



ecosupport



Dunsbury Way, Havant

PEA

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Dunsbury Way

Havant

Phase I Ecological Survey

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1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned to conduct a Phase I Habitat Survey of the Dairy Crest Depot. This survey was required to identify any ecological impacts that may arise from the proposed redevelopment of the site. This document has been prepared in order to ensure the proposed development fully complies with nature conservation legislation and policy where applicable.

This survey takes no account of seasonal variation and fluctuations in the presence of any species noted that might take up residence following this report. Lack of signs of a particular species does not confirm its absence, merely that there was no indication of its presence during the time of survey.

Should the proposed development not be underway within 18 months of the date of survey, an updated walkover should be undertaken by a suitably experienced Ecologist to determine if any significant changes have occurred to the ecological value of the site, as per CIEEM (2019) guidance. Changes to the ecological baseline may require additional or updating ecological surveys and/or alterations to the mitigation and compensation strategy.

1.2 Aim

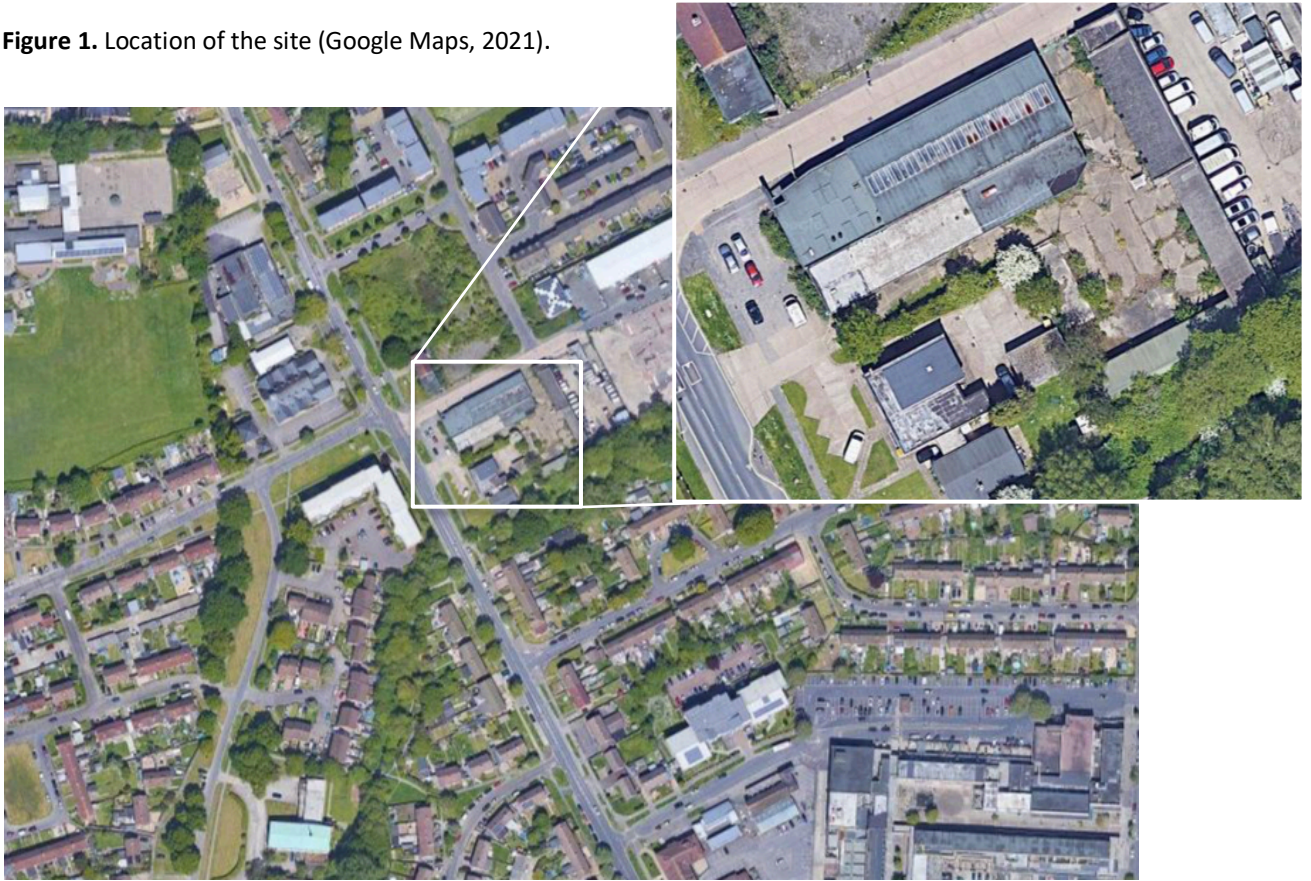
A Phase I Habitat Survey is the first step in assessing the potential ecological effects (or lack of) of a proposed development, and determines whether or not (and which) Phase II Protected Species Surveys are required. The objectives of this survey were as follows:

- Identify current land use and distribution of broad habitat types including plant communities of ecological importance,
- Identify and classify any priority habitats,
- Assess the ecological value of the site,
- Identify any signs of protected species and potential features that may support them,
- Identify all relevant legislation and policy,
- Make recommendations for further survey work as appropriate,
- Make recommendations for appropriate enhancements.

1.3 Site Location

The site is located along Dunsbury Way in Havant, PO95BQ (**Figure 1**) (Grid Reference SU 71323 08206). The site is bound to the west by Dunsbury Way and Fulflood Road to the north. A ditch and strip of woodland then run to the south of the site separating the site from residential properties and associated garden space. Finally, to the east, lies commercial and industrial units. Due to the site being located within the town of Havant, the surrounding landscape is dominated by development.

Figure 1. Location of the site (Google Maps, 2021).



2.0 LEGISLATION & POLICY

One of the aims of this report is to demonstrate that the proposed development complies with relevant Planning Policy and nature conservation legislation. This section details the policy and legislation with which the development would need to comply.

2.1 Legislation

2.1.1 *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

The EU Exit instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue.

The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU. There is no change to policy.

Sites designated under the Nature Directives previously contributed to the EU's Natura 2000 network. A national site network is created to retain the concept of a UK network of sites. The 'national site network' is defined as including Natura 2000 sites designated prior to EU exit and those Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated post EU Exit.

Current references to "European site", "European Marine Site", "Special Area of Conservation" and "Special Protection Area" are retained as there is no operability reason for these to change.

Management objectives are established for the national site network. Appropriate authorities are required to manage, and where necessary, adapt the national site network in cooperation with each other to meet the network's management objectives. The management objectives are to:

- i. maintain or restore habitats and species listed in the Habitats Directive to a favourable conservation status; and
- ii. contribute, in their area of distribution, to ensuring the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

2.1.2 The Wildlife and Countryside Act (1981) (as amended)

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

2.1.3 The Countryside and Rights of Way Act (2000)

This Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 Natural Environment and Rural Communities Act (2006)

This places a duty on authorities to have due regard for biodiversity and nature conservation during the course of a development.

2.2 Policy

The development would seek to comply with relevant Planning Policy at a local, regional and national level.

2.2.1 National Planning Policy Framework (NPPF) 2021

Section 15 of the National Planning Policy Framework (NPPF) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;

- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Havant Borough Core Strategy (2011)

Part of the 'Vision for Havant Borough in 2026' is to protect and enhance biodiversity. Similarly policy 'CS11: Protecting and Enhancing the Special Environment and Heritage of Havant Borough' states that planning permission will only be granted when development protects habitats and features of biological interest and prevents the fragmentation of existing habitats.

As part of the emerging local plan, a number of new policies relate to Ecology and Biodiversity. Policy E14 The Local Ecological Network states that all development in Havant Borough is expected to protect, conserve and enhance the Borough's Local Ecological Network. Planning permission will only be granted where:

- . The development of one dwelling or more or a new commercial building results in biodiversity net gain;
- . The development avoids the fragmentation of the Local Ecological Network;
- . The applicant has identified and assessed the level of ecological value of the site through adequate and proportionate information and any matters arising have been addressed through an avoidance or mitigation plan; and
- . Any necessary mitigation plan includes provision for ongoing management and maintenance.

In addition to the above, priority habitats in the Borough are afforded protection by specific nature conservation designations. Development proposals which could affect a designated site will need to consider the impact and respond appropriately. The Council will continue to work collaboratively with its PUSH partners to develop a strategic approach towards water quality and air quality. Under duty-to-cooperate, the Council is committed to developing a shared Nitrogen Action Plan for the Farlington area (Portsmouth) in partnership with Portsmouth City Council and other appropriate partners.

Policy 'E15 Protected Species' sets out the requirements for species which have been afforded statutory legal protection. In particular, emphasis is placed on Bechstein's bat, which is a rare non-migratory bat species found in internationally important numbers in the ancient Forest of Bere landscape throughout South Hampshire.

Development proposals which are likely to affect protected species, and/or their supporting habitats, must undertake appropriate surveys to establish their presence/likely absence. In using

the findings of such surveys, proposals should, in the first instance, avoid an impact on a protected species. If this is not possible, planning permission will only be granted where:

- . A Mitigation Plan, or if this is not possible a Compensation Plan, is provided to the satisfaction of the Council; and
- . A Monitoring and Review Plan is put in place.

Policy 'E16 Solent SPA' states planning permission will be granted for new dwellings that mitigate the likely significant effect on the Solent SPAs. This mitigation can be provided through either:

- . A financial contribution consistent with the Solent Recreation Mitigation Strategy (SRMS); or
- . A developer provided package of measures associated with the proposed development supported by evidence that it will avoid or mitigate any likely significant effect on the SPAs; or
- . A combination of measures in (a) and (b) above.

Where these measures cannot be provided development proposals will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be a likely significant effect on the Solent SPAs either alone or in combination with other plans or projects.

Finally, under Policy 'E18 Trees, Hedgerow and Woodland', development affecting trees, hedgerows and woodlands will only be permitted where it:

- . Reflects, conserves or enhances the existing landscape and integrates the development into its surroundings, adding visual interest and amenity;
- . Adequately protects existing trees and hedgerows including their root systems prior to, during and after the construction process; and
- . Will not result in the loss or deterioration of ancient woodland and ancient or veteran trees.

The Council will refuse planning permission for proposals that threaten the retention of important trees, hedgerows, and woodland, unless the need for, and benefits of development in that location clearly outweigh the impact of the proposal.

Provision of new trees are expected as part of development proposals for new homes and commercial floorspace. Planning permission will be granted where it facilitates adaptation to climate change by providing shade, shelter and cooling through new tree planting and includes proposals for the successful implementation, maintenance and management of landscape and tree planting schemes.

3.0 METHODOLOGY

3.1 Desk Based Search

A search utilizing online resources was undertaken to establish the presence of nearby designated sites along with a data request submitted to Hampshire Biodiversity Information Centre (HBIC).

3.2 Phase I Habitat Survey

The updating walk over survey was carried out by Tristanna Boxall BSc (Hons) (Natural England Class Level 2 Bat and Class Level 1 Great Crested Newt License Holder) of Ecosupport Ltd on the 5th August 2021. This incorporated a visual assessment of the site and the surrounding landscape, loosely following the methodology outlined within the Joint Nature Conservation Committees (JNCC) *Phase I habitat survey handbook* (2003). The habitats present were noted, focusing particularly on their potential to support protected species. A thorough search for evidence of protected species also took place.

3.3 Assessment of Buildings to Support Roosting Bats

An assessment of the buildings on site was made to determine the likelihood of supporting roosting bats. They were examined, using 8 x 42 Avian Trekker binoculars and a high-powered torch, for any suitable features which bats may use to enter the internals or an external roost and also to search for signs of (i.e. droppings, feeding remains) and/or bats themselves. The survey was carried out in accordance with *Bat Surveys for Professional Ecologists; Good Practice Guidelines* 3rd edition published by the Bat Conservation Trust (Collins, 2016).

3.4 Assessment of Trees to Support Roosting Bats

An assessment of the mature trees on site was undertaken to determine the likelihood of their potential to support roosting bats. This involved using close-focus Avian Trekker binoculars and a high-powered torch to inspect the tree from the ground looking for features indicative of bat roosts (**Table 1**). The survey was carried out in accordance with *Bat Surveys for Professional Ecologists; Good Practice Guidelines* 3rd edition published by the Bat Conservation Trust (Collins, 2016).

Table 1. Trees features commonly used by bats and field signs that may indicate bat presence (BCT, 2012).

Features of trees used as bat roosts	Signs indicating possible use by bats
Natural holes. Woodpecker holes. Cracks/splits in major limbs. Loose bark. Hollows/cavities. Dense epicormic growth (bats may roost within it). Bird and bat boxes.	Tiny scratches around entry point. Staining around entry point. Bat droppings in, around or below entrance. Audible squeaking at dusk or in warm weather. Flies around entry point. Distinctive smell of bats. Smoothing of surfaces around cavity.

4.0 RESULTS

4.1 Desk Based Search

4.1.1 Protected Sites

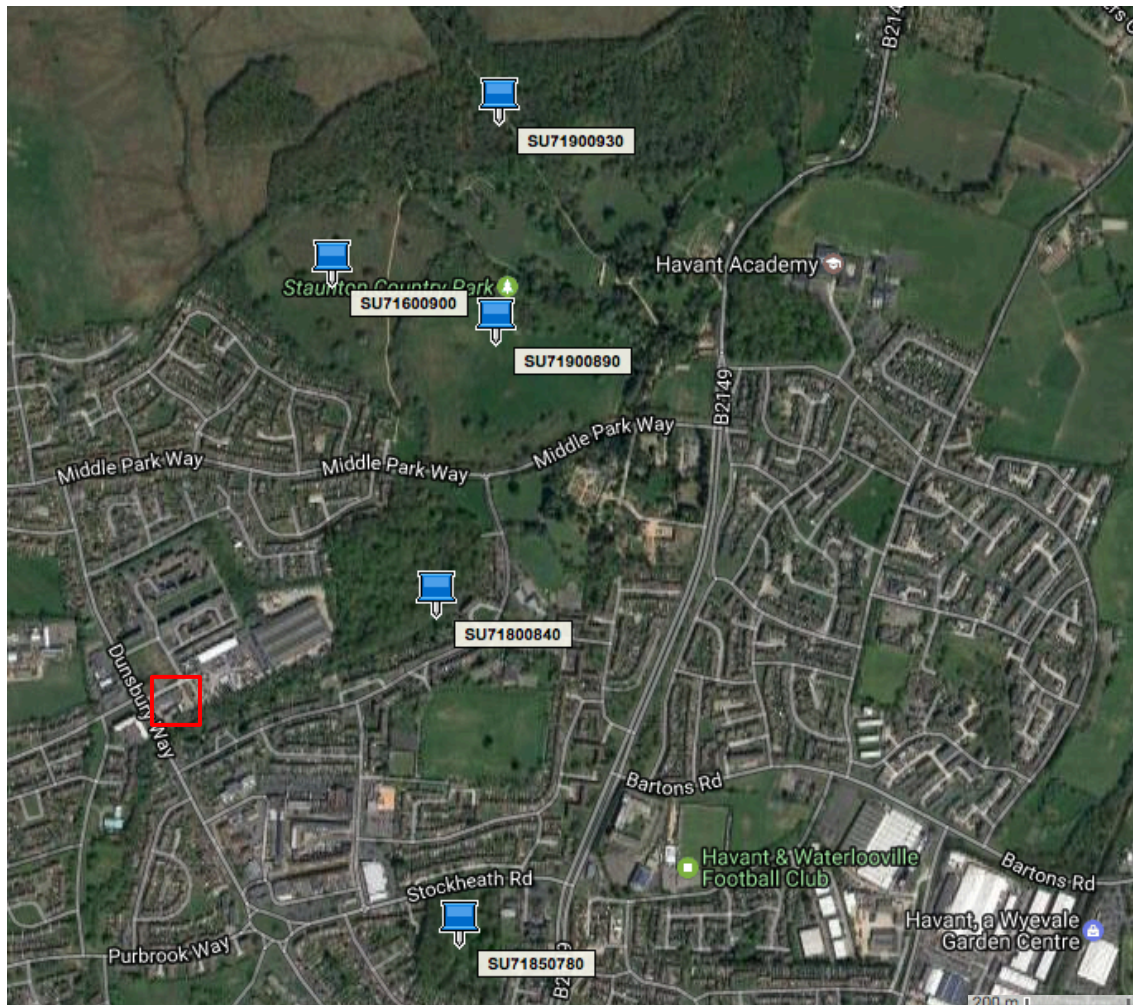
The site is located 3.09km north of Chichester and Langstone Harbour SSSI and 3.11km northeast of Solent Maritime SAC. The site is also south of the South Downs National Park by 2.72km.

The features for which the harbour (AONB, SAC, SPA, Ramsar and SSSI) was designated a SAC include sandbanks which are covered by sea water at all times, estuaries, mudflats and sandflats not covered by seawater at low tide and coastal lagoons. Internationally important wetland types and internationally important numbers of waterbirds were the Ramsar qualifying features. Similarly internationally important numbers of wintering waterbirds, migratory birds and breeding seabirds were the factors that lead to the site being classified as a SPA (Chichester Harbour Conservancy, 2014). The extensive intertidal mudflats are the feeding grounds for internationally important numbers of Ringed Plover (*Charadrius hiaticula*), Grey Plover (*Pluvialis squatarola*), Redshank (*Tringa totanus*), Black-tailed Godwit (*Limosa limosa*), Dunlin (*Calidris alpina*), Sanderling (*Calidris alba*), Curlew (*Numenius arquata*) and Greenshank (*Tringa nebularia*). Bar-tailed Godwit (*Limosa lapponica*) numbers are of European importance. Unimproved permanent pasture provides alternative feeding sites for the geese and major high tide wader roosts. Some of this pasture is floristically rich being a Red Fescue (*Festuca rubra*) sward with scarce species such as Green-winged Orchid (*Orchis morio*) and Adder's Tongue Fern (*Ophioglossum vulgatum*).

Solent Maritime is designated due to it encompassing a major estuarine system. Sediment habitats within the estuaries include extensive estuarine flats, often with intertidal areas supporting Eelgrass (*Zostera* spp.) and Green Algae, sand and shingle spits, and natural shoreline transitions. . Unusual features include the presence of very rare sponges in the Yar estuary and a sandy 'reef' of the polychaete *Sabellaria spinulosa* on the steep eastern side of the entrance to Chichester Harbour. In addition, the site is notified for being the only site for Cord-grass (*Spartina* spp.). The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England. This habitat supports species such as Sea-purslane (*Atriplex portulacoides*), common Sea-lavender (*Limonium vulgare*) and Thrift (*Armeria maritime*).

The South Downs is a landscape of national importance. It is an extremely diverse and complex landscape, even within the uniformity of the chalk. Dominated and unified by the central spine of chalk, but including adjacent distinctive Greensand and Wealden landscapes which contrast with, and complement, the chalk. An outstanding biodiversity resource, reflecting the varied geology and history of use and management; supporting a wide range of habitat types, including extensive, ecologically rich chalk grassland and associated downland habitats, significant areas of beech hanger woodland, floodplain grassland, as well as ancient woodland, heathland, chalk streams and coastal habitats (Land Use Consultants, 2005).

HBIC have provided records of five Sites of Importance for Nature Conservation (SINC) with 1km of the site (**Figure 2**).

Figure 2. Location of nearby SINCs in relation to the site (GridReferenceFinder, 2021).

4.1.2 Protected Species

Within 1km of the site two records of Adder (*Vipera berus*) were noted recorded along with Hedgehog (*Erinaceus europaeus*) and a number of notable bird, invertebrate and plant species. In addition, at least seven species of bat have been recorded in the nearby vicinity including Serotine (*Eptesicus serotinus*), Brandt's (*Myotis brandtii*), Whiskered (*Myotis mystacinus*), Noctule (*Nyctalus noctula*) and Soprano, Common and Nathusius's Pipistrelle (*Pipistrellus pygmaeus*, *pipistrellus* and *nathusii*) (see **Appendix** for more details).

4.2 Phase I Habitat Survey

The following habitat types and dominant species were identified on site:

Hardstanding: The majority of the site is comprised of hardstanding. Some floral species that managed to penetrate the concrete were noted including Dock (*Rumex Sp.*), Common Nettle (*Urtica dioica*), Herb Robert (*Geranium robertianum*), Willowherb (*Epilobium Sp.*), Dandelion (*Taraxacum agg.*), Field Bindweed (*Convolvulus arvensis*), Ivy Leaved Toadflax (*Cymbalaria muralis*), Ragwort (*Senecio jacobaea*) and Crane's-bill (*Geranium Sp.*), Wild strawberry (*Fragaria vesca*) and Buddleia.

Buildings: The key element to this site is the high number of buildings. For ease of description the buildings have been assigned numbers (**Figure 3**) and a full description is provided in **Table 2**.

Figure 3. Associated building numbers (Google Maps, 2017).



Table 2. Information on buildings located on site.

Building	Description	Image(s)
1	Brick and concrete built offices, distribution center and refrigerators, with both flat roof, covered in roofing felt, and corrugated roof with transparent panels. Wooden soffit.	

2	Small red brick built office with concrete flat roof and elongated open fronted structure with corrugate asbestos roof. All single skin.	
3	Open fronted storage area with steel structure and corrugated metal sheeting roof.	
4	Breezeblock constructed shed with sloping flat asbestos roof. Beginning to fall into disrepair.	

5	Red brick open fronted garaged with corrugated asbestos roof.	
6	Red brick single storey building low gradient roof covered in roofing felt. PVC soffit, fascia and windows.	
7	Red brick single storey building with glass frontage and flat roof covered in roofing felt. PVC soffit and front with wooden soffit at rear.	

Amenity Grassland: At the front of the Co-operative building and front and rear of the residential property, small areas of lawn were recorded (visible within **Table 2**). Species noted included Creeping Buttercup (*Ranunculus repens*), Ribwort Plantain (*Plantago lanceolata*), Ground Ivy (*Glechoma hederacea*), Creeping Cinquefoil (*Potentilla reptans*), Clover (*Trifolium Sp*), Daisy (*Bellis perennis*), Yarrow (*Achillea millefolium*) and Dandelion along with common grasses. These have been subject to on going management due to the aesthetic and amenity purpose of the areas.

Scrub: Within the centre of the site an area of scrub was recorded. Elder (*Sambucus nigra*), Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*), Bramble (*Rubus fruticosus*), Ivy (*Hedera helix*) and Leylandii were all recorded. A Black Bird (*Turdus merula*) was recorded nesting within this area.

Scattered Trees: In addition to the patches of scrub a mature Silver Birch (*Betula pendula*) tree was recorded within the centre of the site. In addition, two large, coppiced Leylandii trees were noted along the bungalow (Building 6) boundary (**Figure 4**).

Figure 4. Mature trees within rear garden of Building 6.



No evidence of protected species was noted on site during the Phase I Survey.

4.3 Assessment of Buildings to Support Roosting Bats

None of the buildings were considered to have potential to support roosting bats (as detailed in **Table 3**). In addition, the surrounding habitat was considered unfavourable with extremely high light levels during the night as a result of intense and widespread street lighting.

Table 3. Features considered to hold potential for bats and associated classification.

Building	Features	Bat Roost Potential
1	The length of the soffit was checked due to the potential for gaps to be present where the felt is folded. A gap was noted running the length of the building however this was a substantial gap, exposed to high light levels. Thus it is not considered it provide stable, sheltered conditions for roosting. In 2017, the internal investigation identified high light levels due to the transparent panels in the roof. Therefore it is considered highly unlikely bats would roost within the internals.	Negligible
2	Although gaps were noted around the doorway, due to missing mortar, these have been blocked with an accumulation of cobwebs, therefore preventing access. It was therefore considered unsuitable for crevice dwelling bat species. The elongated open fronted nature of Building 2 is also considered to have negligible potential. The single skinned nature of this structure means there is a lack of thermal mass providing stable temperatures, combined with high light levels which further reduce suitability.	Negligible
3	The single skinned nature of this structure means that it is considered highly unlikely that internal temperatures would provide a stable environment for roosting bats which, combined with high light levels and open fronted nature of the building, lead to the conclusion that it is highly unlikely to be used as a roost site.	Negligible
4	Although the fascia was recorded as being lifted from the wall, this has been infilled with dense Ivy growth and cobwebs. No other features considered suitable for bats were identified.	Negligible
5	Although, due to the corrugated nature of the roofing material, there were numerous points for bats to potentially gain access into the internals, it was considered highly unlikely they would roost inside. This is due to the lack of underlining providing crevice opportunities and thermal mass to provide the stable temperatures. In addition the open fronted nature of the garage meant that high light levels were entering inside	Negligible
6	It was not possible to gain access to the internals of the property however no loft space is present. All fascias were in good condition and tightly fitted to the wall resulting in an absence of gaps and opportunities for bats. Similarly the roofing felt was tightly fitted to the fascia and so no gaps were recorded.	Negligible
7	A gap in the wooden soffit at the rear has resulted in an exposed corner of the building. However the level of this water damage is such that the gap created is so substantial it is considered unlikely bats would utilise it (i.e. it is now highly exposed to weather, light and fluctuating temperatures). This combined with the suboptimal surrounding habitat has lead to the classification of negligible.	Negligible

4.4 Assessment of Trees to Support Roosting Bats

The mature trees were considered to have negligible potential to support roosting bats as no features were identified that would support a roosting bat.

4.5 Limitations

The species list provided is not considered to be exhaustive, instead a record of those identified during the Phase I survey. Similarly, this survey does not constitute a full site assessment for invasive species, such as Japanese Knotweed (*Fallopia japonica*), but no such species were found during the time on site. Although it was not possible to gain access to Building 6, this is not considered a limitation as no contained void was present.

5.0 EVALUATION

5.1 Desk Based Search

5.1.1 Protected Sites

Chichester and Langstone Harbour SSSI and Solent Maritime SAC are of **international value**. The South Downs National Park is of **National value**. The SINC's are of **County value**.

5.1.2 Protected Species

It is considered that the site does not provide suitable habitat for reptiles. Therefore it is considered unlikely that the site will support reptile species despite records being identified within the data search. Similarly, it is considered unlikely Hedgehogs will be present, due to a lack of foraging resources, or indeed a diverse assemblage of invertebrates.

It is considered the site is unlikely to encourage foraging and commuting bats. Although those more tolerant of light pollution may well be recorded in the area, it is unlikely they would utilise this site specifically. As detailed above it is also considered highly unlikely roosting bats will be present.

The scrub on site does however provide some habitat for nesting birds, supported by the presence of a Black Bird nest.

5.2 Phase I Survey

Hardstanding: The hardstanding is of negligible ecological value. Although some ruderal vegetation has established, the species present are common and widespread and of negligible botanical interest.

Buildings: All of the buildings on site are considered to have negligible potential to support roosting bats. As a result no further survey effort is recommended.

Amenity Grassland: Reptiles require open grassy habitats with a deep and diverse vegetation structure (Edgar et al., 2010). Due to a lack of these features it is considered that the site does not provide habitat suitable to support reptiles. Therefore, it is highly unlikely they will be impacted. In addition, the grassland on site is relatively isolated and the species recorded are common and widespread. The only value lies in the potential transient use of species such as bats commuting over the site. As a result, it is considered to be limited to **site value**.

Scrub: The scrub habitat provides optimal habitat for nesting birds. It is therefore considered to be of **site value**.

Scattered Trees: Although it is not considered likely the trees will support roosting bats, they do provide further opportunities for nesting birds. Therefore, they are considered to be of **site value**.

6.0 IMPACTS IN THE ABSENCE OF MITIGATION

6.1 Pre-Construction

6.1.1 Designated Sites

No protected sites were recorded adjacent to proposals. It is not considered that development will have any direct impacts upon the nearby designated sites during the construction phase itself (i.e. through noise, air or water pollution) as they are not connecting via any pollution pathways.

6.1.2 Habitats

Development of the site will entail the clearance of vegetation which would result in damage to, and physical loss of, habitats present on the site. This will have a **certain negative impact at site level**.

6.1.3 Nesting Birds

The removal of vegetation, if undertaken during bird nesting season, has the potential to negatively impact upon nesting birds. This would have a **likely negative impact** at a **site level**.

6.2 During Construction

6.2.1 Designated sites

No statutory or non-statutory wildlife sites are located within or immediately adjacent to this site, therefore it is considered unlikely there will be any direct negative impacts during the construction phase.

6.2.2 Bats

The use of artificial lighting during construction could negatively impact upon commuting and foraging nocturnal species. If this lighting is widespread this would have a **likely negative impact** at a **site level**.

6.3 Operational

As the development falls within 5.6km of Special Protection Areas within and around the Solent it falls in the zone within which Natural England's advice states that net increase in development 'would be **likely to have a significant effect**' at an **international level**.

7.0 MITIGATION AND COMPENSATION

7.1 Pre-Construction

7.1.1 Site Design

Once development is complete, the site will be more suitable for species such as Hedgehogs (i.e. through the introduction of garden space). Provision will be made to promote site connectivity and extended foraging ranges and opportunities for the European Hedgehog, as per best practice. Holes measuring 10cm x 10cm will be made at the base of boundary fences/gravel boards into and between each garden and the surrounding habitats. Small signage will be installed on the fence above both sides of these access points to ensure they remain open upon completion of the development. The People's Trust for Endangered Species provide such signage, the purchase of which also supports conservation efforts: <https://ptes.org/shop/hedgehog-highways-signs/hedgehog-highway-labels/>

7.1.2 Nesting Birds

Any vegetation clearance will take place outside of bird nesting season (i.e. removal will not take place between March – September). If this isn't possible any removal will need to be supervised by an ecologist. If a nest is identified a 5m buffer will be established, within which no works can take place until the ecologist has confirmed the chicks have fledged.

7.2 During Construction

7.2.1 Mammals

During the construction phase, any open excavations left overnight should either be covered to prevent commuting mammals from falling in or escape ladders should be used to prevent them from becoming trapped. Any open pipework should be checked and then capped nightly. A member of staff on site should be responsible for ensuring that this is carried out before leaving the site each day.

7.2.2 Lighting

During the construction phase of the development, no works are to be undertaken between dusk and dawn, with lighting also limited to daylight hours where necessary.

7.3 Operational

7.3.1 Lighting

A new document (Guidance Note 08/18 Bats and Artificial Lighting in the UK) has recently been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented provided there are no conflicts with any legal limits of illumination (in which case a suitable compromise should be reached).

'Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.
- Column heights should be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed (**Fig 5**).'

Figure 5. (a) Shield 'barn doors' (b) cowl hood; (c) shield and (d) external louvre Images from ILP (2018).



7.3.2 Recreation

The site lies 3.09km north of Chichester and Langstone Harbour SSSI and 3.11km northeast of Solent Maritime SAC. In order to mitigate for the likely increases in residential pressure upon this SPA, due to the high densities of wildfowl and waders for which the area is predominantly protected, the Solent Recreation Mitigation Strategy (SRMS) has been introduced in collaboration with Natural England, comprising a partnership of all local councils. Mitigation towards the SPA must be provided for all new recreational developments within the 5.6km disturbance zone of the SPA.

The simplest method of providing a necessary suitable and appropriate level of mitigation towards the SPAs associated with the Solent is via financial contributions. These contributions are used to enable the continued use of the coastline in a way that reduces the risks to the bird species of international importance that use the area, for example funding a team of rangers and implementing initiatives to encourage responsible dog walking (Solent Recreation Mitigation Partnership, 2014). It is considered that the contribution, in compliance with the recommendations presented within the SDMP, provides a suitable level of mitigation for the potential adverse impacts associated with the proposed scheme upon the Solent SPA.

In April 2021 a sliding scale of contribution, based upon the number of dwellings per residential unit, was introduced:

- £356 for 1 bedroom dwelling
- £514 for 2 bedroom dwelling
- £671 for 3 bedroom dwelling
- £789 for 4 bedroom dwelling
- £927 for 5 bedrooms or more

8.0 ENHANCEMENTS

Enhancements will be implemented to increase the value of the site in comparison to the baseline.

8.1 Native Planting

As a general enhancement, in line with the Chartered Institute of Ecology and Environmental Management CIEEM guidance (2012), any proposed planting should aim for a 70:30 ratio in favour of native species over non-natives and ornamentals. In addition to the species outlined above further fruit bearing trees, providing food sources for birds and small mammals during the autumn and winter and nest sites during the spring and summer, should be utilised. Species that should be considered include:

- Hawthorn,
- Elder,
- Blackthorn (*Prunus spinosa*),
- Alder Buckthorn (*Frangula alnus*),
- Rowan (*Sorbus aucuparia*)
- Wild Cherry (*Prunus avium*),
- Crab Apple (*Malus sylvestris*),

Shrubs to be considered within the landscape planting include:

- Dogwood (*Cornus sanguinea*),
- Holly (*Ilex aquifolium*)
- Privet (*Ligustrum vulgare*),
- Dog Rose (*Rosa canina*),
- Guelder Rose (*Viburnum opulus*).

Key tree species for enhancing the site for bats are Willow, Oak and Birch as they can support high numbers of insects. In addition, once matured they can eventually provide roosting opportunities for bats (see **Table 4** below).

Table 4. Tree species for foraging and roosting potential (Gunnel et al. 2012).

Native Tree species	Roosting potential	Supporting foraging
Oak	Very good	Very good
Willow	Minimal	Very good
Beech	Very good	Good
Ash	Good	Good
Elm	Good	Good
Birch	Minimal	Very good

Wherever possible wildflowers should be incorporated into the landscape scheme. Planting a mixture of flowering plants, trees (including fruit trees) and shrubs encourages a diversity of insects to sustain bats. It is beneficial that the flowers vary in colour (although pale flowers that are more easily seen in poor light and so attract insects at dusk), fragrance, shape, amount of

nectar and time of flowering. (It is important to provide native flowering plants, shrubs and trees throughout spring, summer and autumn). Flowers with 'landing platforms' for insects (i.e. flowers from the Daisy and Carrot families) increase opportunities for insects and in turn foraging mammals.

8.2 Bats

Each of the new dwelling will include one bat brick. The bat bricks used should be the Istock bat brick B as this is available in a variety of different brick colours and requires no maintenance (**Fig 6**). The boxes should be positioned as close to the eaves as possible and away from windows. It should be positioned to receive direct sun light at some stage during the day.

Figure 6. The Istock bat brick 'B' that will be incorporated into the newly built dwellings.



8.3 Nesting Birds

To act as biodiversity enhancement, each of the newly built dwellings will include one Swift brick. The Istock 'Eco Home for Swifts' bricks will be installed (**Fig 7**) as they are a discreet and attractive box ideal for new dwellings. The boxes should be installed under the eaves or in high walls in shaded areas out of direct sunlight and away from windows. The installation of such boxes has also been shown to be beneficial for House Sparrows (*Passer domesticus*) which are a nationally declining species.

Figure 7 Istock eco home for swifts that will be incorporated into the newly built dwellings.



Additionally at least two Sparrow Terrace features will be introduced within the new development. These can be fixed onto the surface of a suitable wall or incorporated into the brickwork. Although designed specifically for Sparrows it may also occasionally attract a range of other nesting bird species.

9.0 CONCLUSION

The site is considered to be of limited Ecological value. It is not considered that the proposed development will impact upon any ecologically valuable habitats or legally protected and/or notable species. Within Sections 7.0 and 8.0 recommendations have been made to enhance the development and the site in the hope that proposals may in fact help contribute towards and enhance local biodiversity rather than retract from it.

10.0 REFERENCES

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APPENDIX I – Data Search Results On Site Records (HBIC, 2017).

Protected and Notable Species Records

Search Area: Within 1km of the Dairy Crest Depot, Dunsbury Way, Havant, PO9 5AR

Date: 25/04/2017

HBIC Ref: 6861

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 Britain and Ireland's (BSBI) vascular plant database for Hampshire
- British Bryological Society (Mosses, Liverworts, Hornworts)
- 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
- Survey data administered by the Hampshire and Isle of Wight Wildlife Trust (HIWWT):
 - Monitoring Survey for the Nail Fungus *Poronia punctata*
 - Alien and Native Crayfish
- Data administered by the Hampshire and Isle of Wight Wildlife Trust on behalf of:
 - Hampshire Amphibian and Reptile Recording Network (HARRN)
 - Hampshire Mammal Group (HMG)
- Hampshire records from The Bees, Wasps and Ants Recording Society (BWARS)
- Hampshire records from National Stag Beetle Surveys and 'Great Stag Hunts' run by the Peoples Trust for Endangered Species (PTES)
- Hampshire Odonata records from The Dragonfly Recording Network, maintained by the British Dragonfly Society (BDS)
- Spider and Fungi records gleaned from collections housed and curated by the Hampshire Cultural Trust (HCT)
- Independent Hampshire Entomologist's records

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 datasets **listed on the previous page**, within the search area recorded in the last 15 years. For plants this has been extended to 30 years, for bats there is no time restriction:

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
Amphibians & Reptiles									
Bufo bufo	Common Toad	NERC_s41	SU717084		Great Copse, Havant	2001	2001	1	Present
Vipera berus	Adder	NERC_s41 WCA_s5s91(t)	SU716086		Havant, Staunton Country Park	2003	2003	1	Present
			su716086		Staunton Country Park, Havant	2006	2006	1	Present
Birds									
Acrocephalus scirpaceus	Reed Warbler	HBAP	SU7007		Lh Bedhampton	2004	2004	2	2
Alcedo atthis	Kingfisher	EU_Bird_1 WCA_s1p1	SU7007		Hermitage Stream Bedhampton	2012	2012	3	1
			SU7007		Lh Bedhampton	2004	2005	12	1
			SU7007		Lh Hermitage Stream Bedhampton	2008	2009	14	1
			SU7007		Hermitage Stream Bedhampton	2013	2015	2	1
			SU7108		Ha Leigh Park Havant	2013	2013	1	1
Anthus petrosus	Rock Pipit	CR	SU7007		Lh Bedhampton	2003	2003	1	1
Ardea cinerea	Grey Heron	CS	SU7107		Havant	2013	2013	1	1
			SU7109		Havant Thicket	2013	2013	1	8
Calidris alpina	Dunlin	HBAP	SU7007		Lh Bedhampton	2003	2003	1	150
Caprimulgus europaeus	Nightjar	EU_Bird_1 NERC_s41 HBAP CI	SU7108		Ha Leigh Park Havant	2010	2010	2	4

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Charadrius dubius</i>	Little Ringed Plover	WCA_s1p1 CS	SU70E	Yes	Sensitive	2009	2009	1	2
<i>Charadrius hiaticula</i>	Ringed Plover	BOCC_Red	SU7007		Lh Bedhampton	2004	2004	1	1
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	CR	SU7109		Ha Leigh Park Havant	2001	2001	3	2000
<i>Circus</i>	Indet. Harrier	WCA_s1p1	SU713089		Ha Leigh Park Havant	2015	2015	1	1
<i>Cuculus canorus</i>	Cuckoo	BOCC_Red NERC_s41	SU7008		Hermitage Stream, Leigh Park	2014	2014	1	1
			SU7108		Ha Leigh Park Havant	2010	2010	2	1
			SU713089		Ha Leigh Park Havant	2012	2012	1	1
<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker	BOCC_Red HBAP	SU7008		Havant Thicket	2015	2015	1	1
<i>Egretta garzetta</i>	Little Egret	EU_Bird_1 HBAP CR	SU7009		Havant	2002	2002	1	1
			SU7107		Havant	2013	2013	1	1
			SU7108		Ha Leigh Park Havant	2000	2009	16	8
			SU7109		Ha Leigh Park Havant	2000	2002	6	1
			SU7109		Havant	2006	2006	2	1
			SU7109		Sir George Staunton CP - Havant	2014	2014	1	1
			SU713089		Ha Leigh Park Havant	2002	2009	2	1
			SU713089		Ha Leigh Park Havant	2015	2015	1	1
			SU714090		Ha Leigh Park Havant	2002	2002	1	1
<i>Emberiza citrinella</i>	Yellowhammer	BOCC_Red NERC_s41	SU7008		Ha Leigh Park Havant	2011	2011	3	3
			SU7109		Ha Leigh Park Havant	2012	2012	1	13

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Emberiza schoeniclus</i>	Reed Bunting	NERC_s41 HBAP	SU7008		Havant Thicket	2015	2015	1	1
<i>Falco peregrinus</i>	Peregrine	EU_Bird_1 WCA_s1p1 CR	SU70	Yes	Sensitive	2002	2002	1	1
			SU70	Yes	Sensitive	2008	2012	4	1
<i>Falco subbuteo</i>	Hobby	WCA_s1p1 HBAP CI	SU70E	Yes	Sensitive	2006	2006	1	1
			SU70E	Yes	Sensitive	2007	2007	1	1
			SU70E	Yes	Sensitive	2015	2015	1	1
			SU70E	Yes	Sensitive	2015	2015	1	2
<i>Haematopus ostralegus</i>	Oystercatcher	CS	SU7007		Lh Bedhampton	2005	2006	4	46
<i>Haliaeetus albicilla</i>	White-tailed Eagle	EU_Bird_1 WCA_s1p1	SU7007		Lh Bedhampton	2008	2008	1	1
<i>Larus argentatus</i>	Herring Gull	BOCC_Red CR	SU7008		Havant Thicket	2015	2015	2	7
			SU7107		Havant	2013	2013	1	10
<i>Larus fuscus</i>	Lesser Black-backed Gull	BOCC_Red CR	SU7107		Havant	2013	2013	1	2
<i>Larus melanocephalus</i>	Mediterranean Gull	EU_Bird_1 WCA_s1p1 HBAP CR	SU7007		Lh Bedhampton	2001	2001	1	2
			SU7108		Ha Leigh Park Havant	1993	2012	4	16
			SU7108		Ha Leigh Park Havant	2015	2015	1	9
			SU7109		Ha Leigh Park Havant	1997	2001	5	11
			SU7109		Sir George Staunton Cp - Havant	2012	2012	1	3
			SU7109		Sir George Staunton CP - Havant	2013	2015	5	100
			SU713089		Ha Leigh Park Havant	2007	2007	1	1

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
			SU713089		Ha Leigh Park Havant	2014	2015	2	14
<i>Linaria cannabina</i>	Linnet	BOCC_Red HBAP	SU7107		Havant, Stockheath	2015	2015	1	7
			SU7108		Ha Leigh Park Havant	2013	2013	1	7
<i>Linaria flavirostris</i>	Twite	BOCC_Red	SU7007		Lh Bedhampton	2003	2003	1	3
<i>Loxia curvirostra</i>	Common Crossbill	WCA_s1p1 CS	SU713089		Ha Leigh Park Havant	2008	2012	3	10
<i>Milvus migrans</i>	Black Kite	EU_Bird_1	SU7107		Havant	2009	2009	1	1
<i>Milvus milvus</i>	Red Kite	EU_Bird_1 WCA_s1p1 HBAP CR	SU7007		Lh Bedhampton	2013	2013	1	1
			SU7108		Ha Leigh Park Havant	2009	2009	1	2
			SU7108		Ha Leigh Park Havant	2014	2015	2	1
			SU713089		Ha Leigh Park Havant	2014	2015	2	1
			SU7208		Havant	2004	2004	1	1
<i>Motacilla cinerea</i>	Grey Wagtail	BOCC_Red	SU7007		Ha Leigh Park Havant	2010	2012	2	1
			SU7007		Havant	2012	2012	1	4
			SU7007		Lh Bedhampton	1997	2005	2	5
			SU7007		Lh Hermitage Stream Bedhampton	2006	2011	3	4
			SU7007		Hermitage Stream Bedhampton	2013	2013	2	5
			SU704077		Ha Leigh Park Havant	2013	2013	2	1
			SU7107		Havant	2004	2004	1	2
			SU711086		Ha Leigh Park Havant	2015	2015	1	1
<i>Motacilla flava</i>	Yellow Wagtail	BOCC_Red HBAP CR	SU7007		Hermitage Stream Bedhampton	2013	2013	1	2
<i>Muscicapa striata</i>	Spotted Flycatcher	BOCC_Red	SU7007		Lh Bedhampton	2005	2005	1	2

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
		NERC_s41 HBAP	SU7007 SU7007 SU7108 SU7109		Lh Hermitage Stream Bedhampton Hermitage Stream, Leigh Park Sir George Staunton CP - Havant Havant Thicket	2009 2014 2015 2013	2009 2014 2015 2013	1 1 1 1	1 1 1 1
<i>Oenanthe oenanthe</i>	Wheatear	CS	SU7109		Havant Thicket	2010	2010	1	Present
<i>Passer domesticus</i>	House Sparrow	BOCC_Red NERC_s41	SU7008 SU7008 SU7107 SU7107 SU7108 SU713089 SU713089 SU717084		Ha Leigh Park Havant Havant Thicket Havant Havant, Stockheath Ha Leigh Park Havant Ha Leigh Park Havant Ha Leigh Park Havant Great Copse, Havant	2011 2015 2013 2014 2001 2003 2013 2001	2012 2015 2013 2015 2006 2012 2015 2001	2 1 2 4 4 11 7 1	25 4 73 88 50 120 100 Present
<i>Pernis apivorus</i>	Honey-buzzard	EU_Bird_1 WCA_s1p1 HBAP CR	SU70	Yes	Sensitive	2010	2010	1	Present
<i>Phoenicurus phoenicurus</i>	Redstart	CI	SU7007		Lh Bedhampton	2004	2004	1	1
<i>Poecile palustris</i>	Marsh Tit	BOCC_Red	SU7108 SU7109		Ha Leigh Park Havant Sir George Staunton Cp - Havant	2006 2003	2006 2003	2 1	1 2
<i>Pyrrhula pyrrhula</i>	Bullfinch	HBAP	SU7007 SU7008 SU7108 SU7109 SU717084		Lh Hermitage Stream Bedhampton Ha Leigh Park Havant Havant Ha Leigh Park Havant Great Copse, Havant	2009 2011 2011 2012 2001	2009 2011 2011 2012 2001	1 2 1 1 1	1 1 2 4 Present
<i>Rallus aquaticus</i>	Water Rail	CS	SU7007		Ha Leigh Park Havant	2010	2010	3	Present

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
			SU7007		Lh Hermitage Stream Bedhampton	2008	2009	8	1
<i>Regulus ignicapilla</i>	Firecrest	WCA_s1p1 HBAP CS	SU7107		Havant	2008	2008	1	1
			SU7108		Ha Leigh Park Havant	2011	2011	3	1
			SU7108		Sir George Staunton CP - Havant	2014	2015	3	3
			SU7208		Sir George Staunton Cp - Havant	2000	2003	2	1
<i>Riparia riparia</i>	Sand Martin	CS	SU7007		Lh Bedhampton	2005	2005	1	1
<i>Saxicola rubetra</i>	Whinchat	BOCC_Red HBAP CR	SU7009		Havant	2002	2002	1	1
<i>Scolopax rusticola</i>	Woodcock	BOCC_Red	SU7108		Ha Leigh Park Havant	2010	2010	2	4
<i>Spinus spinus</i>	Siskin	CI	SU7007		Lh Bedhampton	1994	2006	4	35
			SU7107		Ha Leigh Park Havant	2006	2006	1	1
			SU7109		Ha Leigh Park Havant	2002	2002	1	2
			SU713089		Ha Leigh Park Havant	2015	2015	1	3
			SU717084		Great Copse, Havant	2001	2001	1	Present
<i>Sturnus vulgaris</i>	Starling	BOCC_Red	SU7008		Ha Leigh Park Havant	2011	2011	3	75
			SU7107		Havant	2013	2013	2	22
			SU713089		Ha Leigh Park Havant	2013	2013	2	300
			SU717084		Great Copse, Havant	2001	2001	1	Present
<i>Tringa ochropus</i>	Green Sandpiper	WCA_s1p1	SU7007		Ha Leigh Park Havant	2010	2012	39	4
			SU7007		Havant	2012	2012	16	7
			SU7007		Hermitage Stream Bedhampton	2012	2012	12	2
			SU7007		Lh Bedhampton	2004	2005	10	1
			SU7007		Lh Hermitage Stream Bedhampton	2008	2009	39	5
			SU7007		Ha Leigh Park Havant	2015	2015	1	4
			SU7007		Hermitage Stream Bedhampton	2013	2015	20	7

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
			SU7007		Hermitage Stream, Leigh Park	2014	2014	8	4
<i>Tringa totanus</i>	Redshank	HBAP	SU7007		Lh Bedhampton	2005	2005	1	1
<i>Turdus iliacus</i>	Redwing	BOCC_Red WCA_s1p1	SU7007		Lh Bedhampton	1996	2005	3	100
			SU7008		Ha Leigh Park Havant	2011	2011	2	95
			SU7107		Havant	2004	2004	2	10
			SU7108		Ha Leigh Park Havant	2005	2005	1	2
<i>Turdus philomelos</i>	Song Thrush	BOCC_Red HBAP	SU7008		Ha Leigh Park Havant	2011	2011	4	3
			SU7107		Havant	2013	2013	2	5
			SU7109		Ha Leigh Park Havant	2012	2012	1	11
			SU717084		Great Copse, Havant	2001	2001	1	Present
<i>Turdus pilaris</i>	Fieldfare	BOCC_Red WCA_s1p1	SU7007		Lh Bedhampton	2003	2003	1	16
			SU713089		Ha Leigh Park Havant	2015	2015	1	60
<i>Turdus torquatus</i>	Ring Ouzel	BOCC_Red NERC_s41	SU7107		Havant	2015	2015	1	1
<i>Turdus viscivorus</i>	Mistle Thrush	BOCC_Red	SU7008		Ha Leigh Park Havant	2011	2011	2	7
<i>Vanellus vanellus</i>	Lapwing	BOCC_Red NERC_s41 HBAP	SU7007		Lh Bedhampton	2004	2004	2	23
			SU7109		Ha Leigh Park Havant	2012	2012	1	5
			SU720088		Sir George Staunton CP - Havant	2013	2013	1	5
Higher plants - Flowering Plants									
<i>Acorus calamus</i>	Sweet-flag	CS nHR, sHS	SU719089		High Lawn	1998	1998	1	Present

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Briza media</i>	Quaking-grass	IUCN_EN_2014:NT	SU719089		High Lawn	1998	1998	1	Present
<i>Cerastium arvense</i>	Field Mouse-ear	IUCN_EN_2014:NT	SU716090		Thicket Lawn	2003	2003	1	Present
<i>Lathyrus linifolius</i>	Bitter-vetch	IUCN_EN_2014:NT	SU7109		Middle Clearing, Staunton Country Park	2009	2009	1	Present
<i>Lepidium ruderae</i>	Narrow-leaved Pepperwort	CS	SU7207 SU7208		Nr Factories West Leigh	1997 1997	1997 1997	1 1	1 1
<i>Lychnis flos-cuculi</i>	Ragged-Robin	IUCN_EN_2014:NT	SU7109 SU719088 SU719089 SU719089		Middle Clearing, Staunton Country Park Great Copse High Lawn High Lawn	2009 1999 1986 1998	2009 1999 1986 2003	1 1 1 2	Present 1 Present Present
<i>Oxalis acetosella</i>	Wood-sorrel	IUCN_EN_2014:NT	SU717084 SU717084		Great Copse, Havant Great Copse, Havant	1986 2000	1986 2000	1 1	Present Present
<i>Potentilla erecta</i>	Tormentil	IUCN_EN_2014:NT	SU7109 SU719089		Middle Clearing, Staunton Country Park High Lawn	2009 1998	2009 1998	1 1	Present Present
<i>Ranunculus flammula</i>	Lesser Spearwort	IUCN_EN_2014:VU	SU714091 SU719089		Gammon's Hill, Staunton Country Park High Lawn	2009 1998	2009 1998	1 1	Present Present
<i>Securigera varia</i>	Crown Vetch	CI	SU7208		Havant Leigh Park	2008	2008	1	Present
<i>Spergula arvensis</i>	Corn Spurrey	IUCN_EN_2014:VU, IUCN_GB_2001:VU	SU722086		West Leigh	1998	1998	1	1
<i>Succisa pratensis</i>	Devil's-bit Scabious	IUCN_EN_2014:NT	SU719089		High Lawn	1998	2003	2	Present
<i>Valeriana officinalis</i>	Common Valerian	IUCN_EN_2014:NT	SU706074 SU717084 SU7207		Leigh Park Great Copse, Havant Nr Factories	1997 2000 1997	1997 2000 1997	1 1 1	1 Present 1
<i>Veronica officinalis</i>	Heath Speedwell	IUCN_EN_2014:NT	SU7109 SU719089		Middle Clearing, Staunton Country Park High Lawn	2009 1986	2009 1986	1 1	Present Present

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
Invertebrates - Coleoptera									
<i>Lucanus cervus</i>	Stag Beetle	EU_Hab_2np NS NERC_s41 HBAP	SU718080			2007	2007	1	1
Invertebrates - Lepidoptera									
<i>Abrostola triplasia</i>	Dark Spectacle	CS	SU713089		Leigh Park Hants	2004	2012	2	1
<i>Acronicta rumicis</i>	Knot Grass	NERC_s41	SU713089		Leigh Park Hants	1985	2014	112	7
<i>Agrochola litura</i>	Brown-spot Pinion	NERC_s41	SU713089		Leigh Park Hants	1985	2011	11	3
<i>Agrochola lychnidis</i>	Beaded Chestnut	NERC_s41	SU713089		Leigh Park Hants	1985	2014	44	9
<i>Allophyas oxyacanthae</i>	Green-brindled Crescent	NERC_s41	SU713089		Leigh Park Hants	1985	2013	17	2
<i>Amphipoea fucosa</i>	Saltern Ear	CS	SU713089		Leigh Park Hants	2013	2013	1	1
<i>Amphipoea oculea</i>	Ear Moth	NERC_s41	SU713089		Leigh Park Hants	1986	2014	33	3
<i>Amphipyra tragopoginis</i>	Mouse Moth	NERC_s41	SU713089		Leigh Park Hants	1985	2004	32	4
<i>Apamea remissa</i>	Dusky Brocade	NERC_s41	SU713089		Leigh Park Hants	1985	2014	30	5
<i>Apamea sublustris</i>	Reddish Light Arches	CS	SU713089		Leigh Park Hants	2014	2014	1	1

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Apamea unanimitis</i>	Small Clouded Brindle	CS	SU713089		Leigh Park Hants	2013	2013	1	1
<i>Apoda limacodes</i>	Festoon	HBAP	SU713089 SU713089		69, Winterslow Drive, Leigh Park Leigh Park Hants	2005 1985	2005 2014	1 23	2 6
<i>Arctia caja</i>	Garden Tiger	NERC_s41	SU713089		Leigh Park Hants	1985	2014	96	19
<i>Argynnis paphia</i>	Silver-washed Fritillary	HBAP CI	SU7109		Staunton Country Park	2003	2003	1	Present
<i>Atolmis rubricollis</i>	Red-necked Footman	CS	SU713089		Leigh Park Hants	2004	2004	1	1
<i>Brachylomia viminalis</i>	Minor Shoulder-knot	NERC_s41	SU713089		Leigh Park Hants	1995	2011	5	2
<i>Calamotropha paludella</i>	Bulrush Veneer	NS	SU713089		Leigh Park Hants	1996	2003	3	1
<i>Caradrina morpheus</i>	Mottled Rustic	NERC_s41	SU713089		Leigh Park Hants	1985	2014	90	6
<i>Cerapteryx graminis</i>	Antler Moth	CS	SU713089		Leigh Park Hants	2011	2011	1	1
<i>Cirrhia icteritia</i>	Sallow	NERC_s41	SU713089		Leigh Park Hants	1985	2014	41	3
<i>Coenonympha pamphilus</i>	Small Heath	IUCN_GB_2001:NT NERC_s41	SU7108 SU717091		Great Copse, Havant Staunton Country Park Transect: Section No 8	2015 2009	2015 2009	1 3	2 1
<i>Cosmia affinis</i>	Lesser-spotted Pinion	CS	SU713089		Leigh Park Hants	2008	2008	1	1
<i>Cucullia lychnitis</i>	Striped Lychnis	NERC_s41 HBAP	SU713089		Leigh Park Hants	2000	2003	2	1

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Cupido minimus</i>	Small Blue	IUCN_GB_2001:NT NERC_s41 HBAP CS	SU717084		Great Copse, Havant	2001	2001	1	Present
<i>Diarsia rubi</i>	Small Square-spot	NERC_s41	SU713089		Leigh Park Hants	1985	2014	139	46
<i>Ecliptopera silaceata</i>	Small Phoenix	NERC_s41	SU713089		Leigh Park Hants	2014	2014	1	1
<i>Ectoedemia argyropeza</i>	Virgin Pigmy	CR	SU7109		Staunton Country Park	2006	2006	2	24
<i>Eilema sororcula</i>	Orange Footman	HBAP	SU713089		Leigh Park Hants	2004	2013	4	2
<i>Ennomos erosaria</i>	September Thorn	NERC_s41	SU713089		Leigh Park Hants	1985	2014	70	6
<i>Ennomos fuscantaria</i>	Dusky Thorn	NERC_s41	SU713089		Leigh Park Hants	1985	2014	13	2
<i>Eulithis mellinata</i>	Spinach	NERC_s41	SU713089		Leigh Park Hants	1986	2005	3	1
<i>Euplagia quadripunctaria</i>	Jersey Tiger	EU_Hab_2np	SU713089		Leigh Park Hants	2012	2012	1	1
<i>Euxoa tritici</i>	White-line Dart	NERC_s41 CS	SU713089		Leigh Park Hants	1985	2012	2	1
<i>Furcula bifida</i>	Poplar Kitten	CS	SU713089		Leigh Park Hants	2012	2012	1	1
<i>Hadena perplexa</i>	Tawny Shears	CS	SU713089		Leigh Park Hants	2006	2006	1	1

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Hemistola chrysoprasaria</i>	Small Emerald	NERC_s41	SU713089		Leigh Park Hants	1985	2013	10	2
<i>Hipparchia semele</i>	Grayling	IUCN_GB_2001:VU NERC_s41	SU717084		Great Copse, Havant	2001	2001	1	Present
<i>Hoplodrina blanda</i>	Rustic	NERC_s41	SU713089		Leigh Park Hants	1985	2014	243	56
<i>Hydraecia micacea</i>	Rosy Rustic	NERC_s41	SU713089		Leigh Park Hants	1985	2014	71	3
<i>Lacanobia suasa</i>	Dog's Tooth	CS	SU713089		Leigh Park Hants	1985	2005	11	2
<i>Leucania comma</i>	Shoulder-striped Wainscot	NERC_s41	SU713089		Leigh Park Hants	1985	2014	106	14
<i>Leucania obsoleta</i>	Obscure Wainscot	CS	SU713089		Leigh Park Hants	2006	2006	1	1
<i>Limenitis camilla</i>	White Admiral	IUCN_GB_2001:VU NERC_s41	SU7109		Staunton Country Park	2003	2003	1	Present
<i>Lithosia quadra</i>	Four-spotted Footman	CR	SU713089		Leigh Park Hants	2006	2013	2	1
<i>Litoligia literosa</i>	Rosy Minor	NERC_s41	SU713089		Leigh Park Hants	1985	2014	15	4
<i>Lycia hirtaria</i>	Brindled Beauty	NERC_s41	SU713089		Leigh Park Hants	1994	2007	3	3
<i>Malacosoma neustria</i>	Lackey	NERC_s41	SU713089		Leigh Park Hants	1985	2012	86	8
<i>Mecyna flavalis</i>	Yellow Pearl	HBAP	SU713089		Leigh Park Hants	2013	2013	1	1

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Melanchra persicariae</i>	Dot Moth	NERC_s41	SU713089		Leigh Park Hants	1985	2014	42	2
<i>Mesoleuca albicillata</i>	Beautiful Carpet	CS	SU713089		Leigh Park Hants	2012	2012	1	1
<i>Nyctobrya muralis</i>	Marbled Green	CS	SU713089		Leigh Park Hants	1985	2014	65	6
<i>Oncocera semirubella</i>	Rosy-striped Knot-horn	NS	SU713089		Leigh Park Hants	2014	2014	1	1
<i>Orthosia gracilis</i>	Powdered Quaker	NERC_s41	SU713089		Leigh Park Hants	1985	2008	10	2
<i>Perizoma albulata</i>	Grass Rivulet	CS	SU713089		Leigh Park Hants	2009	2013	2	1
<i>Phyllocnistis xenia</i>	Kent Bent-wing	IUCN_GB_pre94:VU	SU7109		Staunton Country Park	2011	2014	3	Present
<i>Phyllonorycter salictella</i> subsp. <i>viminiella</i>	Phyllonorycter salictella subsp. <i>viminiella</i>	CR	SU7109		Staunton Country Park	2014	2014	1	Present
<i>Plagodis pulveraria</i>	Barred Umber	CS	SU713089		Leigh Park Hants	2012	2012	1	1
<i>Plusia festucae</i>	Gold Spot	CS	SU713089		Leigh Park Hants	2002	2011	7	1
<i>Ptilodon cucullina</i>	Maple Prominent	CS	SU713089		Leigh Park Hants	2003	2013	4	1
<i>Scopula marginepunctata</i>	Mullein Wave	NERC_s41	SU713089		Leigh Park Hants	1985	2003	4	1
<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar	NERC_s41	SU713089		Leigh Park Hants	2003	2012	3	1
<i>Spilosoma lubricipeda</i>	White Ermine	NERC_s41	SU713089		Leigh Park Hants	1985	2014	50	3

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
<i>Spilosoma lutea</i>	Buff Ermine	NERC_s41	SU713089		Leigh Park Hants	1985	2014	174	16
<i>Stigmella assimilella</i>	Aspen Pigmy	CR	SU7109		Staunton Country Park	2014	2014	1	Present
<i>Tholera cespitis</i>	Hedge Rustic	NERC_s41 CS	SU713089		Leigh Park Hants	2000	2013	6	3
<i>Tholera decimalis</i>	Feathered Gothic	NERC_s41	SU713089		Leigh Park Hants	1985	2013	15	8
<i>Timandra comae</i>	Blood-Vein	NERC_s41	SU713089		Leigh Park Hants	1985	2014	97	5
<i>Tyria jacobaeae</i>	Cinnabar	NERC_s41	SU713089		Leigh Park Hants	1994	2014	16	4
<i>Watsonalla binaria</i>	Oak Hook-tip	NERC_s41	SU713089		Leigh Park Hants	1985	2014	110	8
<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet	NERC_s41	SU713089		Leigh Park Hants	1985	2012	8	5
Mammals - Terrestrial (bats)									
<i>Chiroptera</i>	Bat species	HabReg_s2	SU704077		Sensitive	1995	1995	1	1
		WCA_s5s94b WCA_s5s94c	SU716083		Sensitive	1996	1996	1	1
<i>Eptesicus serotinus</i>	Serotine	EU_Hab_4	SU713073		Sensitive	2002	2014	44	28
		HabReg_s2	SU713073	Yes	Sensitive	2001	2011	2	28
		WCA_s5s94b	SU713073	Yes	Sensitive	2014	2015	3	20
		WCA_s5s94c	SU714073	Yes	Sensitive	2015	2015	1	2
		HBAP	SU714074		Sensitive	2007	2007	1	7
			SU714091		Sensitive	2005	2005	1	3
<i>Myotis</i>	Unidentified Bat	HabReg_s2	SU703081		Sensitive	2012	2012	1	1

Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
		WCA_s5s94b WCA_s5s94c	SU710075 SU711073		Sensitive Sensitive	2013 2012	2013 2012	1 1	1 1
<i>Myotis mystacinus/brandtii</i>	Whiskered/Brandt's Bat	HabReg_s2 WCA_s5s94b WCA_s5s94c	SU713077		Sensitive	2001	2001	1	1
<i>Nyctalus noctula</i>	Noctule Bat	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	SU711073 SU713073 SU713073 SU714074 SU714091 SU718079	Yes	Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive	2013 2007 2011 2007 2005 2007	2013 2015 2011 2007 2005 2007	1 7 1 1 2 1	1 3 1 1 3 1
<i>Pipistrellus</i>	Pipistrelle Bat species	HabReg_s2 WCA_s5s94b WCA_s5s94c	SU704077 SU704086 SU709072 SU713073 SU716082		Sensitive Sensitive Sensitive Sensitive Sensitive	2003 1999 2012 2008 2002	2003 1999 2012 2010 2002	1 1 1 4 1	1 Present 1 2 1
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	SU714073 SU717083	Yes	Sensitive Sensitive	2015 2014	2015 2014	1 1	Present 1
<i>Pipistrellus pipistrellus</i>	Pipistrelle	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c HBAP	SU703081 SU706081 SU707078 SU708077 SU710084 SU711073	Yes	Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive	2012 2014 2013 2012 2015 2012	2012 2014 2013 2013 2015 2012	1 2 1 2 1 1	1 1 2 1 Present 1

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Taxon Name	Common Name	Status	Grid Ref.	Grid Ref Blurred	Location	First Year	Last Year	No. of Records	Max Count
			SU712072 SU713073 SU714073 SU716085 SU717084 SU717084 SU718084 SU721087	Yes Yes 	Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive	2013 2007 2015 2014 2001 2001 2014 2015	2013 2015 2015 2014 2001 2001 2014 2015	1 9 1 1 2 1 1 1	1 2 Present 1 Present Present 2 1
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	SU708077 SU710073 SU710084 SU711073 SU713073 SU714073 SU716085	Yes Yes	Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive Sensitive	2012 2013 2015 2012 2009 2015 2014	2012 2013 2015 2013 2009 2015 2014	1 1 1 2 1 1 1	1 1 Present 1 1 Present 1
Mammals - Terrestrial (non-bats)									
<i>Erinaceus europaeus</i>	West European Hedgehog	NERC_s41	SU706076		Purbrook Way, Leigh Park, Havant	2008	2008	1	3

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 may be altered to give a less precise position, this is indicated by the 'Grid Ref Blurred' column. 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.

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- 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 may have been altered to give a less precise position specified by the species recording group. Where grid references have been changed, the 'Grid Ref Blurred' column will contain a 'yes'.
- 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.
- 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 sightings are not included in species lists.

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_GB_pre94	See IUCN (pre 1994) guidelines, covering Great Britain
IUCN_GB_1994	See IUCN (1994) guidelines, covering Great Britain

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IUCN_GB_2001	See IUCN (2001) guidelines, covering Great Britain
IUCN_EN_2014	See IUCN (2001) guidelines, covering England
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)
HBAP	Hampshire Biodiversity Action Plan species
NERC_s41	Priority Species listed under 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)
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)