negative quantities of ‘-7’ (minus seven) indicates that the species was ‘not found’. These records are not included in protected and notable species lists.
- Max_Count values of ‘0’ (zero) indicate that none of the records had a positive quantity count and hence the highest count numerical value was ‘0’ (indicating ‘present’). Max_Count values of blank indicate that none of the records had a numerical count value and instead they all had frequency values (e.g. using the DAFOR scale).

Status codes and abbreviations:

EU_Bird_1	Annex I of the Birds Directive
EU_Hab_2	Annex II of the Habitats Directive (priority species)
EU_Hab_2np	Annex II of the Habitats Directive (non-priority species)
EU_Hab_4	Annex IV of the Habitats Directive
EU_Hab_5	Annex V of the Habitats Directive
IUCN_(pre 94)	See IUCN (pre 1994) guidelines
IUCN_(1994)	See IUCN (1994) guidelines
IUCN_(2001)	See IUCN (2001) guidelines
BOCC_Red	Birds of Conservation Concern Red list
NR	Nationally rare (occurring in 15 or fewer 10km squares in Great Britain)
NS	Nationally scarce (occurring in 16 - 100 10km squares in Great Britain)
NN	Nationally notable (occurring in 16 - 100 10km squares in Great Britain or less than 20 Vice Counties)
UKBAP	UK Biodiversity Action Plan priority species
HBAP	Hampshire Biodiversity Action Plan species
NERC_s41	Section 41 of the Natural Environment and Rural Communities Act 2006
WCA_s1p1	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s91(k)	Schedule 5 Section 9 Part 1 (killing/injuring) of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s91(t)	Schedule 5 Section 9 Part 1 (taking) of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s94a	Schedule 5 Section 9 Part 4a of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s94b	Schedule 5 Section 9 Part 4b of the Wildlife and Countryside Act 1981 (as amended)
WCA_s5s94c	Schedule 5 Section 9 Part 4c of the Wildlife and Countryside Act 1981 (as amended)
WCA_s8	Schedule 8 of the Wildlife and Countryside Act 1981 (as amended)
HabReg_2	Schedule 2 of Conservation of Habitats and Species Regulations 2010 (European Protected Species animal)
HabReg_5	Schedule 5 of Conservation of Habitats and Species Regulations 2010 (European Protected Species plant)

sharing information about Hampshire's wildlife

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PBA	Protection of Badgers Act 1992
NI	National Interest
CR	County Rare
CS	County Scarce
CI	County Interest
nHR	North Hampshire Rare (VC12)
sHR	South Hampshire Rare (VC11)
nHS	North Hampshire Scarce (VC12)
sHS	South Hampshire Scarce (VC11)

sharing information about Hampshire's wildlife

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Hampshire Biodiversity
Information Centre

HBIC Ref: 3965

Statutory designated
sites within 2km of
Havant Business Park
(SU 696 064)

Legend

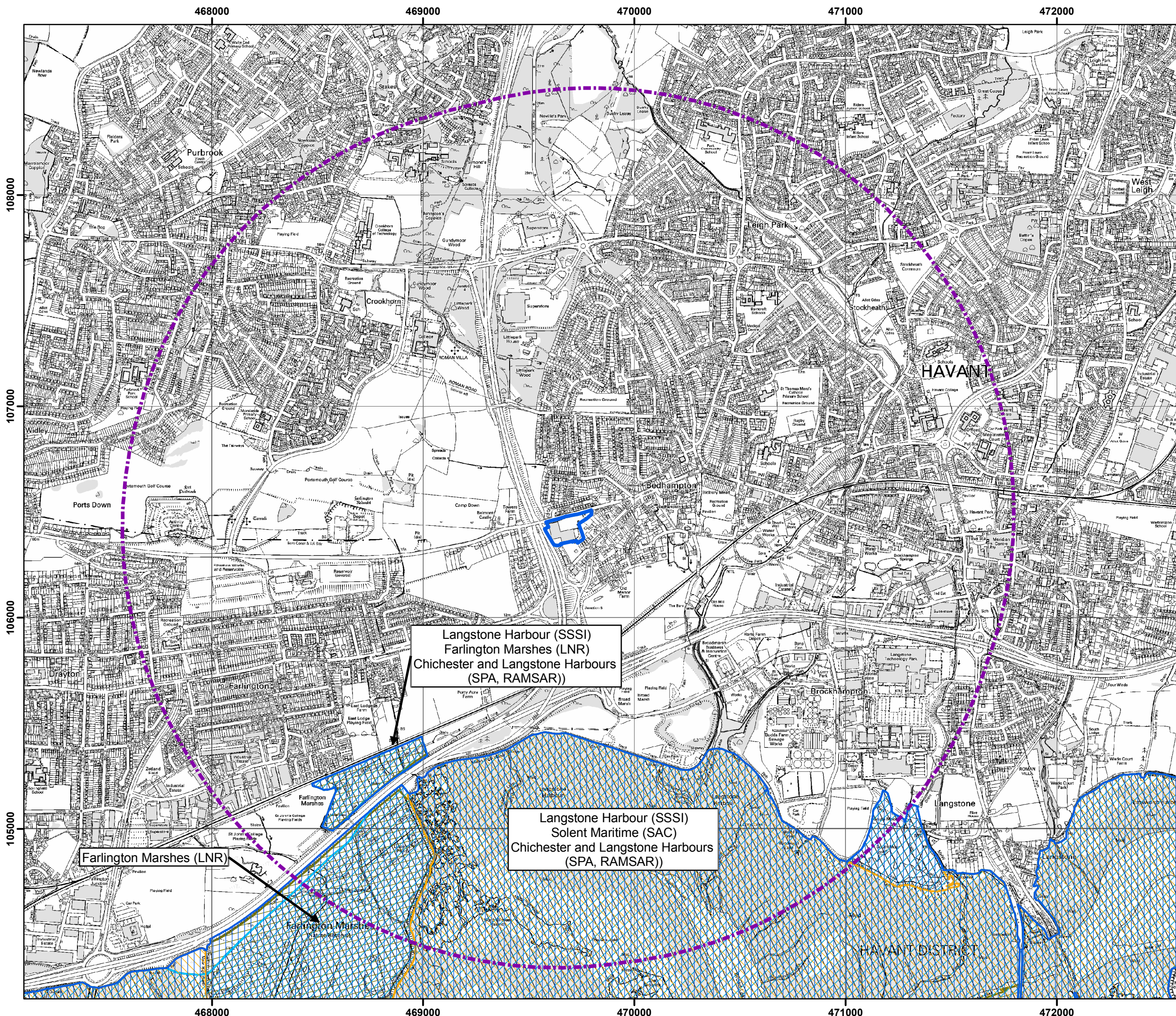
- Site
- 2km Search Area
- SSSI
- SAC
- SPA
- LNR
- RAMSAR

Created: 06/02/2013

Scale at A3: 1:17,000

0 125 250 500 750 1,000
Meters

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* Ancient Woodland boundaries are provided by Natural England and have been derived from the 1996 provisional Hampshire Ancient Woodland Inventory. These boundaries are indicative not definitive and tend not to include ancient woodlands below 2ha in size.

**Details of the Solent Wader and Brent Goose Strategy sites within your search area:
2km of Havant Business Park (SU 696 064)**

Site Code	Area (Ha)	Max Wader Count	Wader Class	Max Brent Count	Brent Class
H07A	5.73	15	Uncertain	455	Uncertain
H07B	3.59	9	Uncertain	350	Uncertain
H08	5.16	15	Uncertain	69	Important
H11	5.59	2	Uncertain	0	
H28A	6.87	0	Uncertain	160	Uncertain
H28C	9.02	37	Uncertain	73	Uncertain
H29	3.09	0	Uncertain	27	Uncertain
H68	4.56	233	Important	246	Important
H69	11.76	750	Important	1101	Important
H90	20.95	52	Important	200	Important
P08C	12.17	0	Uncertain	800	Important
P10A	16.31	1	Uncertain	350	Important
P10B	1.66	2	Uncertain	1600	Important
P10C	3.33	0	Uncertain	700	Important
P10D	17.35	416	Important	2700	Important
P10E	8.37	17	Uncertain	2000	Important
P10H	11.88	1731	Important	200	Important

Notes:

- This information is taken specifically from the 'Wader and Brent Goose Strategy 2010' and does not include data from other sources.
- Sites with 'no records' in the November 2010 Solent Wader and Brent Goose Strategy have been omitted.
- The 'site code' field relates to the unique reference given to each polygon within the strategy, the area corresponding to these references can be found on the map accompanying this document.
- The November 2010 Solent Wader and Brent Goose Strategy can be found online here: [Wader and Brent Goose Strategy](#)
- A definition of the classification field can be found within the strategy document.
- **If you would like the full dataset for the strategy, which includes more detailed GIS layers, this can be supplied by CD. Please contact HBIC for further information.**

File ref:

County: Hampshire

Site Name: Langstone Harbour SSSI

Local Planning Authority: Hampshire County Council, Havant Borough Council, Portsmouth City Council

National Grid Reference: SU 700030

Ordnance Survey Sheet 1:50,000: 197 **1:25,000:** SU 60, 70; SZ 69, 79

Area: 2,069.4 (ha) 5.113.4 (ac)

Date Notified (Under 1949 Act): 1958 **Date of Last Revision:** 1979

Date Notified (Under 1981 Act): 1985 **Date of Last Revision:** -

Other Information:

Farlington Marshes (118.9 ha) is a Local Nature Reserve owned by Portsmouth City Council and managed by the Hampshire and Isle of Wight Naturalists' Trust under a long lease; 550 ha including a series of saltmarsh islands and extensive mud flats are owned by the Royal Society for the Protection of Birds.

Reasons for Notification:

Langstone Harbour is a tidal basin which at high water resembles an almost land-locked lake. At low water extensive mud flats are exposed, drained by three main channels which unite to make a common and narrow exit to the sea. The harbour includes one of the largest areas of mixed saltmarsh on the south coast, and extensive cord-grass *Spartina anglica* marsh in an advanced state of degeneration. The Site of Special Scientific Interest including Farlington Marshes, a peninsula of grassland and marsh on reclaimed tidal silt protected by a sea wall; and a similar but much smaller area at Southmoor in the north-east of the harbour. The harbour is of international importance as a rich intertidal system supporting high densities of intertidal invertebrates and large populations of migrant and overwintering waders and wildfowl, dependent upon them and upon the extensive beds of eelgrass *Zostera* species. The *Zostera angustifolia* and *Z. noltii* beds are among the largest in Britain. The harbour is among the twenty most important intertidal areas in Britain as a summer and autumn assembly ground for waders during the moult (when they require abundant high protein food) and as a post-moult wintering ground. Dunlin *Calidris alpina* often exceed 30,000 individuals, or 6% of the British winter population, or 3% of the European and North African wintering population. Grey plover *Pluvialis squatarola* and black-tailed godwit *Limosa limosa* achieve numbers which represent 1-2% of the European and North African migration flyway population; and redshank *Tringa totanus* and ringed plover *Charadrius hiaticula* do so periodically. At times as many as 20% of the black-tailed godwit, 8% of the ringed plover and 8-10% of the grey plover wintering in Britain are present in the harbour. The total numbers of waders present sometimes exceeds 40,000. Langstone Harbour and the adjoining and connected Portsmouth and Chichester Harbours form a single, coherent ecosystem which is among the ten most important intertidal areas for waders in Britain. In the 1970s and 1980s Langstone Harbour alone has consistently supported in excess of 5,000 wintering dark-bellied geese *Branta bernicla*, or 5-10% of the world population depending on fluctuating population levels. It has supported up to 2.5% of the European winter population of shelduck *Tadorna tadorna* and regularly supports substantial numbers of other ducks in autumn and winter.

Farlington Marshes intrudes into the north-west sector of the harbour. Its vegetation is strongly influenced by drainage water from the chalk and by

brackish water infiltration. The marshes embrace a variety of habitats – brackish marsh, fresh marsh, a large lagoon with associated reed *Phragmites* beds, *Agrostis stolonifera* grassland and scrub. It is a vital high water wader roost for the Harbour and a major feeding ground for Brent geese after the *Zostera* beds in the Harbour have been consumed. Few comparable sites have survived agricultural improvement on the south and east coasts of England, where the habitat was formerly common: the grassland flora is especially rich for reclaimed silt, and includes over 50 species of grasses. Southmoor shares these characteristics but is much smaller.

Langstone Harbour has been the forum for important ecological research on estuarine eutrophication and the relationship with algal blanketing of the muds, changes in invertebrate communities and changes in the composition of vertebrate predator communities.

Appendix 7: SINC Criteria

Selection Criteria for Sites of Importance for Nature Conservation (SINCs) in Portsmouth

1. Neutral, acid or calcareous grassland

- 1.1 Agriculturally unimproved grasslands and grasslands that have developed without herbicides or fertilisers and are composed of a mixed assemblage of indigenous species in essentially semi-natural communities.
- 1.2 Semi-improved grasslands which retain a significant element of unimproved grassland.
- 1.3 Grasslands that have been degraded through inappropriate management but which retain sufficient elements of relic grassland to enable recovery.

2. Coastal habitats

- 2.1. Semi-natural coastal and estuarine habitats including saltmarsh, intertidal mudflats, shingle, brackish ponds, grazing marsh and maritime grasslands.

3. Wetlands

- 3.1 Areas of open freshwater (e.g. lakes, ponds, canals, rivers, streams and ditches) which support significant assemblages of floating, submerged or emergent plant species, invertebrates, birds or amphibians.
- 3.2 Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions.

4. Species

- 4.1 Sites which support one or more of notable species¹.
- 4.2 Sites which support an outstanding assemblage of notable species.

¹ Notable species include Red Data Book Species, Nationally Scarce Species, species covered under Schedules 1,5 and 8 of the Wildlife & Countryside Act 1981, Annex 1 of the EC Bird Directive 79/409 and Annex 2 & 4 of the EC Directive 92/43/EEC 'The Habitats Directive', and those covered by the Bern, Bonn and Ramsar Conventions. Notable species will also include species that are considered locally significant due to regional scarcity.

5. Social Value

- 5.1 Sites which are especially valued by local people for their wildlife interest and hold a significant range of species or habitats, or have species that are of particular interest to local people.
- 5.2 Sites particularly valuable for environmental education purposes which are readily accessible and hold a significant range of species or habitats, or have species that are of particular educational interest.



Havant Business Park: Extended Phase 1 Habitat Survey



Appendix D – Wildlife Boxes



Havant Business Park: Extended Phase 1 Habitat Survey

Introduction

The information in this appendix relates to bat and bird boxes that can be easily incorporated into building and landscape plans. The information provided is not exhaustive and provides examples of some of the types of boxes available.

Including bat and bird boxes throughout the development site has a number of benefits:

- Any roosting or resting places lost as a result of the work will be replaced;
- The ecological value of the site will be enhanced;
- Priority species within the UK and local Biodiversity Action Plans (BAPs) will be encouraged.

Bats

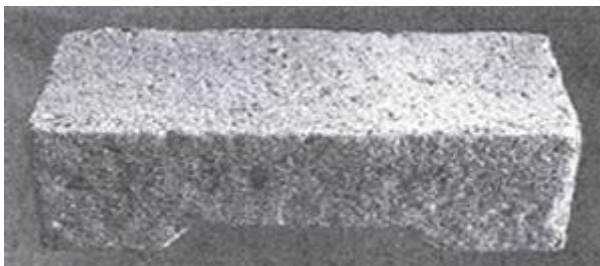
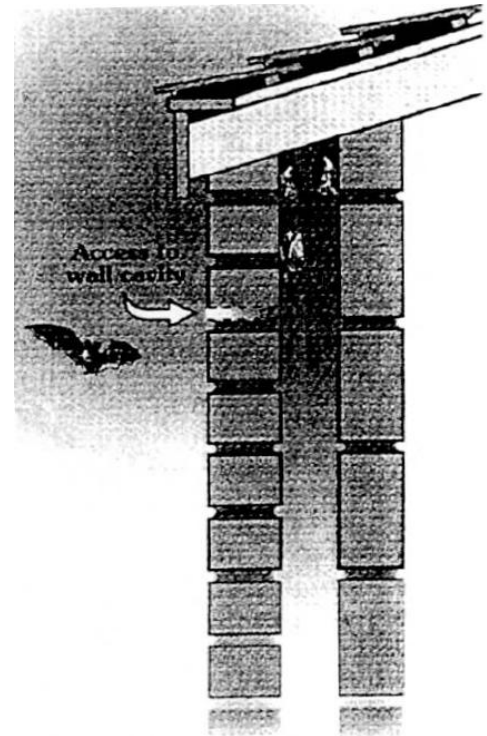
For Buildings

The inclusion of a variety of bat bricks, tubes and boxes for buildings is recommended to encourage a diversity of bat species. Bat bricks and tubes require no maintenance.

Bat Access and Roost Bricks

Source: Marshalls Clay Products (approved by the Bat conservation Trust)

'... Marshall Clay Products have been producing a Bat Access Brick specially designed to help the country's badly depleted bat population by provided access to wall cavities or roof spaces where most bat colonies tend to be (see diagram). In recent years bats have been declining at an alarming rate. Nearly all colonies tend to be on the outside of houses, in wall cavities, under slates, flashing or tiles, et c. ... Contrary to popular opinion, bats do not make pests and do absolutely no damage to buildings or roof timbers, indeed many people encourage bat colonies in their area because of the large number of insect pests, woodworm, et c. which they eat. Most colonises will use a house for only a few weeks in summer before dispersing in autumn.'



Marshall's Bat Access Brick, which is now also available in stone.

A Bat Brick should ideally be placed as high as possible at the gable apex or close to the soffit.

Marshalls Clay Products - Quarry Lane,
Howley Park, Woodkirk, Dewsbury, West
Yorkshire, WF12 7JJ – Tel: (01132) 203535,
Fax: (01132) 203555.

Havant Business Park: Extended Phase 1 Habitat Survey

Bat Tube

Brick bat tubes are designed for buildings, or underneath bridges, arches or tunnels, where conditions are relatively humid. They are particularly useful for new buildings or bridges to attract bats, or to provide new roost sites where existing buildings with bats are being renovated.

This long box can be installed within brick masonry, beneath plasterwork or wood panelling, or incorporated into concrete structures such as factory buildings or bridges. Inside it contains a woodcrete surface, a roughened wood board, and a metal mesh, providing a choice of roosting areas depending on the weather conditions and the bats' habits. This box is maintenance-free as the entrance slit is at the bottom.

No painting required, but if painting is necessary a natural breathable paint should be used.

Width: 20cm; Height: 47.5cm; Depth: 12.5cm; Entrance Width: 15cm; Entrance Depth: 2cm; Weight: 13kg



Bat Box

This type of box is made of woodcrete and is expected to last approximately 25 years. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats. Woodcrete (75% wood sawdust, concrete and clay mixture).

Width: 27cm; Height: 43cm; Weight: 8.3kg.



Havant Business Park: Extended Phase 1 Habitat Survey

For Trees

Woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are long lasting (approx. 25 years) and are rot- and predator-proof. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail. Attractive to smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture); Diameter: 16cm; Height: 33cm; Weight: 4kg.



Bird Boxes

A variety of bird box designs could be installed throughout the development site to attract a diversity of species. Open fronted boxes will attract species such as robins, pied wagtails and spotted flycatchers, while boxes with entrance holes will attract tits, wrens and tree sparrows. Roost pockets will be used by roosting birds over the winter and by smaller species, such as wrens, for nesting in the spring.

Open Fronted Boxes

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts and is best sited on the walls of buildings with the entrance on one side.

These woodcrete boxes are designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.



Havant Business Park: Extended Phase 1 Habitat Survey

Boxes with Entrance Holes

This box is attractive to smaller birds such as tits, wrens and tree sparrows. Sparrow terraces are also available.



Insect Boxes

As with the bat and bird boxes, a variety of insect boxes is recommended to encourage a diversity of species.

Wooden Insect House

A general insect habitat for beneficial insects in summer and, later in the year, overwintering ladybirds and lacewings. Locate in a sheltered place near nectar or pollen plants or by a pond.

Durable and strong construction in acacia, oak or larch with no maintenance necessary. Dimensions: 22 × 13.5 × 13.5cm.



Havant Business Park: Extended Phase 1 Habitat Survey

Woodcrete Insect House

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps.

Dimensions: 14 × 8 × 26cm; Weight: 3.65kg



Insect House with Inspection Tubes

This nesting and hibernation box for insects has a woodcrete exterior with a wooden front panel which can be removed for observation. Through the transparent tubes you can see the usually hidden lifecycle of many solitary types of bees and hymenoptera including egg-laying, development of larvae and sealing of brood chambers.

Typical inhabitants are wild bees and thread-waisted wasps. All the species attracted to this box are harmless non-aggressive pollinating insects. Dimensions: 33 × 21 × 51 cm; Weight: 7.1kg.





Appendix E – Wildlife-friendly Planting

Table E1 Shrub species of native origin or generally thought to be beneficial to wildlife

(Source: 'Gardening with wildlife in mind', Natural England, 2008)

Common name	Scientific name
Hazel	<i>Corylus avellana</i>
Elder	<i>Sambucus nigra</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Dog rose	<i>Rosa canina</i>
Butterfly bush	<i>Buddleia davidii</i>
Guelder rose	<i>Viburnum opulus</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius</i>
Wayfaring tree	<i>Viburnum lantana</i>
Shrubby cinquefoil	<i>Potentilla fruticosa</i>
Raspberry	<i>Rubus idaeus</i>
Alder buckthorn	<i>Frangula alnus</i>
Wild privet	<i>Ligustrum vulgare</i>
Barberry	<i>Berberis x stenophylla</i>
Barberry	<i>Berberis vulgaris</i>
Bell heather	<i>Erica cinerea</i>
Bilberry	<i>Vaccinium myrtillus</i>
Black currant	<i>Ribes nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Buckthorn	<i>Rhamnus catharticus</i>
Butcher's-broom	<i>Ruscus aculeatus</i>
Cherry laurel	<i>Prunus laurocerasus</i>
Cowberry	<i>Vaccinium vitis-idaea</i>
Cross-leaved heath	<i>Erica tetralix</i>
New Zealand holly	<i>Olearia macrodonta</i>
Daphne	<i>Daphne odora</i>
Dogwood	<i>Cornus sanguinea</i>
Field rose	<i>Rosa arvensis</i>
Firethorn	<i>Pyracanthus angustifolia</i>
Flowering Currant	<i>Ribes sanguineum</i>
Gooseberry	<i>Ribes uva-crispa</i>

Common name	Scientific name
Hebe 'Midsummer Beauty'	<i>Hebe species</i>
Hedgehog Rose	<i>Rosa rugosa</i>
Himalayan honeysuckle	<i>Leycesteria formosa</i>
Holly	<i>Ilex aquifolium</i>
Japanese quince	<i>Chaenomeles japonica</i>
Lilac	<i>Syringa vulgaris</i>
Mexican orange	<i>Choisya ternata</i>
Mezereon	<i>Daphne mezereum</i>
Midland Hawthorn	<i>Crataegus laevigata</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Osier	<i>Salix viminalis</i>
Portugal laurel	<i>Prunus lusitanica</i>
Privet	<i>Lustrum ovalifolium</i>
Purple Willow	<i>Salix purpurea</i>
Snowy Mespilus	<i>Amelanchier canadensis, Amelanchier lamarckii</i>
Spindle	<i>Euonymus europaeus</i>
Spurge laurel	<i>Daphne laureola</i>
Sweet briar	<i>Rosa rubiginosa</i>
Wild privet	<i>Ligustrum vulgare</i>

Table E2 Tree species of native origin or generally thought to be beneficial to wildlife

(Source: 'Gardening with wildlife in mind', Natural England, 2008)

Common name	Scientific name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Wych Elms	<i>Ulmus glabra</i>
Whitebeams	<i>Sorbus aria agg.</i>
Rowan	<i>Sorbus aucuparia</i>
Aspen	<i>Populus tremula</i>
Apple	<i>Malus domestica</i>
Bird Cherry	<i>Prunus pardus</i>



Havant Business Park: Extended Phase 1 Habitat Survey

Common Alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Crack Willow	<i>Salix fragilis</i>
Downy Birch	<i>Betula pubescens</i>
False Acacia	<i>Robinia pseudoacacia</i>
Field Maple	<i>Acer campestre</i>
Hornbeam	<i>Carpinus betulus</i>
Juniper	<i>Juniperus communis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Small-leaved lime	<i>Tilia cordata</i>
Pear	<i>Pyrus communis</i>
Scots Pine	<i>Pinus sylvestris</i>
Sessile oak	<i>Quercus petraea</i>
Silver birch	<i>Betula pendula</i>
Sweet chestnut	<i>Castanea sativa</i>
Wild Cherry	<i>Prunus avium</i>
Wild service-tree	<i>Sorbus torminalis</i>
Yew	<i>Taxus baccata</i>

Table E3 Gardening for bats

Aim at having flowers in bloom throughout the year, including both annuals and herbaceous perennials. Below are some suggestions, but this is not an exhaustive list. Flowering times are approximate, varying dependent on region. Regular dead-heading extends flowering period in many flowers.

A=annual, HA= hardy, annual, HHA=half-hardy annual, P=perennial, W=wild flower.

Flowers for borders			
St. John's Wort	<i>Hypericum</i>	P	March
Marigolds	<i>Calendula</i>	H/A	March-October
Aubrietia	<i>Aubrietia deltoidea</i>	P	March-June
Honesty	<i>Lunaria rediviva</i>	HB	March
Forget-me-not	<i>Myosotis</i> sp.	A/P	March-May
Elephant ears	<i>Bergenia</i>	P	April
Wallflowers	<i>Erysimum</i>	B	April-June
Cranesbills	<i>Geranium</i> sp.	P	May-September
Yarrow	<i>Achillea</i>	P	May-
Poppies	<i>Papaver</i> sp.	A	May- July
Dames violet	<i>Hesperis matronalis</i>	P	May-August
Red Valerian	<i>Centranthus ruber</i>	P	May-Sept
Poached egg plant	<i>Limnanthes</i>	HA	June-August
Knapweed	<i>Centaurea nigra</i>	P	June-September
Phacelia		HA	June-September
Ox-eye daisy	<i>Leucanthemum vulgare</i>	P	June-August
Evening primrose	<i>Oenothera biennis</i>	B	June-September
Candytuft	<i>Iberis umbellata</i>	HA	June-September



Sweet William	<i>Dianthus barbatus</i>	B	June-July
Blanket flowers	<i>Gaillardia</i>	P	June -
Verbena	<i>Verbena bonariensis</i>	HHA	June-October
Scabious	<i>Knautia arvensis</i>	P	July-August
Night-scented stock	<i>Mattiola bicornia</i>	HA	July-August
Pincushion flower	<i>Scabious</i> sp.	A/P	July-September
Cherry pie	<i>Heliotrope</i>	HHA	July-October
Mexican aster	<i>Cosmos</i> sp.	A/P	July-October
Cone flower	<i>Rudbeckia</i> sp.	A/P	August-November
Mallow	<i>Lavatera</i> sp.	P	August-October
Michaelmas daisy	<i>Aster</i> sp.	P	August-September
Ice plant 'Pink lady'	<i>Sedum spectabile</i>	P	September
Herbs – both leaves and flowers are fragrant			
Fennel	<i>Foeniculum vulgare</i>		July-September
Bergamont	<i>Monarda didyma</i>		June-September
Sweet Cicely	<i>Myrrhis odorata</i>		April-June
Hyssop	<i>Hyssopus officinalis</i>		July-September
Feverfew	<i>Tanacetum parthenium</i>		June-September
Borage	<i>Borago officinalis</i>		May-September
Rosemary	<i>Rosmarinus officinalis</i>		March-May
Lemon balm	<i>Melissa officinalis</i>		
Coriander	<i>Coprianrum sativum</i>		June-August
Lavenders	<i>Lavendula</i> sp.		
Marjoram	<i>Origanum</i> sp.		
Trees, shrubs and climbers important to insects			
Oak	<i>Quercus</i> sp.		large gardens only



Silver birch	<i>Betula pendula</i>	
Common alder	<i>Alnus glutinosa</i>	Suitable for coppicing
Hazel	<i>Corylus avellana</i>	Suitable for coppicing
Elder	<i>Sambucus nigra</i>	Small
Goat willow	<i>Salix caprea</i>	Suitable for coppicing
Hawthorn	<i>Crataegus monogyna</i>	Suitable for coppicing
Honeysuckle	<i>Lonicera</i> sp.	Grow a variety for succession
Dog rose	<i>Rosa canina</i>	Climber
Bramble	<i>Rubus fruticosus</i>	Climber
Ivy	<i>Hedera helix</i>	Climber
Buddleia	<i>Buddleja davidii</i>	Shrub
Guelder rose	<i>Viburnum opulus</i>	Shrub
Gorse	<i>Ulex</i> sp.	Shrub
Plants for pond edges and marshy areas		
Purple loosestrife	<i>Lythrum salicaria</i>	W June-August
Meadow sweet	<i>Filipendula ulmaria</i>	W June-September
Lady's smock	<i>Cardamine pratensis</i>	W April-June
Water mint	<i>Mentha aquatica</i>	W July-September
Angelica	<i>Angelica sylvestris</i>	W July-September
Hemp agrimony	<i>Eupatorium cannabinum</i>	W March-May
Marsh marigold	<i>Caltha palustris</i>	W June-September
Creeping Jenny	<i>Lysimachia nummularium</i>	W May-August
Fringed water lily	<i>Nymphoides peltata</i>	W June-September
Water forget-me-not	<i>Myosotis scorpioides</i>	W June-September



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Allow part lawns to grow long in summer and cut in autumn, removing the clippings. Avoid using fertilisers. Compost heaps are food producers of insects too.

(Source: '*Gardening for bats*', Bat Conservation Trust, 2004)



Appendix F – Bats and lighting

Bat Conservation Trust



BATS AND LIGHTING IN THE UK

Bats and the Built Environment Series

This document is aimed at lighting engineers, lighting designers, planning officers, developers, bat workers and anyone specifying lighting. It is intended to raise awareness of the impacts of lighting on bats and mitigation is suggested for various scenarios. It also offers an explanation of the facts associated with the lighting industry for the benefit of bat workers.

This is a working document and as such the information contained will be updated in line with advances in our knowledge both into the impact on bats and also to reflect the advances in technology available in the lighting industry.

The information provided here is believed to be correct. However, no responsibility can be accepted by the Bat Conservation Trust, the Institution of Lighting Engineers or any of their partners or officers for any consequences of errors or omissions, nor responsibility for loss occasioned to any person acting or refraining from action as a result of information and no claims for compensation for damage or negligence will be accepted.

ABOUT BATS – FOR THE LIGHTING INDUSTRY

General Ecology

Bats are the only true flying mammals. Like us, they are warm-blooded, give birth and suckle their young. They are also long-lived, intelligent and have a complex social life. In Britain there are 17 species, all of which are small (most weigh less than a £1 coin) and eat insects.

Bats have evolved a number of unusual features, mainly connected with their ability to fly. Their wings are formed from a web of highly elastic skin stretched over greatly elongated finger bones, the legs and tail, though their thumbs remain free to help them cling on when roosting. Bats have also developed a highly sophisticated echolocation system that allows them to avoid obstacles and catch tiny insects, which they seize in flight or pick off water, the ground or foliage, even in complete darkness. When they're flying, bats produce a stream of high-pitched calls and listen to the echoes to produce a sound picture of their surroundings.

Some bats specialise in catching large insects such as beetles or moths but others eat large numbers of very small insects, such as gnats, midges and mosquitoes. Bats gather to feed wherever there are lots of insects, so the best places for them include traditional pasture, woodland, marshes, ponds and slow moving rivers.

During the winter there are relatively few insects available, so bats hibernate. In September and October they put on weight and then, as the weather gets colder, they seek out appropriate sheltered roosts, let their body temperature drop to close to that of their surroundings and slow their heart rate to only a few beats per minute. This greatly reduces their energy requirements so that their food reserves last as long as possible. Bats don't hibernate right through the winter but may wake up and go out to feed on mild evenings when insects are active.

During the spring and summer period female bats gather together into maternity colonies for a few weeks to give birth and rear their young (called pups). Usually only one pup is born each year. This is looked after carefully and suckled for between four and six weeks until it is old enough to fly out and hunt for itself. Bats don't build nests and don't bring food back to the roost to feed their young, so the baby lives only on its mother's milk until it is old enough to fly. Once the baby is independent, the colony breaks up and the bats generally move to other roosts. Bats may gather together from a large area to form these maternity roosts, so any disaster at the summer breeding site can affect the whole colony of bats from a wide surrounding area. Many of these maternity sites are used every summer as bats have a strong tradition of returning to the same site year after year.

Legal Protection of bats

Due to the decline in bat numbers, all species of bat are protected by the Wildlife & Countryside Act (1981) (as amended) and the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). This makes it illegal to: kill, injure, capture or disturb bats, obstruct access to bat roosts or damage/destroy bat roosts. Lighting in the vicinity of a bat roost causing disturbance could constitute an offence, so it is important that Natural England, Countryside Council for Wales, Scottish Natural Heritage or Environment and Heritage Service, Northern Ireland is consulted and allowed time to provide advice on lighting proposals in the vicinity of bats and roosts.

Impacts on bats

Roosts

Illuminating a bat roost creates disturbance and may cause the bats to desert the roost. Light falling on a roost access point will at least delay bats from emerging and this shortens the amount of time available to them for foraging. As the main peak of nocturnal insect abundance occurs at and soon after dusk, a delay in emergence means this vital time for feeding is missed.

Insects and foraging

In addition to causing disturbance to bats at the roost, artificial lighting can also affect the feeding behaviour of bats. There are two aspects to this. One is the attraction that light from certain types of lamps has to a range of insects; the other is the presence of lit conditions.

Many night flying species of insect are attracted to light, especially those lamps that emit an ultra-violet component and particularly if it is a single light source in a dark area. As well as moths a range of other insects can be attracted to light such as crane flies, midges and lacewings. Studies have shown that, although noctules, Leisler's, serotine and pipistrelle bats swarm around white mercury street lights (this would also apply to metal halide) feeding on the insects attracted to the light, this behaviour is not true for all bat species. The slower flying broad winged species such as long-eared bats, *Myotis* species (which include Brandt's, whiskered, Daubenton's, Natterer's and Bechstein's), Barbastelle and greater and lesser horseshoe bats generally avoid street lights. In addition it is also thought that insects are attracted to lit areas from further afield. This is thought to result in adjacent habitats supporting reduced numbers of insects. This is a further impact on the ability of the light avoiding bats to be able to feed. It is noticeable that most of Britain's rarest bats are among those species listed as avoiding light. Clearly, effective mitigation where there is potential for impact on bats has importance in the conservation of these species.

Artificial lighting is thought to increase the chances of bats being preyed upon. Many avian predators will hunt bats which may be one reason why bats avoid flying in the day. Observations have been made of kestrels (diurnal raptors) hunting at night under the artificial light along motorways.

Lighting can be particularly harmful if used along river corridors, near woodland edges and near hedgerows used by bats. In mainland Europe, in areas where there are foraging or 'commuting' bats, stretches of road are left unlit or lighting is designed in such a way as to avoid isolation of bat colonies.

Other behaviours

Artificial lighting disrupts the normal 24-hour pattern of light and dark which is likely to affect the natural behaviour of bats. Bright light may reduce social flight activity and cause bats to move away from the light area. Studies have shown that continuous lighting along roads creates barriers which some bat species cannot cross. For example, Daubenton's bats move their flight paths to avoid street lamps. The following images indicate possible scenarios where bats' commuting routes may cross a road. They are linear features such as tree lines, river corridors, hedgerows or where tree canopies form a link over the road.



ABOUT THE LIGHTING – FOR BAT WORKERS

Types of lights in use

A range of lighting equipment is available:

- 1) **Low pressure sodium lamps (SOX)** (typical orange lamps seen along roadsides). Light is emitted at one wavelength, contains no ultraviolet (UV) light and has a low attraction to insects. The lamps tend to be large which makes it more difficult to focus the light from these lamps. These are in the gradual process of being removed or replaced.
- 2) **High pressure sodium lamps (SON)** (brighter pinkish-yellow lamps). Commonly used as road lighting. Light is emitted over a moderate band of long wavelengths including a small UV component. Insects are attracted to the brighter light. The lamp is of medium size and the light can be more easily directed than low pressure sodium. This is the predominant lamp now in use.
- 3) **Mercury lamps (MBF)** (bluish-white lamps). These emit light over a moderate spectrum including a larger component of UV light to which insects are particularly sensitive. Insects are attracted in large numbers along with high densities of bat species. (Rydell & Racey 1993). They are rare now and are not used in new developments.
- 4) **White SON**. This is whiter than High Pressure Sodium and has a larger component of UV light.
- 5) **Metal Halide**. A small lamp and therefore more easy to focus light and make directional. Emits less UV light than mercury but more than high pressure sodium. It comes in three forms a) Quartz arc tube (Hqi); b) Ceramic arc tube (CDM-T) and c) Cosmo which is a new ceramic form.

- 6) **Light Emitting Diodes (LEDs)**. Predicted to compete with metal halide and high pressure sodium as a widely used light source within the next few years. The light emitted is more directional. The light is produced in a narrow beam. It is instant light.
- 7) **Tungsten Halogen** (more directional). It is not used in new lighting schemes but may be encountered as security light on a private household.
- 8) **Compact Fluorescent** Mostly in use in residential street lighting. It produces a white light that does include UV light. It can be used at a low wattage and therefore on a low output to achieve low lux.

Legal requirements for lighting

There is no legislation requiring an area or road to be lit.

The Building Regulations specify that 150 W is the maximum for exterior lighting of buildings but this does not apply to private individuals.

There are a number of British Standards that relate to various components of lighting and there are also guidelines that relate to crime prevention, prevention of vehicular accidents and amenity use.

Many County councils and less often District and Borough councils set out standards in local guidance policy documents. These are sometimes based on the advice given by the Highways Authority 'TA49 – Approval of new and replacement lighting on trunk roads and trunk road motorways'.

In assessing the need for lighting it would be beneficial to ask the local authority for their lighting policy document as this should incorporate all of the above.

The installation of lighting and the planning system

Domestic lighting needs no planning permission and depends on direct advice being given to the householder. Lighting associated with new development or a listed building does require planning permission. Planning officers or developers when dealing with applications for lighting in an area of suitable bat habitat eg. woodland, old pasture, linking hedgerows and water habitats) should seek information on bat roosts in the area.



If assistance is needed they can contact the BCT Bat Helpline 0845 1300 228 who may be able to suggest how best to access information on bat roosts known in the area. If bat roosts are suspected, it may be necessary to conduct a bat survey. A survey may need to

determine the species of bat affected, their population levels, the likely impact of the lighting on the bats and possible mitigation.

The need to install lighting should be questioned. Where lighting is permitted, as may be necessary for public safety, conditions should be imposed to ensure the impact of the lighting on the bats is kept to a minimum. The use of a lighting design computer program that predicts where light will fall should be used to predict the potential impact and to plan mitigation.

The consultation on the addition to PPS23 on Pollution Control of Annex 3 on lighting is on hold at the present time (July 2007) until the outcome of the Baker review is known.

MITIGATION OF LIGHTING IMPACTS ON BATS

1. BAT ROOSTS

No bat roost (including access points) should be directly illuminated. If it is considered necessary to illuminate a building known to be used by roosting bats, the lights should be positioned to avoid the sensitive areas. Close offset accent lighting causes less light pollution; it is more specific and can be designed to avoid bat sensitive areas, and better highlights the features of the subject of the illumination.

2. FORAGING AND COMMUTING

Type of lamp (light source)

The impact on bats can be minimised by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its uv filtration characteristics.

Luminaire and light spill accessories

Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Lighting column

The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting this can take the form of low level lighting that is as directional as possible and below 3 lux at ground level. The acceptable level of lighting may vary dependent upon the surroundings and on the species of bat affected.

Predicting where the light cone and light spill will occur

There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels

The light should be as low as guidelines permit. If lighting is not needed, don't light.

Timing of lighting

The times during which the lighting is on should be limited to provide some dark periods. Roads or trackways in areas important for foraging bats should contain stretches left unlit to avoid isolation of bat colonies. These unlit stretches should be 10 metres in length either side of commuting route.

3. FLOODLIGHTING OF SPORTS OR EVENTS

The use of asymmetric beam floodlights (as opposed to symmetric) orientated so that the glass is parallel to the ground will ensure that the light is cast in a downward direction and avoids horizontal spill.



See the National Trust guide to 'Events, concerts and bats' at http://www.nationaltrust.org.uk/main/w-bat05_events.pdf for further advice on ways to reduce the impact of event lighting.

4. SECURITY LIGHTING

Power It is rarely necessary to use a lamp of greater than 2000 lumens (150 W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.

Movement sensors Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor are able to be separately aimed.

Timers If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.

Aim of light The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any bats' roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.

Alternatives

It may be a better solution for security lighting on domestic properties to use a porch light.

Ongoing areas of research

- The impact of light on commuting corridors used by lesser horseshoe bats. Emma Stone, University of Bristol
- The effects of lighting on prime bat foraging areas within London, concentrating on riparian habitats and open spaces. Alison Fure.
- The effect of light and noise on British bat species. Frank Greenaway.

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Glossary of terms

(used in this article or that may be used by the lighting industry)

Arc tube	A tube normally ceramic or quartz enclosed by the outer glass envelope of a HID lamp that contains the arc stream.
Asymmetric beams	Lamp is off-centre in a reflector more steeply curved at one end.
Candela	The intensity of a light source in a specific direction. Unit of Luminous intensity
Contrast	The relationship between the luminance of an object and its background. The higher the contrast the more likely it is an object

	can be seen.
Cowl	Physical light spill control accessory.
Diffuse	Term describing dispersed light distribution referring to the scattering of light.
Efficacy	A measure of light output against energy consumption measured in lumens per watt.
HID	High Intensity Discharge. Describes mercury vapour, metal halide and high pressure sodium lamps.
High Pressure Sodium Lamp	A HID lamp whose light is produced by radiation from high pressure sodium vapour which usually includes a small amount of UV light.
Hood	Physical light spill control accessory.
Illuminance	Illuminance is the quantity of light, or luminous flux, falling on a unit area of a surface. It is designated by the symbol E. The unit is the lux (lx).
Lamp	Light source.
Light cone	The angle at which the beam falls off to 50% of peak intensity.
Light Pollution	The spillage of light into areas where it is not required. Also known as obtrusive light.
Light spill	The light that falls outside the light cone.
Light Trespass (nuisance)	Light that impacts on a surface outside of the area designed to be lit by a lighting installation. The correct legal term is nuisance.
Louvres	Physical light spill control accessory.
Low Pressure Sodium	A discharge lamp in which light is produced by radiation from low pressure sodium vapour. Emits light at only 589nm ie. monochromatic.
Lumen	The unit of light output from a lamp.
Luminaire	Light fitting or unit designed to distribute light from a lamp or lamps.
Luminance	The physical measure of the stimulus that produces the sensation of brightness measured by the luminous intensity reflected in a given direction. The unit is the candela per square metre (cd/m^2).
Lux (LX)	Illuminance is the quantity of light or luminous flux, falling on a unit area of a

	surface in the environment. It is designated by the symbol E. The unit is lux (lx).
Metal Halide (includes CDM-T)	A type of HID lamp in which most of the light is produced by radiation of metal halide and mercury vapours in the arc tube. Emits UV light. UV poor variants are available. It comes in three forms a) Quartz arc tube (HQI); b) Ceramic arc tube (CDM-T) and c) Cosmo which is a new ceramic form
Mercury	High pressure white light lamp that emits significant UV light.
Optic	The components of a luminaire such as reflectors, refractors, protectors which make up the directional light control section.
Photocell	A unit which senses light to control luminaires.
Reflector	A device used to reflect light in a given direction.
Refractor	A device used to redirect the light output from a lamp when the light passes through it. It is usually made from prismatic glass or plastic.
Shield	Physical light spill control accessory.
Sky glow	The brightening of the night sky caused by artificial lighting.
Symmetric beams	Lamp mounted in the centre of the reflector.
Ultra violet (UV)	Radiation that is shorter in wavelength and higher in frequency than visible violet light.
Voltage	The difference in electrical potential between two points of an electrical circuit.
Watt (W)	The unit for measuring electrical power.



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