

Biodiversity Resource Report

Site: Old Windsor, Berkshire

Client: Old Windsor Parish Council

Version: 001

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1. Summary

This is a brief summary of findings and recommendations of a study on the Biodiversity Resource of the parish of Old Windsor. Maps of the results of the desk study and extended Phase 1 habitat surveys are provided in a separate report - Biodiversity Resource Report - Figures. Photographs of sites are provided in Section 8, full species lists are provided in Appendix 1 and target notes are provided in Appendix 2. A summary of relevant legislation and planning policy is presented in Appendix 3. Please read the report in its entirety for full details.

- Acorn Ecology Ltd was commissioned by Old Windsor Parish Council to map and describe the Biodiversity Resource within the parish of Old Windsor. This included undertaking a desk study and extended Phase 1 habitat surveys of nine sites to assess the baseline ecological conditions, as well as the potential for protected species and species of conservation concern.
- The objective of this study is to use the findings of the desk study and extended Phase 1 habitat survey to map areas of nature conservation importance within the parish (excluding Windsor Forest and Great Park Special Area of Conservation (SAC) and other land owned by the Crown Estate) so that the local ecological network of the parish could be identified and areas which require further ecological survey and/or ecological enhancement could be highlighted.
- The main findings of the desk study are that the parish supports habitats of principal importance including lowland mixed deciduous woodland, ponds, coastal floodplain grazing marsh and rivers (River Thames and associated canal). Records of protected species/species of conservation concern within the parish were obtained from the desk study and included hedgehogs, otter, bats and stag beetles. Lowland mixed deciduous woodland, ponds, coastal floodplain grazing marsh and rivers are habitats of principal importance, which are afforded protection through national legislation and planning policy. Otters and bats are fully protected species through European and domestic legislation and hedgehogs and stag beetles are species of principal importance, which are afforded protection through national legislation and planning policy.
- The habitats identified during the extended Phase 1 habitat surveys are scattered broadleaved trees, scattered scrub, broadleaved semi-natural woodland, tall ruderal, semi-improved grassland, improved grassland, arable, hedgerows, ephemeral/short perennial, buildings, bare ground, hard standing ponds and river/canal. Broadleaved semi-natural woodland, ponds and hedgerows are habitats of principal importance.
- Species of conservation concern were identified during the extended Phase 1 habitat surveys, including native black poplar, common toad, skylark, starling, house sparrow, linnet and yellowhammer. Common toad, starling, house sparrow, linnet and yellowhammer are species of principal importance. The native black poplar is nationally scarce.
- Many features which have the potential to support protected species were identified during the extended Phase 1 habitat surveys, including mature trees with cracks which could support roosting bats, long grass and compost heaps which could support reptiles and ponds which could support great crested newts and common toads.



- Our main recommendations for further survey are:
 - Other habitats of principal importance, identified during the desk study, should be surveyed, so that their nature conservation value can be assessed
 - The native black poplar tree identified in Ham Island East should be surveyed by an arboriculturist, to determine what measures would be required to retain and protect the tree.
 - A parish-wide survey of stag beetles and hedgehogs should be undertaken.
 - All ponds present within the parish should be tested for great crested newt eDNA, in accordance with Freshwater Habitats' eDNA Protocol.
 - A reptile presence/absence survey should undertaken for sites with the potential to support reptiles.
 - A Breeding Bird Survey should be undertaken for Ham Island.
 - The poplar tree on Ham Island (see target note 2, Appendix 2) and other trees and buildings which have the potential to support bat roosts, should be surveyed.
 - All woodland identified in the desk study and extended Phase 1 habitat surveys should be surveyed for badgers and dormice.
 - The River Thames and canal should be surveyed for water voles and otters.
- Our main suggestions for ecological enhancement are:
 - A wildlife pond could be created at 16 Albany Road.
 - Areas of long grass and the species-rich hedgerow at the A308 Roundabout site could be retained and enhanced with native planting.
 - Log piles could be retained and maintained at Crimp Hill Cemetery, along with the creation of long grass margins.
 - Parts of Ham Island could be included in an Environmental Stewardship scheme.
 - Pollution from the sewage plant and agricultural runoff could be reduced at Ham Island.
 - The creation/restoration of permanently damp hollows, ditches and temporary pools could be considered at Ham Island East.
 - Light grazing by cattle in some areas of Ham Island would help to produce a more varied tussocky structure.
 - It is recommended that some of the grassland at Ham Island West is managed by cutting for hay, leaving grassy margins for reptiles, hedgehogs and invertebrate species.



- Bird boxes could be erected at Ham Island.
- A woodland management plan could be put in place for Land North of Burfield Road and other woodland within the parish.
- Consider leaving long-grass margins at Land North of Crimp Hill.
- Ponds at Manor Farm (see target note 6, Appendix 2) and Woodside Farm (see target note 3, Appendix 2) could be restored and managed.
- The arable field margins at Manor Farm could be enhanced by planting wildflowers.
- Measures to create habitats for stag beetles could be carried out.

2. Introduction

2.1 Project Background

The parish of Old Windsor, which is approximately 1,750 ha in size, is located south of the River Thames, in the borough of Windsor and Maidenhead, Berkshire. Approximately 60% of the parish comprises Windsor Forest and Great Park SAC, which is an internationally protected site owned by the Crown Estate. The village of Old Windsor is located to the north-east of Windsor Forest and Great Park SAC and is bordered by the River Thames to the east. To the north-east of the village of Old Windsor is Ham Island, which is surrounded by the River Thames and a canal to the south. Land immediately surrounding the village of Old Windsor comprises grazed pasture, arable, deciduous woodland, allotments, and various ponds and streams/ditches.

Old Windsor Parish Council are in the process of preparing a Neighbourhood Plan for the parish, which will sit alongside the emerging local plan for the borough. To inform the development of the Neighbourhood Plan, Old Windsor Parish Council requested information on the biodiversity resource (i.e. habitats and species of nature conservation importance) present within the parish, so that the local ecological network of the parish could be identified and areas which require further ecological survey and/or ecological enhancement could be highlighted.

2.2 Scope of Works

The main objective was to map and describe the biodiversity resource within the parish of Old Windsor, outside of Windsor Forest and Great Park SAC and other land owned by the Crown Estate. The total area of land included in the Scope of Works is approximately 470 ha, and includes the village of Old Windsor, land to the north and south and Ham Island.

The Scope of Works were as follows:

To review the desk study report by Thames Valley Environmental Records Centre (December, 2014), provided by Old Windsor Parish Council, and map habitats and species of nature conservation importance. For species, records which are no more than 15 years old, or occur in significant clusters, or are species protected by European and/or domestic wildlife legislation were included.



- Informed by the desk study and Old Windsor Parish Council, undertake extended Phase 1 habitat surveys of sites identified to be of known or potential nature conservation importance, so that their baseline ecological conditions and their potential to support protected species or species of conservation concern could be assessed.
- Identify areas which require further ecological survey and/or ecological enhancement, so that the local ecological network of the parish can be preserved and enhanced, where appropriate.

3. Methods

3.1 Data Search

A data search report prepared by Thames Valley Environmental Records Centre in December 2014, was provided by Old Windsor Parish Council. The following published data was also consulted:

- Google Maps and Bing Maps (aerial photographs);
- The Multi-Agency Geographical Information for the Countryside (MAGIC);
- Section 41: Species and Habitats of Principal Importance in England (Natural Environment and Rural Communities Act, 2006); and
- The Royal Borough of Windsor and Maidenhead Local Plan (adopted 2003).

3.2 Extended Phase 1 Habitat Survey

Extended Phase 1 habitat surveys were undertaken of a total of nine sites by Sarah Lyne CEnv BSc (Hons) MCIEEM and Jess Smith BSc (Hons) Grad CIEEM on 7th, 8th and 19th of May 2015. The weather conditions were dry and sunny on 7th and 8th of May, and cloudy with showers on 19th May.

The surveys were carried out in accordance with the JNCC (2010) and CIEEM (2013) guidelines in order to produce Phase 1 habitat maps. The survey technique was extended to provide more detail on the potential for the sites to support protected species and species of conservation concern. Target notes (TN) were used to identify the potential for protected or notable species or habitats, and to give more detailed site descriptions. The standard habitat definitions were used and plant species nomenclature following Stace (2010). An assessment of the sites potential to support protected species and species of conservation concern was also undertaken.

3.3 Survey Limitations

The data search should not be taken as a definitive list of the protected species and species of conservation concern that occur within the search area, because some of the records are derived from members of the public and *ad hoc* surveys undertaken by volunteers. The data search provided was prepared less than 12 months ago, and is not considered to be a significant limitation to this study.

Extended Phase 1 habitat surveys were conducted for sites selected by Old Windsor Parish Council and informed by the desk study, where permission to access the land could be obtained. Therefore,



this report represents a selection of habitats in the Parish of Old Windsor and habitat and species lists should not be taken as a definitive list present within the whole parish.

4. Results

4.1 Data Search

4.1.1 Habitats of Principal Importance

Table 1 provides the approximate locations of habitats of principal importance (outside of Windsor Forest and Great Park SAC) within the parish of Old Windsor. To determine the location of habitats of principal importance, a combination of the desk study report (TVERC, 2014), MAGIC and aerial photography was used.

The location of habitats of principal importance is provided on Plates 1 and 2 of the Desk Study Maps in Biodiversity Resource Report - Figures.

Table 1 - Habitats of Principal Importance

Habitat	Location within the parish
Lowland mixed deciduous woodland	Approximately 26 ha of lowland mixed deciduous woodland is located west of Beaumont House, extending down past the Sports Ground. Also associated with Petershill Copse, Tileplace Cottages, Miller's Lane, Clayhall Lane, Woodside, the canal, Land North of Burfield Road, Ham Island and land east of Old Windsor associated with Saxon Royal Palace.
Ponds	Ponds (a total of 23) are located at Beaumont House, Woodside, the Dower House, Peter's Hill, Petershill Copse, Tileplace Cottages and Saxon Royal Palace.
Coastal floodplain grazing marsh	Approximately 30 ha associated with Ham Island.
Rivers	River Thames and canal that encompasses Ham Island and extends south past the village of Old Windsor.

4.1.2 Protected Species and Species of Conservation Concern

Table 2 provides records of protected species and species of conservation concern identified in the desk study within the parish of Old Windsor, after the year 2000. Table 3 provides records of protected species and species of conservation concern prior to 2000.

Only records which are no more than 15 years old, or occur in significant clusters, or are species protected by European and/or domestic wildlife legislation have been included.

The location of records of protected species and species of conservation concern are provided on Plates 1 and 2 of the Desk Study Maps in Biodiversity Resource Report - Figures.



Table 2 - Protected Species and Species of Conservation Concern (post 2000)

Vernacular Name	Scientific Name	Grid Reference(s)	Legal Status	
Grey dagger moth	Acronicta psi	SU986734	Species of principal importance, Natural Environment and Rural Communities (NERC) Act 2006	
Stag beetle (21 records)	Lucanus cervus	SU985742 SU9873 SU987742 SU987744 SU988739 SU988745 SU990742 SU990747 SU993735	Species of principal importance, NERC Act 2006	
European otter	Lutra lutra	SU99347505	Fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010. Species of principal importance, NERC Act 2006	
Hedgehog (6 records)	Erinaceus europaeus	SU980739 SU982740 SU984739	Species of principal importance, NERC Act 2006	
Noctule bat roost (7-9 records)	Nyctalus noctula	SU976737	Fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010. Also a species of principal importance, NERC Act 2006	
Pipstrelle bat roost	Pipistrellus sp.	SU976737	Fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010	

Table 3 - Protected Species and Species of Conservation Concern (pre 2000)

Vernacular Name	Scientific Name	Grid	Legal Status
		Reference(s)	
Stag beetle	Lucanus cervus	SU98307470 SU986745	Species of principal importance, NERC Act 2006
Black headed gull	Chroicocephalus ridibundus	SU99007379 SU998758 (Ham Island)	Birds of Conservation Concern 3 (BOCC) – Amber
Common greenshank	Tringa nebularia	SU998758 (Ham Island)	Schedule 1, Wildlife and Countryside Act 1981



Vernacular Name	Scientific Name	Grid Reference(s)	Legal Status
Common linnet	Carduellis cannabina	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Common sandpiper	Actitis hypoleucos	SU998758 (Ham Island)	BOCC3 – Amber
Common snipe	Gallinago gallinago	SU998758 (Ham Island)	BOCC3 – Amber
Common starling	Sturnus vulgaris	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Dunlin	Calidris alpine	SU998758 (Ham Island)	BOCC3 – Red
Eurasian hobby	Falco subbuteo	SU998758 (Ham Island)	Schedule 1, Wildlife and Countryside Act 1981
Eurasian tree sparrow	Passer montanus	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Green sandpiper	Tringa ochropus	SU998758 (Ham Island)	BOCC3 – Amber. Schedule 1, Wildlife and Countryside Act 1981
Hedge accentor	Prunella modularis	SU998758 (Ham Island)	BOCC3 – Amber. Also a species of principal importance, NERC Act 2006
Herring gull	Larus argentatus	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
House sparrow	Passer domesticus	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Little plover	Charadrius dubius	SU998758 (Ham Island)	Schedule 1, Wildlife and Countryside Act 1981
Meadow pipit	Anthus pratensis	SU998758 (Ham Island)	BOCC3 – Amber
Northern lapwing	Vanellus vanellus	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Ruff	Philomachus pugnax	SU998758 (Ham Island)	BOCC3 – Red. Schedule 1, Wildlife and Countryside Act 1981
Song thrush	Turdus philomelos	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Spotted crake	Porzana porzana	SU998758 (Ham Island)	BOCC3 – Amber. Schedule 1, Wildlife and Countryside Act 1981
Yellow wagtail	Motacilla flava	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006
Yellowhammer	Emberiza citrinella	SU998758 (Ham Island)	BOCC3 – Red. Also a species of principal importance, NERC Act 2006



Vernacular Name	Scientific Name	Grid Reference(s)	Legal Status
Myotis bat roost	Myotis sp.	SU98927388	Fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010
Pipistrelle bat roost	Pipistrellus sp.	SU988739 SU996749	Fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010

4.2 Extended Phase 1 Habitat Survey - Habitats

The results of the extended Phase 1 habitat surveys undertaken are presented in map form on Figures 1 to 9 in Biodiversity Resource Report - Figures. Figure 10 in the same report provides the locations of the sites. Full species lists for each site are presented in Appendix 1 and target notes are provided in Appendix 2 of this report. Photographs are provided in Section 8 of this report.

4.2.1 16 Albany Road

The area surveyed totalled approximately 0.03ha. The main habitats identified include hard standing, buildings, introduced shrub, amenity grassland and scattered broadleaved trees (see Figure 1, Biodiversity Resource Report - Figures). The main plant species identified include ornamental rose (Rosa sp.), cleavers (Galium aparine), common lungwort (Pulmonaria officinalis), Spanish bluebell (Hyacinthoides hispanica) and apple trees (Malus sp.).

4.2.2 A308 Roundabout

The area surveyed totaled approximately 0.3ha. The main habitats identified include buildings, amenity grassland, bare ground, scattered broadleaved trees, introduced shrub, species-rich hedgerow and a pond (see Figure 2, Biodiversity Resource Report - Figures). The main plant species identified include annual meadow-grass (*Poa annua*), cock's-foot (*Dactylus glomerata*), common vetch (*Vicia sativa*), elder (*Sambucus nigra*), silver birch (*Betula pendula*) and snowberry (*Symphoricarpos albus*). Mistletoe (*Viscum album*) was also identified on a rowan tree (*Sorbus aucuparia*).

4.2.3 Crimp Hill Cemetery

The area surveyed totalled approximately 0.3ha and comprised amenity grassland, ephemeral/short perennial, bare ground, species-poor hedge and hard standing (see Figure 3, Biodiversity Resource Report - Figures). The main plant species recorded were broad-leaved dock (*Rumex obtusifolius*), oxeye daisy (*Leucanthemum vulgare*) and willow (*Salix* sp.).

4.2.4 Ham Island East

The total area surveyed was approximately 26ha. The main habitats recorded include buildings, improved grassland, tall ruderal, scattered scrub, scattered broadleaved trees, river (River Thames) and semi-natural broadleaved woodland (see Figure 4, Biodiversity Resource Report - Figures). The main plant species identified include annual meadow-grass, bristly oxtongue (*Helminthotheca*



ecioides), broad-leaved dock, crack willow (Salix fragilis) and Lombardy poplar (Populus nigra Italica). A native black poplar (Populus nigra) was also identified on site (see target note 1 in Appendix 2).

4.2.5 Ham Island West

The total area surveyed was approximately 4ha. The main habitats recorded include semi-improved grassland, tall ruderal, scattered scrub and species-rich hedgerow with trees (see Figure 5, Biodiversity Resource Report - Figures). The main plant species identified include cock's-foot, creeping buttercup (*Ranunculus repens*), creeping bent (*Agrostis stolonifera*), common vetch, hairy tare (*Vicia hirsute*), meadow vetchling (*Lathyrus pratensis*), spotted medick (*Medicago arabica*), hawthorn (*Crataegus monogyna*), pedunculate oak (*Quercus robur*) and sycamore (*Acer pseudoplatanus*).

4.2.6 Land North of Burfield Road

The area surveyed totaled approximately 0.7ha. The main habitat recorded was semi-natural broadleaved woodland. A dried up pond was also identified. (see Figure 6, Biodiversity Resource Report - Figures). The main tree/scrub species recorded include beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), dogwood (*Cornus sanuingea*), horse chestnut (*Aesculus hippocastanum*) and yew (*Taxus baccata*). Ground flora species identified included false-brome (*Brachypodium sylvaticum*), green alkanet (*Pentaglottis sempervirens*), ground-ivy (*Glechoma hederacea*) and herb-Robert (*Geranium robertianum*).

4.2.7 Land North of Crimp Hill

The area surveyed totaled approximately 1ha and comprised buildings, semi-improved grassland with scattered trees (see Figure 7, Biodiversity Resource Report - Figures). The main plant species identified include meadow foxtail (*Alopecurus pratensis*), soft brome (*Bromus hordeaceus*) and creeping buttercup. Scattered trees recorded include silver birch and horse chestnut (*Aesculus hippocastanum*).

4.2.8 Manor Farm

The area surveyed totalled approximately 43ha. The main habitats recorded include buildings, amenity grassland, arable fields and improved grassland, with tall ruderal, scattered trees and scrub (see Figure 8, Biodiversity Resource Report - Figures). The largest arable field in the west of the site contained barley (*Hordeum vulgare L.*) with wide species-poor grass and herb margins. Plant species identified included cock's-foot, common vetch, cow parsley (*Anthriscus sylvestris*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*) and white campion (*Silene latifolia*). On the boundary of the River Thames, an area of newly planted trees was recorded, which comprised mainly dog-rose (*Rosa canina*), field maple (*Acer campestre*) and hawthorn.

4.2.9 Woodside Farm

The area surveyed totaled approximately 7ha. The main habitats identified include buildings, semi-improved grassland, improved grassland, scattered broadleaved trees, scrub and a species-poor hedgerow (see Figure 9, Biodiversity Resource Report - Figures). A dried up pond was also identified (see target note 3, Appendix 2). The main plant species identified include soft brome, Yorkshire-fog (*Holcus lanatus*), hawthorn, pedunculate oak and ash (*Fraxinus excelsior*).



4.2.10 Pond at 2 Newton Lane

The pond at 2 Newton Lane is a man-made wildlife pond, liner based and edged with a small amount of stones. Surrounding habitat comprised amenity grassland and a line of trees. The pond is situated underneath a hazel tree (*Corylus avellana*), the leaves of which formed a thick layer of sediment in the pond. The pond is approximately 0.6m deep, 50% of which comprised sediment. Thirty percent of the pond is covered with yellow flag (*Iris pseudacorus*).

4.2.11 Pond at 3 Newton Lane

The pond at 3 Newton Lane is edged with paving stones and is located next to a rockery with ornamental plants. The larger surrounding garden comprises amenity grassland. The pond is approximately 1m deep and emergent plant species identified include water forget-me-not (*Myosotis scorpioides*), marsh marigold (*Caltha palustris*) and water lily (*Nymphaeaceae*).

4.2.12 Pond at Orchard Way

The pond at Orchard Way is a large man-made wildlife pond, approximately 1m deep and 3m across. A series of smaller ponds surround the large pond, which contained large amounts of duckweed (*Lemna* sp.).

4.2.13 Pond at Kingsbury Drive

The pond at Kingsbury Drive is a small ornamental pond, edged with paving stones.

4.3 Extended Phase 1 Habitat Survey - Species

The following species were identified during the extended Phase 1 habitat surveys (see Appendix 1 for full species lists):

- A308 Roundabout smooth newts (Lissotriton vulgaris), a dragonfly nymph (Odonata sp.) and common toad tadpoles (Bufo bufo).
- Crimp Hill Cemetery red-legged partridge (Alectoris rufa).
- Ham Island East green woodpecker (*Picus viridis*), kingfisher (*Alcedo atthis*), linnet (*Carduelis cannabina*) and red kite (*Milvus milvus*).
- Ham Island West banded demoiselle (Calopteryx splendens), peacock butterfly (Aglais io), a
 weevil (Liophloeus tessulatus), fox (Vulpes vulpes), chaffinch (Fringilla coelebs) and white
 throat (Sylvia communis).
- Land North of Burfield Road blackcap (Sylvia atricapilla), goldcrest (Regulus regulus), long-tailed tit (Aegithalos caudatus) and wood mouse (Apodemus sylvaticus).
- Manor Farm swallow (Hirundo rustica), house sparrow (Passer domesticus), goldfinch (Carduelis carduelis) and yellowhammer (Emberiza citronella).
- Pond at 2 Newton Lane smooth newts and two common frogs (Rana temporaria).
- Pond at 3 Newton Lane ramshorn snail (*Planorbis* sp.), common pond snail (*Lymnaea* sp.) and goldfish.



- Pond at Orchard Road goldfish, common frog and smooth newts.
- Pond at Kingsbury Drive goldfish.

4.4 Extended Phase 1 Habitat Survey - Protected Species and Species of Conservation Concern Scoping Assessment

Table 4 provides a scoping assessment of the protected species and species of conservation concern that are known to be present or could potentially be present in the parish of Old Windsor, based on the desk study and extended Phase 1 habitat surveys. Further information on the legal status of protected species and species of conservation concern is provided in Section 5.

Table 4 – Protected Species and Species of Conservation Concern Scoping Assessment.



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification						
Sites subjected to Ex	Sites subjected to Extended Phase 1 Habitat Survey													
16 Albany Road	-		-	•		-	•	 Target note 1 in Appendix 2 - a wall which could support invertebrates. Gardens can provide good habitat for stag beetles. Urban gardens can support foraging and nesting hedgehogs. The scattered trees and buildings have potential to support nesting birds. Small numbers of wide spread reptiles such as slow worms (Anguis fragilis) could occur on site. The buildings on site could support roosting bats. 						
A308 Roundabout	-	-	•	~	*	-	~	 The pond has the potential to support great crested newts (<i>Triturus cristatus</i>). Common toad tadpoles were identified in the pond during the Phase 1 survey. There are two compost heaps (see target note 1, Appendix 2), as well as areas of long grass, which provide suitable habitat for reptiles and amphibians. Scattered trees and hedgerow provide suitable habitat for nesting birds. Gardens can provide good habitat for stag beetles. 						



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification
								 Urban gardens can support foraging and nesting hedgehogs. The buildings on site could support roosting bats.
Crimp Hill Cemetery	-	-	-	•	-	-	•	 Log piles could support stag beetles. Log piles (target note 1, Appendix 2) and bare ground could support widespread reptile species such as slow worms. Log piles could support hedgehogs.
Ham Island East				-				 A native black poplar tree was identified on site (target note 1, Appendix 2). The land is likely to be partially seasonally inundated, which, along with the varied structure of the vegetation, is likely to provide suitable habitat for a broad range of invertebrates. The desk study has records of significant numbers of birds, including those of conservation concern. The grassland could provide foraging habitat for barn owls. The River Thames provides suitable habitat for otters and water voles (<i>Arvicola amphibius</i>). A poplar tree with a large crack and black staining was identified on site, which could be a bat roost (target note 2, Appendix 2).



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification
								 The buildings could provide suitable habitat for roosting bats. The river and associated woodland could support foraging bats.
Ham Island West	-	•	-	~	~	-	~	 The grassland could support a diverse range of invertebrates such as moths and butterflies. The semi-improved grassland on site provides suitable habitat for reptile species, as well as mammal species such as hedgehogs. The grassland could support ground-nesting birds. The hedgerow is likely to support breeding birds and foraging bats. Fox was seen on site during the extended Phase 1 habitat survey.
Land North of Burfield Road	~	~	~	•	•	~	•	 Standing dead wood and log piles (target note 2, Appendix 2) could support stag beetles. The woodland could provide terrestrial habitat for common toads and great crested newts. A compost heap (target note 1, Appendix 2) could support reptiles. The woodland is likely to support breeding birds. The woodland provides suitable habitat for dormice, badgers, hedgehogs and roosting/foraging bats (target note 3, Appendix 2).



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification
Land North of Crimp Hill	-	•	•	*	•	-	•	 The grassland could support a diverse range of invertebrates such as moths and butterflies. The grassland could support great crested newts in their terrestrial phase. Birds could nest in barns or scattered trees. The grassland could support amphibians, reptiles and hedgehogs.
Manor Farm	-	-	-	-	~	•	•	 Arable fields could support ground-nesting birds. The buildings and trees are likely to support breeding birds and roosting bats (see target notes 1 to 3, Appendix 2). The bank of the River Thames could support foraging bats, otters and water voles (target note 4, Appendix 2). The arable fields and scrub could support badgers.
Woodside Farm	-	-	-	-	~	-	~	 The buildings and trees are likely to support breeding birds and roosting bats (see target notes 1 and 2, Appendix 2).
Pond at 2 Newton Lane	-	-	•	-	-	-	-	The pond at 2 Newton Lane could support great crested newts and common toads. Smooth newts and common frogs were identified in the survey.



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification
Pond at 3 Newton Lane	-	-	~	-	-	-	-	 The pond at 3 Newton Lane could support great crested newts and common toads.
Pond at Orchard Way	-	-	~	-	-	-	-	 The pond at Orchard Way could support great crested newts and common toads.
Pond at Kingsbury Drive	-		-	-	-	-	-	The pond at Kingsbury Drive is unlikely to support protected amphibian species as it is highly ornamental and has a large population of goldfish is present.
Habitats identified in Allotments (see desk study map, plate 1, Biodiversity Resource Report - Figures)	-	-	t to extended Pn	ase 1 nabita	-	-	•	 Allotments provide suitable habitat for amphibians, reptiles and hedgehogs; particularly around compost heaps.
Canal	-	-	-	•	•	-	•	 The vegetated banks of the canal, provide suitable habitat for reptiles. The canal and surrounding habitat provide suitable habitat for nesting waterfowl. The canal and surrounding habitat provide suitable habitat for foraging bats, otters and water voles. Otter was recorded along the canal in the desk study.
Ponds	-	-	~	-	-	-	-	 There are a further 23 ponds identified in the desk study which have not been surveyed. These could provide suitable habitat for



Site	Plants	Invertebrates	Amphibians	Reptiles	Nesting birds	Other Bird Species of Conservation importance	Mammals	Justification
								great crested newts and common toads.
River	-	-	-	-	~	~	•	 It is likely that the river provides suitable habitat for otters, water voles and birds.
Woodland	~	•	~	~	~	•	•	 There is a further 25ha (approximate) of woodland identified in the desk study which have not been surveyed. These areas could provide suitable habitat for protected plants, invertebrates, amphibians, reptiles, birds and a range of protected mammal species. There are records of roosting noctule and pipistrelle bats in some areas of woodland adjacent to the SAC. Well connected areas of woodland could support dormice.
Village of Old Windsor			•	~	•		•	 There are records of roosting bats, hedgehogs and stag beetles in the desk study, throughout the village of Old Windsor. There are likely to be other garden ponds which provide suitable habitat for great crested newts and common toads. Gardens are likely to support common reptile species such as slow worms and grass snakes (<i>Natrix natrix</i>).



5. Legislation and Planning Policy

This section provides a discussion of the legislation and planning policy background to habitats and species which were recorded in this study and also which have been identified to be potentially present in the parish of Old Windsor. A summary of relevant legislation and planning policy is provided in Appendix 3.

5.1 Habitats of Principal Importance

Habitats of principal importance are listed on Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006, which places a duty on local planning authorities to take biodiversity into consideration when carrying out their duties. The preservation, restoration and recreation of habitats of principal importance is also set out in national planning policy (Paragraph 117, National Planning Policy Framework, 2012 – NPPF). Furthermore, Policy N4 of the Royal Borough of Windsor and Maidenhead Local Plan states that "The council will not approve development proposals which would adversely affect the amenity or ecological value of registered common land and village greens, allotments, ponds and watercourses, or would adversely affect their setting". Policy N7 of the Royal Borough of Windsor and Maidenhead Local Plan states that "The borough council will require retention of hedgerows and will not permit development which would result in the loss of or threat to an important hedgerow..."

The following habitats of principal importance were identified in the desk study and extended Phase 1 surveys:

- Ponds (A308 roundabout, Pond at 2 Newton Lane, Pond at 3 Newton Lane, Pond at Orchard Way and a further 23 identified during the desk study).
- Rivers (River Thames and associated canal).
- Lowland mixed deciduous woodland (Land North of Burfield Road, Ham Island East and a further 25ha (approximate) identified during the desk study).
- Hedgerows (A308 Roundabout, Ham Island West, Manor Farm and Woodside Farm).
- Coastal floodplain grazing marsh (approximately 30ha associated with Ham Island).

5.2 Protected Species and Species of Conservation Concern

5.2.1 Black Poplar

A native black poplar tree was identified during the Phase 1 survey at Ham Island East. Native black poplars are not legally protected but are nationally scarce, with only 7,000 individuals estimated left in Britain.

5.2.2 Stag Beetle

The stag beetle is a species of principal importance under the NERC Act 2006. Twenty-one records of stag beetles were identified in the data search within the last 15 years.



5.2.3 Great Crested Newt

Great crested newts, their eggs, breeding sites and resting places are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010.

Great crested newts were not identified in the desk study. However, breeding great crested newts could be supported by Ponds at 2 and 3 Newton Road, Orchard Road, A308 Roundabout and the other 23 ponds identified during the desk study.

5.2.4 Common Toad

Common toads are species of principal importance under the NERC Act 2006.

Common toads were not identified in the desk study. However, common toad tadpoles were identified at the A308 Roundabout site, during the extended Phase 1 survey. All other ponds identified during the desk study could also support common toads.

5.2.5 Reptiles

Widespread reptile species are protected from killing and injuring under the Wildlife and Countryside Act 1981 (as amended). They are also species of principal importance as listed under Section 41 of the NERC Act 2006.

Reptiles were not identified in the desk study. However habitats within 16 Albany Road, A308 Roundabout, Crimp Hill Cemetery, Ham Island West, Land North of Burfield Road, Land North of Crimp Hill, allotments and gardens within the village of Old Windsor could support species of reptiles such as slow worms and grass snakes.

5.2.6 Breeding Birds

Under the Wildlife and Countryside Act 1981 (as amended), it is illegal to take, damage or destroy the nests of wild birds whilst being built or in use. All buildings, trees, scrub and woodland identified in the desk study and extended Phase 1 habitat surveys could support breeding birds.

5.2.7 Birds of Conservation Concern

Many birds were identified in the desk study (most prior to 2000 and from Ham Island), which are fully protected by Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), including common greenshank, Eurasian hobby, little plover, spotted crake and ruff.

Ham Island has the potential to support protected bird species, such as the barn owl which is also a fully protected species.

Many bird species were identified during the extended Phase 1 habitat surveys, which are species of principal importance under Section 41 of the NERC Act 2006. These include linnet, yellowhammer, house sparrow, dunnock and starling.

Birds of high and medium conservation concern were identified; however, these species do not receive any other protection above and beyond that received by all wild breeding birds.

All buildings, trees, scrub,woodland and River Thames/canal identified in the desk study and extended Phase 1 habitat surveys could support birds of conservation concern.



5.2.8 Bats

All British bat species and their roosts are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. Some bat species are also species of principal importance as listed under Section 41 of the NERC Act 2006.

Several bat species were identified in the desk study, including pipistrelle and noctule roosts. During the extended Phase 1 surveys, a potential bat roost was identified in a poplar tree on Ham Island (see target note 2, Appendix 2). Several other trees located at Manor Farm and Woodside Farm were identified as having potential to support roosting bats. Land North of Burfield Road was identified as having potential for roosting, foraging and commuting bats.

Buildings located at 16 Albany Road, A308 Roundabout, Ham Island East, Manor Farm and Woodside Farm were also identified to have the potential to support roosting bats.

5.2.9 Badger

It is illegal to kill, injure, take, possess or cruelly treat a badger, under the Protection of Badgers Act, 1992 and the Wildlife and Countryside Act 1981 (as amended). It is also illegal to damage or destroy a badger sett, or disturb a badger whilst occupying a sett.

Badgers were not identified to be located within the parish during the desk study. The parish of Old Windsor comprises habitats which could support badgers, including woodland and banks with dense and scattered scrub.

5.2.10 Dormouse

The dormouse is a fully protected species under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. The dormouse is also a species of principal importance as listed under Section 41 of the NERC Act 2006.

Land North of Burfield Road and all well connected woodland within the parish could support dormice.

5.2.11 Water Vole and European Otter

Otters are fully protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. The otter is also a species of principal importance under the NERC Act 2006. Water voles are fully protected by the Wildlife and Countryside Act 1981 (as amended). The water voles is also a species of principal importance under the NERC Act 2006.

A record of an otter was identified in the desk study, in the canal that divides Ham Island from the rest of the parish. The entire length of the River Thames and canal provides suitable habitat for otters and water voles.

5.2.12 European Hedgehog

The hedgehog is a species of principal importance under the NERC Act 2006. Six records of hedgehogs were identified in the desk study in the last 15 years. All hedgerows, gardens and woodland within the parish have the potential to support hedgehogs.



6. Recommendations

This section provides recommendations and suggestions for ecological enhancement and further survey for protected species based on the findings of the extended Phase 1 habitat surveys and desk study.

6.1 Further Ecological Surveys

6.1.1 Habitats of Principal Importance

It is recommended that the other habitats of principal importance, as set out in Section 5.1, are subject to an extended Phase 1 habitat survey, so that their nature conservation value can be assessed. The surveys should ideally be undertaken during April to September inclusive.

Approximately 60ha of wood pasture and parkland (a habitat of principal importance) within the parish (but outside of the SAC) is shown on MAGIC. However, aerial photography suggests that the majority of this land is grazed pasture or arable, with the exception of the Dower House, Woodside, Tileplace Farm and Saxon Royal Palace. It is recommended that, where possible, field survey of the these areas is undertaken to verify whether these areas contain wood pasture and parkland.

6.1.2 Black Poplar

It is recommended that the native black poplar tree identified in Ham Island East, is surveyed by an arboriculturist, to determine what measures would be required to retain and protect the tree.

6.1.3 Stag Beetle

It is recommended that a parish-wide survey of stag beetles is undertaken. This could involve a community initiative to search for stag beetles in gardens and woodland and the findings collated via a web-based facility.

6.1.4 Great Crested Newt

It is recommended that all ponds present within the parish are tested for great crested newt eDNA, in accordance with Freshwater Habitats' eDNA Protocol (Biggs *et al*, 2014). Where ponds are positively tested for great crested newt eDNA, further survey is recommended following best practice as described in the Great Crested Newt Mitigation Guidelines (Natural England, 2001), led by a great crested newt licensed ecologist. Further survey for great crested newts should be undertaken during mid-April to mid-May.

6.1.5 Reptiles

It is also recommended that a reptile presence/absence survey is undertaken for sites described in Section 5.2.5. The reptile survey should follow best practice guidelines (Froglife 1999) using artificial refugia such as roofing felt or corrugated tin.

6.1.6 Birds of Conservation Concern

It is recommended that Ham Island is subject to a Breeding Bird Survey (British Trust for Ornithology, 1994). This survey involves making three visits to each survey areas per year, recording bird species over a number of transects. During the first visit, the habitats are recorded and the second and third visits, which should be undertaken in May early and early June, involve counting birds along a survey route.



6.1.7 Bats

It is recommended that the poplar tree identified as a potential bat roost on Ham Island East (see Photograph 7, Section 8) is initially subject to a tree climbing inspection for bats by a licensed bat ecologist. This type of survey can be undertaken at any time of year.

Bat dusk emergence and dawn re-entry surveys are also recommended for the trees and buildings described in Section 5.2.8. The surveys should comprise two or three visits, undertaken at least one month apart, during May to August inclusive, following best practice guidelines (Bat Mitigation Guidelines, Natural England 2004). The surveys should be led by a licensed bat ecologist.

6.1.8 Badger

It is recommended that all woodland identified in the desk study and extended Phase 1 habitat surveys is surveyed for badger setts. Badger surveys should ideally be undertaken during November to March inclusive.

6.1.9 Dormouse

It is recommended that all woodland identified in the desk study and extended Phase 1 habitat surveys is surveyed for dormice. Initially, the woodlands should be assessed for their suitability to support dormice. Woodlands with the potential to support dormice should then be subject to a nest tube survey for dormice, following methods set out in the Dormouse Conservation Handbook (Natural England, 2006).

6.1.10 Water Vole and European Otter

It is recommended that the River Thames and canal are surveyed for water voles and otters, following best practice guidelines (Water Vole Conservation Handbook, Strachan and Moorhouse, 2006). The survey would involve walking the banks of the River Thames and canal to search for signs of water voles and otters, such as droppings, feeding signs, burrows and holts. This type of survey can be undertaken at any time of year.

6.1.11 European Hedgehog

It is recommended that a parish-wide survey of hedgehogs is undertaken. This could involve a community initiative to search for hedgehogs in gardens and woodland and the findings collated via a web-based facility.

6.2 Ecological Enhancement and Management

The following are suggestions for ecological enhancement and management. Following the outcome of further survey, recommended in Section 6.1, more detailed measures for ecological enhancement and management could be identified.

A wildlife pond could be created at 16 Albany Road. Wildlife ponds should be at least 30 cm deep and should not contain any ornamental goldfish. It is also recommended that areas of grass, especially along garden margins, are left long/un-mown to provide habitat for reptile species and hedgehogs. Ponds can be planted with native aquatic species such as water mint (*Mentha aquatica*), water forget-me-not (*Myosotis scorpioides*), water speedwell (*Veronica anagallis*), water crowfoot (*Ranunculus aquatilis*), brooklime (*Veronica beccabunga*) and water-cress (*Rorippa nasturtium-aquaticum*).



- Areas of long grass and the species-rich hedgerow at the A308 Roundabout site could be retained and enhanced with native planting, to provide habitat for amphibians, reptiles and hedgehogs.
- Log piles could be retained and maintained at Crimp Hill Cemetery to provide habitat for reptiles and hedgehogs. Also consider the retention of long-grass margins and the creation of a wildlife pond.
- Parts of Ham Island could be included in an Environmental Stewardship scheme such as restoration/maintenance of wet grassland for breeding waders, wintering waders and wildfowl and inundation grassland supplement.
- Pollution from the sewage plant and agricultural runoff could be reduced at Ham Island.
- The creation/restoration of permanently damp hollows, ditches and temporary pools could be considered at Ham Island East. Also, small areas of reedbed would also increase the ecological diversity of Ham Island East, particularly for invertebrates and birds.
- Light grazing by cattle in some areas of Ham Island would help to produce a more varied tussocky structure. A varied vegetation structure is best achieved by grazing from September to March, with a reduction in the summer months.
- It is recommended that some of the grassland at Ham Island West is managed by cutting for hay, leaving grassy margins for reptiles, hedgehogs and invertebrate species. Fertiliser and insecticide should not be used to treat the area. The species-rich hedgerow could also be enhanced with native tree and shrub planting to fill in any gaps.
- Bird boxes could be erected at Ham Island to help increase the numbers and diversity of bird species.
- A woodland management plan could be put in place for Land North of Burfield Road and other woodland within the parish. This could include removing some trees to create woodland glades and the creation of partially buried dead wood piles for stag beetles. Non-native species such as Berberis (*Berberis* sp.) and Portugal laurel (*Prunus lusitanica*) should be removed, where possible.
- Consider leaving long-grass margins at Land North of Crimp Hill to provide habitat for amphibians, reptiles and hedgehogs. Also consider the creation of a wildlife pond.
- Ponds at Manor Farm (see target note 6, Appendix 2) and Woodside Farm (see target note 3, Appendix 2) could be restored and managed to encourage amphibians.
- The arable field margins at Manor Farm could be enhanced by planting wildflowers such as wild pansy, violets and poppies.
- Measures to create habitats for stag beetles could be carried out, in accordance with techniques described in Stag Beetle - an advice note for its conservation in London Wildlife Trust, 2000).



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8. Site Photographs



Photograph 1: **16 Albany Road**Hard standing and introduced shrub.



Photograph 2: A308 Roundabout

Amenity grassland with longer, unmown areas of grass, scattered trees, and species-rich hedgerow.



Photograph 3: A303 Roundabout

Pond on site with accessible edges, aquatic vegetation, and large numbers of smooth newts and common toad tadpoles.





Photograph 4: Crimp Hill Cemetery

Ephemeral/short perennial vegetation and log piles.



Photograph 5: **Ham Island East**

Improved grassland and scattered crack willows along the bank of the River Thames.



Photograph 6: **Ham Island East**

Native black poplar tree.





Photograph 7: **Ham Island East**

Possible bat roost in poplar tree.



Photograph 8: Ham Island West

Semi-improved grassland and species-rich hedgerow with trees.



Photograph 9: Land North of Burfield Road

Semi-natural broadleaved woodland.





Photograph 10: Land North of Burfield Road

Dead wood which could support stag beetles.



Photograph 11: Land North of Crimp Hill

Semi-improved grassland and scattered trees.



Photograph 12: Manor Farm

Arable fields with mown margins.



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Photograph 13: Manor Farm

Stables with high potential for bats and breeding birds.



Photograph 14: **Manor Farm**

Oak tree with bat boxes fitted.



Photograph 15: **Pond at 2 Newton** Lane



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Photograph 16: Woodside Farm

Improved grassland with scattered trees and scrub boundary.

Standing dead trees can be seen in the background.



9. Appendix 1 - Full Species Lists

Scientific name					
Galium aparine					
Pulmonaria officinalis					
Myosotis sp.					
Glechoma hederacea					
Geranium robertianum					
Arum maculatum					
Lolium perenne					
Senecio jacobaea					
Hyacinthoides hispanica					
Euphorbia sp.					
Scabiosa sp.					
Malus sp.					
Crataegus monogyna					
Rosa sp.					
Rubus fruticosus agg.					
Rubus sp.					
Invertebrates					
Chrysolina americana					



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A308 Roundabout					
Common Name	Scientific Name				
Grasses and Herbs					
Annual meadow-grass	Poa annua				
Bird's-foot-trefoil	Lotus corniculatus				
Bitter cress (yellow rocket)	Barbarea vulgaris				
Broad leaved dock	Rumex obtusifolius				
Cleavers	Galium aparine				
Clover	Trifolium sp.				
Crane's bill	Geranium sp.				
Cock's-foot	Dactylus glomerata				
Common daisy	Bellis perennis				
Common ivy	Hedera helix				
Common knapweed	Centaurea nigra				
Common mouse-ear	Cerastium fontanum				
Common nettle	Urtica dioica				
Common sorrel	Rumex acetosa				
Common vetch	Vicia sativa				
Cow parsley	Athriscus sylvestris				
Creeping buttercup	Ranunculus repens				
Creeping cinquefoil	Potentilla repens				
Creeping thistle	Cirsium arvense				
Dandelion	Taraxacum officinale				
Duckweed	Lemna sp.				
Forget-me-not	Myosotis sp.				
Hedge woundwort	Stachys sylvatica				
Herb-Robert	Geranium robertianum				



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A308 Roundabout					
Common Name	Scientific Name				
Marsh marigold	Caltha palustris				
Meadow buttercup	Ranunculus acris				
Mistletoe	Viscum album				
Ragwort	Senecio jacobaea				
Red dead nettle	Lamium purpureum				
Red fescue	Festuca rubra				
Ribwort plantain	Plantago lanceolata				
Speedwell	Veronica sp.				
Water lily	Nymphaea sp.				
White bryony	Bryonia dioica				
White dead nettle	Lamium album				
Wild carrot	Daucus carota				
Yarrow	Achillea millefolium				
Yellow-flag	Iris pseudacorus				
Yorkshire-fog	Holcus lanatus				
Shrubs and Trees					
Apple	Malus sp.				
Ash	Fraxinus excelsior				
Blackthorn	Prunus spinosa				
Bramble	Rubus fruiticosus agg.				
Copper beech	Fagus sylvatica f. purpurea				
Elder	Sambucus nigra				
Hawthorn	Crataegus monogyna				
Holly	Ilex aquifolium				
Raspberry	Rubus sp.				



A308 Roundabout	
Common Name	Scientific Name
Rowan	Sorbus aucuparia
Willow	Salix sp.
Silver birch	Betula pendula
Snowberry	Symphoricarpos albus
Whitebeam	Sorbus sp.
Willow-leaved pear	Pyrus salicifolia Pendula
Invertebrates	
Dragonfly nymph	Odonata sp.
Ladybird	Coccinellidae
Amphibians	
Smooth newt	Lissotriton vulgaris
Common toad tadpoles	Bufo bufo
Birds	
Blackbird	Turdus merula
Skylark	Alauda arvensis
	<u>l</u>

Crimp Hill Cemetery	
Common Name	Scientific Name
Grasses and Herbs	
Broad-leaved dock	Rumex obtusifolius
Lords-and-ladies	Arum maculatum
Ribwort plantain	Plantago lanceolata
Oxeye daisy	Leucanthemum vulgare
Yellow-flag	Iris pseudacorus



Crimp Hill Cemetery	
Common Name	Scientific Name
Shrubs and Trees	
Ash	Fraxinus excelsior
Bramble	Rubus fruticosus agg.
Willow	Salix sp.
Birds	
Green woodpecker	Picus viridis
Red kite	Milvus milvus
Red legged partridge	Alectoris rufa

Ham Island East	
Common Name	Scientific Name
Grasses and Herbs	
Annual meadow-grass	Poa annua
Bird's-foot-trefoil	Lotus corniculatus
Black medick	Medicago lupulina
Black sedge	Carex nigra
Bristly ox tongue	Helminthotheca ecioides
Broad-leaved dock	Rumex obtusifolius
Common mouse-ear	Cerastium fontanum
Common nettle	Urtica dioica
Cowslip	Primula veris
Creeping cinquefoil	Potentilla reptans
Germander speedwell	Veronica chamaedrys
Greater burdock	Arctium lappa
Ground-ivy	Glechoma hederacea



Ham Island East	
Common Name	Scientific Name
Lady's bedstraw	Galium verum
Meadow buttercup	Ranunculus acris
Meadow foxtail	Alopecurus pratensis
Perennial rye-grass	Lolium perenne
Ragwort	Senecio jacobaea
Silverweed	Potentilla anserine
Spear thistle	Cirsium vulgare
Teasel	Dipsacus fullonum
Tree mallow	Lavatera arborea
White dead nettle	Lamium album
Shrubs and Trees	
Black poplar	Populus nigra
Crack willow	Salix fragilis
Elder	Sambucus nigra
Goat willow	Salix caprea
Hawthorn	Crataegus monogyna
Lombardy poplar	Populus nigra Italica
Sycamore	Acer pseudoplatanus
Weeping willow	Salix babylonica
Invertebrates	
Banded demoiselle	Calopteryx splendens
Brimstone	Gonepteryx rhamni
Orange-tip	Anthocharis cardamines
Peacock butterfly	Aglais io
Small tortoiseshell	Aglais urticae



Ham Island East	
Common Name	Scientific Name
Birds	
Blackbird	Turdus merula
Black cap	Syvia atricapilla
Blue tit	Cyanistes caeruleus
Buzzard	Buteo buteo
Canada goose	Branta canadensis
Carrion crow	Corvus corone
Cormorant	Phalacrocorax carbo
Dunnock	Prunella modularis
Egyptian goose	Alopochen aegyptiacus
Goldfinch	Carduelis carduelis
Green woodpecker	Picus viridis
Grey lag goose	Anser anser
Great tit	Parus major
Jackdaw	Corvus monedula
Kestrel	Falco tinnunculus
Kingfisher	Alcedo atthis
Lapwing	Vanellus vanellus
Linnet	Carduelis cannabina
Mallard	Anas platyrhynchos
Mute swan	Cygnus olor
Red kite	Milvus milvus
Red-legged partridge	Alectoris rufa
Robin	Erithacus rubecula
Rook	Corvus frugilegus



Ham Island East	
Common Name	Scientific Name
Song thrush	Turdus philomelos
Starling	Sturnus vulgaris
Stock dove	Columba oenas
Swallow	Hirundo rustica
Swift	Apus apus
Wagtail	Motacilla sp.
White throat	Sylvia communis
Wood pigeon	Columba palumbus
Wren	Troglodytes troglodytes

Ham Island West		
Common Name	Scientific Name	
Grasses and Herbs		
Barren brome	Anisantha sterilis	
Clover	Trifolium sp.	
Cock's-foot	Dactylus glomerata	
Comfrey	Symphytum sp.	
Common ivy	Hedera helix	
Common mouse-ear	Cerastium fontanum	
Common nettle	Urtica dioica	
Common ragwort	Senecio jacobaea	
Common sorrel	Rumex acetosa	
Common vetch	Vicia sativa	
Cow parsley	Anthriscus sylvestris	
Creeping bent	Agrostis stolonifera	



Ham Island West	
Common Name	Scientific Name
Creeping buttercup	Ranunculus repens
Cut-leaved crane's-bill	Geranium dissectum
Dandelion	Taraxacum officinale
Forget-me-not	Myosotis sp.
Garlic mustard	Alliaria petiolata
Germander speedwell	Veronica chamaedrys
Ground-ivy	Glechoma hederacea
Hairy tare	Vicia hirsute
Hogweed	Heracleum sphondylium
Lesser trefoil	Trifolium dubium
Lords-and-ladies	Arum italicum
Meadow buttercup	Ranunculus acris
Meadow fox tail	Alopecurus pratensis
Meadow vetchling	Lathyrus pratensis
Red campion	Silene dioica
Red fescue	Festuca rubra
Soft brome	Bromus hordeaceus
Spear thistle	Cirsium vulgare
Spotted medick	Medicago arabica
Thistle	Cirsium sp.
Yorkshire-fog	Holcus lanatus
Shrubs and Trees	
Elder	Sambucus nigra
Pedunculate oak	Quercus robur
Hawthorn	Crataegus monogyna



Ham Island West		
Common Name	Scientific Name	
Willow	Salix sp.	
Sycamore	Acer pseudoplatanus	
Invertebrates		
7-spot ladybird	Coccinella septempunctata	
Banded demoiselle	Calopteryx splendens	
Peacock butterfly	Aglais io	
Weevil	Liophloeus tessulatus	
Birds		
Buzzard	Buteo buteo	
Carion crow	Corvus corone	
Chaffinch	Fringilla coelebs	
Goldfinch	Carduelis carduelis	
Jackdaw	Covus monedula	
Mallard	Anas platyrhynchos	
Pied wagtail	Motacilla alba	
Red kite	Milvus milvus	
Robin	Erithacus rubecula	
White throat	Sylvia communis	
Wood pigeon	Columba palumbus	
Wren	Troglodytes troglodytes	
Mammals		
Fox	Vulpes vulpes	



Land North of Burfield Road	
Common name	Scientific name
Grasses and Herbs	
Cleavers	Galium aparine
Common nettle	Urtica dioica
Cow parsley	Anthriscus sylvestris
Daffodil	Narcissus sp.
Edging box	Buxus sempervirens suffruticosa
False brome	Brachypodium sylvaticum
Garden privet	Ligustrum ovalifolium
Garlic mustard	Alliaria petiolata
Green alkanet	Pentaglottis sempervirens
Ground-elder	Aegopodium podagraria
Ground-ivy	Glechoma hederacea
Herb-Robert	Geranium robertianum
Honesty	Lunaria annua
Lesser celandine	Ranunculus ficaria
Lord-and-ladies	Arum maculatum
Spanish bluebell	Hyacinthoide shispanica
Wild privet	Ligustrum vulgare
Shrubs and Trees	
Ash	Fraxinus excelsior
Berberis	Berberis sp.
Bramble	Rubus fruticosus agg.
Common beech	Fagus sylvatica
Dogwood	Cornus sanguinea
Elm	Ulmus procera



Land North of Burfield Road	
Common name	Scientific name
Hawthorn	Crataegus monogyna
Holly	Ilex aquifolium
Honeysuckle	Lonicera sp.
Horse chestnut	Aesculus hippocastanum
Portugal laurel	Prunus Iusitanica
Snowberry	Symphoricarpos albus
Sycamore	Acer pseudoplatanus
Yew	Taxus baccata
Birds	
Blackbird	Turdus merula
Blackcap	Sylvia atricapilla
Blue tit	Cyanistes caeruleus
Dunnock	Prunella modularis
Goldcrest	Regulus regulus
Long-tailed tit	Aegithalos caudatus
Ring-necked parakeet	Psittacula krameri
Robin	Erithacus rubecula
Song thrush	Turdus philomelos
Wren	Troglodytes troglodytes
Mammals	
Wood mouse	Apodemus sylvaticus



Land North of Crimp Hill		
Common Name	Scientific Name	
Grasses and Herbs		
Barren brome	Anisantha sterilis	
Cock's-foot	Dactylus glomerata	
Common mouse-ear	Cerastium fontanum	
Common nettle	Urtica dioica	
Creeping buttercup	Ranunculus repens	
Creeping cinquefoil	Potentilla reptans	
Cut-leaved crane's-bill	Geranium dissectum	
Dock	Rumex sp.	
Meadow foxtail	Alopecurus pratensis	
Perennial rye-grass	Lolium perenne	
Soft brome	Bromus hordeaceus	
Thistle	Cirsium sp.	
White dead-nettle	Lamium album	
Yorkshire-fog	Holcus lanatus	
Shrubs and Trees		
Hawthorn	Crataegus monogyna	
Horse chestnut	Aesculus hippocastanum	
Silver birch	Betula pendula	
Invertebrates		
Cranefly	Tipula paludosa	
Birds		
Carion crow	Corvus corone	
Jackdaw	Covus monedula	
Starling	Sturnus vulgaris	



Manor Farm	
Common Name	Scientific Name
Grasses and Herbs	
Annual meadow-grass	Poa annua
Barley	Hordeum vulgare L.
Barren brome	Anisantha sterilis
Cock's-foot	Dactylus glomerata
Common nettle	Urtica dioica
Common vetch	Vicia sativa
Cow parsley	Anthriscus sylvestris
Crested dog's-tail	Cynosurus cristatus
Cut-leaved crane's-bill	Geranium dissectum
Daisy	Bellis perennis
Dandelion	Taraxacum officinale
Field bind weed	Convolvulus arvensis
Forget-me-not	Myosotis sp.
Greater burdock	Arctium lappa
Groundsel	Senecio vulgaris
lvy	Hedera helix
Meadow buttercup	Ranunculus acris
Meadow foxtail	Alopecurus pratensis
Red clover	Trifolium pratense
Perennial rye-grass	Lolium perenne
Рорру	Papaver sp.
Soft brome	Bromus hordeaceus



Manor Farm		
Common Name	Scientific Name	
Spotted medick	Medicago arabica	
Thistle	Cirsium sp.	
White campion	Silene latifolia	
White clover	Trifolium repens	
White dead-nettle	Lamium album	
Yarrow	Achillea millefoilum	
Shrubs andTrees		
Blackthorn	Prunus spinosa	
Bramble	Rubus fruticosus agg.	
Dog-rose	Rosa canina	
Elder	Sambucus nigra	
Pedunculate oak	Quercus robur	
Field maple	Acer campestre	
Hazel	Corylus avellana	
Hawthorn	Crataegus monogyna	
Horse chestnut	Aesculus hippocastanum	
Privet	Ligustrum sp.	
Birds		
Blackbird	Turdus merula	
Blue tit	Cyanistes caeruleus	
Carion crow	Corvus corone	
Canada goose	Branta canadensis	
Goldfinch	Carduelis carduelis	
Great tit	Parus major	
House sparrow	Passer domesticus	



Manor Farm		
Common Name	Scientific Name	
Kestrel	Falco tinnunculus	
Magpie	Pica pica	
Red kite	Milvus milvus	
Red-legged partridge	Alectoris rufa	
Swallow	Hirundo rustica	
Wood pigeon	Columba palumbus	
Yellow hammer	Emberiza citrinella	
Mammals		
Rabbit	Oryctolagus cuniculus	

Woodside Farm		
Common Name	Scientific Name	
Grasses and Herbs		
Common nettle	Urtica dioica	
Creeping bent	Agrostis stolonifera	
Soft brome	Bromus hordeaceus	
Yorkshire-fog	Holcus lanatus	
Shrubs and Trees		
Ash	Fraxinus excelsior	
Elder	Sambucus nigra	
Pedunculate oak	Quercus robur	
Hawthorn	Crataegus monogyna	
Birds		
Carion crow	Corvus corone	
Robin	Erithacus rubecula	



Woodside Farm	
Common Name	Scientific Name
Rock dove	Columba livia
Wood pigeon	Columba palumbus



10. Appendix 2 - Phase 1 Habitat Survey Target Notes

Site	Target note number	Description
16 Albany Road	1	Wall of bricks – good for invertebrates
	2	Brash pile – good for hedgehogs/reptiles
A308 Roundabout	1	Compost heaps – good for reptiles/amphibians/hedgehogs
	2	Longer (un-mown) areas of grass – good for reptiles/hedgehogs
Crimp Hill Cemetery	1	Log piles – good for reptiles/hedgehogs
Ham Island East	1	Native black poplar
	2	Tree with woodpecker holes and a large crack with staining underneath – possible bat roost
	3	Old sewage filter bed
Land North of Burfield Road	1	Compost heap – good for reptiles/amphibians/hedgehogs
	2	Standing dead tree – good for invertebrates and bats
	3	Tree with a large crack – potential for roosting bats
Land North of Crimp Hill	1	Animal run – likely fox
Manor Farm	1	Mature oak trees – potential for roosting bats
	2	Mature horse chestnut trees – potential for roosting bats
	3	Mature oak tree with bat boxes – potential for roosting bats
	4	Soft river banks – potential for otters and water voles
	5	Dense tall ruderal – potential for badgers/badger setts
	6	Dried-up pond
Woodside Farm	1	Mature oak trees – potential for roosting bats
	2	Standing dead trees – potential for bats and barn owls
	3	Dried-up pond



11. Appendix 3 - Legislation and Planning Policy Background

Included is a brief summary of legislation. The original texts of the relevant legislation or specific legal advice should be consulted in individual cases where appropriate.

11.1 European Protected Species

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive.

The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2010. The Countryside and Rights of Way Act (CRoW), 2000 strengthened the existing wildlife legislation in the UK.

The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

11.1.1 Bats

All 17 species of bats are protected under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (and as amended) and are also protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010. They are listed under Appendix III of the Bern Convention and Annex IV of the EC Habitats Directive. Bats and their habitats are also listed under Appendix II of The Bonn Convention and therefore the UK has an obligation to protect their habitat, including links to important feeding areas.

11.1.2 Great Crested Newts

Great crested newts are protected under Schedule 5 of the Wildlife and Countryside Act, 1981 (and as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2010. At the European level they are protected under Annex IV of the EC Habitats Directive. All life stages of great crested newts are protected, including eggs, larvae, juveniles and adults.

11.2 Legislation Relating to European Protected Species

In relation to a development a person commits an offence if they:

- deliberately captures, injures or kills a European Protected Species;
- deliberately or recklessly disturbs wild animals of any such species in such a way as to be likely significantly to affect;
 - (i) the ability of any significant group of animals to survive, breed, or rear or nurture their young; or
 - (ii) the local distribution or abundance of that species.
- damages or destroys a breeding site or resting place (even if unintentional or when the animal is not present);
- intentionally or recklessly obstructs access to a structure or place used for protection or shelter; and
- this legislation applies, regardless of the life stage (including eggs).

A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.



11.3 Other Protected Species

11.3.1 Breeding Birds

All wild birds are protected under part 1 of the Wildlife and Countryside Act, 1981. Therefore, in the UK it is an offence to:

- take, damage or destroy the nest of any wild bird whilst it is being built or in use;
- kill, injure or take any wild bird; and
- · take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 of the Wildlife and Countryside Act receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence.

11.3.2 Reptiles

Common lizard, slow worm, adder and grass snake are all protected under Schedule 5 of the Wildlife and Countryside Act, 1981 against intentional injuring, killing or selling.

For development sites in **England, Wales or Scotland,** to avoid prosecution under the *Wildlife and Countryside Act 1981 (as amended)*, wherever works will impact on slow worms, common lizards, adders and/or grass snakes there must be evidence that every reasonable effort was made to avoid breaking the law – including proof of adequate surveys and mitigation plans. Mitigation measures should, ideally, be agreed with the relevant SNCO (in this case Natural England).

Only the sand lizard and smooth snake are fully protected under the Wildlife and Countryside Act, 1981 (Section 9) and Regulation 9 of the Conservation of Habitats and Species Regulations 2010 against killing, injuring, capture, damaging or destroying a breeding or resting site, intentionally obstructing access to a place used for shelter, keeping, transporting or selling. This means that not only are the animals themselves protected but so are their habitats.

11.4 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was published on the 27th March 2012. This policy framework has replaced many of the former Planning Policy Statements including Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9).

The NPPF contains reduced content with regards specific advice for biological conservation compared to that set out in PPS9. However much content is comparable with regards the needs for maintaining and enhancing biodiversity within planning policies and decisions. Specific sections of particular relevance include:

Paragraph 165: "Planning policies and decisions should be based on up-to-date information about the natural environment".

Paragraph 118: "When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:" including...

- "if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts). adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;"
- "proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest feature is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;"
- "development proposals where the primary objective is to conserve or enhance biodiversity should be permitted"
- "Opportunities to incorporate biodiversity in and around developments should be encouraged;"

"planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;"