

Havant Thicket Reservoir Project

Environmental Statement Volume 4 - Appendices
Appendix A9 Biodiversity
A9.9 Bird Survey Report

Portsmouth Water Ltd.



**HAVANT THICKET WINTER STORAGE RESERVOIR,
ROWLAND'S CASTLE, HAMPSHIRE**

**APPENDIX 9.9
BIRD SURVEY REPORT**

Final Document (Revision 2)

September 2019

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). Survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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HAVANT THICKET WINTER STORAGE RESERVOIR, ROWLAND'S CASTLE, HAMPSHIRE

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1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Portsmouth Water Limited (Portsmouth Water) to undertake a breeding and wintering bird survey and report of their land at Havant Thicket, Rowland's Castle, Hampshire. The site is centred on National Grid Reference (NGR): SU 715 097 (**Map I1**).

The bird assessment is required as a result of Portsmouth Water's plan to construct a winter storage reservoir, Havant Thicket Winter Storage Reservoir (HTWSR), for public water supply in the centre of the site. At the time of the survey, the final designs were not confirmed, although the extent of the development was proposed to be approximately 1.6 kilometres from east to west and 800 metres from north to south with a storage capacity of approximately 8,700 million litres. It was understood water would be pumped into the reservoir from Portsmouth Water sources at Havant and Bedhampton Springs, providing a sustainable supply of water with no requirement to change the existing abstraction licence.

At the time the surveys were undertaken the planning application red line boundary (see Figure 2.1 in ES Volume 3) had not been defined and therefore the Site Boundary (the site) and Ecological Enhancement Area (wider site) boundaries referred to in this report were provisional boundaries available at that time. Within this report where mention is made of 'the site' this refers to the reservoir footprint and other areas used for built development and habitat creation. This area is referred to as the 'Reservoir Footprint' in the Environmental Statement (as the Site includes the reservoir footprint, the pipeline corridor as well as land around the reservoir footprint being used for ecological mitigation and compensation). Where reference is made in this report to the 'wider site' this includes the reservoir and the area proposed for ecological enhancement within Forestry England's (FE) Havant Thicket woodland to the north and Bell's Copse to the west of the site and Staunton Country Park (SCP) to the south of the site. This area is similar to the area referred to as the 'Reservoir Site' in the Environmental Statement. The areas covered by 'the site' and 'wider site' in this report are shown in **Map I1** and the key ecological and landscape features mentioned in this report are shown in **Error! Reference source not found.**

1.2 Aims and Scope of Report

The information within this report is based on a desktop study and bird surveys carried out between November 2017 and June 2018. The report provides details of the ecological survey work undertaken in relation to both breeding and wintering birds.

2.0 METHODS

2.1 Introduction

This section details the methods employed during the breeding and wintering bird surveys undertaken for the site between 2017 and 2018. Any significant limitations to the survey methods are also discussed. This section also includes information on the desktop study and data from relevant historical ECOSA bird surveys undertaken between 2005 and 2009 (ECOSA, 2013).

2.2 Zone of Influence

To define the total extent of the study area for this appraisal (Zone of Influence¹), the proposed scheme was reviewed to establish the spatial scale at which birds could be affected. The appropriate survey radii for the various elements of the appraisal (i.e. desktop study and field survey) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to appraisal, its surroundings and the nature and scope of the development proposals and the ecology of the species of focus within this report.

2.3 Desktop Study²

2.3.1 Biological Records Centre

Hampshire Biodiversity Information Centre (HBIC) was consulted on 30th April 2018 for records of bird species located within two kilometres of the site boundary.

2.3.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC)³ database was reviewed on 12th June 2018 to establish the location of statutory designated sites located within the vicinity of the site which were either designated for birds or include bird species within their citation as a reason for designation. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within two kilometres of the site.

¹ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities.

² Due to the age of this data an updated desk study has been undertaken in 2020 and details are included in Appendix 9.1.

³ www.defra.magic.gov.uk

2.3.3 Other Sources of Information

Breeding and wintering bird surveys were undertaken at the site between 2005 and 2006, and then repeated between 2008 and 2009 (ECOSA, 2013). The information from these surveys has been used to support this assessment.

A number of other sources of information have been consulted to provide additional context to the breeding bird assemblage within the site and Havant Thicket woodland, including:

- Hampshire Ornithological Society (HOS) has provided details of singing firecrest from Havant Thicket recorded during the group's 2015 Hampshire wide survey of this species;
- HOS have also provided details of notable bird species recorded from Havant Thicket, and the surrounding area, from the last eight years. These records are also provided with the HBIC data, but HOS have included observer notes and breeding status records;
- John Goodspeed, a HOS member, has provided data on breeding nightjar from Havant Thicket woodland for 2017, 2018 and 2019;
- Trevor Codlin of Hampshire and Isle of Wight Wildlife Trust (HIWWT)⁴ has provided information on breeding lapwing at the site. When lapwing were breeding at the site Trevor Codlin undertook ringing of chicks of this species at Havant Thicket with permission from Portsmouth Water;
- White Young and Green (WYG, 2014) undertook a breeding bird survey during 2013 and 2014 in relation to an outline planning application for new homes at land east of Horndean (East Hampshire District Council planning reference: 55562/001). This area is located to the north-west of the site;
- RPS (RPS, 2016) undertook a Preliminary Ecological Appraisal on behalf of Hampshire County Council (HCC) in relation the proposed restoration of SCP. SCP is located to the south of the site; and
- *Ad-hoc* nightjar surveys undertaken within Havant Thicket woodland by Tracey Viney of Portsmouth Water and Richard Levett retired Hampshire County Council senior ranger on 8th July 2018, 8th July 2019 and 13th July 2019.

In addition, a series of nocturnal bat and great crested newt surveys were undertaken across the site and wider site between April and August 2018. During these surveys

⁴ NB After preparation of this report Trevor started a new role at Portsmouth Water

attention was paid to recording incidental evidence of nocturnal species present in the area including tawny owl, barn owl, woodcock and nightjar.

Furthermore, ecologists were encouraged to record incidental bird records during other surveys undertaken at the site during 2018. The records were plotted onto an overarching records map and then included in the data provided within this report.

2.4 Site Suitability Survey

2.4.1 Survey Methods

A field site suitability survey was undertaken to assess the proposed reservoir site's suitability to support notable breeding birds or significant assemblages of wintering birds. The bird appraisal was based on an assessment of the suitability of the habitat present within the site to support a significant population of wintering or breeding birds.

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Information on previous bird survey work undertaken at the site, particularly in relation to the habitat types and management regimes was also considered.

Further information on the notable bird species mentioned in this report and the associated notability criteria is presented in **Appendix I1**.

2.4.2 Survey Details

The site suitability assessment was carried out by Simon Boswell of ECOSA on 22nd December 2017. The weather conditions were overcast with 100% cloud cover, an ambient temperature of 8°C and no wind.

During the survey, the surveyor was equipped with 10x40 binoculars, a digital camera and information on previous survey work undertaken at the site.

2.4.3 Site Suitability Survey Limitations

The bird suitability assessment was undertaken after the wintering bird surveys were started. This was not considered to be a significant limitation given that the wintering

and breeding bird surveys covered the whole site and effectively superseded the suitability assessment.

2.5 Bird Survey

2.5.1 Survey Methods

Wintering Bird Survey

A walked transect (**Map 14**) was undertaken of the site six times between November 2017 to March 2018 inclusive, to determine the usage of the site by wintering birds. The survey largely consisted of the surveyor/s scanning the site using binoculars to identify the bird species utilising the site. Largely, the open areas were not traversed as this generates disturbance that may deter birds and therefore compromise the results of the survey.

The detectability of bird species is affected by a variety of factors including, but not limited to; species detectability, species abundance, temporal variations in activity, species phenology, habitat structure, survey effort and observer ability. During the wintering bird survey methods to reduce these potential impacts included; using experienced ornithologists and undertaking a robust number of surveys spread over the winter season. As a result, a comprehensive assessment of the wintering bird assemblage at the site was completed.

Birds were plotted on the plan using BTO codes. Particular attention was paid to identifying birds actively using the survey area, rather than just flying over.

Breeding Bird Survey

Breeding bird transects surveys were undertaken using a modified version of the British Trust for Ornithology (BTO) Breeding Bird Survey (Baillie, et al., 2012). Given that the site was assessed as having suitability for a range of breeding birds six visits were undertaken between April and June 2018.

The bird surveyors walked a pre-determined transect route across the site, on each occasion walking the same transect route (**Map 15**). The transect route ensured that the surveyor visited key areas of habitat for breeding birds such as woodland, wetland and large expanses of grassland. The transect was punctuated by pauses to scan and listen for territorial birds. The transect survey was always undertaken during the morning and began within one hour of sunrise. The route across the site was varied so that time-location bias was minimised. Surveys were undertaken in suitable weather conditions i.e. without strong winds or heavy rainfall.

The key survey aim was to record the presence of Annex 1⁵, Schedule 1⁶ and / or British Trust for Ornithology red⁷ or amber listed Birds of Conservation Concern (Eaton, et al., 2015) and assessing the number of active territories of notable species within the site. Whilst not being the main focus of the survey green listed species were also recorded which allowed subsequent plotting of territories of these species. The number of territories of green listed species is recorded in **Appendix I2**. A formal map showing the location of green listed species territories has not been produced. Territorial activity was mainly defined by the presence of singing birds, however other evidence such as courtship and display, agitated behaviour, nest building, distraction display, recently fledged young, occupied nests and / or birds carrying food was also used.

Birds were plotted on the plan using BTO codes. Particular attention was paid to identifying birds actively using the survey area, rather than just flying over. On completion of the surveys evidence of territorial birds and confirmed breeding evidence was transferred onto a single map. Clusters of registrations on this map coincide with the activity of territory holding birds, although with some species this varies with ecology (the minimum number registrations to constitute a territory was two recorded at least ten days apart). The maps were then analysed to determine the number of pairs of each notable breeding species present, a process open to subjectivity in interpretation, and requiring professional judgement.

As with the wintering bird surveys the detectability of bird species and associated territorial activity is affected by a variety of factors including, but not limited to; species detectability, species abundance, temporal variations in activity, species phenology, habitat structure, survey effort and observer ability. During the breeding bird survey methods to reduce these potential impacts included; using experienced ornithologists and undertaking a robust number of surveys spread over the main breeding season. As a result, a comprehensive assessment of the breeding bird assemblage at the site was completed.

2.5.2 Survey Details

Wintering Bird Survey

A total of six wintering bird surveys were undertaken between November 2017 and March 2018. **Table I1** provides details of each wintering bird survey.

⁵ Birds listed on Annex 1 of the European Commission Birds Directive are particularly threatened and member states (of the European Union) are required to designate Special Protected Areas to ensure the conservation of these species.

⁶ Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; Intentionally or recklessly disturb the dependent young of any such bird.

⁷ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green.

Table I1: Wintering bird survey details

Survey Date	Times	Weather Conditions
9 th November 2017	07:15 – 10:30	11°C, 50-75% cloud cover, light south-westerly breeze
22 nd December 2017	08:00 – 11:00	8°C, 100% cloud cover, no wind
25 th January 2018	11:30 – 15:00	8°C, 100% cloud cover, moderate south-westerly breeze
6 th February 2018	11:15 – 14:30	8°C, 0% cloud cover, light north-westerly breeze
27 th February 2018	10:35 – 13:15	2°C, 50-75% cloud cover, moderate north-easterly breeze
12 th March 2018	11:30 – 14:30	12°C, 100% cloud cover, light to moderate south-westerly breeze

The wintering bird surveys were undertaken by Simon Boswell, Principal Ecologist of ECOSA and Simon Colenutt, Principal Ecologist of ECOSA.

During the wintering bird survey the surveyors were equipped with 10x42 or 8x42 Swarovski EL binoculars, and a detailed plan of the site

Breeding Bird Survey

A total of six breeding bird surveys were undertaken between April and June 2018.

Table I2 provides details of each breeding bird survey.

Table I2: Breeding bird survey details

Survey Date	Times	Weather Conditions
11 th April 2018	07:45 – 11:30	12°C, 25-50% cloud cover, no wind
3 rd May 2018	06:45 – 11:15	9°C, 25-50% cloud cover, no wind
10 th May 2018	06:00 – 10:00	12°C, 25-50% cloud cover, wind force 3-4 north-westerly
23 rd May 2018	06:00 – 09:30	16°C, 0% cloud cover, wind force 4 northerly
15 th June 2018	06:00 – 09:45	22°C, 50-75% cloud cover, wind force 3 north-easterly
22 nd June 2018	06:00 – 09:45	22°C, 0-25% cloud cover, wind force 1 south-westerly

The breeding bird surveys were undertaken by Graeme Down, Senior Ecologist and Simon Colenutt of ECOSA.

During the survey the surveyors were equipped with 8x42 Swarovski EL binoculars or 8x42 Hawke binoculars and a detailed plan of the site.

2.5.3 Survey Limitations

There were no significant limitations to the wintering or breeding bird surveys.

Discussion of Results

Discussion of the breeding and wintering birds survey results is based on ECOSA's best professional judgement considering the following factors:

- **Species rarity/vulnerability** - Relative rarity of and threat to bird species in England is based on extinction risk categories and criteria defined in the Birds of Conservation Concern (BoCC) Red List (Eaton, et al., 2015). shows the relative extinction risk of species in different categories. Species in higher risk categories are considered to be of greater ecological value.

Table 13: Categories of extinction risk and their criteria for UK bird species

Category	Definition	Relative Value
Red List	Red List criteria include species which are: ▪ globally threatened; have been subject to historical population decline in UK during 1800–1995; ▪ are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; ▪ subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.	Greatest
Amber List	Amber list criteria include species which are: ▪ in unfavourable conservation status in Europe; ▪ subject to historical population decline during 1800–1995, but recovering; ▪ subject to moderate (25–49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; ▪ subject to moderate (25–49%) decline in UK non-breeding population over last 25 years, or the longer-term period; ▪ rare breeders (1–300 breeding pairs in UK); ▪ rare non-breeders (less than 900 individuals), or; ▪ internationally important species with at least 20% of European breeding or non-breeding population in the UK.	
Green List	Species that occur regularly in the UK but do not qualify under any or the above criteria.	Least

- **Species distribution** - The HBIC consultation and resources available from the Hampshire Ornithological Society is used to determine the distribution of bird species at various geographic scales.

- **The quality and function of on-site habitats (e.g. nesting or feeding sites) –**
This information is species-specific and is gained from a wide range of sources.

3.0 BASELINE ECOLOGICAL CONDITIONS

3.1 Introduction

This section details the results of the bird assessment. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field surveys. The baseline draws on a wealth of historical and present data, relevant data from historic surveys carried out by others has been included in the report to increase the understanding of the site in terms of birds.

The criteria to define notable species identified in the baseline is presented in **Appendix I1**.

3.2 Baseline Ecological Conditions

Desktop Study Results

The MAGIC search revealed that there are no internationally and nationally designated sites within two kilometres of the site. A Local Nature Reserve, Hazelton Common is located approximately 1.1 kilometres to the north-north-west of the site, and Natural England's designation citation states that the site supports populations of stonechat *Saxicola rubicola*, sparrowhawk *Accipiter nisus* and buzzard *Buteo buteo* (Natural England, n.d.).

The nearest European designated sites either designated in full or part for their bird interest are Chichester and Langstone Harbour Special Protected Area and Ramsar site located approximately 3.6 kilometres south of the site. Both sites are designated for their European and internationally important breeding, wintering and passage birds.

The HBIC data returned numerous records of birds within or adjacent to the site, including notable species that would be considered likely to utilise habitats on site for breeding, wintering or on migration. A small number of records returned from HBIC have been recorded using detailed grid references (100 square metres or less) which intersect or are entirely within the site. These records are presented in **Table I4**. All other HBIC records have grid references which could relate to the site or surrounding areas due to their low resolution.

Table I4: Desktop study notable⁸ bird records from HBIC located within or intersecting with the site

Species	Grid Reference	Location	Records	Max. Count	Year
Firecrest	SU714113	Northern edge of Havant Thicket woodland	1	1	2010

⁸ Notable species criteria are provided in **Appendix I1**

Species	Grid Reference	Location	Records	Max. Count	Year
Grasshopper warbler	SU720099	Gypsies Plain	1	1	2016
Lesser redpoll	SU713112	Northern edge of Havant Thicket woodland	1	6	2011
Marsh tit	SU714113	Northern edge of Havant Thicket woodland	1	1	2015
Marsh tit	SU72340958	Northern edge of SCP	1	2	2006
Mediterranean gull	SU710100	Deerslaughter Plain	1	31	2016
Nightjar	SU708104	Northern edge of Havant Thicket woodland	1	1	2005
Redstart	SU718099	Gipsies Plain	1	1	2016
Short-eared owl	SU720100	Gipsies Plain	1	2	2016
Skylark	SU72340958	Northern edge of SCP	1	5	2006
Song thrush	SU72340958	Northern edge of SCP	1	2	2006
Wheatear	SU720098	Gipsies Plain	1	3	2014
Whimbrel	SU719101	Gipsies Plain	1	12	2014
Whimbrel	SU720098	Gipsies Plain	1	7	2014
Whinchat	SU712099	Deerslaughter Plain	2	3	2013

Based on the habitats present the following notable species returned within the data search could breed within the site, song thrush *Turdus philomelos*, bullfinch *Pyrrhula pyrrhula*, meadow pipit *Anthus arvensis*, yellowhammer *Emberiza citrinella*, reed bunting *Emberiza schoeniclus*, linnet *Carduelis cannabina*, common crossbill *Loxia curvirostra*, spotted flycatcher *Muscicapa striata*, marsh tit *Poecile palustris*, mistle thrush *Turdus viscivorus* and lapwing *Vanellus vanellus*.

Additionally, the site is suitable for wintering short-eared owl *Asio flammeus*, redwing *Turdus iliacus* and fieldfare *Turdus pilaris*.

Detailed records returned from HBIC which intersect or are entirely within the wider site are presented in **Table I5**. These records include a small number of duplicates from **Table I4** where records overlap with both site and wider site boundaries.

Based on the habitats present the following notable species returned within the data search could breed within the wider site, firecrest *Regulus ignicapilla*, song thrush,

marsh tit, bullfinch, yellowhammer, reed bunting, lesser redpoll *Acanthis cabaret*, nightjar *Caprimulgus europaeus*, common crossbill, spotted flycatcher, woodcock *Scolopax rusticola* and mistle thrush.

Table I5: Desktop study notable⁶ bird records from HBIC within or intersecting with the wider site

Species	Grid Reference	Location	Records	Max. Count	Year
Bullfinch	SU719093	SCP woodland	1	1	2016
Common crossbill	SU721106	Bell's Copse	1	7	2013
Cuckoo	SU719093	SCP woodland	1	1	2016
Firecrest	SU714113	Northern edge of Havant Thicket woodland	1	1	2010
Firecrest	SU719093	SCP woodland	1	2	2016
Lesser redpoll	SU720094	SCP woodland	1	8	2013
Lesser redpoll	SU713112	Havant Thicket woodland	1	6	2011
Little egret	SU707107	Blendworth Common	2	2	2003
Marsh tit	SU719093	SCP woodland	1	1	2016
Marsh tit	SU723101	Havant Thicket woodland	1	1	2016
Marsh tit	SU714113	Northern edge of Havant Thicket woodland	1	1	2015
Nightjar	SU714106	Havant Thicket woodland	1	3	2002
Nightjar	SU708104	Havant Thicket woodland	1	1	2005
Nightjar	SU718107	Havant Thicket woodland	1	1	2005
Nightjar	SU714110	Havant Thicket woodland	1	1	2006
Nightjar	SU715105	Havant Thicket woodland	2	2	2010
Nightjar	SU716105	Havant Thicket woodland	1	1	2010
Nightjar	SU715105	Havant Thicket woodland	2	2	2014
Nightjar	SU715111	Havant Thicket woodland	1	1	2015
Song thrush	SU719093	SCP woodland	1	1	2016
Whimbrel	SU719101	Gipsies Plain	1	12	2014
Woodcock	SU716105	Havant Thicket woodland	1	1	2010
Woodcock	SU715105	Havant Thicket woodland	1	1	2012
Yellowhammer	SU707102	Bell's Copse	1	1	2016

Records of goshawk *Accipiter gentilis* and hobby *Subbuteo subbuteo* were also returned with the HBIC data. Given the suitable habitat present it is possible that these species breed in Havant Thicket woodland, although this could not be ascertained from the desktop study data.

Of the remaining notable species returned in the data search some species are only likely to be present on migration including grasshopper warbler *Locustella naevia*, whinchat *Saxicola rubetra*, redstart *Phoenicurus phoenicurus*, wheatear *Oenanthe oenanthe*, wood warbler *Phylloscopus sibilatrix*, ring ouzel *Turdus torquatus* and yellow wagtail *Motacilla flava*.

The ECOSA breeding bird surveys carried out in 2005 and 2008 recorded the following breeding species of conservation concern (Eaton, et al., 2015): bullfinch, dunnock *Prunella modularis*, lapwing, linnet, marsh tit, meadow pipit, mistle thrush, skylark, song thrush, tawny owl *Strix aluco*, willow warbler *Phylloscopus trochilus* and yellowhammer. A total of 37 breeding bird species were recorded including seven red listed and five amber listed species. The area covered by these surveys broadly overlapped with the 2018 surveys, although the access track on the western edge of Havant Thicket woodland was not included during 2005 or 2008.

Between 2005 and 2008 species associated with more open habitat increased, which may have related to changes in grassland height / structure between years as a direct result of grazing pressure or other forms of grassland management. In 2005 the grassland was long (approximately 400 millimetres) in height, whereas in 2008 the grassland was more heavily grazed and was largely 100 millimetres in height. The majority of the species which increased between the years favour the more open habitats present in 2008 (e.g. skylark, linnet, lapwing and meadow pipit).

Details of the number of territories of each species recorded in 2005 and 2008 is provided in **Table I6**.

Table I6: Notable⁸ species territories recorded during summer 2005 and 2008

Species	Number of Territories 2005	Number of Territories 2008
Bullfinch	0	1
Dunnock	5	7
Lapwing	1	13
Linnet	2	5
Marsh tit	1	2
Meadow pipit	6	9

Species	Number of Territories 2005	Number of Territories 2008
Mistle thrush	1	1
Skylark	7	11
Song thrush	10	8
Tawny owl	1	2
Willow warbler	8	8
Yellowhammer	1	2

A nightjar survey undertaken by ECOSA in 2006 identified three or four territories present within Havant Thicket woodland. The species was also recorded during ECOSA bat surveys foraging over the on-site grassland, especially the grassland between Middle Clearing and The Avenue.

In general, only small numbers of species of conservation concern were found wintering on site during ECOSA surveys in 2005/06 and 2008/09. Species of particular interest included a short-eared owl flushed from the rush dominated area to the east of The Avenue on 26th November 2008 and occasional records of waders including woodcock, curlew *Numenius arquata*, snipe *Gallinago gallinago* and lapwing. Barn owl was recorded foraging on site during evening bat surveys carried out in 2008, mostly in the fields in the east of the site. The species was not recorded breeding on-site, but was considered likely to be breeding in the surrounding landscape.

Of the wintering species recorded three are included in Langstone and Chichester Harbours SPA and / or Ramsar site citations; teal, lapwing and curlew. All three were recorded relatively infrequently and in low numbers.

Peak counts of notable wintering birds from the 2005 to 2006 and 2008 to 2009 surveys are shown in **Table 17**.

Table 17: Peak counts of notable^B wintering birds recorded between 2005 and 2009

Common Name	Peak Count Winter 2005/06	Peak Count Winter 2008/09
Teal	1	0
Kestrel	2	1
Lapwing	4	19
Woodcock	1	2
Snipe	3	6

Common Name	Peak Count Winter 2005/06	Peak Count Winter 2008/09
Curlew	1	0
Stock dove	3	32
Short-eared owl	0	1
Skylark	11	16
Redwing	c.100	75
Fieldfare	20	35
Starling	21	18
Lesser redpoll	3	1
Bullfinch	5	1
Reed bunting	5	2

Information from Trevor Codlin at Hampshire and Isle of Wight Wildlife Trust indicated that lapwing have not bred at the site in recent years (per comms.).

The RPS Preliminary Ecological Appraisal (RPS, 2016) states that SCP is suitable for breeding birds, but does not provide any further details. The WYG breeding bird survey report (WYG, 2014) recorded 33 breeding species on the land east of Horndean development site. The species recorded included typical farmland species including skylark, starling, house sparrow *Passer domesticus*, song thrush, dunnock, mistle thrush, meadow pipit and barn owl

A firecrest survey undertaken by HOS in 2015 included 11 singing male firecrest from Havant Thicket woodland (see **Map I1**).

Nightjar records from HOS (John Goodspeed per comms.) identified two nightjar territories within Havant Thicket woodland during 2017 and a single territory in 2018 (see **Map I1**). During June 2019 John Goodspeed heard nightjar churring in three different compartments within the north-east of the Havant Thicket woodland (SU 71682 10679, SU 71729 10996 and SU 71637 11091), all on different dates. Given the low quality of remaining habitat in this area it is likely this represents one nightjar territory.

On 8th July 2018 Tracey Viney, Portsmouth Water's Biodiversity Specialist, observed a female nightjar in flight on two occasions around SU 7085 1041. On the same evening Richard Levett, a retired Hampshire County Council Senior Ranger, walked in a loop

around the woodland compartment centred on SU 7170 1051, where the species has been recorded in previous years. No sightings were made and no churring was heard.

On 8th and 13th July 2019 Tracey Viney and Richard Levitt visited Havant Thicket woodland, specifically the areas around Bells Copse and central birch scrub compartments. No nightjar sightings were made and no churring was heard.

Field Survey

During the field survey the habitat within the site comprised a combination of neutral grassland, rush pasture, woodland, stream corridors, ditches and boundary vegetation. Prior the 2017/2018 bird surveys a proportion of the eastern edge of the site had been 'topped' with a tractor mounted flail and fields in the north-west were being grazed by Highland Cattle and a small number of horses. These habitats were broadly similar to those recorded in 2008-2009, with the following exceptions:

- Gypsies Plain (see **Map I2**) which was previously heavily grazed by horses but has since become more tussocky;
- The Corsican Pine Plantation has been thinned; and
- The central track within The Avenue has been widened as part of heritage work associated with SCP.

Overall the habitat on-site remains broadly similar to the previous surveys and is therefore considered to offer suitable habitat for a range of breeding and wintering birds.

Fence lines were removed for replacement in the north and west during autumn 2017 and the majority were not replaced until late-summer / autumn 2018. As a result grazing was largely absent from the fields in the north and west of the site resulting in a longer sward (grass height) during summer 2018 which may have increased the number of bird species using the site which utilise grassland habitat for breeding.

Wintering Bird Survey Results

A total of 55 species were recorded during the wintering bird surveys of 2017/18, of which 29 are notable species⁸. **Table I8** details the records of notable species across each survey visit. The distribution of the birds is indicated on **Map I6** to **Map I11**.

Non-notable species recorded during the wintering bird surveys comprised 26 species which were recorded either on or flying over the site. This included typical woodland species such as blue tit *Cyanistes caeruleus*, buzzard, chaffinch *Fringilla coelebs*, goldcrest *Regulus regulus*, great spotted woodpecker *Dendrocopos major*, great tit *Parus major*, blackbird *Turdus merula*, jay *Garrulus glandarius*, long-tailed tit

Aegithalos caudatus, nuthatch *Sitta europaea*, robin *Erithacus rubecula*, siskin *Carduelis spinus*, treecreeper *Certhia familiaris*, woodpigeon *Columba palumbus* and wren *Troglodytes troglodytes*.

Other common species recorded during the wintering bird surveys included; carrion crow *Corvus corone*, collared dove *Streptopelia decaocto*, goldfinch *Carduelis carduelis*, greenfinch *Chloris chloris*, grey heron *Ardea cinerea*, jackdaw *Corvus monedula*, magpie *Pica pica*, pheasant *Phasianus colchicus*, raven *Corvus corax*, rook *Corvus frugilegus* and stonechat *Saxicola rubicola*.

A comparison of peak counts for waterbird species recorded at the site during wintering bird surveys undertaken in 2005/07, 2008/09 and 2017/18 is presented in **Appendix I3**.

Table I8: Notable bird species recorded⁹ during winter bird survey 2017/18 at the site

Species	9 th November 2017	22 nd December 2017	25 th January 2018	6 th February 2018	27 th February 2018	12 th March 2018
Black-headed gull	(14)	(7)	-	-	11	41
Brambling	-	-	-	-	(2)	-
Bullfinch	4	2	-	3	1	-
Common gull	-	-	-	-	(19)	-
Dunnock	1	1	16	11	-	4
Fieldfare	-	-	-	-	49	-
Goshawk	-	-	-	-	-	(1)
Grey wagtail	1 (2)	-	-	-	-	-
Herring gull	(4)	-	-	(6)	-	(6)
House sparrow	7	6				
Kestrel	3	1	1 (1)	1	-	2
Lapwing	-	-	9	6	34 (19)	(1)
Lesser redpoll	2	1	-	-	-	-
Linnet	(2)	-	-	4	-	1
Mallard	-	-	3	4	2	3
Marsh tit	1	-	1	3	2	1

⁹ Numbers marked in brackets () were recorded flying over the site.

Species	9 th November 2017	22 nd December 2017	25 th January 2018	6 th February 2018	27 th February 2018	12 th March 2018
Meadow pipit	6	44	-	-	4	9 (1)
Mediterranean gull	-	-	-	-	-	4 (4)
Mistle thrush	4	3	(2)	3	2	-
Redwing	8	-	4 (30)	11 (16)	58 (26)	-
Reed bunting	-	1	-	-	-	-
Skylark	3	2	8	5 (3)	9	14
Snipe	-	-	2	4	5	-
Song thrush	2	4	14	7	-	1
Starling	(6)	3	68 (6)	47 (22)	(22)	56 (4)
Stock dove	(3)	2	-	5	-	-
Teal	-	-	-	2	2	-
Woodcock	-	-	-	-	1	-
Yellowhammer	2	(1)	-	-	-	-

A single little egret *Egretta garzetta* was recorded on 22nd December 2017 just off-site within the Forestry England car park along Manor Lodge Road (SU 7231 1020). Other commoner species recorded from the site included regular stonechat within the grassland and a variety of common woodland species. Typical woodland species recorded included blue tit, robin, wren, jay, woodpigeon, great tit, coal tit *Parus ater*, long-tailed tit, great spotted woodpecker, green woodpecker *Picris viridis*, goldcrest, siskin, blackbird, nuthatch *Sitta europaea*, treecreeper, buzzard and chaffinch.

Other common species recorded included chiffchaff *Phylloscopus collybita*, pied wagtail *Motacilla alba*, greenfinch, raven, magpie, jackdaw, goldfinch, carrion crow, pheasant, red-legged partridge *Alectoris rufa* and grey heron.

The increased records of lapwing, redwing and fieldfare during January to March 2018 were attributed to cold weather movements associated with cold weather conditions further north.

A goshawk was recorded displaying over the southern edge of Havant Thicket woodland and the Corsican Pine Plantation on 12th March 2018. This species was not seen on subsequent or earlier visits to the site.

On the final survey on 12th March 2018 41 black-headed gull and four Mediterranean gull were recorded roosting on the site. These individuals are likely to have originated from coastal areas to the south of the site, including Langstone and Chichester Harbours SPA / Ramsar site. Both species were also regularly recorded flying over the site, particularly during the spring and autumn.

Apart from black-headed gull and Mediterranean gull the only species recorded during the 2018 surveys which is included in the Langstone and Chichester Harbours SPA / Ramsar site citation are teal and lapwing. Both species were recorded infrequently and in relatively low numbers.

Brent goose *Branta bernicla* were not recorded at the site during wintering bird surveys undertaken in 2005/06, 2008/09 or 2017/18.

Overall, low numbers of wintering birds were recorded during the wintering bird surveys. Small flocks of starling, redwing, fieldfare, meadow pipit and lapwing were noted on some, but not all visits. Low numbers of skylark were recorded foraging in grassland across the site.

Breeding Bird Survey Results

During 2018, a total of 29 species were recorded holding territory or breeding within the site (see **Appendix I2** for full list of territories). 13 of these species are notable, and the number of territories of these species is presented in **Table I9**. The distribution of breeding territories of notable species is shown on **Map I13** to **Map I14**. A further two notable species territories, firecrest and nightjar were recorded adjacent to the site, these species are described in more detail below and are mapped on **Map I12**.

Table I9: Notable bird species territories recorded on site during 2018

Species	Number of Territories / Breeding Pairs	Notes
Bullfinch	2	Along the access track on the western edge of Havant Thicket woodland and woodland along the northern edge of the site
Dunnock	4	All located in scrub on the edges of the site
Kestrel	1	A male was recorded in the western side of the site on numerous occasions. Although this individual was holding territory there was no evidence of breeding within the site during 2018
Linnet	1	An individual was recorded singing within patchy scrub on Gipsies Plain

Species	Number of Territories / Breeding Pairs	Notes
Mallard	1	A pair was recorded using Upper Lake at the northern end of the Avenue and the female was recorded with chicks
Marsh tit	1	A single territory recorded within The Avenue
Meadow pipit	4	All territories recorded within on-site grassland
Skylark	11	All grassland contained territory holding male skylark except the far eastern extent of Gipsies Plain which was heavily grazed by sheep during 2018, reducing it's suitable for this species.
Song thrush	7	Round Wood, The Avenue and the access track on the western edge of Havant Thicket woodland and three woodland areas on the site boundaries.
Starling	1	Within SCP, adjacent to the site
Stock dove	1	Single territory within The Avenue
Tawny owl	1	Calling birds and begging juveniles recorded in The Avenue during bat surveys.
Yellowhammer	1	A single yellowhammer territory was recorded in the north-western corner of the site.

There were three notable species recorded holding territory within the site during 2005 and 2008 which were not recorded during 2018. Eight willow warbler territories were recorded from the site during 2005 and 2008, during 2018 only a single individual was recorded singing on one occasion. This species has seen reduction in populations in the south of the UK and an increase in the north (British Trust for Ornithology, n.d.), this trend has been linked to climate change (British Trust for Ornithology, n.d.). Therefore, the loss of this species is unlikely to reflect changes in site conditions.

A single lapwing territory was recorded in 2005, rising to 13 in 2008. These individuals were all associated with the grassland present within Gipsies Plain in the eastern half of the site. During 2018, and in recent years, the species has ceased to breed at the site, the exact reasons for this change are unclear. However, it may be as a result of increased predator density at the site coupled with the changes in grazing management.

A single mistle thrush territory was recorded in both 2005 and 2008, during 2018 the species was recorded singing on one occasion. This was not enough evidence to confirm a territory, although it is possible that the species still breeds on or within the area surrounding the site.

Mallard was the only species recorded breeding at the site which was not recorded during previous surveys. This species is likely to have benefitted from Portsmouth's Water's conservation work in Upper Lake which has reinstated the culvert, resulting in the lake holding more water.

Barn owl was recorded on one occasion during the 2018 bat trapping surveys. The sighting was on 14th May 2018 and involved an individual hunting over a rough grassland field in SCP (SU 7244 0956). No evidence was recorded of this species breeding within the site and veteran trees and parkland present within SCP are considered more suitable for nesting barn owl.

In respect of commoner species breeding at the site the most notable changes since 2005-2008 is the loss of a rookery (colonial breeding rook *Corvus frugilegus*) in Middle Clearing. The breeding density of most other species has remained broadly similar in the period between 2005 and 2018. The only new common and widespread species recorded breeding in 2018 which was not recorded previously was a single pair of whitethroat *Sylvia communis* on the western edge of the site.

A number of notable species records were made within the wider site as part of other survey work or as an incidental result of the on-site breeding bird survey. This included one firecrest territory immediately to the south of The Avenue and two nightjar territories in Havant Thicket woodland.

A confirmed nightjar nest with two chicks was accidentally located in a dense area of bracken on the northern edge of Bell's Copse on 2nd July 2018. During 2018 another territory was recorded by John Goodspeed around SU 716 109, located north-east of the Bell's Copse nest. This survey information indicates two nightjar territories in Havant Thicket woodland during 2018. During 2019 there was no evidence of a nightjar territory around the northern edge of Bell's Copse but there were three records of nightjar on different dates in the north-east area of Havant Thicket woodland.

3.3 Discussion

Correspondence with Forestry England staff with responsibility for Havant Thicket woodland indicated that they were not aware of breeding goshawk in Havant Thicket woodland (per comms.). Given the extent of Havant Thicket woodland and other substantial woodland blocks in the local area (Holt Wood, Southleigh Forest and Stansted Park) it is possible that goshawk breed in the local area.

The breeding species recorded are typical of the woodland and grassland habitats present within the site. Since the 2005 and 2008 surveys lapwing and willow warbler have ceased to breed at the site. There is a relatively dense population of skylark at the site which has remained static since 2008. In general, the site supports low

numbers of breeding birds of conservation concern. The site contains similar habitats to the areas within SCP, Havant Thicket woodland and other grassland and woodland areas within the local landscape and therefore the species recorded within the site are likely to be present throughout the surrounding area.

However, two breeding nightjar pairs were recorded in Havant Thicket woodland. Due to the foraging habits of nightjar, it is likely that the reservoir site is part of the foraging range of the breeding pairs. Numbers declined between 2008 and 2019 as a result of natural regeneration making the open areas that they previously used for nesting unsuitable. Firecrest were recorded in adjacent woodland. The reservoir site is unlikely to provide a significant foraging resource for this species. However, it is a significant species and will need to be considered in the impact assessment.

During the winter the site supports a range of species typical of grassland and woodland habitats. Significant concentrations of notable species were not recorded from the site. This is consistent with the previous ECOSA wintering bird surveys undertaken between 2005 and 2009. Given that the wintering bird species recorded during the wintering bird surveys are likely to be present within the wider countryside surrounding the site it is considered of site level importance for wintering birds.

None of the qualifying wintering or passage species identified in the citation for Chichester and Langstone Harbours SPA (bar-tailed godwit *Limosa lapponica*, little egret, black-tailed Godwit *Limosa limosa*, dark-bellied brent goose *Branta bernicla bernicla*, dunlin *Calidris alpina*, grey plover *Pluvialis squatarola*, redshank *Tringa totanus* and ringed plover *Charadrius hiaticula*) have been recorded from the site in either the desk study data, or 2005/06, 2007/08 or 2017/18 wintering bird surveys. Indeed, the site is largely unsuitable since it lacks the short nutrient rich swards, such as playing fields, often favoured by waders and wildfowl species when recorded away from coastal sites.

It is possible that individual little egret use the site on occasion and a single bird was recorded adjacent to the site on one occasion during the 2017/18 surveys. Given that little egret is an increasingly common species, and that the species has only been recorded in the vicinity of the site on one occasion over three wintering bird surveys it is unlikely that provides an importance resource for this species.

4.0 CONCLUSIONS

4.1 Conclusion

Desktop study data indicated that a range of notable bird species have been recorded from the site and surrounding area including ground nesting birds such as skylark, meadow pipit and lapwing.

A range of wintering bird species typical of grassland and woodland habitats was recorded including fieldfare, redwing and occasionally small numbers of waders and wildfowl. Significant concentrations of notable wintering bird species were not recorded.

The site supports low numbers of breeding birds of conservation concern, all of which are known to breed in the local area. Since the 2005 and 2008 breeding bird surveys lapwing and willow warbler have been lost as breeding species. There is a relatively dense population of skylark at the site, the population of which has remained constant between 2008 and 2018. During 2018 a single pair of firecrest, a Schedule 1 species was recorded in Staunton County Park to the south of the site, surveys by Hampshire Ornithological Society have previously recorded a number of territories of this species in Havant Thicket woodland. Nightjar was recorded breeding in Havant Thicket woodland to the north of the site, this species is listed in Annex 1 of the Bird Directive.

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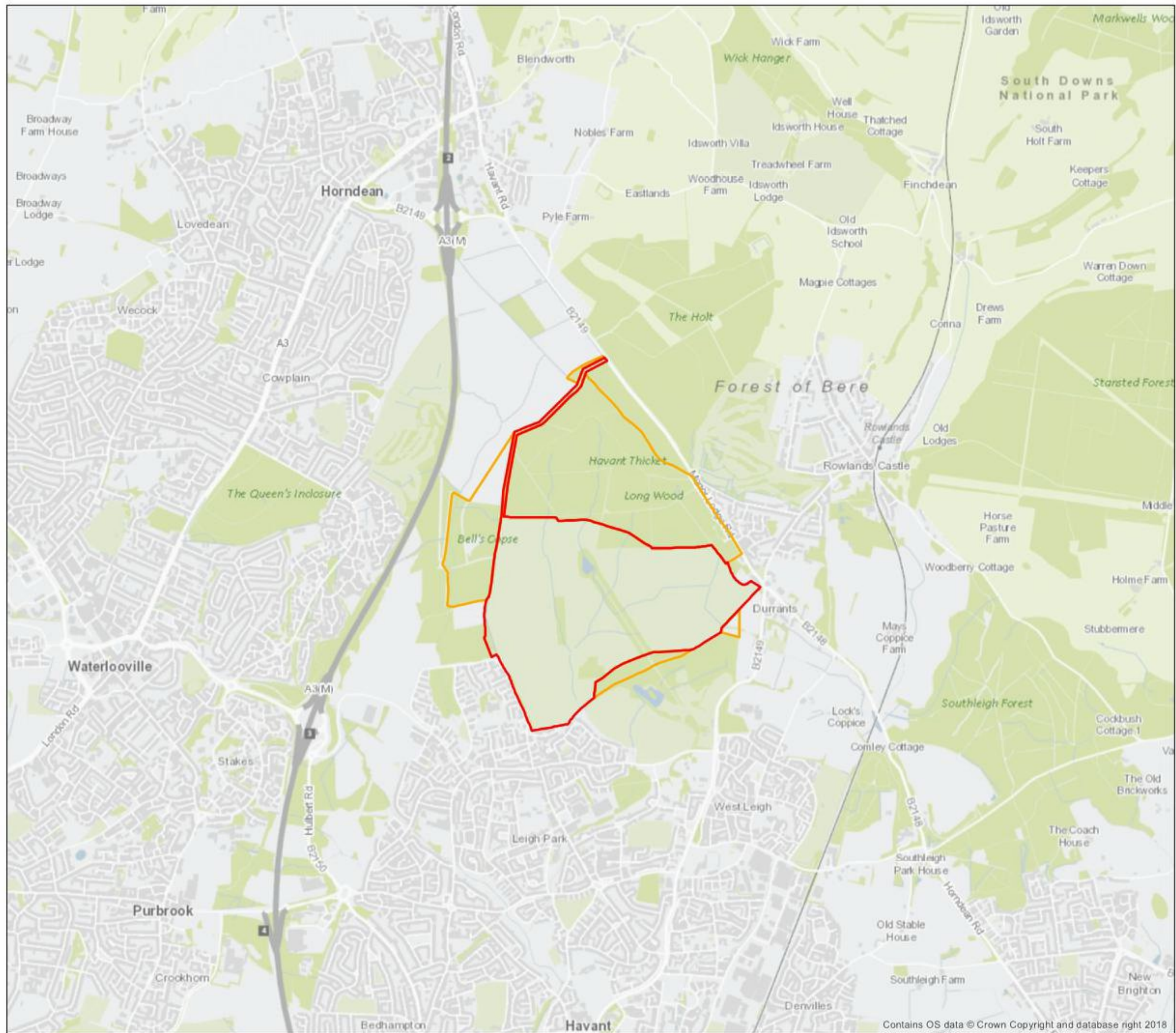
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Map I1 Site Location Plan



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I1 - Site Location Plan

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

-  Site Boundary (the site)
-  Ecological Enhancement Area (wider site)

Scale at A3: 1:25,000

0 500 1,000 Metres



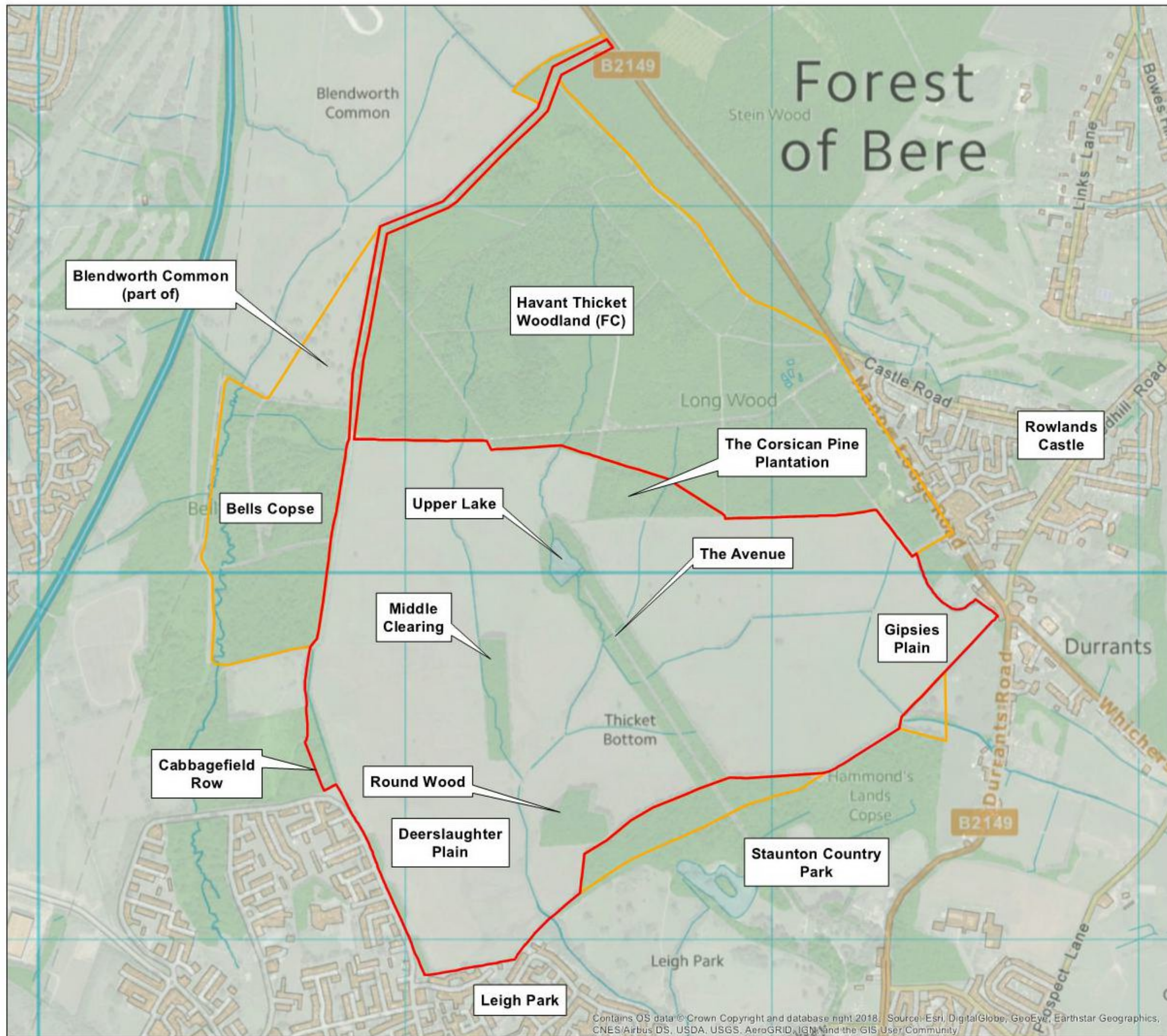
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Map I2 Key Site Features



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I2 - Key Site Features

Client:	Portsmouth Water
Date:	March 2019
Status:	Final

KEY

- Site Boundary (the site)
- Ecological Enhancement Area (wider site)

Scale at A3: 1:10,000

0 250 500 Metres



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Map I3 Bird Desktop Study Data

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I3 - Bird Desktop Study Data

Client:	Portsmouth Water
Date:	November 2018
Status:	Final

KEY

- Site Boundary (the site)
- Hampshire Biodiversity Information Centre (HBIC) Bird Records

Nightjar Territories (HOS)

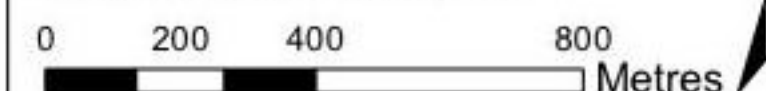
- 2017
- 2018

Firecrest Records 2015 (HOS)

- Singing male

N.B. Hampshire Biodiversity Information Centre (HBIC) records shown on map are located within 100m x 100m resolution grid squares. Nightjar territories data sourced from Hampshire Ornithological Society (HOS) committee member John Goodspeed. Firecrest records data sourced from Keith Betton, HOS Chairman and County Recorder.

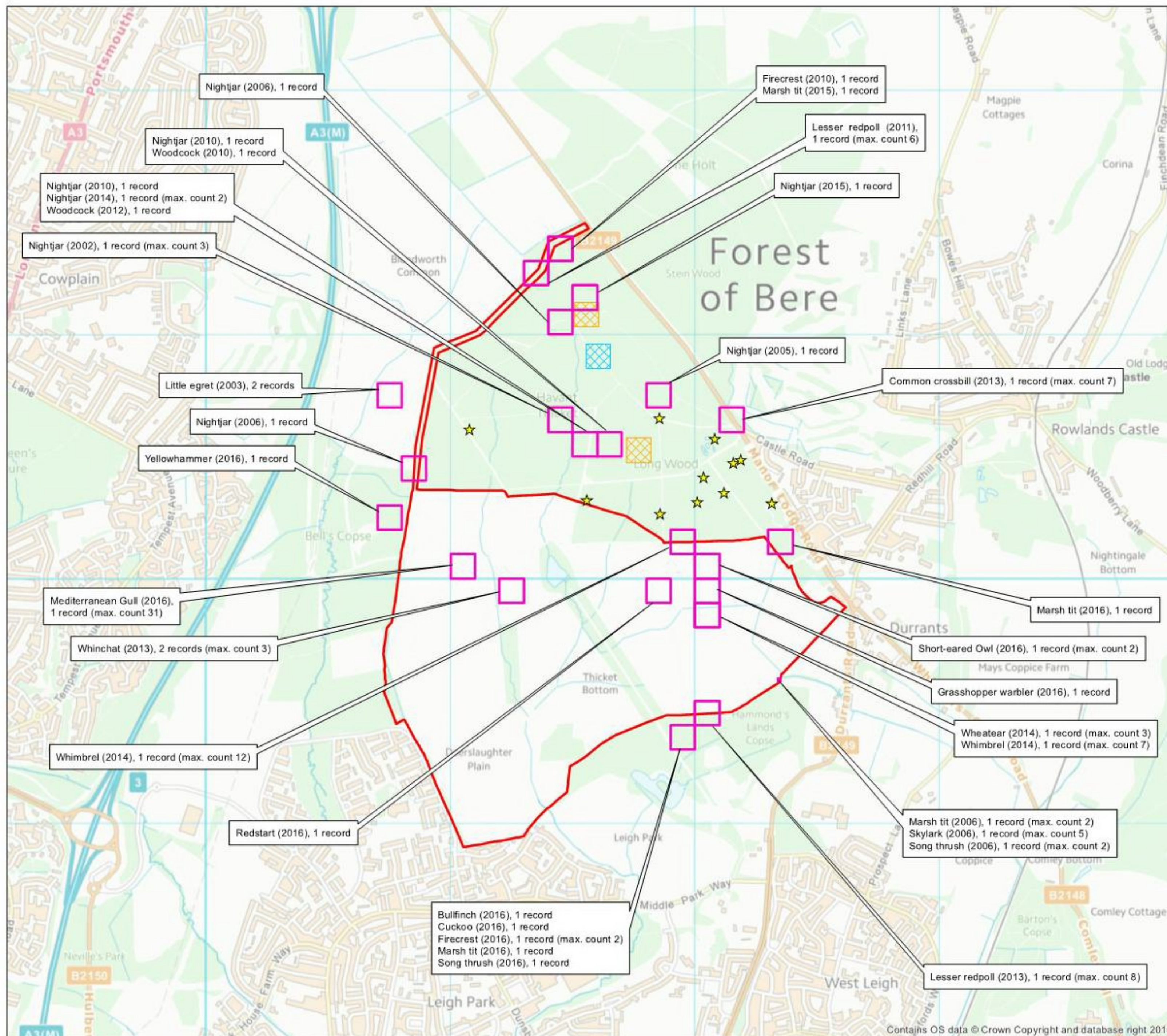
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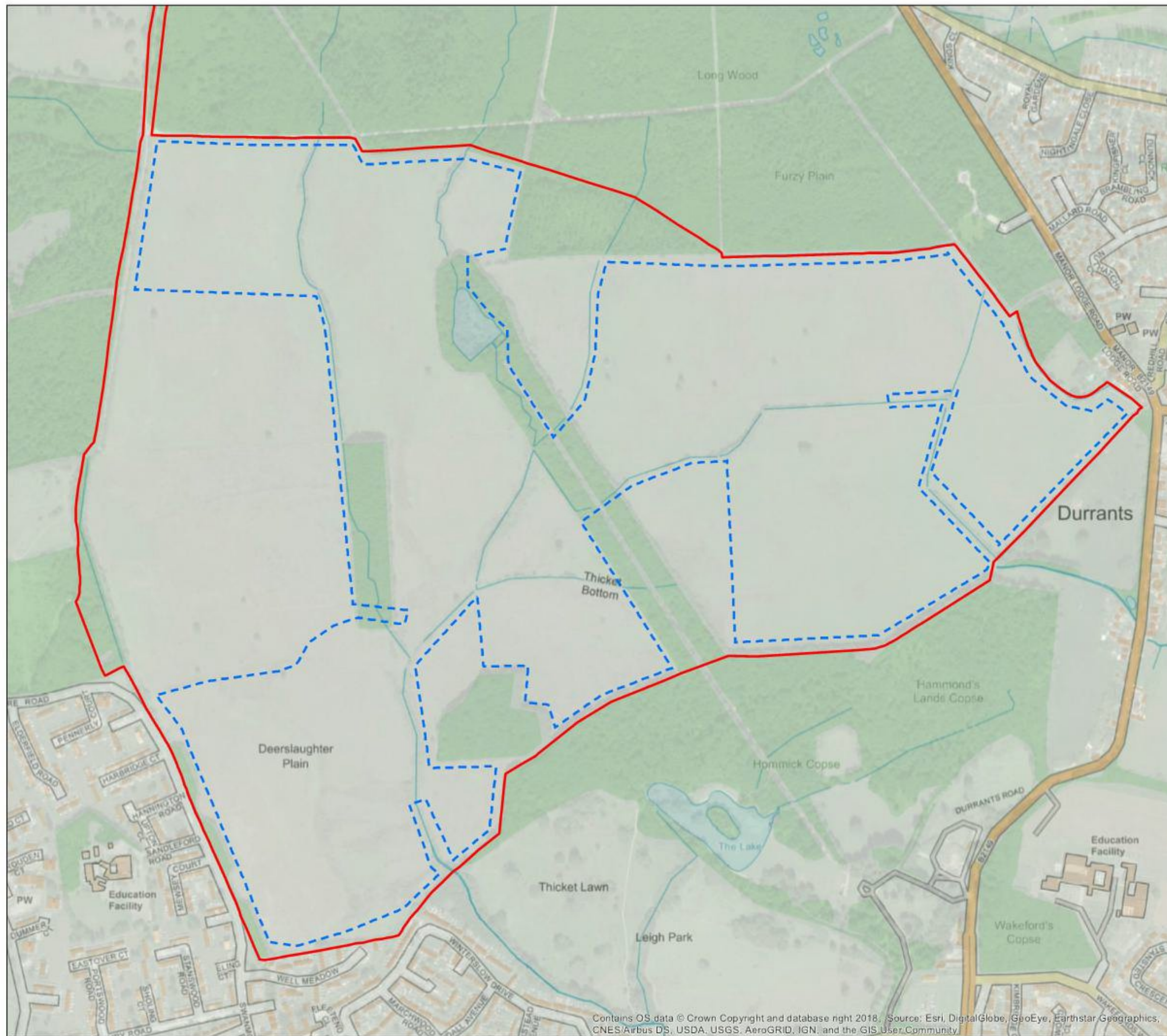
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Map I4 Wintering Bird Survey Transect



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I4 - Wintering Bird Survey Transect

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route (2017/2018)

Scale at A3: 1:6,500

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Metres



ECOSA

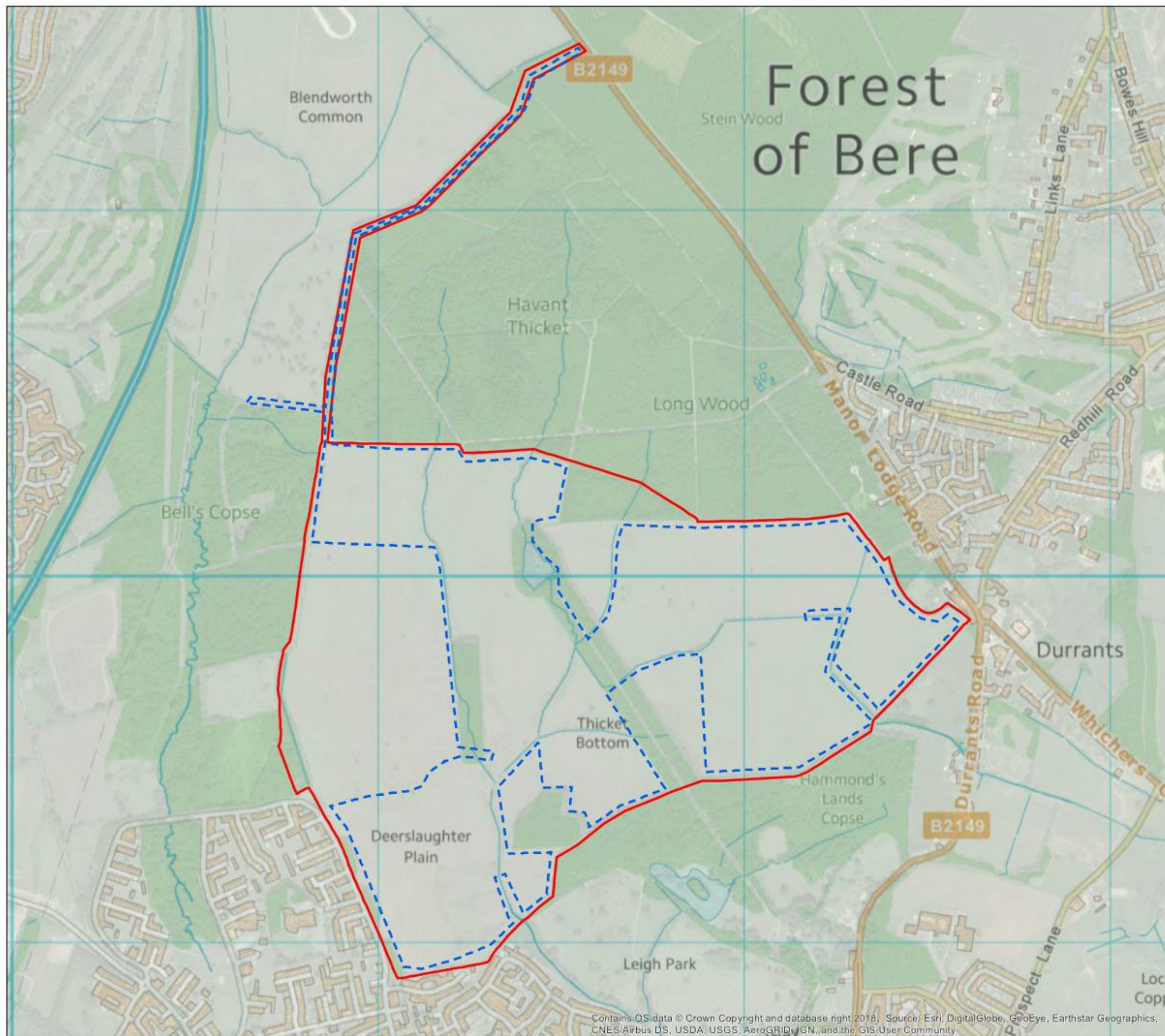
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Map I5 Breeding Bird Survey Transect



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I5 - Breeding Bird Survey Transect

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

-  Site Boundary (the site)
-  Breeding Bird Survey Transect Route (2018)

Scale at A3: 1:10,000

0 250 500 Metres



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Map I6 Wintering Bird Survey – 9th November 2017

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I6 - Wintering Bird Survey -
9th November 2017

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- BH Black-headed Gull
- BF Bullfinch
- D Dunnock
- GW Grey Wagtail
- HG Herring Gull
- HS House Sparrow
- K Kestrel
- LR Lesser Redpoll
- LI Linnet
- MP Meadow Pipit
- M Mistle Thrush
- RE Redwing
- S Skylark
- ST Song Thrush
- SG Starling
- SD Stock Dove
- Y Yellowhammer
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

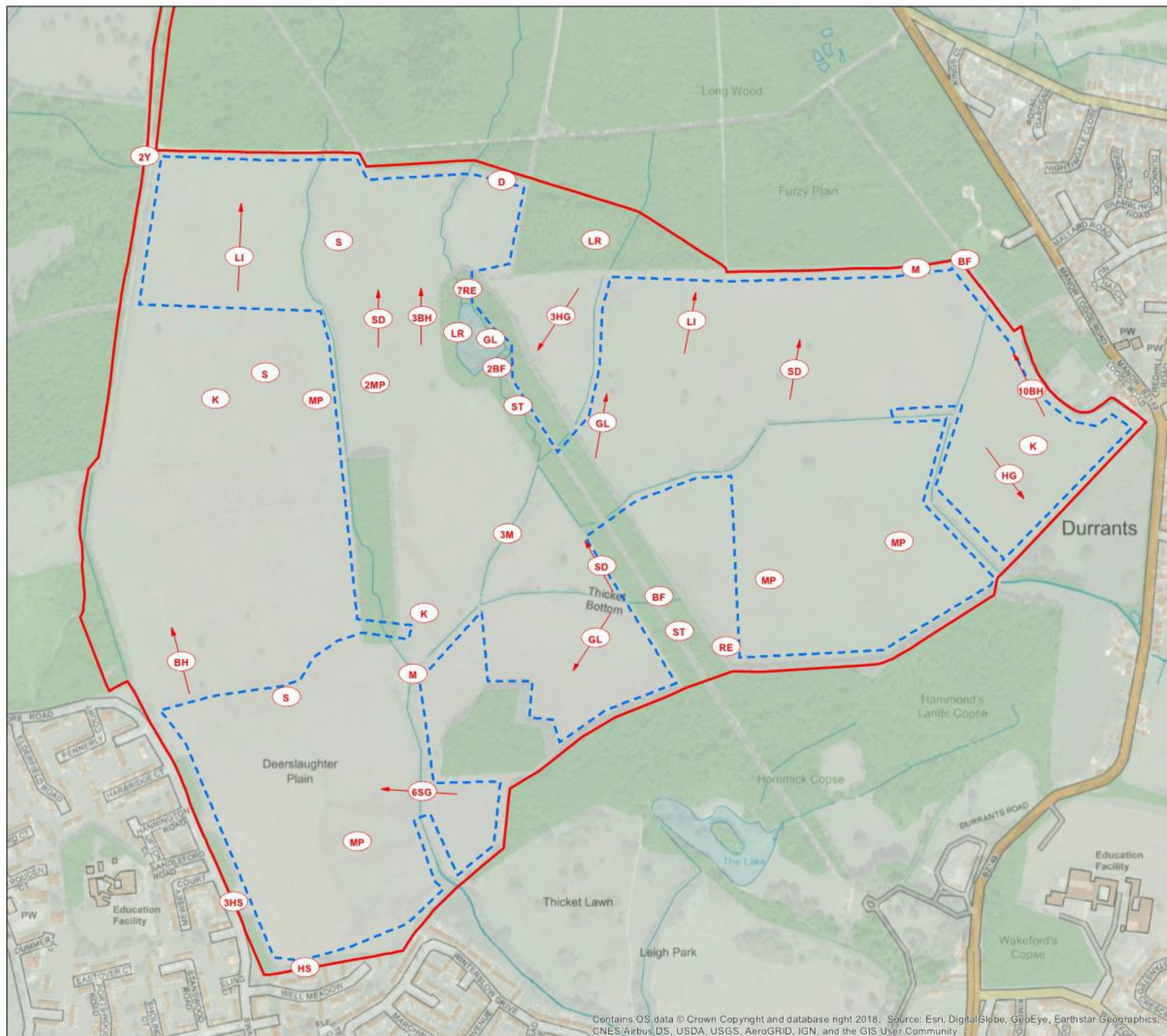
0 150 300 Metres



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Map I7 Wintering Bird Survey – 22nd December 2017

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map 17 - Wintering Bird Survey -
22nd December 2017

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- BH Black-headed Gull
- BF Bullfinch
- D Dunnock
- HS House Sparrow
- K Kestrel
- LR Lesser Redpoll
- MP Meadow Pipit
- M Mistle Thrush
- RB Reed Bunting
- S Skylark
- ST Song Thrush
- SG Starling
- SD Stock Dove
- Y Yellowhammer
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

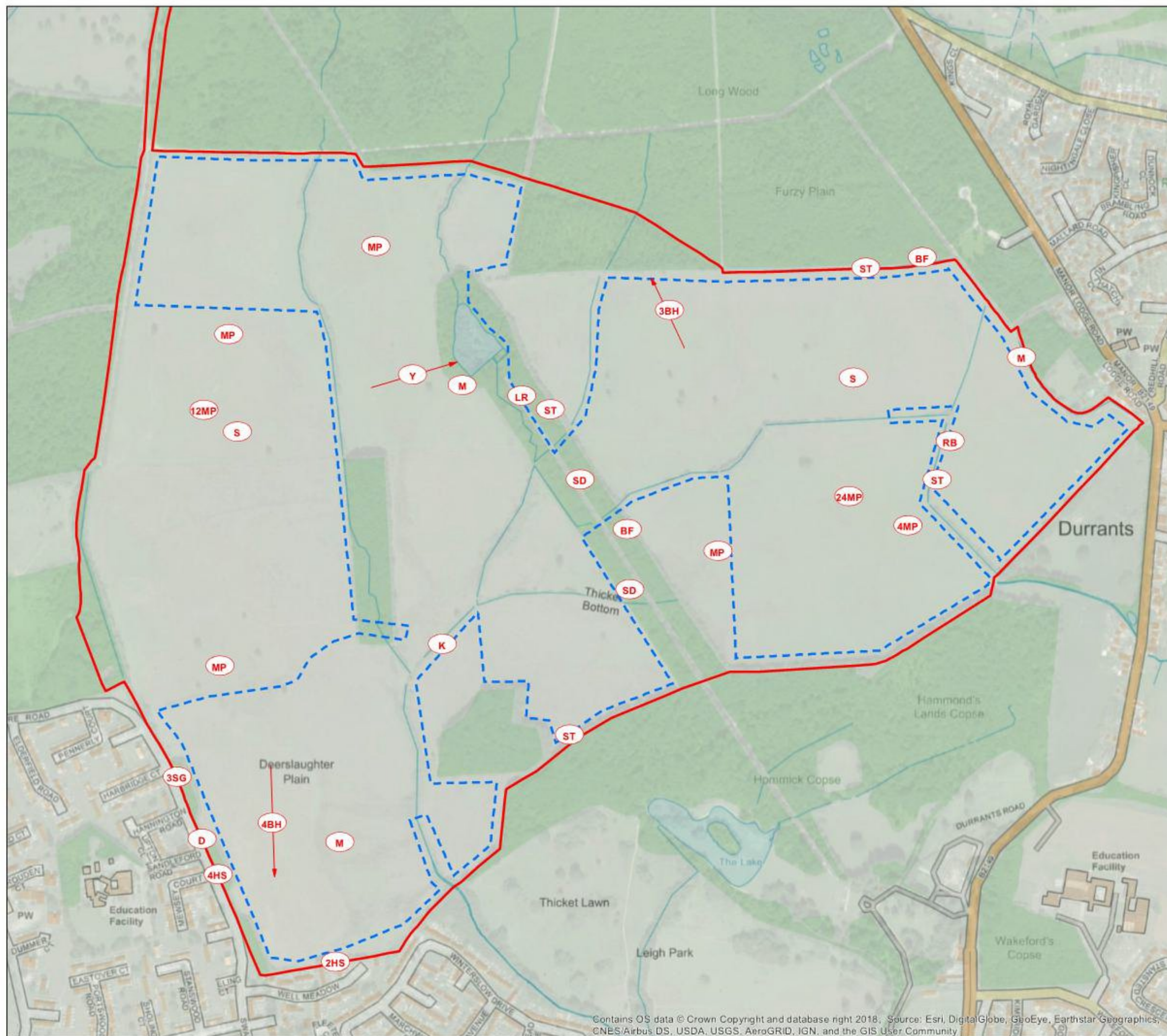
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Metres



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Map I8 Wintering Bird Survey – 25th January 2018

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map 18 - Wintering Bird Survey -
25th January 2018

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- D Dunnock
- K Kestrel
- L Lapwing
- MA Mallard
- MT Marsh Tit
- M Mistle Thrush
- RE Redwing
- S Skylark
- SN Snipe
- ST Song Thrush
- SG Starling
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

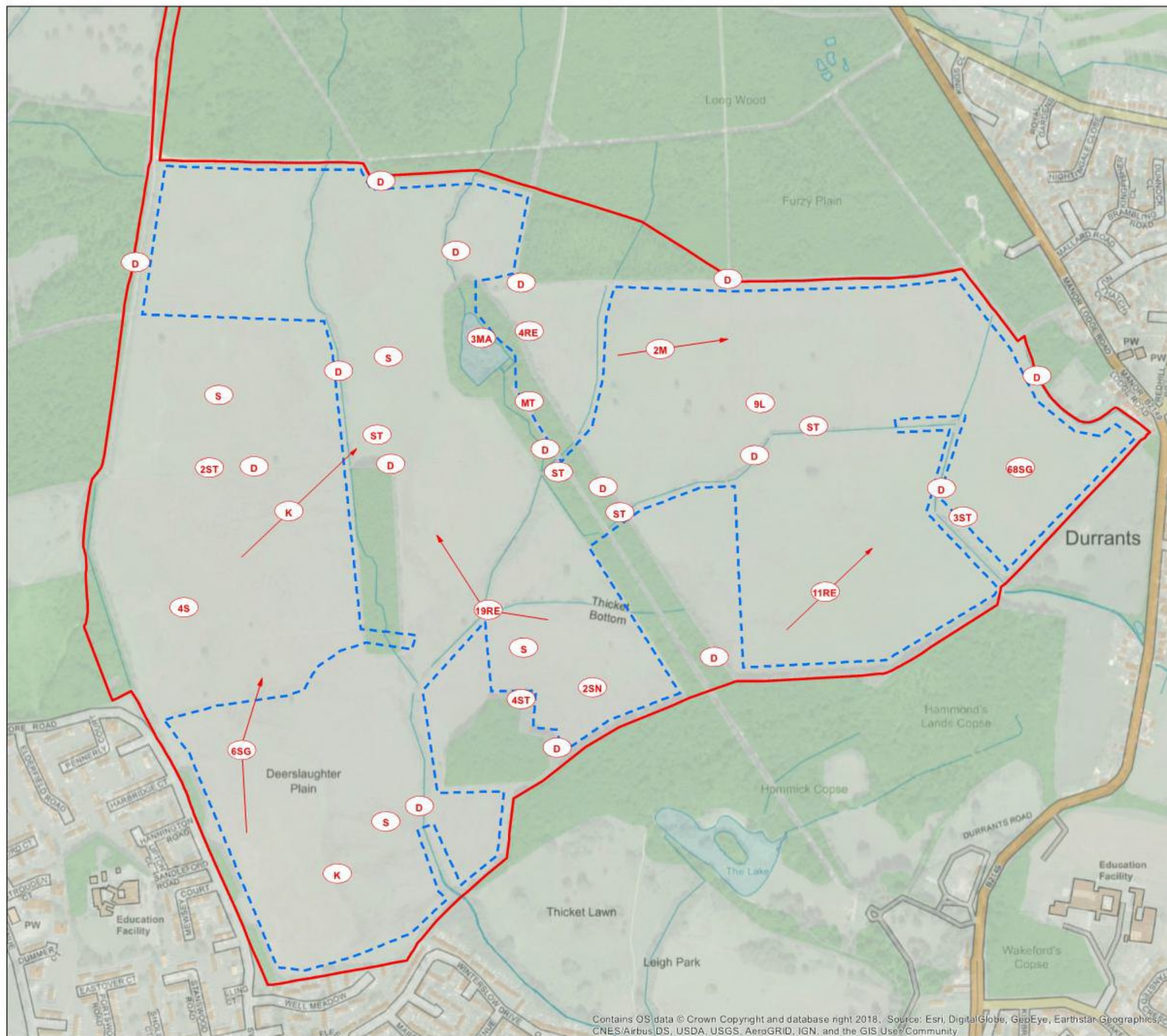
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Map I9 Wintering Bird Survey – 6th February 2018

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I9 - Wintering Bird Survey -
6th February 2018

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- BF Bullfinch
- D Dunnock
- HG Herring Gull
- K Kestrel
- L Lapwing
- LI Linnet
- MA Mallard
- MT Marsh Tit
- M Mistle Thrush
- RE Redwing
- S Skylark
- SN Snipe
- ST Song Thrush
- SG Starling
- SD Stock Dove
- T Teal
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

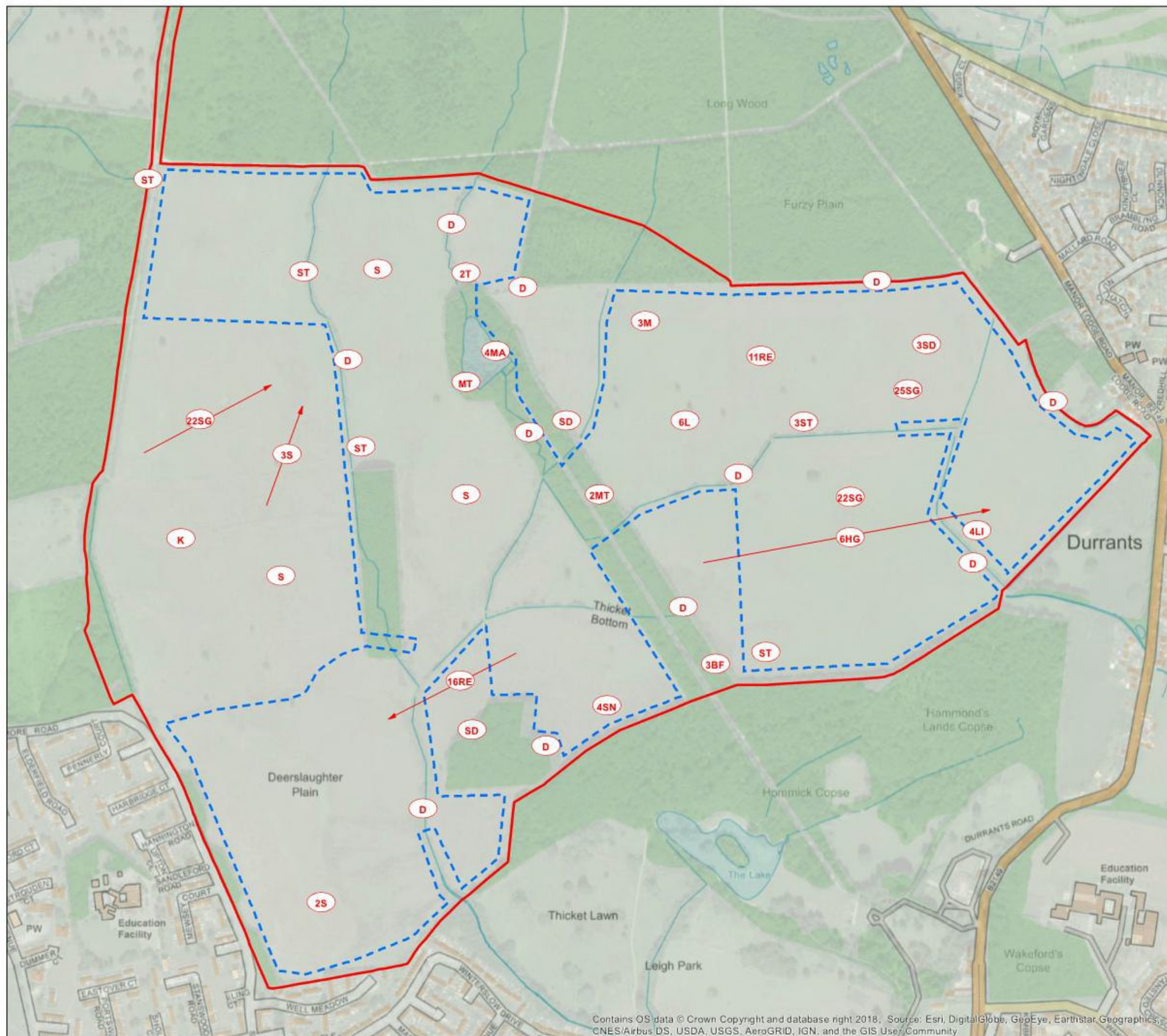
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Map I10 Wintering Bird Survey – 27th February 2018

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I10 - Wintering Bird Survey -
27th February 2018

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- BH Black-headed Gull
- BL Brambling
- BF Bullfinch
- CM Common Gull
- FF Fieldfare
- L Lapwing
- MA Mallard
- MT Marsh Tit
- MP Meadow Pipit
- M Mistle Thrush
- RE Redwing
- S Skylark
- SN Snipe
- SG Starling
- T Teal
- WK Woodcock
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

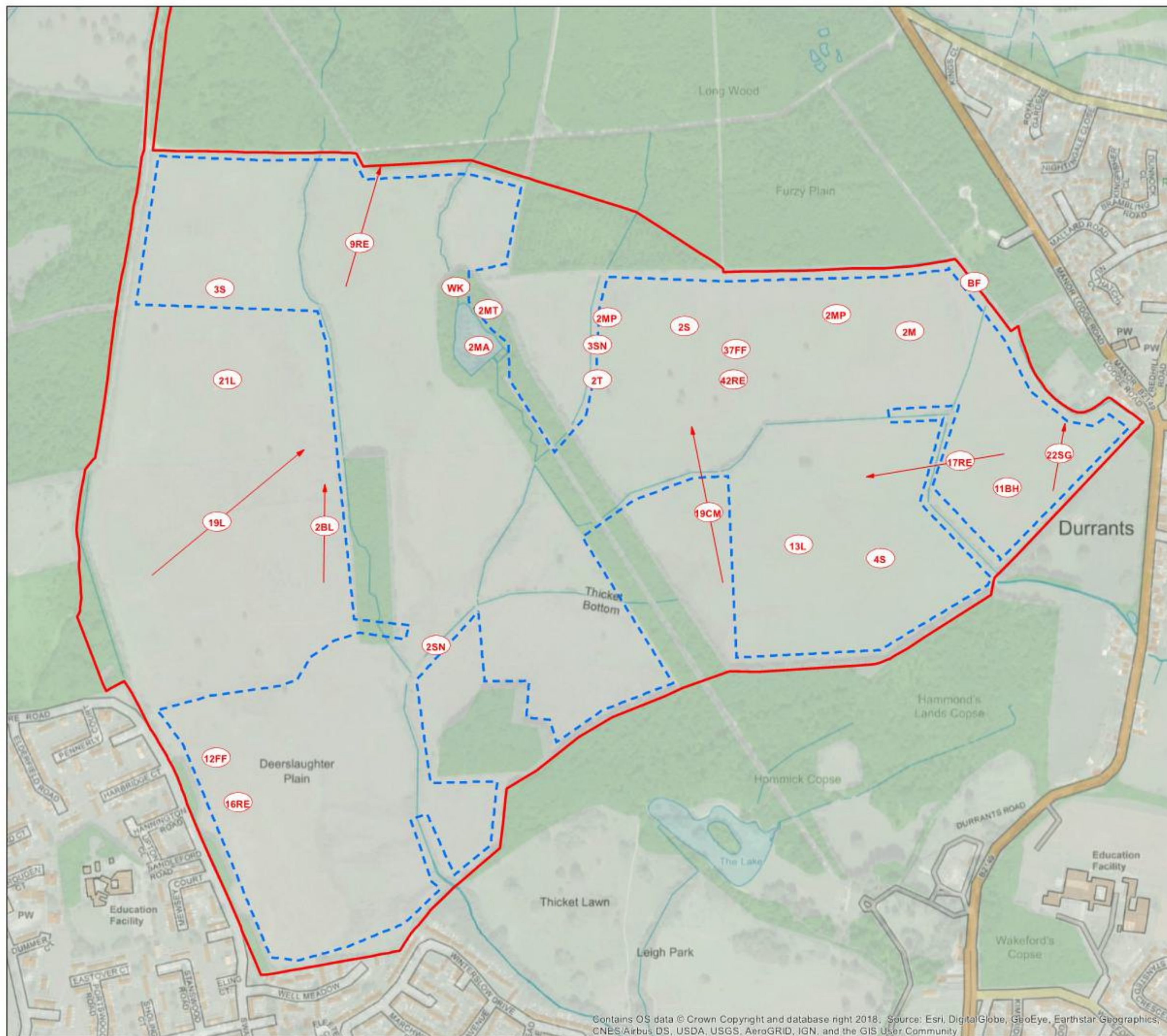
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Map I11 Wintering Bird Survey – 12th March 2018

HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I11 - Wintering Bird Survey -
12th March 2018

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

- Site Boundary (the site)
- Wintering Bird Survey Transect Route
- Flight Direction (where bird species seen only in flight)
- BH Black-headed Gull
- BF Bullfinch
- D Dunnock
- GI Goshawk
- HG Herring Gull
- K Kestrel
- L Lapwing
- LI Linnet
- MA Mallard
- MP Meadow Pipit
- MU Mediterranean Gull
- M Mistle Thrush
- S Skylark
- ST Song Thrush
- SG Starling
- #BH No. Birds Recorded and Species Code

Scale at A3: 1:6,500

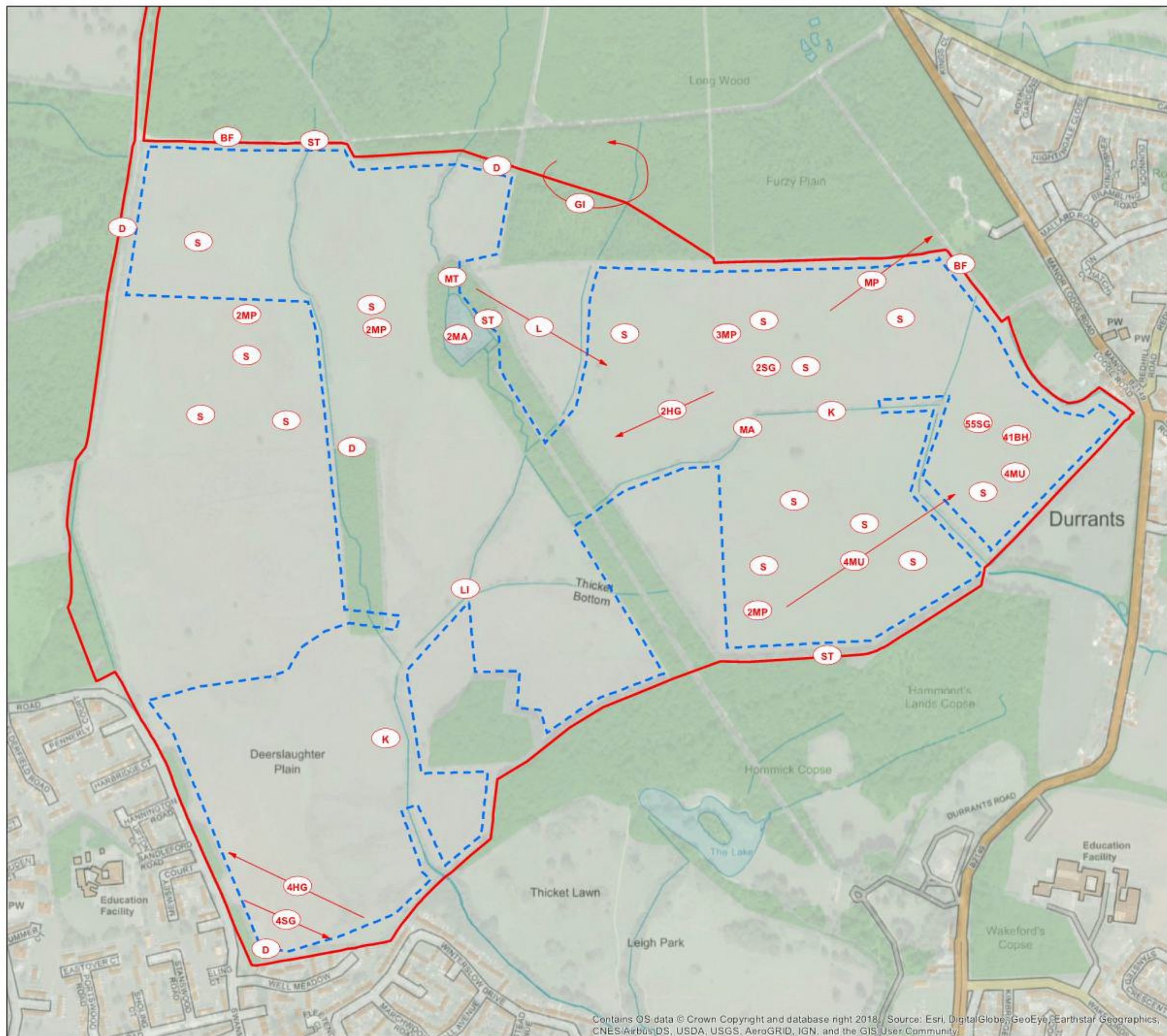
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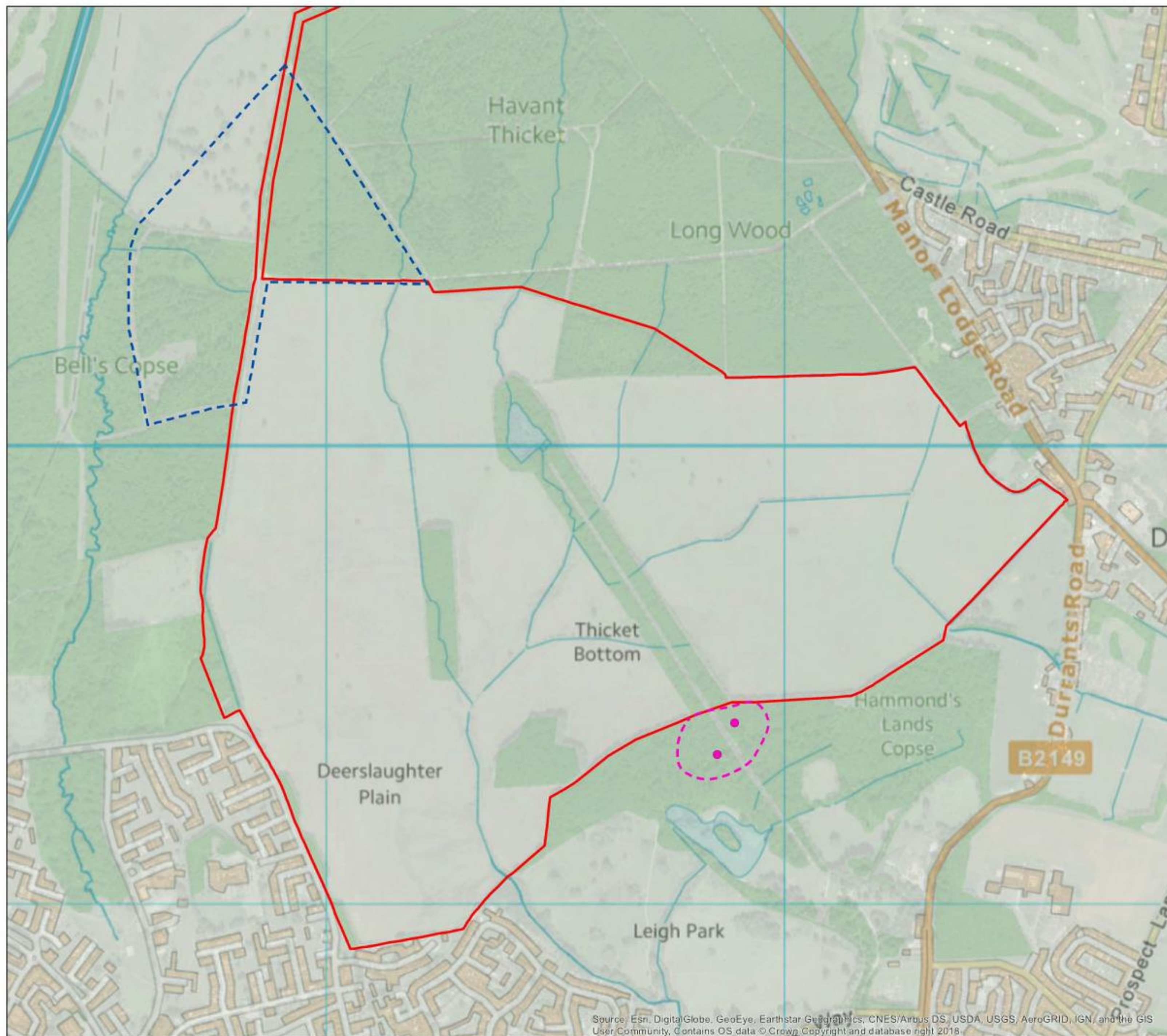
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Map I12 2018 Breeding Bird Territories –Schedule 1 / Annex 1 Species



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I12 - 2018 Breeding Bird Territories:
Schedule 1 / Annex 1 Species

Client: Portsmouth Water

Date: June 2019

Status: Final

KEY

- Site Boundary (the site)
- Firecrest Breeding Territory
- Nightjar Breeding Territory
- Singing Firecrest Records

N.B. One nightjar breeding territory is known as shown on the map however the full extent of this territory is unknown at the time of writing.

Scale at A3: 1:8,000

0 200 400 Metres



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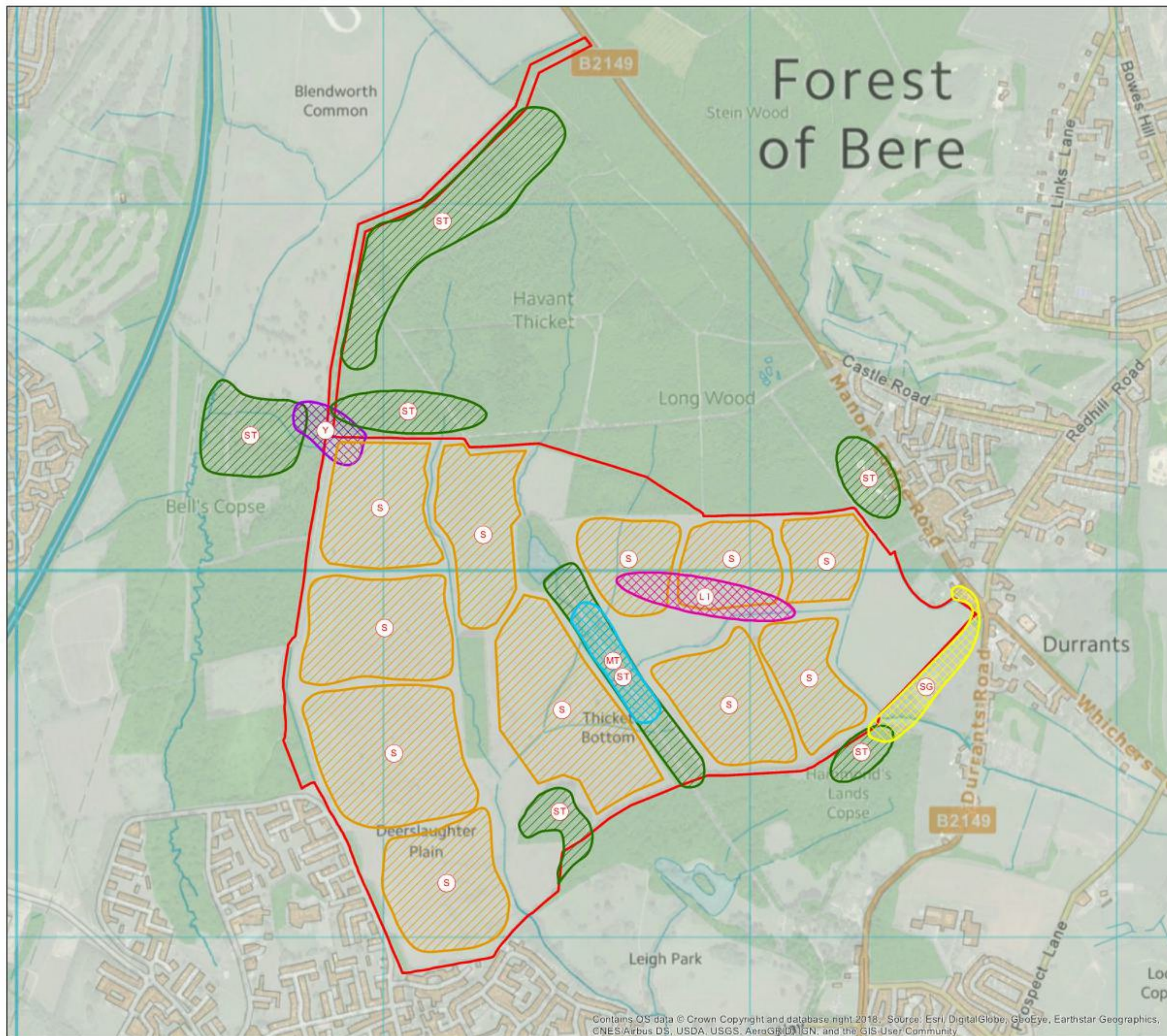
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Map I13 2018 Breeding Bird Territories – Red Listed Birds of Conservation Concern



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I13 - 2018 Breeding Bird Territories - Red Listed Birds of Conservation Concern

Client: Portsmouth Water

Date: January 2019

Status: Final

KEY

Site Boundary (the site)

Red Listed Bird Species Holding Territories

- LI Linnet
- MT Marsh Tit
- S Skylark
- ST Song Thrush
- SG Starling
- Y Yellowhammer

Red Listed Bird Species Territories

- Linnet (x1)
- Marsh Tit (x1)
- Skylark (x11)
- Song Thrush (x7)
- Starling (x1)
- Yellowhammer (x1)

N.B. Species symbol denoted on map represents approximate centre of breeding bird territory, where a territory has been recorded. Survey data taken from across the breeding bird surveys undertaken between April and June 2018.

Scale at A3: 1:10,000

0 250 500 Metres

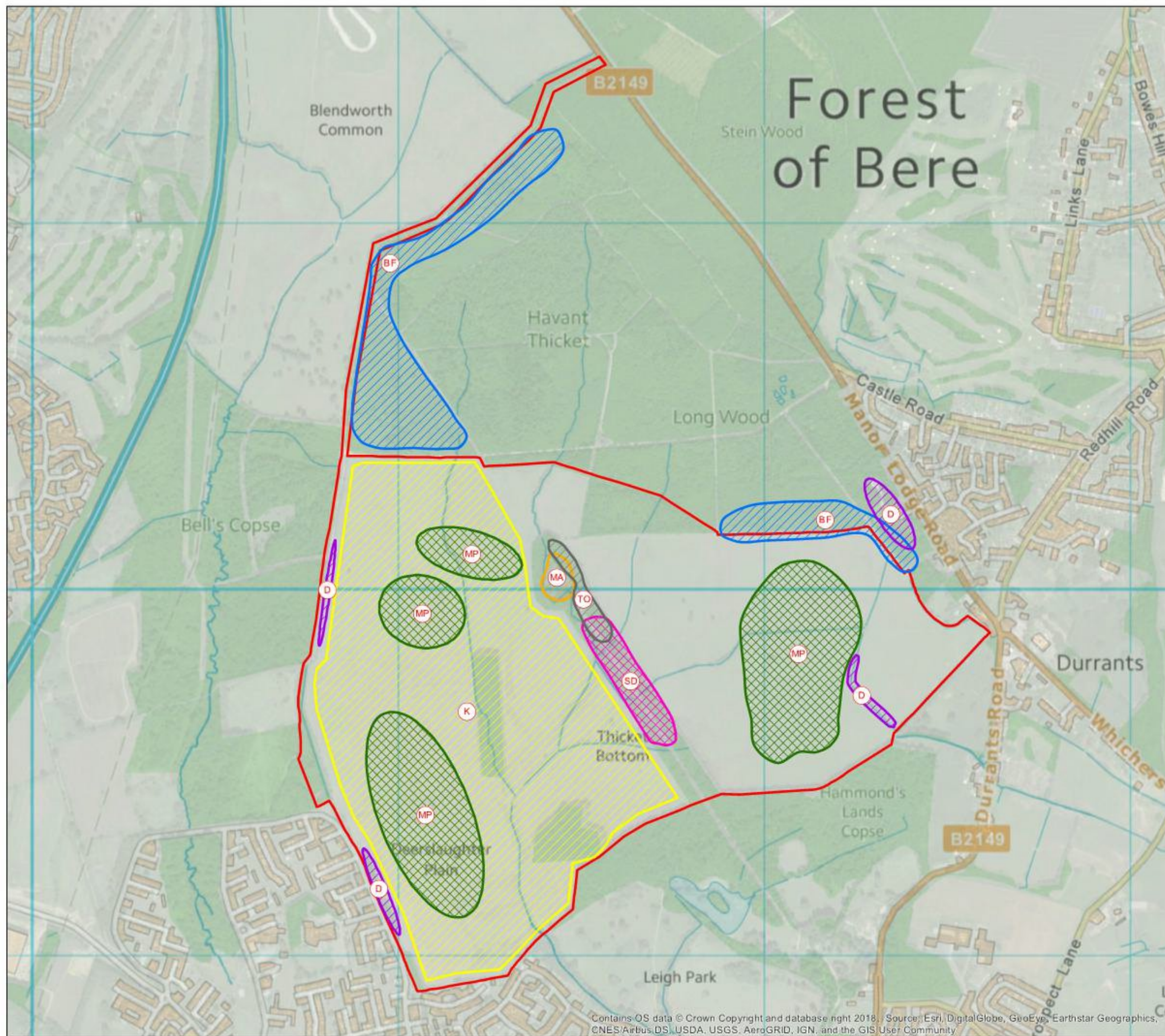


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Map I14 2018 Breeding Bird Territories – Amber Listed Birds of Conservation Concern



HAVANT THICKET WINTER STORAGE RESERVOIR

BIRD ASSESSMENT

Map I14 - 2018 Breeding Bird Territories - Amber Listed Birds of Conservation Concern

Client: Portsmouth Water

Date: November 2018

Status: Final

KEY

Site Boundary (the site)

Amber Listed Bird Species Holding Territories

- BF Bullfinch
- D Dunnock
- K Kestrel
- MA Mallard
- MP Meadow Pipit
- SD Stock Dove
- TO Tawny Owl

Amber Listed Bird Species Territories

- Bullfinch (x2)
- Dunnock (x4)
- Kestrel (x1)
- Mallard (x1)
- Meadow Pipit (x4)
- Stock Dove (x1)
- Tawny Owl (x1)

N.B. Species symbol denoted on map represents approximate centre of breeding bird territory, where a territory has been recorded. Survey data taken from across the breeding bird surveys undertaken between April and June 2018.

Scale at A3: 1:10,000

0 250 500 Metres



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Appendix I1 Notable Bird Species Criteria

Species	Annex 1 Birds Directive	Birds of Conservation Concern	NERC	Wildlife and Countryside Act	Hampshire BAP	County Status
Barn owl				Schedule 1		
Black-headed gull		Amber				
Bullfinch		Amber			X	
Common crossbill				Schedule 1		County Scarce
Common gull		Amber				
Cuckoo		Red	Section 41			
Curlew		Red				
Duncock		Amber				
Fieldfare		Red		Schedule 1		
Firecrest				Schedule 1	X	County Scarce
Goshawk				Schedule 1		County Rare
Grasshopper warbler		Red	Section 41		X	County Rare
Grey wagtail		Red				
Herring gull		Red				
Hobby				Schedule 1	X	County Important
Kestrel		Amber				
Lapwing		Red	Section 41		X	
Lesser redpoll		Red	Section 41			
Linnet		Red			X	
Little egret	Annex 1				X	County Rare
Mallard		Amber				
Marsh tit		Red				
Meadow pipit		Amber				
Mediterranean gull	Annex 1	Amber		Schedule 1	X	County Rare

Species	Annex 1 Birds Directive	Birds Conservation Concern	NERC	Wildlife and Countryside Act	Hampshire BAP	County Status
Mistle thrush		Red				
Nightjar	Annex 1		Section 41		X	County Important
Redstart		Amber				County Important
Redwing		Red		Schedule 1		
Reed bunting		Amber	Section 41		X	
Ring ouzel		Red	Section 41			
Short-eared owl	Annex 1	Amber				
Skylark		Red	Section 41		X	
Snipe		Amber			X	
Song thrush		Red			X	
Spotted flycatcher		Red	Section 41		X	
Starling		Red				
Stock dove		Amber				
Tawny owl		Amber				
Teal		Amber				
Wheatear						County Scarce
Whimbrel		Red		Schedule 1		
Whinchat		Red			X	County Rare
Willow warbler		Amber				
Wood Warbler		Red	Section 41			County Important
Woodcock		Red				
Yellow wagtail		Red			X	County Rare
Yellowhammer		Red	Section 41			

Appendix I2 On-site Breeding Bird Data 2005, 2008 and 2018

Notable species are marked with an Asterix (*)

Common Name	Number Territories 2005	Number Territories 2008	Number of Territories 2018
Blackbird	5	8	6
Blackcap	6	5	9
Blue tit	19	22	15
Bullfinch*	0	1	1
Buzzard	1	1	1
Chiffchaff	9	10	9
Chaffinch	11	14	7
Coal tit	2	2	5
Dunnock*	5	7	4
Green woodpecker	2	2	1
Goldcrest	1	1	4
Goldfinch	1	2	6
Great-spotted woodpecker	4	4	2
Greenfinch	4	4	0
Great tit	14	15	4
Garden warbler	2	2	0
Jay	2	2	1
Lapwing*	1	13	0
Linnet*	2	5	1
Long-tailed tit	5	5	2
Mallard*	0	0	1
Marsh tit*	1	2	1
Mistle thrush*	1	1	0
Meadow pipit*	6	9	4
Moorhen	0	1	0
Nuthatch	5	7	3
Robin	13	15	15
Rook	35	42	0
Skylark*	7	11	11
Stonechat	3	2	2
Sparrowhawk	1	1	1
Song thrush*	10	8	7
Treecreeper	2	1	0
Tawny owl	1	2	1
Woodpigeon	13	14	>10
Whitethroat	0	0	1
Wren	17	20	10
Willow warbler*	8	8	0
Yellowhammer*	1	2	1

Appendix I3 Wintering Waterbird Peak Counts 2005/06, 2008/09 and 2017/18

Species	Peak Count 2005/06	Peak Count 2008/09	Peak Count 2017/18
Black-headed gull	Fly-over birds only, no count made	Fly-over birds only, no count made	41
Common gull	0	0	Fly-over birds only, max count 19
Curlew	1	0	0
Herring gull	Fly-over birds only, no count made	Fly-over birds only, no count made	Fly-over birds only, max count 6
Lapwing	4	19	34
Mediterranean gull	0	0	4
Snipe	3	6	2
Teal	1	0	2
Woodcock	1	2	1

Appendix I4 Bird Conservation Priority Categories

Species of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity 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 NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance included on the England Biodiversity List.

Birds of Conservation Concern

The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.