

BURIED HERITAGE (ARCHAEOLOGY) & BUILT HERITAGE Appendices

Appendix 10.5 Plates and Figures



Plate 1: Eastern half of Proposed Development site, looking east



Plate 2: Proposed Development site looking south, showing man-hole rings in central section of site



Plate 3: Western half of Proposed Development site, looking south-west



Plate 4: Field Boundary trench running north to south, looking south

BURIED HERITAGE (ARCHAEOLOGY) & BUILT HERITAGE



Plate 5: Gravel track in north-west corner of Proposed Development site, looking west



Plate 6: Proposed Development site, looking east



Plate 7: View from Alchester Roman Town Scheduled Monument, looking north towards Proposed Development site

ES Volume II: Technical Appendices

Appendix 10.6: Written Scheme of Investigation

**Land North of Bicester Avenue Garden Centre (Bicester Business Park),
Oxford Road, Bicester:**

Environmental Impact Assessment Written Scheme of Investigation

**Land North of Bicester Avenue Garden Centre
(Bicester Business Park),
Oxford Road, Bicester:
Environmental Impact Assessment
Written Scheme of Investigation**

*AOC Project No: 23757
August 2017*

On Behalf of: **Trium**
69-85 Tabernacle Street
London
EC2A 4BD

National Grid Reference (NGR): **457910,221631**

AOC Project No: **23757**

Prepared by: **Nuala C. Woodley**

Date: **August 2017**

This document has been prepared in accordance with AOC standard operating procedures.

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 AOC Archaeology has been commissioned by Trium to undertake an assessment of buried heritage (archaeology) and built heritage covering the proposed development of land north of Bicester Avenue Garden Centre (Bicester Business Park), Oxford Road, Bicester.
- 1.1.2 The need for and scope of the archaeological assessment will be determined by Cherwell District Council, who are advised on archaeological matters by Oxfordshire County Council County Archaeology Team.
- 1.1.3 The programme of archaeological works is in keeping with the policies outlined in current planning policy and guidance set out in National Planning Policy Framework (NPPF), Chapter 12; Local Planning Policy: Cherwell Local Plan, Policy ESD 15; and National Guidance; Paragraph 13.

1.2 Site location

- 1.2.1 The proposed development site, in Cherwell District Council (CDC) is approximately 13.1 hectares (ha) and is centred on National Grid Reference 457910,221631. It is bounded by a Tesco foodstore and farmland to the north, farmland to the east, the A41 (Oxford Road) to the west and Bicester Avenue Garden Centre and more fields to the south.
- 1.2.2 The proposed development includes the construction of a business park comprising between 55,000 and 60,000m² office use (B1), parking for approximately 2,000 cars, associated highway, infrastructure and earthworks. The office park will be made up of differently sized buildings which will vary in height between 2 and 4 storeys and located within a landscaping space. The site will be accessed from Lakeview Drive via the signalled controlled junction with the A41 Oxford Road.

1.3 Historical and Archaeological Background

- 1.3.1 The site is located to the south of Bicester and to the east of the Oxford Road (the A41). A Tesco superstore has recently been built immediately north of the site, whilst a retail park 'Bicester Avenue Garden Centre' stands to its south. The eastern boundary of the site cuts diagonally from northeast to southwest and is partially defined by a stream.
- 1.3.2 A 31 trench archaeological trial trench evaluation was undertaken across both the site and the area to the north (the Tesco site) in September and October 2007. The evaluation identified a quantity of exceptionally well preserved Mesolithic flint, which possibly suggests the presence of in situ deposits nearby. Possible evidence of late prehistoric and Roman settlement was also encountered including post holes and drip gullies which could potentially be associated with circular buildings. Boundary ditches were also identified. Whilst some of these ditches were clearly post-medieval others could potentially be late prehistoric. The evaluation was preceded by a desk-based assessment and a geophysical survey and a chapter on archaeology and heritage was included in the 2007 Environmental Statement (ES).
- 1.3.3 AOC undertook detailed archaeological investigations on the Tesco site between November 2013 and January 2014. The excavations revealed a sequence of at least seven Bronze Age buildings and activities either side of a relict watercourse. The buildings were represented by postholes forming two roundhouses which were kept in good repair and rebuilt, probably across generations and are likely to represent buildings of a farmstead. The permanence of settlement is also indicated by the presence of three cremation burials at the top of the hill above the farmstead. Other postholes represented fences, which may have enclosed stock enclosures or settlement boundaries on flat ground either side of a river. Roman and post-medieval features were also identified on the site.
- 1.3.4 Sixteen evaluation trenches were excavated in the southern and eastern parts of the current (2017) site during the 2007 evaluation. The southwestern corner of the site was not excavated at this time as it lay outside the 2007 site boundary. Nine trenches were excavated in the southern part of the site. Although archaeological features were found in five of these trenches, they were all either undated or of post-medieval origin. Fragments of Romano-British pottery were however recovered from the subsoil of one of the trenches. Seven trenches were excavated in the eastern part of the site, of which three, all positioned on

the eastern edge of the site contained archaeological remains, which suggest concentrations of archaeological activity on the eastern edge of the site. Prehistoric flints were recovered along with fragments of Romano-British and Medieval pottery.

- 1.3.5 In his comments to the local planning authority, Richard Oram, Oxfordshire Council's planning archaeologist commented that '*a further series of linear features located in one trench, Tr 30, at the South East corner of the site produced a large amount of worked flint. The majority of this flint work was dated to the Mesolithic and the assemblages contained four cores suggesting that the manufacturing of these tools was carried out in the very near vicinity. It is therefore likely that the development will disturb further aspects of the deposits located in the evaluation.*' (Oram letter to Oxfordshire District Council, 10 Dec 2007, Ref: RO/1189)
- 1.3.6 An historic map regression depicts the known location of a Roman Road along the western boundary of the site, along the current line of the Oxford Road, A41. Historic cartography indicates that the proposed development site has been located within agricultural fields since at least 1875. It is likely that the proposed site has been agricultural in nature since the medieval period as it is located to the south of a market town.

2 OBJECTIVES

- 2.1 The objectives of the assessment are to:
- i) identify and map the nature of the archaeological and built heritage resource within the site and surrounding study area from known documentary records, historic environment record data, historic maps and aerial photographs;
 - ii) determine through archaeological walkover survey if any archaeological remains are visible on the site and thence to determine the potential level of survival of any archaeology;
 - iii) to assesses the likely impact upon the known and potential heritage resources which will result from the proposed development.
 - iv) to liaise with Oxfordshire County Archaeological Service and the client in the event of significant archaeological features or historically identified features being seen as to the most appropriate mitigation response in safeguarding these features either by preservation *in situ*, if at all feasible, or by archaeological recording;
 - iii) to assesses the likely impact upon the known and potential heritage resources which will result from the proposed development.

3 ARCHAEOLOGICAL WORKS

3.1 Walkover Survey

- 3.1.1 An archaeological walkover survey of the proposed development site will be undertaken with the aim of identifying any previously unknown remains. The site will be systematically surveyed along transects spaced at 30 m intervals (dependant on topography). All known heritage assets will be assessed in the field to establish their survival, extent, significance and relationship to other assets. Weather and any other conditions affecting the visibility during the survey will also be recorded. All heritage assets encountered will be recorded and photographed. A hand-held GPS will be used to record the position and extent of each asset. All assets will be marked on plans, at a relevant scale keyed by means of Grid References to the Ordnance Survey mapping.
- 3.1.2 The walkover survey will also identify areas of the proposed development site that may require further archaeological works in advance of development. A strategy for undertaking further archaeological works if required will be agreed with the client and Oxfordshire County Archaeological Service.

3.2 Aerial Photograph Consultation

- 3.2.1 A search of aerial photographs held by Historic England's Archive in Swindon will be undertaken. Aerial photographs that show the site will be consulted in order to identify and map any potential archaeological features.

4 ASSESSMENT METHODOLOGY

4.1 Scope of Assessment

- 4.1.1 The assessment will be prepared in compliance with the Chartered Institute for Archaeologists' Standard and Guidance for Historic Environment Desk-Based Assessment (ClfA 1990, rev. 2008, 2011 & 2014) and relevant statutory requirements, national, regional and local guidance, including National Planning Policy and Guidance on cultural heritage as contained within NPPF (2012) and Historic England Good Practice Advice notes as well as local planning policy represented by The Cherwell Local Plan, 2011-2031.
- 4.1.2 A study area of 1km from the proposed development site will be used to assess the likely nature and extent of the archaeological and built heritage resource within the site and the immediate surrounding study area. The Oxfordshire Historic Environment Record (HER) of archaeological sites, finds, events, monuments and designations is the primary source of information concerning the current state of archaeological and architectural knowledge in the study area. The assessment will draw on information provided by the HER to establish descriptions of the heritage baseline conditions. The assessment will also draw on information in publically available cartographic sources, aerial photographic sources and archaeological/historical information from web-based and in-house sources as well as a walkover survey of the proposed development (see section 5 above). A full list of all designated and non-designated heritage assets identified during research for this assessment will be included within a gazetteer appended to the assessment.
- 4.1.3 All designated heritage assets within 1km of the proposed development including, Scheduled Monuments, Listed Buildings and Conservation Areas will be identified and shown on accompanying figures. The assessment will also include consideration of the visual sensitivity of these assets, based on their monument typologies.

4.2 Assessment Criteria

- 4.2.1 The assessment will be used to identify the known and likely archaeological potential of the site and the relative value or importance of such a resource/asset. Based on information provided by the client, and where possible, the likely magnitude of direct impacts upon such a resource and the potential for indirect impacts (e.g. impacts upon the setting of cultural heritage assets which may affect the significance of said assets) from the proposed development will be assessed. The criteria for assessing these factors will be detailed in the assessment.
- 4.2.2 The criteria for assessing archaeological potential are expressed as ranging along a scale of High, Medium, Low, Negligible and Uncertain.
- 4.2.3 Levels of importance in the report will be expressed as ranging along a scale of National, Regional, Local, Negligible and Unknown. The value or importance of heritage assets will be determined firstly by reference to existing designations – for example Scheduled Monuments are already classified as Nationally Important. For sites where no designation has previously been assigned, the likely importance of that resource will be based upon the available evidence and professional knowledge and judgment.
- 4.2.4 The likely magnitude of the impact of the proposed development works will be determined by identifying the level of effect from the proposed development upon the 'baseline' conditions of the heritage asset identified in the assessment. This effect can be either adverse (negative) or beneficial (positive) and will be ranked

according to the scale of major; moderate, minor and negligible. Where it is not possible to confirm the magnitude of impact (e.g. due to lack of development design information or details on buried deposits) a professional judgement as to the scale of such impacts will be applied.

- 4.2.5 The chapter will include a basic level assessment as to the likely impacts from the proposed turbine upon the setting of designated cultural heritage assets within the 1km study area, identifying those assets where there is potential for an impact upon setting. This will use Zone of Theoretical Visibility (ZTV) data provided by the client and will not include any specific site visits or use of wireframe models, etc.

5 OPERATIONAL FACTORS

5.1 Health & Safety

- 5.1.1 AOC Archaeology has always maintained high standards on-site and a copy of our Health & Safety policy is available on request. The Walkover Survey Officer (WSO) will liaise with landowner before coming on-site to ensure that our element of the works are conducted in a manner that is safe for our staff, Main Contractor staff and members of the public if appropriate.

5.2 Project team

- 5.2.1 One of AOC Archaeology's experienced Field Officers will complete the walkover survey.
- 5.2.2 The project will be managed by Nuala Woodley (ACIfA), AOC Consultancy Project Officer. Quality assurance will be provided by Dr Andrew Heald, Managing Director.

6 REFERENCES

Institute for Archaeologists' Standard and Guidance for Desk-Based Assessment (IfA 1990, rev. 2008 & 2011)

Historic England (2015). Good Practice Advice Note 3: Setting,

The Cherwell Local Plan 2011-2031

Department for Communities and Local Government (2012). National Planning Policy Framework

APPENDIX 1

Desk-top assessment

The sources consulted as part of the desk-top study will depend on the type and level of data required and the material that is available to provide that information. Sources used may include, where available, all or some of the following listed below:

- i)* Walkover survey (Appendix 5).
- ii)* The relevant Local Sites and Monuments Record(s) and the National Monuments Record.
- iii)* British Geological Survey maps.
- iv)* Ordnance Survey maps of the site and its locality.
- v)* Tithe, Apportionment and Parish maps.
- vi)* Historic (pre-Ordnance Survey) and Estate maps of the area.
- vii)* Appropriate archaeological and historical journals and books.
- viii)* Historical documents held in local museums, libraries, record offices and other archives. This may be a selective survey given the scope of potential historic documentation for some sites.
- ix)* Unpublished material held by local professional and amateur archaeological organisations and museums.
- x)* Aerial photographs held by local authorities, Sites and Monuments Record, the National Library of Aerial Photographs, Cambridge University Collection of Aerial Photographs and other local parties.
- xi)* Scheduled Ancient Monuments Lists; listed building lists; registers of parks and gardens and battlefields; any local authority constraint designations (eg conservation Areas).
- xii)* All available borehole, trial pit and geotechnical data from the site and its immediate environs.
- xiii)* Plans of services locations held by statutory undertakers.
- xiv)* Fire insurance maps.
- xv)* Old and New Statistical Accounts (in Scotland).

- xvi) Building Control Records.
 xvii) Standing Building Assessment (Appendix 10).

APPENDIX 2

Geophysical survey

- 2.1 All geophysical survey work will be undertaken by AOC Archaeology Group's in-house geophysical survey team.
 2.2 Selection of techniques will be made taking into account land use, geology, complicating factors (eg metal pipes and fences), known and/or suspected archaeology.
 2.3 The report will contain background information on the site (as above) and a description of any anomalies located. An interpretation of the anomalies will also be given.
 2.4 At least one plot of the data will be included, normally of dot density or grey scale type. Any enhancement of the image will be explicitly stated and the likely affect of the processing described.
 2.5 Clear interpretative plans will be provided in a form that a non-technical reader can understand.
 2.6 Plots and interpretative diagrams will be reproduced at a scale from which exact measurements can be taken. These will normally be 1:1000 for detailed survey and 1:2500 for other plans.
 2.7 The basic computerised data will form part of the site archive.

APPENDIX 3

Surface collection survey (fieldwalking)

- 3.1 This type of survey will only be carried out in suitable ground visibility conditions. This effectively restricts the technique to arable land which has been ploughed, harrowed and left to weather for several weeks in autumn to early spring.
 3.2 The collection grid will align with the Ordnance Survey grid unless surveying for a linear scheme when the transects will be parallel to the centre of the scheme. The grid will be established using measured survey techniques.
 3.3 The spacing of transects and length of collection units will be as specified in the main part of the Written Scheme of Investigation. Each transect will be 2m wide. Collection units will be logged using a numeric 12 figure National Grid Reference which will identify the southern end of the unit.
 3.4 Transects will be measured cumulatively on the ground using fixed-length strings to avoid variation in individual pace. Sighting poles will be placed at opposite ends of the land parcel to mark transects.
 3.5 All material considered to be man-made or not local to the area will be collected and recorded by the individual collection unit. The exception to this is where dense concentrations of building material are present when a representative sample is retained per collection unit.
 3.6 Stone scatters, areas of soil discolouration and outcrops of natural substrata will be recorded and plotted by stint.
 3.7 Pro-forma sheets will be used to record details of walker, soil/crop conditions, slope/topography, and lighting/weather conditions for each transect and presence/absence of finds for each collection unit.
 3.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.
 3.9 Finds will be identified, quantified and recorded directly on to computer. The results will be plotted using a CAD graphics programme.
 3.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme, at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per stint.
 3.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.
 3.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "Conservation Guidelines No 2".

APPENDIX 4

Earthwork surveys

- 4.1 Base points will be established using a Total Station.
 4.2 Hachured plans will normally be prepared at 1:1250 or 1:2500 for most classes of earthwork. In certain cases more detailed survey by contouring will be carried out.
 4.3 Appropriately experienced personnel will undertake the survey work.
 4.4 All prepared plans will be presented with an accompanying descriptive text.

APPENDIX 5

Walkover Survey

- 5.1 The proposed study area will be walked over in a systematic manner. Approximately 30m wide transects will be used, although this can be reduced where conditions demand.
 5.2 All features identified (including modern features) will be given a unique number. The location of each feature will be marked on a 1:10,000 map. A photographic and written record will be compiled.

APPENDIX 6

Test pits

- 6.1 Spacing and size of test pits will vary according to local topography, geology, and known or potential archaeology. Spacing and size will be as specified in the Written Scheme of Investigation.
 6.2 Test pits will be laid out in relation to the Ordnance Survey national grid.
 6.3 The most appropriate tools will be used taking into account the prevailing conditions at the time of the work.
 6.4 A specified volume of topsoil from each test pit will be sieved through a 10mm mesh.
 6.5 Conditions, contexts and artefact totals will be recorded on pro-forma sheets.
 6.6 Subdivisions within the excavated material will be based on soil stratigraphy and spits of 100mm within each stratigraphical unit.
 6.7 All artefact totals will be recorded by class.
 6.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.
 6.9 Finds will be identified, quantified and recorded directly onto computer where appropriate. The results will be plotted using a CAD graphics programme when appropriate.
 6.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per test pit.
 6.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.
 6.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "Conservation Guidelines No 2".

APPENDIX 7

Machine excavated trenches

Excavation

- 7.1 The entire site will be visually inspected before the commencement of any machine excavation. This will include the examination of any available exposures (eg recently cut ditches and geo-technical test pits).
 7.2 Normally trench positions will be accurately surveyed prior to excavation and related to the National Grid. It may be necessary to survey the positions after excavation in some instances.
 7.3 All machining will be carried out by plant of an appropriate size. Normally, this will be a JCB 3CX (or similar) or 360° tracked excavator with a 1.4 or 1.8m wide toothless bucket. Where access or working space is restricted a mini excavator such as a Kubota KH 90 will be used.
 7.4 All machining will be carried out under direct control of an experienced archaeologist.
 7.5 Undifferentiated topsoil or overburden of recent origin will be removed in successive level spits (approximately <0.5m) down to the first significant archaeological horizon.
 7.6 Excavated material will be examined in order to retrieve artefacts to assist in the analysis of the spatial distribution of artefacts.
 7.7 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools.
 7.8 All investigation of archaeological horizons will be by hand, with cleaning, inspection, and recording both in plan and section.
 7.9 Within each significant archaeological horizon a minimum number of features required to meet the aims of the project will be hand excavated. Pits and postholes normally will be sampled by half-sectioning although some features may require complete excavation. Linear features will be sectioned as appropriate. Features not suited to excavation within the confines of narrow trenches will not be sampled. No deposits will be entirely removed unless this is unavoidable. As the objective is to define remains it will not necessarily be the intention to fully excavated all trenches to natural stratigraphy. However, the full depth of archaeological deposits across the entire site will be assessed. Even in the case where no remains have been located the stratigraphy of all evaluation trenches will be recorded.
 7.10 Any excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be demonstrably worthy of preservation *in situ*.
 7.11 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;
 i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;
 ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;
 iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating) or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).
 7.12 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper 'The

Treatment of Human Remains in Archaeology'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

7.13 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

7.14 After recording, the trenches will be backfilled with excavated material.

Recording

7.15 For each trench, a block of numbers in a continuous sequence will be allocated.

7.16 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

7.17 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.

7.18 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

7.19 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

7.20 Long sections of trenches showing layers and any cut features will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.

7.21 Generally all sections will be accurately related to Ordnance Datum. There may, occasionally, be instances where this is unnecessary when it will be agreed with the local authority's archaeological representative in advance.

7.22 Registers of sections and plans will be kept.

7.23 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.

7.24 A register of all photographs taken will be kept on standardised forms.

7.25 All recording will be in accordance with the standards and requirements of the *Archaeological Field Manual* (Museum of London Archaeology Service 3rd edition 1994).

Finds

7.26 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material, may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.

7.27 Finds will be scanned to assess the date range of the assemblage with particular reference to pottery. In addition the artefacts will be used to characterise the site, and to establish the potential for all categories of finds should further archaeological work be necessary.

7.28 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.

7.29 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is administered by the Queen's and Lord Treasurer's Remembrancer.

APPENDIX 8

Evaluation reports

8.1 The style and format of the evaluation report will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The report will include as a minimum the following;

- i) A location plan of the site.
- ii) A location plan of the trenches and/or other type of fieldwork strategy employed.
- iii) Plans and sections of features and/or extent of archaeology located. These will be at an appropriate scale.
- iv) A summary statement of the results.
- v) A table summarising per trench the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds.
- vi) Consideration to the methodology will be given along with a confidence rating for the results.

8.2 When an evaluation is followed by an excavation the procedures defined in English Heritage's *Management of Archaeological Projects* 2nd edition 1991 will be followed for immediate post-field archive preparation and initial assessment. It will then be agreed with the local authority's archaeological advisor which aspects will need to be taken forward to the report stage.

APPENDIX 9

Area excavation

9.1 Prior to the stripping of any area excavation, all appropriate surveys (eg geophysical, earthwork, contour) or sampling strategies (eg for topsoil artefact densities, metal detecting, phosphate analysis) will be undertaken.

9.2 In most cases sites will be mechanically stripped of topsoil and other overburden. An appropriate machine will always be used. This will normally be a 360° tracked excavator with a between 1.4 and 2.4m wide toothless bucket. In other cases a JCB 3CX (or similar), or for work with restricted access or working room a mini-excavator such as a Kubota KH 90 will be used. Suitably sized dumpers or lorries will be employed to remove spoil. No plant will be allowed to cross stripped areas.

9.3 All machining will be undertaken under the direct control of experienced archaeologists.

9.4 All undifferentiated topsoil or overburden will be removed down to the first significant archaeological horizon in level spits. The archaeological horizon to which the material will be cleared will have first been established by an evaluation or by the digging of test pits.

9.5 Depending on the aims of the project, the excavated spoil may be monitored in order to recover artefacts. Where their findspots are plotted this will usually be on a 2m grid.

9.6 The surface exposed by the stripping will be cleaned using appropriate hand tools.

9.7 Should the site grid not have already been established it will be done at the cleaning stage. The grid will normally be based on a 10m spacing and related to the National Grid. A temporary bench mark related to Ordnance Datum will be founded

9.8 After the cleaning and planning of the excavation area the sampling strategy will be finalised. This will take into account the project aims (which may need modifying at this stage) and the type, quality and quantity of remains revealed. The sampling strategy will normally seek to maintain at least the following levels;

- i) all structures and all zones of specialised activity (eg funerary, ceremonial, industrial, agricultural processing) will be fully excavated and all relationships recorded;
- ii) ditches and gullies will have all relationships defined, investigated and recorded. All terminals will be excavated. Sufficient lengths of the feature will be excavated to determine the character of the feature over its entire course; the possibility of re-cuts of parts of the feature, and not the whole, will be considered. This will be achieved by a minimum 10% sample of each feature (usually a 1m section every 10m).
- iii) Sufficient artefact assemblages will be recovered (where possible) to assist in dating the stratigraphic sequence and for obtaining ample ceramic groups for comparison with other sites;
- iv) all pits, as a minimum, will be half-sectioned. Usually at least 50% (by number) of the pits will be fully excavated. Decisions as to which pits will be fully excavated will be taken in the light of information gained in the half-sectioning taking into consideration, amongst other things; pit function, artefact content and location;
- v) for post and stake holes where they are clearly not forming part of a structure (see above) 100% (by number) will be half-sectioned ensuring that all relationships are investigated. Where deemed necessary, by artefact content, a number may demand full excavation;
- vi) for other types of feature such as working hollows, quarry pits, etc the basic requirement will be that all relationships are ascertained. Further investigation will be a matter of on-site judgement, but will seek to establish as a minimum their extent, date and function;
- vii) for layers, an on-site decision will be made as to the limits of their excavation. The factors governing the judgement will include the possibility that they mask earlier remains, the need to understand function and depositional processes, and the necessity to recover sufficient artefacts to date the deposit and to meet the project aims.

9.9.1 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;

- i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;
- ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;
- iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating) or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).

9.10 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper '*The Treatment of Human Remains in Archaeology*'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

9.11 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

Recording

- 9.12 All on-site recording will be undertaken in accordance with the standards and requirements of the *Archaeological Site Manual* (Museum of London 1994).
- 9.13 A continuous unique numbering system will be employed.
- 9.14 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.
- 9.15 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.
- 9.16 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.
- 9.17 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.
- 9.18 Long sections of trench edges or internal baulks showing layers and any cut features will be drawn at 1:50 or 1:20 depending on amount of detail contained. Sections of features will be drawn at 1:20.
- 9.19 All sections will be accurately related to Ordnance Datum.
- 9.20 Registers of sections and plans will be kept.
- 9.21 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.
- 9.22 A register of all photographs taken will be kept on standardised forms.

Finds

- 9.23 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.
- 9.24 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.
- 9.25 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is administered by the Queen's and Lord Treasurer's Remembrancer.

Archiving, post-excavation and publication

- 9.26 Following completion of each stage or the full extent of the fieldwork (as appropriate) the site archive will be prepared in the format agreed with the receiving institution.
- 9.27 On completion of the archive a summary report will be prepared. This will include;
- i)* an illustrated summary of the results to-date indicating to what extent the project aims were fulfilled;
 - ii)* a summary of the quantities and potential for analysis of the information recovered for each category of site, artefact, dating and palaeoenvironmental data;
 - iv)* proposals for analysis and publication.
- 9.28 The proposals for analysis and publication will include;
- i)* a list of the revised project aims arising from the fieldwork and post-excavation assessment;
 - ii)* a method statement which will make clear how the methods advocated are those best suited to ensuring that the data-collection will fulfil the stated aims of the project;
 - iii)* a list of all tasks involved in meeting the stated methods to achieve the aims and produce a report and research archive in the stated format;
 - iv)* details of the research team and their projected work programmes in relation to the tasks. Allowance will be made for general project-related tasks such as project meetings, management, editorial and revision time;
 - v)* a publication synopsis indicating publisher, report format and content shown by chapters, section and subheadings with the anticipated length of text sections and proposed number of illustrations.

- 9.29 The summary report embracing the analysis and publication proposals will be submitted to the client and the local authority's archaeological representative for approval.
- 9.30 Any significant variation in the project design, including timetables, proposed after the agreement of the proposals must be acceptable to the local authority's archaeological representative.
- 9.31 The results of the project will be published in an appropriate archaeological journal or monograph. The suitable level of publication will be dependent on the significance of the project results, but as a minimum the basic requirements of Appendix 7.1 of *Management of Archaeological Projects* (English Heritage 1991) will be met.

APPENDIX 10

Standing Building Assessment

- 10.1 A standing building assessment will normally take place in concordance with a Conservation Plan, but may also form part of a Desk-Based Assessment if required.

- 10.2 A visual inspection will be made of both the interior and exterior of the building(s) with a view to establishing the extent of the architecturally important elements that should be included in a later phase of historic building recording work.
- 10.3 A brief written record will be made in addition to digital photography of areas of interest to support recommendations and outline architectural features within the building(s).

APPENDIX 11

Historic Building Recording: The Written Record (Levels 0-6)

- 11.1 Pro forma building recording sheets will be used for the basic written record of the building(s) including comments on the condition, construction techniques, materials, fixtures and fittings and interpretation of function. A competent analysis will be made of all building phases and any relationship between buildings. Day Book records will also be kept for any levels of recording above Level 1.
- 11.2 At Level 4, the written record will encompass a thorough context description of each broad phase of construction and alteration with a view to formulating a stratigraphic matrix of the site.

APPENDIX 12

Historic Building Recording: Photography (Levels 1-5)

- 12.1 Photography will take place at all levels of building recording, and will be undertaken with a single lens reflex camera with through-the-lens (TTL) light metering. A standard 28-90mm lens will be used at all times except where wider or shorter angle lenses are required for longer elevation photography and detailed photography.
- 12.2 The camera will be placed at mid-height to the subject with due care and attention to lighting situations. Two shots will be taken of each feature, undertaken by a light-meter reading of a two-step change in aperture. This change up or down will depend on light conditions.
- 12.3 Interior photography will be undertaken with appropriate lighting conditions and the use of a tripod. Where light access is still quite minimal, an automatic flash will be used.
- 12.4 All photography will be taken on colour slide and black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.
- 12.5 The use of a digital camera may be used as a reference to survey and drawn elevations and ground plans on-site.

APPENDIX 13

Historic Building Recording: Rectified Photography and Photogrammetry (Level 3)

- 13.1 An external contractor will carry out rectified photography and photogrammetry in compliance with the following guidelines:
- i)* All photography will be carried out with an approved type of camera. Details of the camera used may be supplied on completion of the project.
 - ii)* The smallest permissible photographic negative scale will normally be defined as follows: for 1:50 scale plotting, negative scale should be no more than 1:200 and for 1:20 scale plotting, negative scale should be no more than 1:200.
 - iii)* All rectified photography will be taken on black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.

APPENDIX 14

Historic Building Recording: Elevation Recording (Level 2)

- 14.1 All elevations drawn or surveyed will be a 'preservation by record' of the current state of the building. The following categories will be recorded:
- i)* All architectural features with associated decorative detail including windows, doors, quoin stones, string courses, roof lines and other structural stonework and jointing.
 - ii)* Fixtures and fittings such as drainpipes and guttering, signs, brackets and vents.
 - iii)* Later modifications and/or damage to the building such as structural cracks, areas of erosion, patches of rendering, blocked doorways, windows and other openings.
- 14.2 Large or small repetitive features such as windows, capitals, mouldings, etc. sampling will be undertaken as appropriate.
- 14.3 Where the façade is of stone construction each individual stone may be recorded. However, in most instances, a representative area, usually 1m², will be sufficient, although windows, corner stones and other architectural details will always be fully recorded. The degree of recording for ashlar will be depend upon the scale with which the elevation is to be produced and will be determined in advance of the start of works. When drawings are carried out at 1:50, a single line between the joints of the stone will normally be considered satisfactory. However, if there is a considerable gap between the stones, both sides of the stone will be shown. At a scale of 1:20 or larger, then all joints will normally be shown except where the stone is very fine ashlar.
- 14.4 Elevation recording by hand will normally take place if it is inappropriate to do so by survey. The size and complexity of an elevation will determine what on-site scale will be required. In general, a scale of 1:50 will be deemed appropriate with a larger scale adopted if portions of this elevation are more complex. For highly detailed architectural detail a scale of 1:1 may be appropriate.

- 14.5 All hand-drawn measured elevations and detail will be drawn using water-resistant paper with a hard 4H – 6H pencil. A levelled datum line will be taken through the centre of the elevation with offset measurements. All datum points will be accurately positioned within the site either by hand or by survey.

APPENDIX 15

Historic Building Recording: Elevation Recording – By Survey (Levels 2-4)

- 15.1 Where appropriate, elevations may be recorded by radiation survey using a reflectorless EDM (REDM) Leica TCR 705. This method of survey allows the accurate capture of data of upper floor levels. If more than one elevation is to be recorded, then a traverse will be created around each building or group of buildings. Extra stations may be set up in places where there is limited access. Values in the traverse will be adjusted by Bowditch adjustment to compensate for any errors in measurement. The adjusted values will then be calculated using LisCAD Plus v5.0 (Surveying and Engineering Module). Co-ordinates will be located by resection from existing traverse points. The survey data will be downloaded to a laptop computer on-site via Leica Office software. All measurements taken by survey will consist of three-dimensional co-ordinates relating to the Ordnance Survey National Grid.

- 15.2 The recording of an elevation will not be carried out by survey equipment if:

- i) There are too many obstructions;
- ii) The surface of the building is too dark or mossy;
- iii) There is too much curved architectural detail;
- iv) The distance required to set up the survey equipment in front of the elevation is too large (i.e., more than 25m) or too short to capture data from the upper levels of the elevation.

- 15.3 Where appropriate, elevations carried out by survey will be supplemented by detail measured by hand.

APPENDIX 16

Historic Building Recording: Interior Recording (Levels 2-4)

- 16.1 The recording of the interior(s) of the building(s) will consist of a written record and, where appropriate, measured sketch plans of the ground plan and the roof elevations based on the following guidelines:
- i) Critical analysis of the interior condition, construction, materials, fixtures and fittings will be made using *pro forma* recording sheets.
 - ii) Measured interior ground plans of each room of the interior will be carried out using tapes and a Leica Disto™ Classic electronic distance measurer.
 - iii) All measured plans will contain: notes on the size of structural members, and finishes; floor levels, change in levels, and ceiling heights; direction of stair rises in plan with each riser numbered; the positions of service entry points, plant and machinery and sanitary fittings; below-ground drainage; soil and vent stacks and rainwater pipes where appropriate.

APPENDIX 17

Historic Building Recording: Standard Report Illustrations (Level 6)

- 17.1 All final illustrations for archive will be produced digitally on the Computer-Aided Drawing package, AutoCAD 2000i/2000LT and/or Adobe Illustrator v9/v10. A standard methodology will be used with all drawings adhering to the following guidelines:
- 17.2 Line Weight. The appropriate line weight will depend on anticipated plot scale and may need editing if the output scale is to change. The degree of detail used will affect the line weight utilised in the finished drawing. All fine architectural detail (stonework, moulded stonework, brickwork, etc.) will be produced at a line weight of 0.05mm. More general architectural features (outlines of doors and windows, etc.) will be produced at a line weight of 0.09mm. A much heavier line will indicate the changing of plane in complex elevations.
- 17.3 Text. Text will be made clear and informative, with orientation, position, size and letter spacing remaining appropriate to the layout of the plotted sheets.
- 17.4 Scale. No archaeological or historic building survey will be carried out without a particular scale or range of scales in mind.
- 17.5 Layers. The layering system in Computer Aided Drawing packages allow the separation of data into specified criteria. To achieve this, there is an AOC standard layering system. This system is largely based on the coding system inherent in the use of the reflectorless EDM Leica TCR705.
- 17.6 Digital Archiving. All drawings are produced at a 1:1 scale for easy scaling in .dxf or .dwg format. At the end of a project, all data is stored on CD-ROM.

APPENDIX 18

Historic Building Recording: Dendrochronological Analysis (Level 3)

- 18.1 Dendrochronological analysis of timbers from standing building is primarily undertaken to provide accurate dates for its construction. Where appropriate, samples may be taken for analysis to provide information on the source and quality of the timber, thus informing on the social and economic context of the building.
- 18.2 Samples for analysis will take place under the following conditions:
- i) That the timber sample taken is from a species where date chronologies already exist, namely oak and pine.

- ii) A minimum of eight timbers per phase or building are required to cross-match results.
 - iii) The ring patterns inherent in a timber sample must be over a certain length, usually seventy rings.
- 18.3 The method of the removal of samples of timber will be to use a corer attached to a power-driven drill, removing a core leaving a hole in the timber 10mm in diameter. The core will be taken so that a maximum radius from pith to bark is taken, thus ensuring the maximum numbers of growth rings for analysis. Timbers will be selected which have retained a full ring sequence as possible (i.e., those where the outermost rings have not been trimmed off or destroyed by woodworm).
- 18.4 Where it is impossible to use this intrusive method of sample, for example, in the case of painted ceilings and carved panels, the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken where the end grain is exposed.

APPENDIX 19

Historic Building Recording: Paint and Wallpaper Analysis (Level 3)

- 19.1 Paint and/or wallpaper analysis will usually only take place where layers that have been applied over the years have not been removed. Where appropriate, paint analysis can take place by methods of scraped samples or thin section analysis. Cross-sections may also be obtained from samples of paint to reveal a stratigraphy of paint layers.

APPENDIX 20

Historic Building Recording: Reporting (Levels 0-6)

- 20.1 The style and format of the final report on historic building recording works will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The content of this report will depend greatly in the level of works that have taken place but at minimum will include:
- i) A location plan of the site showing the areas under investigation numbered and cross-referenced in the text;
 - ii) A summary statement of the results;
 - iii) An introduction, methodology and results of the works;
 - iv) Photographic plates to illustrate the text.
- 20.2 Where a programme of historic building recording has taken place at Level 2 or above, the Data Structure Report will contain a number of illustrations, the format of which is outlined in more detail in Appendix 17.

APPENDIX 21

Watching Briefs

- 21.1 Where the archaeologist (Watching Brief Officer) has no remit over the working methodology of the site (specification of machine or depth of excavation). The Watching Brief Officer will simply observe the works and record their nature and form. Where the Watching Brief Officer specifies the site methodology, ie type of machine and depth of excavation. AOC Archaeology's preferred approach is to consider the Watching Brief Area as a large evaluation trench and follows in general, Appendix 7.
- 21.1 It is important to stress that the client determines the area affected and unless instructed by a curator the Watching Brief Officer has no power to extend the area unless it is to fully excavate a human body that otherwise would have been truncated by the works.
- 21.2 In addition to the general principles outlines in Appendix 7 the following approaches will be undertaken:
- i) a record will be made of all site attendances; in general a written and photographic record will be kept of the excavated sediments;
 - ii) where archaeological features are identified and they can be dealt with in less than two hours this work will be undertaken by the Watching Brief Officer. Recording and excavation protocols will follow Appendices 7.9 –7.11;
 - iii) where archaeological remains requiring more than two hours of excavation and recording, the Watching Brief Officer will stop the works and both the curator and the client will be contacted to devise a mitigation strategy. All delays will be kept to a minimum. Any resultant excavation and recording work will be in keeping with the methods outlined in Appendix 9;
 - iv) the extent of the watching brief area will not be recorded unless specifically required by either the client or the curator. Where such recording is required the area will be accurately recorded by total station and linked into the Ordnance Datum;
 - v) Reporting of Watching Briefs will follow methods specified in Appendix 8.

APPENDIX 22

General

- 22.1 The requirements of the Brief will be met in full where reasonably practicable .
- 22.2 Any significant variations to the proposed methodology will be discussed and agreed with the local authority's archaeological representative in advance of implementation.
- 22.3 The scope of fieldwork detailed in the main part of the Written Scheme of Investigation is aimed at meeting the aims of the project in a cost-effective manner. AOC Archaeology Group attempts to foresee all possible site-specific problems and make allowances for these. However there may on occasions be unusual circumstances which have not been included in the programme and costing. These can include;

- i) unavoidable delays due to extreme weather, vandalism, etc;
- ii) trenches requiring shoring or stepping, ground contamination, unknown services, poor ground conditions;
- iii) extensions to specified trenches or feature excavation sample sizes requested by the local authority's archaeological advisor;
- iv) complex structures or objects, including those in waterlogged conditions, requiring specialist removal.

Health and Safety

- 22.4 All relevant health and safety legislation, regulations and codes of practice will be respected.
- 22.5 With the introduction of the Construction, Design and Management Regulations 1994, AOC Archaeology works with Clients, Main Contractors, and Planning Supervisors to create a Health and Safety Plan. Where CDM regulations apply, each project will have its own unique plan.

Insurances

- 22.6 AOC Archaeology holds Employers Liability Insurance, Public Liability Insurance and Professional Indemnity Insurance. Details can be supplied on request.
- 22.7 AOC Archaeology will not be liable to indemnify the client against any compensation or damages for or with respect to;
- i) damage to crops being on the Area or Areas of Work (save in so far as possession has not been given to the Archaeological Contractor);
 - ii) the use or occupation of land (which has been provided by the Client) by the Project or for the purposes of completing the Project (including consequent loss of crops) or interference whether temporary or permanent with any right of way light air or other easement or quasi easement which are the unavoidable result of the Project in accordance with the Agreement;
 - iii) any other damage which is the unavoidable result of the Project in accordance with the Agreement;
 - iv) injuries or damage to persons or property resulting from any act or neglect or breach of statutory duty done or committed by the client or his agents servants or their contractors (not being employed by AOC Archaeology) or for or in respect of any claims demands proceedings damages costs charges and expenses in respect thereof or in relation thereto.
- 22.8 Where excavation has taken place evaluation trenches will be backfilled with excavated material but will otherwise not be reinstated unless other arrangements have previously been agreed. Open area excavations normally will not be backfilled but left in a secure manner unless otherwise agreed.

Copyright and confidentiality

- 22.9 AOC Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide an exclusive licence to the Client in all matters directly relating to the project as described in the Written Scheme of Investigation.
- 22.10 AOC Archaeology will assign copyright to the client upon written request but retains the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988.
- 22.11 AOC Archaeology will advise the Client of any such materials supplied in the course of projects which are not AOC Archaeology's copyright.
- 22.12 AOC Archaeology undertake to respect all requirements for confidentiality about the Client's proposals provided that these are clearly stated. In addition AOC Archaeology further undertakes to keep confidential any conclusions about the likely implications of such proposals for the historic environment. It is expected that Clients respect AOC Archaeology's and the Institute of Field Archaeologists' general ethical obligations not to suppress significant archaeological data for an unreasonable period.

Standards

- 22.13 AOC Archaeology conforms to the standards of professional conduct outlined in the Institute of Field Archaeologists' Code of Conduct, the IFA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the IFA Standards and Guidance for Desk Based Assessments, Field Evaluations etc., and the British Archaeologists and Developers Liaison Group Code of Practice.
- 22.14 Project Directors normally will be recognised in an appropriate Area of Competence by the Institute of Field Archaeologists.
- 22.15 Where practicable AOC Archaeology will liaise with local archaeological bodies (both professional and amateur) in order that information about particular sites is disseminated both ways (subject to client confidentiality).

APPENDIX 23**Specialist staff**

The following specialist staff may be used on this project depending on the type of artefacts and soil samples recovered during the course of the fieldwork.

AOC Archaeology Staff:

Ms Lynne Roy	Soils and sediments analysis
Dr Anne Crone	Dendrochronology, charcoal and timber analysis
Dr Ciara Clarke	Pollen analysis
Mr Rob Engl	Lithics & coarse stone
Ms Melissa Melikian	Human bone

Ms Jackaline Robwertson	Macroplant specialist
Mr Alan Duffy	Charcoal identification
Ms Gretal Evans	Artefact conservation

Sub-contractors:

Mr Bob Clark	Industrial archaeology & coal-mining
Ms Marta McGlynn	Historic designed landscapes
Ms Jennifer Thoms	Vertebrate animal bone
Dr Ruby Ceron-Carasco	Marine shell and fish bone
Dr Ann MacSween	Prehistoric pottery
Ms Naomi Crowley	Building material, medieval and post-medieval pottery
Ms Amanda Clydesdale	Plaster, paint and wallpaper analysis

APPENDIX 24**Post-excavation****24.1 Sample Flotation**

Sample flotation is a water recovery technique designed to separate organic remains from the soil matrix. A Siraf style system of flotation and wet-sieving will be operated by the archaeological contractor. This system comprises an enclosed area of water into which the soil samples are deposited and agitated. Due to the difference in densities of organic and inorganic remains the light fractions will float, the heavy fractions will sink and the silt fraction will be washed away. The resulting floating material (flot) is collected in sieves of 0.3 mm and 1 mm, the non-floating residue (retent) is wet-sieved through a 1 mm mesh.

All flots and retents are air dried, bagged and labelled accordingly. Throughout this process all equipment is kept clean to prevent contamination of the samples. For each sample, a Sieving Assessment sheet is completed. This gives basic information about the sample, retent and flot. Prior to flotation and wet-sieving, the volume of each sample is measured by means of a graduated bucket. If in a sample a high concentration of clay can be observed and therefore separation of the different fractions of the soil is difficult, an aqueous solution of defloculant 'Calgon' is added and the sample is left to soak overnight, before processing by flotation and wet-sieving.

Sample flotation will be carried out on site and/or at the premises of the archaeological contractor.

24.2 Sample Wet sieving

Sample wet sieving, also a water recovery technique, is carried out in laboratory conditions and is designed to recover waterlogged material. For the recovery of waterlogged botanical material, small soil samples (0.5 to 1.0 litre) are processed through a 0.3 mm sieve. The sediment is placed in a bucket with water and agitated before being washed through the 0.3 mm sieve. This process is repeated until the sample is totally disaggregated. The resulting material is stored in water or ethanol depending on the length of the storage period. Sample wet sieving can also be used to recover larger waterlogged material such as leather and wood in which case larger volumes of soil are processed.

24.3 Sample Dry sieving

Sample dry sieving is carried out to retrieve smaller artefacts that might be missed during normal excavation procedure, eg. small sherds of pottery and bone. Done in laboratory conditions, all samples are air dried in the first instance. Done in the field, the samples are processed with the sample in a field-moist state. In both cases the sample is passed through a 4 mm mesh and any items of interest are recovered and recorded.

24.4 Residue sorting

All residue (retent) sorting is carried out in laboratory conditions, and is designed to recover not only material that might be missed during normal excavation procedure (see dry sample sieving), but also material that would be impossible to recover during normal excavation procedure eg. charred and uncharred plant remains, insect remains and small fragments of charcoal.

The volume of the residue is recorded and then passed through a set of sieves (mesh sizes 8 mm, 4 mm, 2 mm and 1 mm). Each fraction is spread out onto a separate tray, is scanned with the naked eye and all items of interest are recovered. Under normal circumstances all identifiable material from all fractions is recovered. The only exception to this is burnt wood (charcoal) which is only retrieved from the > 4 mm fractions. All material recovered is bagged individually by material type and the material types and weights recorded on the Retent Sorting Sheet. Also recorded on this sheet are the project number, context number, area, sample number, the sorters initials, date, sample volume, retent volume and percent of the retent sorted. Under normal circumstances 100 % of all fractions are sorted. In those instances where this is not the case, this will be recorded. Where no material is recovered from a retent, the Retent Sorting Sheet will be filled out as usual, with the word sterile written across it.

24.5 Flot sorting

All flot sorting is carried out in laboratory conditions. The volume of each flot is measured. The flots are sorted by means of a low powered binocular microscope. The macro plant remains and other archaeological or ecological material are extracted from the flots

and put into gelatine capsules or glass tubes. An estimate of the number of items recovered and the species represented are recorded. The charcoal larger than 4mm is extracted from the flots and weighed. All extracted items are bagged and labelled accordingly.

24.6 Routine Soils Analysis

All the samples taken on-site will have a routine partner. Four standard routine soil tests will be carried out by the archaeological contractor. These are pH analysis, Loss on Ignition, Calcium Carbonate content and Easily available phosphate content.

The pH value is the measure of the acidity (H+) or alkalinity (OH+) of the sample. Dissolving a portion of the soil in distilled water, then measuring the sample using pH meter carries this out. This is to allow us to estimate the potential for preservation within the sediment.

Loss on Ignition is the measure organic content of the sample. This is measured by burning a small amount of the sediment in a furnace at 400°C for four hours. By measuring the weight before and after burning the organic content can be calculated. The organic content allows us to examine whether manuring or treatment of the natural soil has taken place.

Calcium Carbonate content can be measured by dissolving a few grains of the sample using Hydrochloric acid. If calcium carbonate is present then a small amount of Carbon Dioxide is given off, the greater the amount of CO₂ released the greater the amount of CaCO₃. The Calcium Carbonate content shows us if there is any natural calcium carbonate within the sediment, or if not, any mortar or shell has been included artificially.

The amount of phosphate within a sample is examined at the same time as CaCO₃. After the CO₂ has been released Ascorbic acid is applied, if Phosphate is present a colour change will occur. The phosphate content may show the presence of animals or to a lesser degree indicate where animals were kept.

24.7 Soil Micromorphological Analysis

Micromorphology is the study of undisturbed soils and loose sediments and other materials at a microscopic scale. A 25-30 micron thick slice of soil or sediment is mounted on glass and studied using a petrographic microscope. The samples are prepared for thin section analyses at the Department of Environmental Science, University of Stirling using the methods outlined by Murphy (1986). The samples are analysed using the descriptive terminology of Bullock *et al* (1985) and FitzPatrick (1993).

Bullock, P., Fedoroff, N., Jongerius, A., Stoops, G., Tursina, T. & Babel, U. 1985 *Handbook for soil thin section description*. Wolverhampton: Waine research Publications.

FitzPatrick, E.A. 1993. *Soil microscopy and micromorphology*. Chichester: John Wiley & Sons.

Murphy, C. P. 1986. *Thin section preparation of soils and sediments*. Berkhamsted: AB Academic Press.

24.8 Charcoal ID

Only charcoal retrieved from the 4mm sieve (see Sieving and Sorting procedures) is used for species identification, mainly because fragments below that threshold are too small to identify. If there is no charcoal larger than 4mm present then attempts will be made to identify the largest fragments present for the purpose of C14 samples.

Surfaces are prepared for identification by using a surgical blade to prise off flakes of charcoal revealing fresh surfaces on which diagnostic features can be identified. The charcoal fragment is bedded in sand for examination under a reflected-light microscope.

On average, up to 10 fragments of charcoal are identified per bulk sample. If a single species is present then identification can stop at 5 fragments. However, if a great variety of species is present, ie more than four, then identification should continue until the analyst is happy that a representative sample has been examined. Unusual or exotic species should be bagged and labelled separately within the bulk sample.

Other variables, such as whether the fragment is young roundwood, with sub-bark surfaces intact, whether it has come from a large piece of wood and whether it is fast or slow grown, should be noted.

Species identification is undertaken with reference to Schweingruber's (1982)

24.9 Wood ID

Waterlogged wood; Surfaces on waterlogged wood are prepared for identification by using a cut-throat razor or a double-sided razor blade to pare off thin-sections which are cell-thick and transparent so that diagnostic features can be identified. It is consequently difficult to identify fragments of waterlogged wood smaller than 10 mm². The thin-sections are temporarily mounted in water on slides for examination under a transmitted-light microscope.

Sampling for identification is carried out on the same basis as that for charcoal. Species identification is undertaken with reference to Schweingruber's (1982) *Microscopic Wood Anatomy* and the in-house reference collection of the archaeological contractor.

24.10 Non-charcoal charred plant macrofossil analysis and Waterlogged plant analysis

Analysis of the charred plant macrofossils and waterlogged plants involves identification, quantification and interpretation. Identification of the macro plant remains is done using a low power binocular microscope with x10 and x40 magnifications. The modern reference collection of the archaeological contractor and various seed atlases (Beijerinck 1947, Berggren 1969 & 1981 and Anderberg 1994) will be used to ease identification. The botanical nomenclature follows Flora Europaea (Tutin *et al* 1964-1981). A standardised counting method is used for quantification. Habitat information for the plant species will be taken from Hanf (1983).

24.11 Dendrochronological analysis

Sample size and species type; Three conditions are necessary to ensure the successful dating of a building or archaeological site. The timber must be a species for which there are already dated chronologies which in the UK usually means oak. Cross-matching is a statistical process, and therefore a number of timbers are required, usually at least 8 per building or phase. Finally, and for the same

reasons the ring-patterns must be over a certain length, usually 70 rings. With these conditions observed it can be relatively straightforward to obtain a date for a building.

On-site sampling; In situ timbers in a standing building are usually sampled using a corer, which is attached to a power-driven drill and removes a core leaving a hole in the timber 10 mm in diameter. The core must be taken so that the maximum radius from pith to bark is sampled, thus ensuring the maximum number of growth-rings for analysis. It is also important to select those timbers which have retained as full a ring sequence as possible, ie those where the outermost rings have not been trimmed off or destroyed by woodworm.

Coring is an intrusive method of sampling and it is occasionally impossible to use this method, as in the case of painting ceilings and carved panels. If the end-grain is exposed the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken.

If structural timbers have been removed during the renovation of a building then slices, approximately 50 mm thick can be sampled by saw, usually a chainsaw, from a point along the timber where the maximum radius survives.

Timbers only survive below ground in waterlogged conditions. Waterlogged timbers are sampled as above, by the removal of a 50 mm slice by sawing.

Sample preparation;

Cores are mounted in angle moulding and then the surface is prepared by paring with a Stanley knife followed by fine sanding with Wet&Dry sandpaper until the ring-pattern is clear and measurable.

Slices (dry); The surface of the slice is sanded, usually with a power sander, using progressively finer sandpaper until the ring-pattern is clear and measurable. It is often necessary to finish off the surface with W&D sandpaper.

Slices (wet); The slice is usually frozen for 24 hours and then the surface is planed flat using a Surform plane. This often achieves the necessary clarity of ring-pattern but where the wood is particularly hard it will be necessary to use a razor blade to pare the surface to achieve a clear ring-pattern.

Silicone rubber casts; These are fixed to battens of wood using silicone rubber, for ease of measurement.

Measurement and analysis; The samples are measured on a custom-made measuring table and the data logged onto the computer using DENDRO (Tyers 2000). Data graphing and statistical analysis are also carried out using the same package.

APPENDIX 25

Conservation

25.1 Conservation principles

The principles, ethical codes and techniques of conservation are under constant review by both practitioners and professional bodies. The archaeological contractor's approach to conservation will reflect current theory and practice, as recommended by the United Kingdom Institute for Conservation, the Scottish Museums Council, Resources for Museums and Galleries, the International Council on Museums and the International Institute for Conservation.

25.2 Security

The archaeological contractor will take all reasonable precautions to ensure the security of items brought in for conservation. The building will be protected by intruder detector systems; all conservation items will be kept in a secure locked store when not being worked on, and will not be left unattended. Particularly valuable items will be stored in a safe where required. A heat and smoke detection system will also be in operation 24 hours a day.

25.3 Insurance

Artefacts for conservation will not be covered by the contents insurance of the archaeological contractor. Insurance cover can be arranged for individual items and collections, but this is expensive. Clients are normally advised that the cheapest option is to extend their own insurance for these items for a fixed period. If required, the archaeological contractor could arrange additional insurance, and these costs would be passed on.

The archaeological contractor will have full professional indemnity cover for all its staff.

25.4 Health and safety

All relevant Health and Safety legislation, Regulations, Guidelines and Codes of Practice will be respected; Health and Safety plans will be compiled where Construction, Design and Management Regulations 1994 apply.

25.5 Conservators and allied specialist services

Professionalism: The conservators of the archaeological contractor will be graduates of approved conservation courses, and will have a thorough knowledge of current conservation practices in their particular specialist fields. The conservators will have been actively encouraged to broaden their skills and experience, and to obtain professional accreditation through the United Kingdom Institute for Conservation or PACR.

25.6 Specialist post-excavation analyses

Other services which the archaeological contractor will be able to offer are:

wood identification and woodworking analysis
tree ring dating
pollen analysis

	building materials analysis
	metal artefacts
	metalworking and glass working debris
	materials analysis
	textile analysis
	insects
	fish and shells
	bird bones
	plant remains
	bone identification
	soils specialist/geologist
	artefact specialist
	fibre identification
	leather identification
25.7	<i>Documentation</i>
	Conservation complements the work of other professionals by preventing the deterioration of the artefact, and by ensuring that the wider community benefits from the additional information recovered about an artefact in the course of conservation work. Conservation reports are normally supplied as a hard copy, but can also be supplied on disc in a variety of formats, according to the client's requirements. Reports are normally printed on paper with a guaranteed life expectancy of 150 years; photographic materials are processed to professional industry standards such as Q-Lab.
25.8	<i>Archival considerations</i>
	The archaeological contractor will endeavour to ensure that the materials used to document artefacts undergoing treatment have a reasonable life span. Paper used will have an estimated lifetime of 150 years (HMSO specification), and all photographic films will be processed to industry standards by a processing company that specialises in high quality work for professional photographers. Radiography films and chemicals will be fresh and well within their expiry dates. All labelling of boxes etc. will be carried out with archival quality inks; labels will generally be duplicated for safety's sake. Wherever possible, the archaeological contractor will consider the archiving requirements for the site, and may consult the receiving museum or archive about their requirements; the archaeological contractor will follow guidelines proposed by the Association of Museum Archaeologists. The archaeological contractor will abide by current guidelines on the care and disposal of artefacts and human remains, as set out in:
	<i>The Disposal and Allocation of Finds</i>
	<i>Publication and Archiving of Archaeological Projects</i>
	<i>Treatment of Human Remains in Archaeology</i>
	<i>Archaeological Project Design, Implementation and Archiving</i>
25.9	<i>Museum of London Guidelines</i>
	Museum of London requirements for conservation, recording, documentation, packing and archiving will be applied where these are a pre-condition.
25.10	<i>Assessment and estimating</i>
	The assessment determines the condition of the artefact and the best means to ensure its survival. Radiography (x-raying) of the object is normally carried out at an early stage, and is compulsory for iron objects, which have poor survival prospects, and for some copper alloy artefacts. The estimate for the work normally applies for six months; it may be necessary to review it thereafter. Conservation rates are agreed by negotiation.
25.11	<i>Recording</i>
	Text and image records (paper, digital and/or film as appropriate) will be made of all artefacts before conservation commences. Any information recovered during cleaning and conservation (eg associated material, residues, corrosion products, manufacturing techniques) will be carefully recorded, with samples taken where necessary. Soil removed from an artefact during the process will normally be retained and returned with the object, unless the excavator and/or client decides that it is not required. Where necessary, experts will be consulted on the nature of any material discovered during cleaning or conservation of artefacts. All samples and slides will become part of the site archive and remain with the artefact. The conservation report will also include recommendations for the care and curation of the assemblage; special finds with particular packing requirements will have clear handling and lifting instructions on the outside of any packaging.
25.12	<i>Conservation Record</i>
	The conservation assessment sets out the proposed treatments for each type of artefact or material: these treatments can be discussed with the client, and with the museum, to take into account any priorities and display requirements. (See Section 9, Assessment)
25.13	<i>Radiography</i>

	The archaeological contractor will x-ray all excavated iron objects, as well as some of the copper alloy, and any other items as requested by the excavator: information from the x-rays are incorporated into the conservation report. All metal artefacts can be x-rayed if required; only film and chemicals within their expiry date are used, washing periods are the optimum to maximise film preservation.
	X-rays normally become part of the archive, and are returned to the client, with full details of exposure time and voltages used.
25.14	<i>Record photography</i>
	All artefacts selected for conservation will be photographed (on colour slide film) at least once; usually before and after conservation, with a label and scale in the frame. Unusual artefacts, noteworthy features or modified conservation treatments will be photographed whenever appropriate. All images will be recorded in the conservation report, and each slide labelled with the context and find number. The archaeological contractor will use Professional grade film, and a professional developing service to ensure maximum film stability. The slides form part of the conservation archive, and will remain with the artefact.
25.15	<i>On-site conservation and conservation on call</i>
	A conservator can be available on site if required, and the conservators of the archaeological contractor can provide immediate advice over the phone at any time (specific arrangements must be made for out of hours working). Advice on packing, lifting and transporting artefacts may be given in the early stages of a project.
25.16	<i>Conservation treatments</i>
	The requirements of each artefact will be considered individually, and any remedial treatments carried out will use only recognised conservation treatments and approved materials. The archaeological contractor will be committed to CPD, which ensures that its conservation staff are fully cognisant with new developments in the field.
25.17	<i>Post-excavation storage</i>
	It is recognised that budgetary arrangements may mean considerable time can elapse between excavation and conservation or Finds Disposal. All finds will be examined by a conservator on receipt; packing and storage materials will be renewed as necessary, and the archaeological contractor will ensure that all finds will be kept in a secure, stable environment until conservation treatments begin. Any finds that require immediate treatment will undergo conservation as soon as the conservators have consulted the Project Field Officer. Large volume storage at 1 °C and -20 °C; and storage for waterlogged material will be available in-house.
25.18	<i>Packing</i>
	All artefacts will be packed in suitable inert materials, with silica gel if required. Fragile objects will be supported by Ethafoam, or similar, and lifting and handling instructions on the container. Especial care will be taken for artefacts, which will be going into long term storage. All containers will be carefully labelled, and box lists supplied.
	APPENDIX 26
	Archiving and finds disposal
26.1	<i>Finds disposal</i>
	All artefacts and ecofacts recovered during an excavation sponsored by Historic Scotland (HS) are reported directly to HS via their own collections registrar. If all material has been fully analysed at this point, it is in most cases, transferred to an HS store. HS's Finds Disposal Panel (FDP) with permission of the Queen and Lord Treasurers Remembrancer (Q<R) then allocates the material to the appropriate museum for long term storage and possible display. Artefacts and ecofacts recovered from excavations sponsored by other funding bodies are reported to the Crown via the Treasure Trove Advisory Panel (TTAP). The TTAP with permission of the Q<R then allocates the material to the appropriate museum for long term storage and possible display. Once the material has been allocated, it is then the museum's responsibility to arrange collection from the archaeological contractor.
26.2	<i>Archiving</i>
	All archiving will be undertaken according to standards and guidelines set out by the National Monuments Record of Scotland (NMRS), located at the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). The archives of all archaeological works will be deposited to the NMRS.
	APPENDIX 27
	Publications
27.1	<i>General</i>
	All publications by the archaeological contractor will be clear, correct and concise accounts of what was done and will reach standards acceptable to the archaeological profession. Final reports will be published within five years of the end of fieldwork. Publications should be published in popular archaeological, general and specialist formats to inform a wide readership of what work was done and must be made available to both lay and professional audiences for the foreseeable future. Publications must also provide good value for money in terms of the content and style of the publications. In DES entries and journal publications the role of the client will be

fully acknowledged. In the popular publications and monographs suggested below the role of the client will be more fully promoted, with the display of the client's logo on the cover and a foreword by their representative. The over-riding aim of the procedures outlined in this section is to ensure that, during the duration of the project, a continuous stream of information about the archaeological works is made available for peer review and public consumption. The following stages and publication vehicles are envisaged;

27.2 *DES entries*

After the completion of each piece of on-site work, whether it be a watching brief, evaluation, set-piece excavation or building recording exercise a Data Structure Report (DSR) will be produced (see Fieldwork procedures). These are not reports intended for publication but they usually include a short summary which will be submitted for publication in *Discovery and Excavation Scotland* (DES), an annual summary of fieldwork published by the Council for Scottish Archaeology. It is proposed that an individual entry for each piece of on-site work will not be submitted; rather a single entry summarising all the works carried out in any one year will be compiled by the Project Manager. The DES summary is a standard requirement of planning authority archaeologists and ensures that notice of ground-breaking works is disseminated throughout the archaeological community.

27.3 *Journal publications*

Reports on the results of excavations are normally published either as an article in an academic journal or as a monograph in an appropriate series, depending on the scale of the results. The results of the set-piece excavations will be published as journal articles with reference to other on-site works such as watching briefs and building recording, where appropriate. The publication of these articles will follow on timeously from the completion of post-excavation works.

27.4 *Monograph publications*


The results of all the on-site works will be drawn together in a single volume, a monograph designed primarily for academic consumption. This will be published within 5 years of the completion of on-site works.

27.5 *Popular publications*

The results of all the on-site works will also be drawn together in 'popular' publications that augment the academic publications in making the results available to a wider public. This is a method of providing 'community gain' to the local and national community in return for its consent, through the planning process, to alter or demolish elements of the archaeological heritage. Popular publications may include, as deemed appropriate by the client, Internet reports within the web site of the archaeological contractor, printed colour booklets, leaflets, on-site interpretative panels and exhibitions.

27.6 *Editorial procedures*

The archaeological contractor will apply their in-house editorial policy and procedures, through which any projects nominated for publication are normally submitted.



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ES Volume II: Technical Appendices

Appendix 11.1: Preliminary Ecological Appraisal

Document Control

Report Issue	Notes
01	Original document to client.
02	Amendment following initial client review
03	Added desk data and value to ecological features for EIA
05	
05	
06	
Managing Office	Derby

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1 Introduction

1.1 Terms of Reference

In May 2017 Prime Environment Limited (Prime Environment) was instructed by Trium Environmental Consulting LLP (the Client) to undertake a Preliminary Ecological Appraisal of OS Parcel 2200 adjoining Oxford Road, north of Promised Land Farm, Oxford Road, Bicester. (Ordnance Survey (OS) grid Reference SP 57958 21564) (The Site).

The Site is 12 hectares and comprises an arable field with rough grassland margins and hedgerows with trees. There is a ditch running across the Site in the west and dry and wet ditches at the field boundaries. The Survey Area is slightly larger than the Site (15 ha) as the Site does not include all of the field.

The project proposals are to develop the Site into a large business park with associated hard and soft landscaping. The application will be subject to a formal Environmental Impact Assessment (EIA).

1.2 Aims and Objectives

The aims of the study were to:

- Identify, describe and assess the value of any sensitive ecological receptors at the Site and the immediate surrounding area.
- Identify potential ecological impacts of development and suggest appropriate building constraints, outline mitigation and compensation measures.
- Identify whether significant impacts to ecological receptors is likely, and therefore whether ecology should be included in the EIA.
- Make recommendations for any necessary further survey work or licensing, as required.

Ecological information for the assessment was provided by an Extended Phase 1 Habitat Survey and desk study (ongoing).

2 Methodology

This survey and reporting was undertaken by Jo Pedder Bsc. hons. Jo is a full member of the Chartered Institute of Ecology and Environmental Management and has over 14 years' professional ecology experience. Jo was supported in the field survey by Jon Moore MSc BSc (Hons). Jon is a full member of the Chartered Institute of Ecology and Environmental Management and has over 7 years' professional ecology experience. Both surveyors are registered to use survey licences for bats and great crested newts.

2.1 Desk Study

Thames Valley Environmental Records Centre (TVERC) was contacted for records of protected species and sites of nature conservation value within a 2 km search area, centred on the Site.

In addition, Ordnance Survey maps and online aerial photos were used to provide site context and the online Multi Agency Geographical Information Centre¹ (MAGIC) was used to identify any internationally protected areas within 5 km of the Site. Planning applications for developments in the local area have also been searched to identify further data relevant to the Site. This has included an Environmental Statement for an approved application known as 'Land at Whitelands Farm' (06/00967/OUT) which included the Site in its ecological surveys and another consented application for a similar scheme at the Site 07/01106/OUT

2.2 Extended Phase 1 Habitat Survey

A Phase 1 Habitat Survey was undertaken at the Site on the 2nd May 2017 to identify and map the habitats present following published criteria².

In addition to basic Phase 1 Habitat mapping, the Site was assessed to identify whether it includes any Habitats of Principal Importance (HPI) or is suitable to support Species of Principal Importance (SPI)³, or other notable or legally protected species.

2.3 Hedgerow Assessment

This report has been prepared to support a planning application, and therefore there is no legal requirement for undertaking a Hedgerow Regulations assessment; removal of hedgerows is considered permitted under the legislation if the removal is part of a planning consent. However, this is a useful tool for identifying features of value within a site. Each hedgerow within the Site was assessed against the ecology criteria for 'important' hedgerows following the method set out in The Hedgerow Regulations 1997. **The assessment did not include an historical assessment of the hedgerows, which should be considered separately.**

¹ <http://magic.defra.gov.uk/>

² JNCC (2010) *Handbook for Phase 1 habitat survey - a technique for environmental audit*

³ HPI and SPI are habitats and species listed in Section 41 of the Natural Environment and Rural Communities Act 2006 and regarded as the highest conservation priorities in the UK. HPI and SPI are material consideration in planning.

2.4 Bat Tree Assessment

All trees within or adjacent to the Site (where access was possible) were assessed for their suitability to support roosting bats. Trees which could potentially support bats were subject to a detailed examination with binoculars. As there were a number of trees, and a plan with tree locations could not be provided at the time of the survey, individual trees were not assessed, but groups of trees supporting one or more specimens suitable for roosting bats were recorded.

2.5 Great Crested Newt Pond HSI

A Habitat Suitability Index⁴ (HSI) score was calculated for two ponds adjacent to the Site.

The calculated HSI for a pond provides a score between 0 and 1. The pond's HSI can then be compared to the ranges of pond suitability, as shown in the table below. An inference can then be made between the HSI of a pond, and the likelihood of great crested newt presence.

Table 1
HSI scores and suitability of ponds for GCN

HSI Score	Classification	Proportion of Ponds Occupied by Great Crested Newts
<0.5	Poor	0.03
0.5 – 0.59	below average	0.20
0.6 – 0.69	Average	0.55
0.7 – 0.79	Good	0.79
> 0.8	Excellent	0.93

2.6 Constraints

Any ecology assessment must be considered as a 'snapshot' of the site conditions at the time of the survey; not all botanical species or communities would have been evident during the survey.

Notwithstanding this, given the agriculturally managed nature of the Site, the findings of the survey are considered to provide an appropriate assessment of the Site's ecological value.

Ecological constraints will change over time and therefore the findings of this report is considered to be valid for a period of one year, after which the report should be reviewed to assess whether the survey should be updated.

⁴ Oldham, R.S., Keeble, J., Swan, M.J.S., & Jeffcote, M. (2000) *Evaluating the Suitability of Habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10: 143-155.

3 Results

3.1 Desk Study

Full TVERC data is presented in Appendix 3.

Only one statutory designated wildlife site occurs within the search area (2 km for local and national sites, 5 km for international sites): Bure Park Local Nature Reserve. The includes grass meadow, young broad-leaved woodland, hedges and scrub. A small river (the Bure) runs through the Site, feeding a small pond which is home to great crested newts. A balancing pond at one end of the Reserve is fed by run-off from the area. Bure Park is 1.8 km north of the Site, on the far side of Banbury.

Graven Hill Local Wildlife Site (LWS) is 1 km to the south east of the Site, is on a Ministry of Defence site close to Bicester. It caps a low rounded hill with oak and ash woodland.

Gavray Drive Meadows LWS (1.5 km north east of the Site) form a mosaic of small damp fields with ponds, divided by thick hedges with old trees. Great crested newt have been recorded.

Bicester Wetland Reserve, a Local Wildlife Site owned by Thames Water is 280 m south-east of the Site. The reserve includes scrapes, pools and ditches and is managed principally for wetland birds. Other local sites are likely to be identified in the desk-study.

The bird data is extensive as the search area includes a hide overlooking the Bicester Wetland Reserve, which is operated by the Banbury Ornithological Society.

Species records of relevance to the Site are in the following table (Latin names are in the desk study appendix).

Group / Species	Status	Reason for inclusion	Distance of nearest record (km)
Invertebrates			
Brown hairstreak (butterfly)	WACA-Sch5 NERC-S41	Life cycle includes blackthorn hedges	1.96
Amphibians			
Great crested newt	HabDir-A2np, HabDir-A4, HabReg-Sch2, WACA-Sch5, NERC-S41	Ponds in proximity to the site and potential to occur on site (limited habitat)	1.5
Reptiles			
Slow worm	WACA-Sch5-s9.1k/s9.5a/s9.5b	Potential to occur on site (limited habitat)	2.05
Birds			
Dunnoek	Amber listed, NERC-S41	Potential to nest in hedges	0.56
Grey Wagtail	Amber listed	Potential to forage along stream at boundary	0.46
Kingfisher	Amber listed, Birds, Directive, WACA Sch1	Potential to forage along stream at boundary	0.47
Lapwing	NERC-S41, red listed	Potential to overwinter on arable	0.21
Linnet	NERC-S41 red listed	Potential to nest in hedges	0.56
Song thrush	NERC-S41 red listed	Potential to nest in hedges	0.56

Swallow	Amber listed	Potential to forage over site	0.46
Swift	Amber listed	Potential to forage over site	0.56
Skylark	NERC-S41, red listed	Potential to breed within arable habitat on site	1.01
House Martin	Amber listed	Potential to forage over site	0.46
Yellowhammer	NERC-S41 , red listed	Potential to nest in hedges	0.88
Kestrel	Bird-Amber	Potential to forage over site	0.72
Red Kite	BirdsDir-A1, WACA-Sch1-p1, Amber listed	Potential to forage over site	0.72
Yellow Wagtail	NERC-S41 , red listed	Potential to forage along stream at boundary	0.46
Bullfinch	NERC-S41, Amber listed	Potential to nest in hedges	1.92
Sand Martin	Amber listed	Potential to forage over site	0.46
Starling	NERC-S41 , re listed	Potential to forage over site	0.72
Fieldfare	WACA-Sch1-p1, Red listed	Potential to forage over site in winter (Winter visitor only)	0.72
Mammals			
Badger	Badgers-1992	Potential to occur on site	1.86
Otter	HabDir-A2np, HabDir-A4, HabReg-Sch2, WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b, NERC-S41	Potential to pass along stream next to site	0.38
Common Pipistrelle	HabDir-A4 ,HabReg-Sch2, WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	Potential to forage over site and roost in trees	0.5
Long-eared Bat species	HabDir-A4 ,HabReg-Sch2, WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b, NERC-S41	Potential to forage over site and roost in trees	0.79
Noctule Bat	HabDir-A4 ,HabReg-Sch2, WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b, NERC-S41	Potential to forage over site and roost in trees	1.01
Soprano Pipistrelle	HabDir-A4 ,HabReg-Sch2, WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b, NERC-S41	Potential to forage over site and roost in trees	1.72
<p>EC Directive 79/409/EEC on the Conservation of Wild Birds BirdsDir-A1 - Species listed on Annex 1</p> <p>EC Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora. HabDir-A2, HabDir-A4 & HabDir-A5 - Annex 2 and Annexes 4/5 respectively of the EC Habitats Directive.</p> <p>Wildlife and Countryside Act (WACA) 1981 (as amended) Sch1(pt 1) – There are additional penalties for offences relating to birds on this schedule and it is also an offence to disturb such birds at the nest or with dependent young. Schedule 5 Wild Animals which receive some protection (subsections Sch5_ssect9.1 – covers intent intentional killing injuring or taking (species are covered by all or some of these) Sch5_ssect9.2 – Covers possession or control (live or dead animal, part or derivative) Sch5_ssect9.4a – Covers damage to or destruction of any structure or place used by a scheduled animal for shelter or protection. Sch5_ssect9.4b – Covers disturbance of animal occupying such a structure or place. Sch5_ssect9.4c – Covers obstruction of access to any structure or place which any such animal uses for shelter or protection Sch5_ssect9.5a – Covers selling, offering for sale, possessing or transporting for the purpose</p>			

of sale (live or dead animal, part or derivative).
Sch5_sect9.5b – Covers advertising for buying or selling such things.
Birds of Conservation Concern list
These lists were drawn up by leading governmental and non-governmental conservation organizations including the RSPB and British Trust for Ornithology.
Red List species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered.
Amber List species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare breeders (fewer than 300 pairs), those with internationally important populations in the UK

3.2 Surrounding Area

The Site is situated within a mixed landscape. To the immediate north of the Site is a new supermarket, beyond which is the town of Bicester. To the south there is a shopping complex including a garden centre and to the south east is a water treatment works (and the wetland reserve). Further south east are pasture fields and a military base. To the west of the Site is a large new housing development mostly on former arable fields.

Plate 1, an aerial photograph of the Site, shows the Site in context with the surrounding landscape. Note that this landscape has changed since the image was taken and does not include the housing estate to the west or the supermarket to the north.

Plate 1
Aerial Photograph



3.3 Site Habitats

The Site is approximately 12 ha and largely comprises an arable field which was seeded with grass for hay or silage at the time of survey. There is one habitat within the Site which is a species of principal importance - hedgerows.

The Site comprises:

- An arable field.
- Arable margins.
- Hedgerows.
- Trees.
- Ditches.
- Log piles.

A list of all species recorded with their Latin names is included in Appendix 2 (Table 3) and a Phase 1 Habitat Plan in Appendix 4.

3.3.1 Improved grassland

Phase 1 Habitat Survey type: Arable

Habitat of Principal Importance (HPI) present: No.

Management: regular agricultural management.

The majority of the Site is an arable field. At the time of the survey it was under a grass crop (principally perennial rye-grass).

There were few forbs recorded within the sward, except at the margins (see below).

Part of the Site (in the south-west) can be seen on aerial photos as a rough grassland, but this has been incorporated into the arable field.

Plate 2
Semi-improved grassland



3.3.2 Field margins

Phase 1 Habitat survey type: Poor semi-improved grassland.

HPI: No.

Management: Annual mowing, probable spraying.

The grass field margins are approximately 2 m wide in the north east and south west of the site, but almost absent from the south (along hedgerow 3 and 4). The field margins do not qualify as the Habitat of Principal Importance 'arable field margins' as they are not deliberately created and managed for wildlife.

The grassland is dominated by meadow fescue and includes a range of common flowering species such as lesser burdock, spear thistle and cleavers. The margins of the area recently taken into arable management is more diverse and includes species associated with woodlands and hedgerows such as Lords-and-Ladies and hedgerows such as cow parsley. In the north east of the Site the margins include an unusual amount of comfrey.

Plate 3
Arable margin



3.3.3 Hedgerows

Phase 1 Habitat survey type: species rich and species poor intact hedgerows and species poor defunct hedgerows.

HPI: Yes.

Management: mixed.

Most of the field boundaries with shrubs are no longer managed as hedgerows and could be considered to be tree lines. Most are species poor, but one (Hedgerow 4) has five woody hedge species and a further three as taller standard trees. Under "woody species and associated features" this hedge qualifies as important under the hedgerow regulations.

Details of the hedges are included in Appendix 2, Table 5 and 6.

3.3.4 Trees

Phase 1 Habitat Survey type: Scattered trees

HPI: No.

Management: None.

Within the Site are tree lines formed of former hedgerows and standard trees in hedges. Trees and tree groups are described in more detail in Appendix 2, Table 5.

Some of these are suitable for roosting bats, such as the pollarded willow pictured, which has a large hollow at the base, creating a cavity.

Plate 4
Hedgerow 4



Plate 5
Willow (G4)



3.3.5 Ditches

Phase 1 Habitat Survey type: Running water, swamp and marginal vegetation.

HPI: yes (swamp).

Management: Varied.

Ditches 1 and 2 include patches of standing water and wet mud. At the juncture of Ditch 2 and D3 is a stream (off site). Ditch 1 is the most biodiverse area of the Site.

Aquatic and semi-aquatic vegetation within the ditches includes water-crowfoot, water-plantain, water-starwort, common duckweed and brooklime. Hard rush, marsh horsetail and bulrush were recorded in dryer areas.

The bankside vegetation includes creeping bent, lords-and-ladies, white bryony and rosebay willowherb.

Ditch 1 has historically been tree-lined, but was cleared when the arable field was extended.

3.3.6 Log pile

Phase 1 Habitat Survey type: n/a

HPI: No.

Management: N/A

Two large piles of wood, which appear to comprise trees felled from clearance of bank side vegetation.



Plate 6
Ditch



Plate 7
Log pile

3.3.7 Bare or disturbed ground and earth banks

Phase 1 Habitat Survey type: spoil, bare ground

HPI: No.

Management: N/A

There is a spoil heap in the north west of the Site and an earth bank that forms a boundary between the new supermarket and the Site.

The banks are likely to have been grass seeded, but also include colonising species present in the spoil heap and disturbed areas such as cleavers and bristly oxtongue as well as wild mignonette, white campion and charlock.

Plate 8
Spoil heap



3.4 Species

3.4.1 Invertebrates

Protected / Species of Principal Importance (SPI): some are, but unlikely to be present.

The Site's terrestrial habitats are common and widespread, with the agricultural crop believed to be subject to regular herbicide and pesticide spraying. They are therefore unlikely to support species or a range of invertebrate fauna which is of conservation importance.

3.4.2 Amphibians

Protected / SPI: Some are, and may be present.

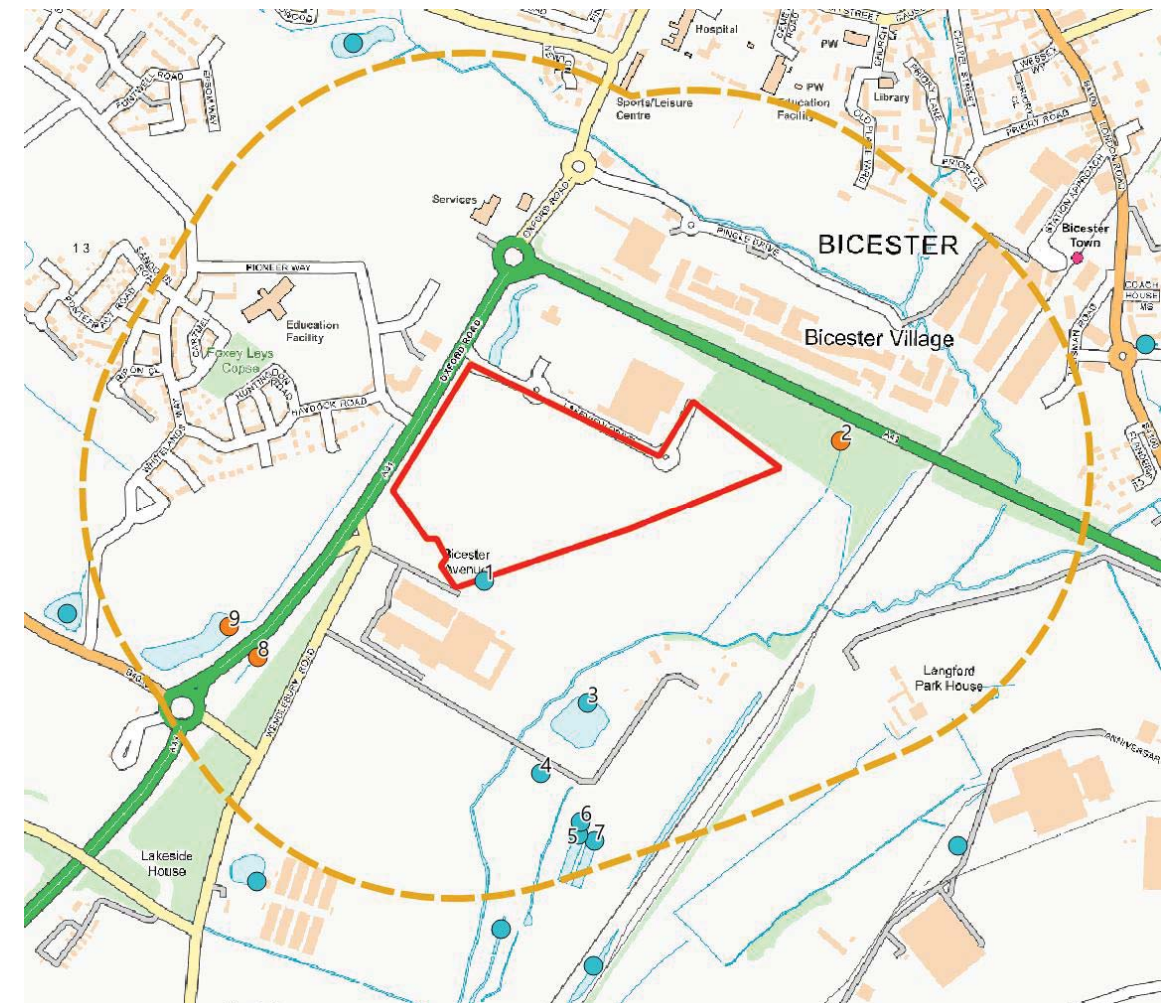
Great crested newts are a European Protected Species (EPS). The newts can travel some distance from their breeding pond. It is best practice to consider whether ponds within 500 m of a development site may support a breeding population of newts, in order to assess the likely risk of harm to newts if they occur on terrestrial habitat at the Site.

Ordnance survey mapping, aerial photos and the site visit were used to identify the presence of ponds within 500 m of the Site. Nine ponds were located (See Plan 1 below).

Pond 1 is immediately adjacent to the Site, it is located within the garden centre and its overflow feeds Ditch 1. Pond 1 scores 0.79 in the HSI (good quality for great crested newts). Pond 2 is a water attenuation pond in an unmanaged field north of the Site. The pond was dry at the time of survey and appears to rarely hold water (based on the vegetation growing within it). Ponds 3,5,6 and 7 are part of the water treatment processes at the Thames Water site. These were not viewed for this survey, but are unlikely to be suitable for newts. Pond 4 is a series of connected ditches and scrapes at the Bicester Wetland Nature Reserve. This feature was not surveyed fully, but observed by binoculars. It has a HSI score of 0.53 (below average quality for great crested newts. Ponds 8 and 9 are new attenuations ponds associated with the development to the west; the former is for road runoff from the new road access and the latter appears to be in what will be public open space. Neither held water at the time of survey, although Pond 9 does have emergent plants indicating it is wet or at least damp for some of the year. HSI data is included in Appendix 2, Table 4.

The HSI survey was undertaken at a time of year when newts lay eggs, but none were observed during the survey.

Plan 1 Pond Locations



3.4.3 Reptiles

Protected / SPI: Yes and possibly present.

The Site's rough field margins and hedgerows are suitable for common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*. All British reptiles are protected from killing or injury (but their habitat is not specially protected) and are SPI. The majority of the Site (the crop) is considered to be of very limited value to reptiles due to the monoculture of the field and lack of basking areas. It is possible that some reptiles are present in the rough vegetation at the boundaries and the log piles, however, it is considered unlikely that there is a significant population present.

The Site may therefore support a small population of common lizard and/or slow worm. Grass snakes may hunt within the Site as part of a much wider home range.

3.4.4 Birds

Protected / SPI: Some are, and are likely to be present.

The hedgerows and trees provide opportunities for birds to nest on the Site. As well as more common birds, several skylark *Alauda arvensis* were also observed singing above the Site – based on the observations during the survey there may be up to four active nests. A single song thrush *Turdus philomelos* was also recorded.

Whilst some red and amber list species are present on Site, the breeding assemblage is not likely to be anything other than typical of the habitats present in the geographic location.

3.4.5 Dormouse

Protected / SPI: Unlikely to be present.

Dormice are protected under international legislation. They inhabit hedges, woodland, scrub and sometimes ruderal vegetation. Although the Site includes some of these habitats, typically the species is found in areas of extensive woodland. The Site is poorly connected to woodland and it is considered that dormouse are unlikely to occur at the Site.

3.4.6 Badgers

Protected / SPI: Yes.

A number of rabbit warrens were recorded around the Site, under hedgerows. A single larger mammal hole was also recorded. The spoil contained rabbit fur and droppings, and there were rabbit droppings in the entrance. However, the entrance tunnel was of a size and shape typical of badgers. It is possible that this is an outlier sett that is not currently occupied by badgers.

No further evidence of badger was observed on the Site or within 30 m of the Site boundary.

3.4.7 Riparian mammals

The Site's ditches do not hold sufficient water to support a water vole population. Although dry ditches may be used by otters moving between rivers or to foraging areas, the Site is not between major river systems. Otters have been recorded at the Bicester Wetland Reserve, and may access this via the stream south east of the Survey Area, but otters and water vole are unlikely to occur at or adjacent to the Site.

3.4.8 Bats

Protected / SPI: Possible roosting and foraging.

Foraging and commuting

Although the main body of the Site will be of limited value to bats, the hedgerows and trees are likely to be used by a number of foraging bats. Bat are also likely to use the Site as a route to move across the landscape, for example between roosts in Bicester and foraging at the Bicester Wetland Reserve. The Site is considered to be of medium value to bats according to Bat Conservation Trust classification (Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water – see Appendix 2, Table 2.)

Roosting

Trees

A number of trees were recorded that are suitable for roosting bats (see Appendix 2). These include individual trees on most of the site boundaries.

4 Assessment

Relevant legislation and national planning policy is provided in Appendix 1.

4.1 Development Proposals and Possible Impacts

The proposals are to develop the Site into business centre with 11 office blocks, a lake and associated car parking.

Vehicle access to the Site will be made from existing access points constructed with the new supermarket; all boundary hedges and trees can be retained within the scheme.

All of the Site's arable land and arable margins are likely to be removed.

The proposals include the creation of a new lake.

4.2 Potential Effects for Consideration

The following section will address what is relevant for consideration within the forthcoming Environmental Impact Assessment.

The Site as a whole is not of sufficient intrinsic ecological value to warrant whole-scale protection from development; the majority of the Site's habitats which will be affected by the proposal are common and widespread and are considered to be of low intrinsic biodiversity value.

Features requiring some level of further consideration, which may lead to a requirement for mitigation or compensation, are:

- The Bicester Wetland Nature Reserve
- Ditches
- Great crested newts
- Reptiles
- Birds
- Bats
- Badgers

4.2.1 Bicester Wetland Nature Reserve

The EIA will need to consider whether the reserve is hydrologically connected to the Site and therefore whether additional measures will be required during construction and operation to ensure that it is not impacted e.g. through pollution.

4.2.2 Habitat Loss

The proposed construction on the Site will lead to the loss of Ditch 1, which supports a number of wetland plants. The EIA will need to assess whether this loss is significant and if habitat improvements within the scheme offset this loss.

4.2.3 Great Crested Newts

If great crested newts breed in ponds and ditches close to the Site, the proposed works will lead to a loss in terrestrial and breeding habitat (the southern ditch) for great crested newts.

Ponds local to the Site do not appear to have been directly surveyed for great crested newts. Although a Site based terrestrial survey was undertaken in 2006, this is out of date and further surveys will be required to establish whether those ponds and ditches within 250 m support a crested newt population. The survey season for full pond surveys is mid-March to mid-June, with half of the visits between mid-April and mid-May. This will not be feasible this season, and so an eDNA survey will be more appropriate. This can be undertaken to the end of June, but will only provide a present or absent result, not the size of any population detected.

As the majority of the terrestrial newt habitat within the Site is of low value to newts and a reasonable area is available for mitigation (in undevelopable flood plain) a comprehensive mitigation plan can be put together based on the presence / absence result by making an assumption that there is a large population present, and basing mitigation on this. Loss of breeding Sites and terrestrial habitat could be compensated for within the Site's landscaping scheme or an off-Site receptor could be used to receive newts from the Site. Natural England's new policies on licence applications have changed the way in which mitigation for newts is considered; the approach is more flexible, allows for data to be accepted that doesn't strictly meet best practice in some cases and is more accepting of off-site solutions.

Of most relevant is Policy 4 – 'Appropriate and relevant surveys where the impacts of development can be confidently predicted'

Natural England will be expected to ensure that licensing decisions are properly supported by survey information, taking into account industry standards and guidelines. It may, however, accept a lower than standard survey effort where: the costs or delays associated with carrying out standard survey requirements would be disproportionate to the additional certainty that it would bring; the ecological impacts of development can be predicted with sufficient certainty; and mitigation or compensation will ensure that the licensed activity does not detrimentally affect the conservation status of the local population of any EPS.

It would seem reasonable that the ES for an outline application at the site can therefore be based on the results of eDNA surveys, which would be followed up by further survey (if necessary) prior to reserved matters.

4.2.4 Reptiles

Reptiles may be present at the Site. However, the areas of habitat in which they may be found is limited. The EIA should address impacts to reptiles, but it would be reasonable to assume that a small population is present, rather than undertake surveys for this species.

4.2.5 Birds

The EIA will need to address impacts to birds, and specifically skylarks – the only notable species which is likely to suffer habitat loss as part of the project. A survey to better quantify the number of skylark territories would aid the assessment, however the field observations made during the phase 1 survey are appropriate to state that the site supports up to three breeding territories.

4.2.6 Badgers

The loss of the possible single outlier sett will not be significant to the local badger population; however badger setts are legally protected and further consideration for mitigation and licencing will be required.

4.2.7 Bats

Although trees containing bat roosts are unlikely to be felled, indirect effects may occur due to habitat loss, disruption of commuting routes and lighting.

In order to assess the impact of the scheme, further surveys to quantify bats' use of the Site for commuting and foraging should be undertaken (activity surveys). Where trees are at risk of more direct effects, such as lighting, more detailed tree surveys should be completed.

Following best practice, activity surveys would comprise identifying two transect routes which are walked with bat detectors once per month through the active season. In this case we would undertake surveys between May and September, including one dusk and pre-dawn survey. At each survey period four static bat detectors would be left in suitable locations to record bat activity over at least five continuous nights. After the first three sets of surveys are undertaken, we will review the activity recorded and re-assess whether a whole year's survey is required for this assessment – by then the scheme design will have been further developed, and impacts to bats may have been designed out of the scheme, or we may have demonstrated that the Site is not important for bats.

Tree surveys would involve assessing where impacts to bats are most likely and targeting trees in these areas with a more detailed ground based inspection and, where appropriate, climbing the trees to closely assess features for evidence of bats.

Appendix 1 - Relevant English Legislation, Policy and Guidance⁵

Legislation

The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

Common Reptiles

In Britain there are four relatively widespread native species of reptile - adder, grass snake, common lizard and slow worm. These species are protected via part of Section 9(1) of the Wildlife & Countryside Act 1981 (as amended) against:

- Intentional killing and injuring
- Selling, offering or exposing for sale.

Nesting Birds

All wild bird nests are protected under The Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 of the Act, or its dependent young while it is nesting.

Great Crested Newts

Great crested newts are 'European Protected Species (EPS) and are protected under the Conservation of Habitats and Species Regulations 2010, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to great crested newts and their breeding ponds and terrestrial habitat, making it an offence to:

- Deliberately capture, injure or kill a great crested newt.
- Intentionally or recklessly disturb⁶ a great crested newt in a structure or place that they use for shelter or protection or deliberately disturb a group of a great crested newts.
- Damage or destroy a great crested newt resting place/shelter (even if they are not occupying it at the time).
- Possess or advertise/sell/exchange a great crested newt (dead or alive) or any part of a great crested newt (including eggs and all lifestages).

⁵ This legal information is an outline only and intended for general information only. Consult the original legal documents and/or seek legal advice for definitive information.

⁶ Disturbance, includes 'in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species'.

- Intentionally or recklessly obstruct access to a great crested newt resting place/shelter.

The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

Bats

All species of bat in Britain are 'European Protected Species' (EPS) and are protected under the Conservation of Habitats and Species Regulations 2010, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to EPS and their habitats, making it an offence to:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb⁷ a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time).
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

Badgers

Badgers are protected in the UK under the Protection of Badgers Act (1992), making it an offence to:

- Kill, injure or take a badger;
- Intentionally or recklessly interfere with a badger sett.

Sett interference includes damaging, destroying or obstructing access to a sett and disturbing badgers while they occupy a sett.

Policy

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by:

⁷ Disturbance, includes 'in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species'.

- Recognising the wider benefits of ecosystem services.
- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Other key principles of the NPPF relating to biodiversity are:

- The conservation of International and National statutorily designated sites.
- Protection of ancient woodland and veteran trees.
- The creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- The preservation, restoration and recreation of priority habitats and ecological networks.
- The recovery of priority species populations.

Habitats and species of principal importance

The NERC 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 list replaces the UK Biodiversity Action Plans (UKBAP) and has been drawn up in consultation with Natural England, as required by the Act.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Habitats of principal importance

Fifty-six habitats of principal importance (HPI) are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Of most relevance to the Site, they include ponds, open mosaic habitats on previously developed land and lowland heathland.

Species of principal importance

There are 943 species of principal importance (SPI) included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Table 2
BCT Roost Assessment Criteria⁸

<i>Suitability</i>	<i>Description of Roosting habitats</i>	<i>Commuting and foraging habitats</i>
Negligible	Negligible habitat features on site likely to be used roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but unlikely to support a roost of high conservation status ⁹ .	Continuous habitat connected with the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions' and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

⁸ From Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London

⁹ With respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed.

Appendix 2 – Survey Data

Table 3
Botanical Species List

latin		Field Boundaries	Grassland	Ditches	Bare Ground / Disturbed
<i>Agrostis stolonifera</i>	Creeping Bent			R	
<i>Alisma plantago-aquatica</i>	Water-plantain			R	
<i>Anisantha sterilis</i>	Barren Brome	LD			
<i>Anthriscus sylvestris</i>	Cow Parsley	LD			
<i>Arctium minus</i>	Lesser Burdock	R			O
<i>Arrhenatherum elatius</i>	False Oat-grass	LD			
<i>Arum maculatum</i>	Lords-and-Ladies	O	R	R	
<i>Bromus hordeaceus</i>	Soft-brome	F			
<i>Bryonia dioica</i>	White Bryony			R	
<i>Callitriche sp.</i>	Water-starwort			LD	
<i>Cerastium fontanum</i>	Common Mouse-ear				R
<i>Chamerion angustifolium</i>	Rosebay Willowherb			R	
<i>Cirsium vulgare</i>	Spear Thistle	R		R	R
<i>Dactylis glomerata</i>	Cock's-foot	O			
<i>Elytrigia repens</i>	Common Couch	O			
<i>Equisetum palustre</i>	Marsh Horsetail			O	
<i>Festuca pratensis</i>	Meadow Fescue	O			
<i>Galium aparine</i>	Cleavers	O			R
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	O			R
<i>Holcus lanatus</i>	Yorkshire-fog	F			
<i>Juncus inflexus</i>	Hard Rush			R	
<i>Lamium album</i>	White Dead-nettle	O			R
<i>Lemna minor</i>	Common Duckweed			R	
<i>Lolium perenne</i>	Perennial Rye-grass	A	D	O	
<i>Myosotis arvensis</i>	Field Forget-me-not	O			R
<i>Picris echioides</i>	Bristly Oxtongue	R		R	R
<i>Plantago major</i>	Greater Plantain				R
<i>Poa pratensis</i>	Smooth Meadow-grass			F	O
<i>Poa trivialis</i>	Rough Meadow-grass		F		
<i>Poa trivialis</i>	Rough Meadow-grass				
<i>Ranunculus ficaria</i>	Lesser Celandine			R	
<i>Ranunculus repens</i>	Creeping Buttercup	O		R	

<i>Ranunculus sp.</i>	Water-crowfoot			LD	
<i>Reseda lutea</i>	Wild Mignonette				R
<i>Rorippa nasturtium-aquaticum</i>	Water-cress			LD	
<i>Sambucus nigra</i>	Elder			R	
<i>Silene latifolia</i>	White Campion				R
<i>Sinapis arvensis</i>	Charlock				R
<i>Sisymbrium officinale</i>	Hedge Mustard	O			A
<i>Stachys arvensis</i>	Field Woundwort	R			
<i>Symphytum officinale</i>	Common Comfrey	R			
<i>Taraxacum officinale</i>	Dandelion				R
<i>Tussilago farfara</i>	Colt's-foot				R
<i>Typha sp.</i>	Bulrush			LD	
<i>Urtica dioica</i>	Common Nettle	LD	R		R
<i>Veronica beccabunga</i>	Brooklime			R	
<i>Veronica persica</i>	Common field speedwell				
DAFOR scale		Dominant, Abundant, Frequent, Occasional, Rare (L = locally)			

**Table 4
Pond HSI**

Pond ref	Pond 1	Pond 4
SI1 - Location	1.00	1.00
SI2 - Pond area	0.90	0.94
SI3 - Pond drying	0.90	0.50
SI4 - Water quality	1.00	1.00
SI4 - Shade	1.00	1.00
SI6 - Fowl	0.67	0.01
SI7 - Fish	0.67	0.67
SI8 - Ponds	1.00	1.00
SI9 – Terrestrial habitat	0.67	1.00
SI10 - Macrophytes	0.41	1.00
HSI	0.79	0.56
	Good	Below average

**Table 5
Hedgerow and Tree Group Descriptions**

ID	Species	Tree Age	Bat roost features present	Bat roost suitability ¹⁰	Comments
G1	Elmus sp., hawthorn, sycamore, ash, salix sp., field maple	Immature	Ivy only	N to L	Opportunities for single bats behind thick stemmed ivy.
H1	Elmus sp., hawthorn, blackthorn, elder	-	-	-	Managed. Two parallel hedges. Gappy with new planting in gaps.
H1 standards	Ash	Early mature	Ivy only	1 x N, 1 x L	Two hedgerow standards. Opportunities for single bats behind thick stemmed ivy.
H2	Hawthorn, elder, goat willow	-	-	-	Unmanaged hedgerow.
H2 standards	Oak	Mature to over mature	Splits, wound holes	M to H	Upper canopies not inspectable due to foliage.
B1	Soil bund (see Jo's results)	-	-	-	Vegetated soil bund. Managed (sprayed and strimmed) on aspect facing Tesco. Weeds and grasses on aspect facing site.
G2	White or crack willow, goat willow, ash, elder, hawthorn, Prunus sp., field maple	Immature to early mature	Wound holes	N to L	Wound holes in older trees for single bats.
G3	White or crack willow, goat willow, hawthorn, elder	Immature to early mature	None	N	Multiple groups of trees beside drain.
H3	Blackthorn, hawthorn, elder	-	-	-	Unmanaged hedgerow. No standards.
H4	Hawthorn, elder, crab apple, blackthorn, ash	-	-	-	Unmanaged hedgerow.

¹⁰ Bat roost suitability: N=negligible, L=low, M=medium, H=high, R=roost present

ID	Species	Tree Age	Bat roost features present	Bat roost suitability ¹⁰	Comments
H4 standards	Elmus sp., ash, crack willow, Populus sp.,	Immature to mature	Splits, wound holes, thick ivy stems	N to M	Limited to one crack willow tree.
G4	White or crack willow, ash	Early mature to mature	Splits, wound holes	L to M	Pollarded willow - large hollow in base. 2nd willow with wound holes and splits.
G5	Field maple, hazel, ash, oak, hawthorn, cherry species, crab apple, elder	Immature to mature	Wound holes, splits	N to M	1 x mature oak - no features noted but of an age to support features and foliage covering upper crown hindering inspection. 1 x mature ash with numerous wound holes and splits.

**Table 6
Hedgerow Regulations Assessment¹¹**

Ref	Historical					Protected or rare species			Number of Woody species per 50m			Associated Features							Qualifies as important? ¹²
	1	2	3	4	5	a	b	c	5+	6+	7+	a	b	c	d	e	f	g	
H1	U	U	U	U	U	U	U	U	N	N	N	N	N	Y	N	Y	N	N	No
H2	U	U	U	U	U	U	U	U	N	N	N	Y	N	Y	N	Y	Y	N	No
H3	U	U	U	U	U	U	U	U	N	N	N	N	Y	N	N	Y	Y	N	No
H4	U	U	U	U	U	U	U	U	Y	N	N	N	Y	Y	N	Y	Y	N	Yes

Criteria

Historic

1. Marks a pre-1850 parish or township boundary
2. Incorporates an archaeological feature
3. Is part of or associated with an archaeological site
4. Marks the boundary of or is associated with a pre-1600 estate or manor
5. Forms an integral part of a pre- Parliamentary enclosure field system

Protected or rare species

6. Contains certain categories of animals or plants:
 - a) Wildlife and Countryside Act Schedule 1 birds / Schedule 5 animals
 - b) Declining breeder (category 3) in "Red Data Birds"
 - c) Categorized as "endangered", "extinct", "rare" or "vulnerable" in Britain

Woody Species

7. Includes:
 - a) At least 7 woody species, on average, in a 30 m length
 - b) At least 6 woody species, on average, in a 30 m length and has three associated features
 - c) At least 6 woody species, on average, in a 30 m length, including a black-poplar tree, or large-leaved lime, or small-leaved lime, or wild service-tree
 - d) At least 5 woody species, on average, in a 30 m length and has at least 4 associated features

Associated features are:

- a) A bank or wall supporting the hedgerow
- b) Less than 10% gaps
- c) On average, at least one tree per 50 metres
- d) At least 3 species from a list of 57 woodland plants
- e) A ditch
- f) A number of connections with other hedgerows, ponds or woodland
- g) A parallel hedge within 15 m

¹¹ U=unknown, N=no, Y=yes

¹² Under woody species and associated features only

Appendix 3 – Data Search Results



Biodiversity Report

Site: Bicester

TVERC Ref: TVERC/17/089

Prepared for: Prime Environment Ltd

Date: 17/05/2017

By Thames Valley Environmental Records Centre



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TABLE OF CONTENTS

The following are included in this report:

GENERAL INFORMATION:

- Terms & Conditions
- Species data statements

PROTECTED & NOTABLE SPECIES INFORMATION:

- Table of legally protected and notable species (2km search area)
- Species status key
- Data origin key

DESIGNATED WILDLIFE SITE INFORMATION:

- A map of designated wildlife sites (2km search area)
- Descriptions/citations for designated wildlife sites
- Designated wildlife sites guidance

TERMS AND CONDITIONS

The copyright for this document and the information provided is retained by Thames Valley Environmental Records Centre. The copyright for some of the species data will be held by a recording group or individual recorder. Where this is the case, and the group or individual providing the data is known, the data origin will be given in the species table.

TVERC must be acknowledged if any part of this report or data derived from it is used in a report. The whole document may be used as an appendix within your report.

The data in this report can only be used for the project for which it was requested. It cannot be passed on to third parties without permission of TVERC (this excludes reports presented to clients and Local Authorities).

The data should be considered valid for a maximum 12 months from the date on the cover of this report. If the data is to be used after that time an update should be requested. The data must not be added to any permanent database system.

The absence of any species or habitat data for any site, area or location does not mean that any species or habitat is not present.

MAPS

To reproduce the Ordnance Survey mapping you must hold a relevant licence for the use of Ordnance Survey mapping or it can be copied at a printers or copyshop that holds a licence to carry out search work (see the Ordnance Survey website).

DATA STATEMENTS

STATEMENT ON BIRD RECORDS IN OXFORDSHIRE (DATA MARKED AS "OOS" IN THE DATA ORIGIN COLUMN)

The majority of bird records in Oxfordshire, except those in the north of the county, have been provided by the Oxford Ornithological Society. Such records have a value of OOS in the data origin column. Please note that:

- a. Not all species are subject to the same degree of recording; the absence of records of a species in a given geographical area does not necessarily indicate absence of that species.
- b. Not all parts of the county are subject to the same degree of recording; the absence of records for a given area does not necessarily indicate the absence of bird species.
- c. Records of species regarded as sensitive have been provided with reduced information about location. Any requests for more precise information about the location of such "confidential" sites should be addressed directly to OOS (www.oos.org.uk) You can use the following email contacts chairman@oos.org.uk (the chairman) and ian@recorder.fsnet.co.uk (the county bird recorder).

STATEMENT ON WILDLIFE TRUST WATER VOLE DATA

Since 2008 data has been collected as positive or negative sections of watercourses. Positive sections crossing into search areas are included within the data. These are shown with the central grid reference for the stretch of watercourse. This may fall outside the search area but the stretch will be at least partly within the search area. The location information shows the beginning and end points of the stretch of watercourse.

USE OF NBN GATEWAY DATA

Commercial organisations and members of the public may refer to the National Biodiversity Network (NBN) Gateway for wildlife records and habitat and designated site information for their own private use.

The NBN Gateway's Terms and Conditions state "*You may not republish wholesale the material, data and/or information made available to you, or exploit it for commercial or academic research purposes without first obtaining written permission from the relevant data provider*". This means that environmental consultants cannot use NBN data in ecology reports for planning applications unless they have obtained written permission from all the data providers. If NBN Gateway data are also provided for this project please make sure that the NBN Gateway's terms and conditions are followed precisely.

The National Planning Policy Framework states that "*planning policies and decisions should be based on up-to date information about the natural environment and other characteristics of*

the area". The NBN Gateway does not hold the most up-to-date, comprehensive or highest resolution information on protected and notable species, local sites or habitats in Berkshire and Oxfordshire.

TVERC have advised planning authorities in Berkshire and Oxfordshire that ecology reports using only NBN data should not usually be validated and the NBN has requested that suspected breaches of NBN terms and conditions are reported to the NBN Data Access Officer, who will take appropriate action. Further detail is available on our website:

<http://www.tverc.org/cms/content/ecological-survey-reports-planning-applications>.

STATEMENT ON GRID REFERENCES

The following types of grid references are provided:

- Six figure grid references. Many of these will be an assigned relatively central grid reference for a site though with small sites the assigned grid reference for a site could be close to the edge. The record may have come from anywhere within the site. Where additional location information is provided the reference may be more accurate or central to a subsite within the larger site. Where the location is not site based, the grid reference should be within 100 metres of the location.
- Four figure grid references. Generally these are 1km square records often with some location information to give an idea of which part of the 1km square the record was found. Sometime this information can be quite accurate. Where a large site is referred to the location should be in that part of the 1km square that is within the site. In some case these may be tetrad records with grid reference referring to a 2km x 2km square. This includes some confidential records from Oxford Ornithological Society. Other tetrad data is rarely included.
- Eight and ten figure grid references: These are generally accurately worked out to the location where the species was found. However for small and narrow sites eight figure grid references may be used as a central grid reference for a site.
- TVERC intends to start tagging data to qualify these grid references but at present only a limited amount of qualification is provided. 1km square records are tagged as 1km record and 2km square records are tagged as 2km record.

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Amphibians												
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	2 Females	10/06/2009	SP58782180		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	07/05/2009	SP58782180		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	14/05/2009	SP58782180		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	28/05/2009	SP58842179		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Immature	10/06/2009	SP58842179		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	10/06/2009	SP58942189		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	14/05/2009	SP58942189		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	28/05/2009	SP58942189		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	07/05/2009	SP59302193		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Palmate Newt</i>	<i>Lissotriton helveticus</i>	1 Female	11/05/2009	SP59302193		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Adult	01/06/2002	SP56022167			field record	ORAG		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	4 Females; 7 Males	28/05/2009	SP58782180		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female	10/06/2009	SP58782180		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	3 Males; 3 Females	07/05/2009	SP58782180		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 11 Males	14/05/2009	SP58782180		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Male; 1 Female	28/05/2009	SP58842179		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	2 Males	07/05/2009	SP58842179		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Male; 1 Female	14/05/2009	SP58842179		Langford Village	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 5 Males	10/06/2009	SP58942189		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	2 Males	14/05/2009	SP58942189		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Male	28/05/2009	SP58942189		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Male; 1 Female	11/05/2009	SP59302193		Langford Village	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	2 Females	03/06/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	4 Females; 5 Males	11/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	4 Males	11/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	2 Males	20/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 3 Males	20/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 4 Males	05/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Male; 2 Females	05/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 2 Males	09/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female	22/04/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	2 Males; 4 Females	22/04/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 4 Males	03/06/2015	SP5967920583		Symmetry Park, Bicester	field record	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	1 Female; 2 Males	15/06/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	11 Males; 4 Females	19/05/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Smooth Newt</i>	<i>Lissotriton vulgaris</i>	8 Males	10/06/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC		WACA-Sch5-s9.5a/s9.5b		
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	3 Adults	29/04/2015	SP5942221047		Bicester	field record	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	4 Adults	15/04/2015	SP5942221047		Bicester	field record	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	6	20/05/2015	SP5967820585		Granary Cottage, The Byre, Bicester	nocturnal record	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	9	22/04/2015	SP5967820585		Granary Cottage, The Byre, Bicester	trapped (other)	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Female; 3 Juveniles	03/06/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	2 Males; 2 Females	11/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	2 Males; 4 Females	11/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	3 Males; 6 Females	20/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Female; 3 Males	20/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Male; 1 Female	05/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Dead; 3 Juveniles	09/05/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Female; 5 Juveniles	09/05/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Male; 2 Females	22/04/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	3 Males; 6 Females	22/04/2015	SP5967920583		Symmetry Park, Bicester	bottle trap	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	Eggs	22/04/2015	SP5967920583		Symmetry Park, Bicester	egg	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	3 Females	03/06/2015	SP5967920583		Symmetry Park, Bicester	field record	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	4 Females	15/06/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	4 Females	19/05/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	1 Female	10/06/2009	SP59802222		Gavray Drive Meadows	trapped (other)	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	37 Adults	15/04/2015	SP5985521269		Bicester	field record	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Great Crested Newt</i>	<i>Triturus cristatus</i>	10 Adults	29/04/2015	SP5985521269		Bicester	field record	GCN	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Common Toad</i>	<i>Bufo bufo</i>	1 Adult	01/07/2003	SP56022167			field record	ORAG		WACA-Sch5-s9.5a/s9.5b	NERC-S41	
<i>Common Toad</i>	<i>Bufo bufo</i>	1 Adult	Summer 1993	SP56202131			field record	ORAG		WACA-Sch5-s9.5a/s9.5b	NERC-S41	
<i>Common Frog</i>	<i>Rana temporaria</i>	Eggs	Spring 1992	SP56022167			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
<i>Common Frog</i>	<i>Rana temporaria</i>	Eggs	Spring 2002	SP56022167			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
<i>Common Frog</i>	<i>Rana temporaria</i>	5-100 Tadpoles	Spring 2002	SP56022167			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
<i>Common Frog</i>	<i>Rana temporaria</i>	42 Adults	01/06/2002	SP56022167			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
<i>Common Frog</i>	<i>Rana temporaria</i>	20 Adults	Summer 2003	SP56022167			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
<i>Common Frog</i>	<i>Rana temporaria</i>	1 Adult	Summer 1995	SP56202131			field record	ORAG	HabDir-A5	WACA-Sch5-s9.5a/s9.5b		
Birds												
<i>Greylag Goose</i>	<i>Anser anser</i>	1	2003	SP577209		Bicester Wetland Reserve	field record	DLWS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	20/03/2012	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	1	24/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	10/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	08/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber
<i>Greylag Goose</i>	<i>Anser anser</i>	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p2		Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Red Kite	Milvus milvus	1 Individual	25/10/2006	SP573232		Bicester: 8 Scott Close	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	08/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	23/05/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	05/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	06/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	2	22/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	06/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	03/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	2	19/02/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	18/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	09/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	2	17/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	28/06/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	24/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Red Kite	Milvus milvus	1	05/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	26/05/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	13/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	2	09/12/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	30/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	2	22/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	30/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	03/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	11/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1	14/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Red Kite	Milvus milvus	1 Individual	18/07/2006	SP5823	1 km record	Bicester	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber RL-Global-post2001-NT
Kestrel	Falco tinnunculus	1	15/11/2003	SP5720	1 km record	Bicester	field record	OOS				Bird-Amber
Kestrel	Falco tinnunculus	1	23/05/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	2	04/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	22/11/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	22/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	08/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	13/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	01/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	17/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	09/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	17/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	07/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	23/05/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	14/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	13/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	01/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Kestrel	Falco tinnunculus	1	05/06/2013	SP5952267		Meadow between Gavray Drive Meadows and Jarvis Lane	field record	TVERC				Bird-Amber
Kestrel	Falco tinnunculus	2	19/08/2002	SP5970225		Gavray Drive Meadows	field record	OLWS				Bird-Amber
Merlin	Falco columbarius	1	09/03/2000	SP5720	1 km record	Bicester	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Merlin	Falco columbarius	1 Male	20/04/2003	SP5720	1 km record	Bicester	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Merlin	Falco columbarius	1	2003	SP57209		Bicester Wetland Reserve	field record	OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Hobby	Falco subbuteo	1 Individual	03/08/2006	SP52Q	1 km record		field record	OOS		WACA-Sch1-p1		

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Hobby	Falco subbuteo	1 Individual	29/08/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS		WACA-Sch1-p1		
Hobby	Falco subbuteo	1	30/05/2004	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS		WACA-Sch1-p1		
Hobby	Falco subbuteo	1 Individual	10/06/2006	SP52W	1 km record	Confidential, refer to OOS for further details	field record	OOS		WACA-Sch1-p1		
Hobby	Falco subbuteo	1	2001	SP577209		Bicester Wetland Reserve	field record	DLWS		WACA-Sch1-p1		
Peregrine	Falco peregrinus	4	2003	SP577209		Bicester Wetland Reserve	field record	DLWS	BirdsDir-A1	WACA-Sch1-p1		
Peregrine	Falco peregrinus	1	26/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		
Peregrine	Falco peregrinus	1	10/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		
Oystercatcher	Haematopus ostralegus	1	20/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Oystercatcher	Haematopus ostralegus	1	20/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Oystercatcher	Haematopus ostralegus	1	10/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Little Ringed Plover	Charadrius dubius	1	2003	SP577209		Bicester Wetland Reserve	field record	DLWS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	3	2004	SP577209		Bicester Wetland Reserve	field record	DLWS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	13/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	1	25/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	1	13/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	20/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	14/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	14/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	1	25/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	20/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	1	13/06/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	2	13/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Little Ringed Plover	Charadrius dubius	1	06/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Ringed Plover	Charadrius hiaticula	1	28/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Ringed Plover	Charadrius hiaticula	1	28/07/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Golden Plover	Pluvialis apricaria	6 Individuals	22/10/2006	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS	BirdsDir-A1			Bird-Amber
Golden Plover	Pluvialis apricaria	3	2004	SP577209		Bicester Wetland Reserve	field record	DLWS	BirdsDir-A1			Bird-Amber
Golden Plover	Pluvialis apricaria	1	2001	SP577209		Bicester Wetland Reserve	field record	DLWS	BirdsDir-A1			Bird-Amber
Golden Plover	Pluvialis apricaria	1	2002	SP577209		Bicester Wetland Reserve	field record	DLWS	BirdsDir-A1			Bird-Amber
Lapwing	Vanellus vanellus	Breeding confirmed	01/01/2013-21/12/2013	SP57002190		Near Bicester		EC			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	40 Individuals	04/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	23 Individuals	15/01/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	2	2003	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	6	2001	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	1	2002	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	8	2004	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	1	12/08/2013	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	1	2000	SP577209		Bicester Wetland Reserve	field record	DLWS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	4	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	2	18/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	16	27/07/2012	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	60	18/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	37	10/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	1	25/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	3	10/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	1	27/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	13	25/06/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Lapwing	Vanellus vanellus	35	04/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	28	01/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	40	24/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	40	17/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	31	27/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	2	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Lapwing	Vanellus vanellus	300	23/02/2001	SP578217		Bicester	field record	OOS			NERC-S41	Bird-Red
Common Sandpiper	Actitis hypoleucos	1 Individual	13/04/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1 Individual	28/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1 Individual	23/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1 Individual	09/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	3	2002	SP577209		Bicester Wetland Reserve	field record	DLWS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	5	2004	SP577209		Bicester Wetland Reserve	field record	DLWS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	2000	SP577209		Bicester Wetland Reserve	field record	DLWS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	2	2003	SP577209		Bicester Wetland Reserve	field record	DLWS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	2	2001	SP577209		Bicester Wetland Reserve	field record	DLWS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	02/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	31/07/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	18/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	12/06/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	27/07/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	24/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	21/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Common Sandpiper	Actitis hypoleucos	1	25/07/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Snipe	Gallinago gallinago	25 Individuals	14/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	10 Individuals	04/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	27 Individuals	25/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	8 Individuals	11/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	8 Individuals	18/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	10 Individuals	29/01/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	41 Individuals	22/10/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	4 Individuals	28/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	13 Individuals	16/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	12 Individuals	26/12/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	18 Individuals	18/03/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	33 Individuals	01/01/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	5 Individuals	06/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	1 Individual	01/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Snipe	Gallinago gallinago	1 Individual	02/04/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Jack Snipe	Lymnocyptes minimus	2 Individuals	14/02/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	2000	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	2002	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	5	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	3	2003	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	08/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	16/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	02/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	30/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	09/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	19/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	02/11/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	16/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	14/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	18/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	05/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	23/03/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	15/03/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	23/03/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	16/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	24/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	18/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	08/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	21/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	18/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	28/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	3	23/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	5	26/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	2	27/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Jack Snipe	Lymnocyptes minimus	6	02/03/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	10/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	14/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	1	24/01/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Jack Snipe	Lymnocyptes minimus	3	05/03/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Curlew	Numenius arquata	1	16/05/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS			NERC-S41	Bird-Amber RL-Global-post2001-NT
Curlew	Numenius arquata	1	2004	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Amber RL-Global-post2001-NT
Dunlin	Calidris alpina	1	21/09/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Red
Dunlin	Calidris alpina	1	20/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Red
Dunlin	Calidris alpina	1	22/09/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Red
Black-tailed Godwit	Limosa limosa	1	2004	SP577209		Bicester Wetland Reserve		OLWS		WACA-Sch1-p1	NERC-S41	Bird-Red RL-Global-post2001-NT
Redshank	Tringa totanus	1	2000	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Redshank	Tringa totanus	1	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Redshank	Tringa totanus	1	10/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Redshank	Tringa totanus	1	23/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Greenshank	Tringa nebularia	2	02/10/1998	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS		WACA-Sch1-p1		
Greenshank	Tringa nebularia	1 Individual	14/07/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		
Greenshank	Tringa nebularia	1	2000	SP577209		Bicester Wetland Reserve		OLWS		WACA-Sch1-p1		
Greenshank	Tringa nebularia	1	12/08/2013	SP577209		Bicester Wetland Reserve		OLWS		WACA-Sch1-p1		
Greenshank	Tringa nebularia	4	18/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		
Green Sandpiper	Tringa ochropus	5 Individuals	30/12/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	16/02/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	16/02/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	06/11/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	4 Individuals	04/07/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1	15/02/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	10/09/2006	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	15/10/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	09/03/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	23/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	16/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	28/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	2 Individuals	01/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber
Green Sandpiper	Tringa ochropus	1 Individual	29/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS		WACA-Sch1-p1		Bird-Amber

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Barn Owl	Tyto alba	1	2003	SP577209		Bicester Wetland Reserve		OLWS		WACA-Sch1-p1		Bird-Amber
Swift	Apus apus		2012	SP5603521530		Culverhay, Alchester Road, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP5603521530		Culverhay, Alchester Road, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP5610021185		1 The Green, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP5610021185		1 The Green, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5610021185		1 The Green, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP5610021185		1 The Green, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus	2 Nests	2016	SP5610021185		The Green, Chesterton	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP56132124		Southern end of village near the Red Cow, Chesterton	Flying	LN				Bird-Amber
Swift	Apus apus		2010	SP56132124		Southern end of village near the Red Cow, Chesterton	Flying	LN				Bird-Amber
Swift	Apus apus		2012	SP5619	1 km record	Wendlebury	field record	LN				Bird-Amber
Swift	Apus apus		2013	SP5619	1 km record	Wendlebury	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5720522835		32a Danes Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP5720522835		32a Danes Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	5 Adults	01/01/2011-31/12/2011	SP57382247		Kennedy Road, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus		2012	SP57702336		15 The Oval, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	3	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Swift	Apus apus	1	2001	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Swift	Apus apus	20	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC				Bird-Amber
Swift	Apus apus		2015	SP577223		29 Ray Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP577223		41 Ray Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP577225		Sites along and near Kingsclere Road/Chalvey Road, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2010	SP577225		Sites along and near Kingsclere Road/Chalvey Road and Aldbourne Crescent, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2014	SP5773422473		16 Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5773622479		15 Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5774722435		2 Kennet Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	numerous Nests	2013	SP57752247		Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP57752248		Windrush Close, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2014	SP5775622466		1 Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2016	SP5776022345		29 Ray Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5776122478		3 Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP57762247		2 Windrush Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP57812240		Colne Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP57812240		Colne Close, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2015	SP57812240		Colne Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	5	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	1	24/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	18	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	18	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	2	27/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	2	27/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	1	04/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	4	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	1	18/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	18	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	2	27/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus	2	27/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swift	Apus apus		2010	SP57822245		Evenlode Close, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2012	SP57822245		Evenlode Close, Bicester	Flying	LN				Bird-Amber

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Swift	Apus apus	numerous Nests	2013	SP57822245		Evenlode Close, off Kings Ave, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP578223		5 Ray Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2010	SP578224		Colne Close, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2012	SP57842242		26 Kings Ende, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	30 Adults	01/01/2010-31/12/2010	SP57842320		DX26 ZDT (The Approach, Bicester)	Flying	RSPB				Bird-Amber
Swift	Apus apus	30 Adults	01/05/2014	SP5789222426		15 Cherwell Close, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus	5 Nests	01/05/2014	SP5789222426		15 Cherwell Close, Bicester	field record	RSPB				Bird-Amber
Swift	Apus apus		2014	SP5789522424		15 Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5789722431		14 Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5789922438		13 Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	3 Nests	2014	SP5790222444		12 Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5791722416		2, Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5792022423		3 Cherwell Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5801022449		26 Kings End, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP5801022449		26 Kings End, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2016	SP5801422455		24 Kings End, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP58022246		22 Kings End, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP58022246		22 Kings End, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP580225		West side of Kings End, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2010	SP580225		West side of Kings End, Bicester, victorian properties	Flying	LN				Bird-Amber
Swift	Apus apus	1 Adult	01/01/2011-31/12/2011	SP58112259		Queens Court, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus	28 Adults	01/01/2011-31/12/2011	SP58112259		Queens Court, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus		2008	SP58132242		Kings End, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2012	SP58132242		Kings End, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus	24 Adults	01/01/2011-31/12/2011	SP5814522584		6 Queens Court, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus	11 Adults	01/01/2011-31/12/2011	SP5814522584		6 Queens Court, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus		2014	SP58182224		St Edburg's School, Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP58182224		St Edburg's School, Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58182224		St Edburg's School, Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP58182224		St Edburg's School, Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58202231		7 Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2008	SP58202231		7 Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP58202231		7 Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2010	SP58202231		7 Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP58202231		7 Cemetery Road, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP58212234		The Swan, Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP58212234		The Swan, Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP58212234		The Swan, Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58212234		The Swan, Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP58212234		The Swan, Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP582230		New Road, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2010	SP582230		New Road, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus		2014	SP5822522355		26 Church Street, Bicester	nest	LN				Bird-Amber

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Swift	Apus apus		2013	SP582522355		26 Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP582522355		26 Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2016	SP582522355		5 Oxford Road	nest	LN				Bird-Amber
Swift	Apus apus		2016	SP582522355		26 Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP58232291		22 Field Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2010	SP58232291		22 Field Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	8 Adults	01/01/2011-31/12/2011	SP5823722904		22 Field Street, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus	1 Nest	01/01/2011-31/12/2011	SP5823722904		22 Field Street, Bicester	field record	RSPB				Bird-Amber
Swift	Apus apus	1 Nest	01/01/2011-31/12/2011	SP5823722904		22 Field Street, Bicester	field record	RSPB				Bird-Amber
Swift	Apus apus		2014	SP58242231		1 Church Terrace, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58242289		22 Field Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	7 Adults	01/01/2010-31/12/2010	SP58242289		Field Street, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus	1 Nest	01/01/2010-31/12/2010	SP58242289		Field Street, Bicester	field record	RSPB				Bird-Amber
Swift	Apus apus		2013	SP58252287		5 Field Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	2 Nests	2014	SP58262230		The Old Vicarage, Church St, Bicester	nest	LN				Bird-Amber
Swift	Apus apus	numerous Nests	2013	SP58272288		Property adjacent to Plough car park, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2016	SP58342234		4 Church Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2008	SP58352237		Henley House, Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2009	SP58352237		Henley House, Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2010	SP58352237		Henley House, Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP58352237		Henley House, Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58352237		Henley House, The Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP58352237		Henley House, Causeway, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2014	SP5836222708		Cycle shop, 85 Sheep Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2015	SP5836222708		Cycle shop, 85 Sheep Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58362271		85 Sheep Street, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2013	SP58562245		10 Sheep Street (Corralls), Bicester	nest	LN				Bird-Amber
Swift	Apus apus	1 Nest	2013	SP58732211		Westholme Court (off London Road), Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58732211		Westholme Court, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP58932329		6 Nuffield Close, Bicester	nest	LN				Bird-Amber
Swift	Apus apus		2012	SP59292287		Lambourne Crescent, Launton Road, Bicester	Flying	LN				Bird-Amber
Swift	Apus apus	8 Adults	13/06/2013	SP5912189		Hawkswind, Bicester	Flying	RSPB				Bird-Amber
Swift	Apus apus		05/06/2013	SP59522267		Meadow between Gavray Drive Meadows and Jarvis Lane	Flying	TVERC				Bird-Amber
Kingfisher	Alcedo atthis	1 Individual	17/04/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1 Individual	27/07/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1 Individual	20/07/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Kingfisher	Alcedo atthis	1 Individual	15/08/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1 Individual	16/06/2006	SP52Q	1 km record	Confidential, refer to OOS for further details	field record	OOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	4	2002	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	6	2003	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	5	2000	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	10	2004	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	5	12/08/2013	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	5	2001	SP577209		Bicester Wetland Reserve		OLWS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1 possible breeding	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	Nests	24/07/2009-18/08/2009	SP5772113		Bicester Wetland Reserve	field record	EC	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	3	06/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	08/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	27/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	21/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	14/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	24/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	15/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	24/12/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	23/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	08/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	26/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	26/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	28/07/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	06/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	17/12/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	25/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	3	13/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	26/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	19/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	20/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	01/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	26/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	2	25/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	18/06/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	28/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	18/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	20/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	28/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	01/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	19/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	14/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	24/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	05/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	26/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	2	09/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	10/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	16/02/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	28/01/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Alcedo atthis	1	18/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS	BirdsDir-A1	WACA-Sch1-p1		Bird-Amber
Kingfisher	Upupa epops		20/11/1980	SP58204		Graven Hill	field record	GBRC		WACA-Sch1-p1		Bird-Amber
Green Woodpecker	Picus viridis	2 Juveniles	15/10/2006	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
Green Woodpecker	Picus viridis	1 Individual	04/07/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Green Woodpecker	Picus viridis	3 Individuals	20/07/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber

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Sand Martin	Riparia riparia	3	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Sand Martin	Riparia riparia	1	2001	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Sand Martin	Riparia riparia	2	10/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	3 Individuals	08/10/2006	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	2 Adults; 4 Juveniles	01/10/2006	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	1	28/03/2001	SP5720	1 km record	Bicester	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	2 Adults	10/07/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	4 Juveniles	10/07/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	1 Individual	30/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	1 Individual	02/04/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Swallow	Hirundo rustica	1 Breeding Pair	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC				Bird-Amber
Swallow	Hirundo rustica	3	12/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	2	05/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	1	19/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	1	24/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	1	27/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Swallow	Hirundo rustica	1	05/06/2013	SP59522267		Meadow between Gavray Drive Meadows and Jarvis Lane	field record	TVERC				Bird-Amber
House Martin	Delichon urbicum	60	15/05/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS				Bird-Amber
House Martin	Delichon urbicum	1 Individual	09/04/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
House Martin	Delichon urbicum	1	2003	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
House Martin	Delichon urbicum	4	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
House Martin	Delichon urbicum	6	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC				Bird-Amber
House Martin	Delichon urbicum	200	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
House Martin	Delichon urbicum	150	06/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
House Martin	Delichon urbicum	2	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
House Martin	Delichon urbicum	50	05/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
House Martin	Delichon urbicum	200	27/05/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
House Martin	Delichon urbicum	1	17/04/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Meadow Pipit	Anthus pratensis	2	28/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Yellow Wagtail	Motacilla flava	2	2001	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava	1	2002	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava	1	2004	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava	2	2000	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava	3	2003	SP577209		Bicester Wetland Reserve		OLWS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	3 Individuals	13/04/2006	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	1	16/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	3	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	3	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	3	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	19/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Yellow Wagtail	Motacilla flava subsp. flavissima	1	17/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	1	02/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	3	15/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	1	16/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	1	16/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	19/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	19/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Yellow Wagtail	Motacilla flava subsp. flavissima	2	19/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Grey Wagtail	Motacilla cinerea	2 Individuals	06/11/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	04/07/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	3 Individuals	25/11/2006	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	02/12/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	17/08/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	31/12/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	22/11/2006	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	3 Individuals	25/11/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	3 Individuals	30/12/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	5 Individuals	13/10/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	16/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	26/10/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1 Individual	07/09/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	3 Individuals	14/02/2006	SP5721	1 km record	Bicester: Bicester Sewage Farm	field record	OOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	9	2002	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Grey Wagtail	Motacilla cinerea	18	2003	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Grey Wagtail	Motacilla cinerea	14	2004	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Grey Wagtail	Motacilla cinerea	10	2000	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Grey Wagtail	Motacilla cinerea	17	2001	SP577209		Bicester Wetland Reserve		OLWS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	02/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	11/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	3	19/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	4	16/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	11/11/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	16/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	2	07/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Grey Wagtail	Motacilla cinerea	1	20/03/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	04/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	16/02/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	05/09/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	15/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	17/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	12/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	28/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	4	26/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	07/10/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	01/01/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	26/08/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	09/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	16/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	10/02/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	2	07/09/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	06/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	14/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	26/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	23/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	31/12/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	2	19/09/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	03/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	18/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	2	27/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	07/02/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Grey Wagtail	Motacilla cinerea	1	27/11/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Duncock	Prunella modularis	2 Breeding Pairs	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC			NERC-S41	Bird-Amber
Duncock	Prunella modularis		26/06/2002	SP598222		Gavray Drive Meadows	field record	OLWS			NERC-S41	Bird-Amber
Wheatear	Oenanthe oenanthe	1 Individual	15/04/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	07/10/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	25/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	06/08/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Wheatear	Oenanthe oenanthe	1	13/08/2011	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Fieldfare	Turdus pilaris	8 Individuals	22/10/2006	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS		WACA-Sch1-p1		Bird-Red
Fieldfare	Turdus pilaris	30	09/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Red
Fieldfare	Turdus pilaris	9	29/12/2010	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Red
Song Thrush	Turdus philomelos	2 Breeding Pairs	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC			NERC-S41	Bird-Red
Song Thrush	Turdus philomelos		26/06/2002	SP598222		Gavray Drive Meadows	field record	OLWS			NERC-S41	Bird-Red
Mistle Thrush	Turdus viscivorus		1977 - 1987	SP561218		Gagle Brook Flood Plain, Chesterton	field record	BBOWT				Bird-Amber
Whitethroat	Sylvia communis	1 Individual	23/04/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS				Bird-Amber
Whitethroat	Sylvia communis	1	2002	SP577209		Bicester Wetland Reserve	field record	OLWS				Bird-Amber
Whitethroat	Sylvia communis	1	2000	SP577209		Bicester Wetland Reserve	field record	OLWS				Bird-Amber
Whitethroat	Sylvia communis	1	2001	SP577209		Bicester Wetland Reserve	field record	OLWS				Bird-Amber
Whitethroat	Sylvia communis	2 Breeding Pairs	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC				Bird-Amber
Whitethroat	Sylvia communis	2	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Whitethroat	Sylvia communis	1	09/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS				Bird-Amber
Whitethroat	Sylvia communis	1	05/06/2013	SP59522267		Meadow between Gavray Drive Meadows and Jarvis Lane	field record	TVERC				Bird-Amber
Whitethroat	Sylvia communis		26/06/2002	SP598222		Gavray Drive Meadows	field record	OLWS				Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
Bearded Tit	Panurus biarmicus	1	12/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Amber
Bearded Tit	Panurus biarmicus	1	14/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Amber
Bearded Tit	Panurus biarmicus	1	17/12/2012	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Amber
Bearded Tit	Panurus biarmicus	1	Nov-12	SP578208		Bicester Wetland Reserve	field record	BOS		WACA-Sch1-p1		Bird-Amber
Firecrest	Regulus ignicapilla	1	23/01/1998	SP52Q	1 km record		field record	OOS		Confidential, refer to OOS for further details		Bird-Amber
Willow Tit	Poecile montana	1	2002	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Willow Tit	Poecile montana	1	2003	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Willow Tit	Poecile montana	2	2001	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Marsh Tit	Poecile palustris	1	2003	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Starling	Sturnus vulgaris	500	13/09/2004	SP5720	1 km record	Bicester	field record	OOS			NERC-S41	Bird-Red
Starling	Sturnus vulgaris	50	03/10/2012	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
House Sparrow	Passer domesticus	30	13/09/2004	SP5720	1 km record	Bicester	field record	OOS			NERC-S41	Bird-Red
Linnet	Linaria cannabina		1977 - 1987	SP561218		Gagle Brook Flood Plain, Chesterton	field record	BBOWT			NERC-S41	Bird-Red
Linnet	Linaria cannabina		1977 - 1987	SP562220		Bignell Lodge Farm Meadow	field record	BBOWT			NERC-S41	Bird-Red
Linnet	Linaria cannabina	Breeding confirmed	01/01/2013-31/12/2013	SP57002190		Near Bicester	field record	EC			NERC-S41	Bird-Red
Linnet	Linaria cannabina	1	2002	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Linnet	Linaria cannabina	1 Breeding Pair	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC			NERC-S41	Bird-Red
Linnet	Linaria cannabina	50	02/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Red
Twite	Linaria flavirostris	1	2000	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Red
Bullfinch	Pyrrhula pyrrhula		05/06/2013	SP59522267		Meadow between Gavray Drive Meadows and Jarvis Lane	field record	TVERC			NERC-S41	Bird-Amber
Yellowhammer	Emberiza citrinella	Breeding confirmed	01/01/2013-31/12/2013	SP57002190		Near Bicester	field record	EC			NERC-S41	Bird-Red
Yellowhammer	Emberiza citrinella		28/07/1987	SP572240		Roman Road by Hayfield	field record	BBOWT			NERC-S41	Bird-Red
Yellowhammer	Emberiza citrinella		05/06/2013	SP59522267		Meadow between Gavray Drive Meadows and Jarvis Lane	field record	TVERC			NERC-S41	Bird-Red
Reed Bunting	Emberiza schoeniclus	1 Individual	04/07/2006	SP5720	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	03/01/2004	SP5720	1 km record	Bicester: Bicester Golf Club	field record	OOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1 Individual	30/12/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1 Individual	14/05/2006	SP5721	1 km record	Bicester: Bicester Wetland Reserve	field record	OOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	10	2001	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	14	2003	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	10	2004	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	13	2002	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	13	2000	SP577209		Bicester Wetland Reserve	field record	OLWS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	3 Breeding Pairs	29/05/2009-30/06/2009	SP577210		Bicester Wetland Reserve	field record	EC			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	2	16/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	06/11/2012	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	28/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	4	09/07/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	2	28/09/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	2	24/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	3	25/06/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	24/03/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	2	25/04/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	29/12/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	1	28/04/2011	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber
Reed Bunting	Emberiza schoeniclus	2	27/05/2010	SP578208		Bicester Wetland Reserve	field record	BOS			NERC-S41	Bird-Amber

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
<i>Bullhead</i>	<i>Cottus gobio</i>		24/07/2009-18/08/2009	SP596223		Gavray Drive Meadows, Upper Langford Brook	field record	EC	HabDir-A2np			
Higher Plants - Flowering Plants												
<i>Good-King-Henry</i>	<i>Chenopodium bonus-henricus</i>		1977 - 1987	SP561218		Gagle Brook Flood Plain, Chesterton	field record	BBOWT				RL-GB-post2001-VU
<i>Good-King-Henry</i>	<i>Chenopodium bonus-henricus</i>		Pre 1988	SP568206		Bowler's Copse, North Meadow	field record	BBOWT				RL-GB-post2001-VU
<i>Bluebell</i>	<i>Hyacinthoides non-scripta</i>		1990	SP562213		Chesterton Churchyard	field record	LN		WACA-Sch8		
<i>Bluebell</i>	<i>Hyacinthoides non-scripta</i>		28/04/1987	SP588204		Graven Hill	field record	BBOWT		WACA-Sch8		
<i>Bluebell</i>	<i>Hyacinthoides non-scripta</i>	LF (DAFOR)	14/07/2011	SP588204		Graven Hill		OLWS		WACA-Sch8		
<i>Bluebell</i>	<i>Hyacinthoides non-scripta</i>		14/06/2002	SP588204		Graven Hill		OLWS		WACA-Sch8		
<i>Greater Water-parsnip</i>	<i>Slum latifolium</i>		28/07/2009-18/08/2009	SP590224		Tabbs Crossing stream, Bicester	field record	EC			NERC-S41	RL-GB-post2001-EN Status-NS
Invertebrates - Beetles												
<i>A Beetle</i>	<i>Bembidion (Semicampa) glivipes</i>		16/01/2003	SP5922	1 km record	Gavray Drive Meadows	Collection from 'grass-tussocks'	LN				Notable-B
<i>A Beetle</i>	<i>Bembidion (Semicampa) glivipes</i>		16/01/2003	SP598222		Gavray Drive Meadows	Collection from 'grass-tussocks'	LN				Notable-B
<i>Scarce Four-dot Pin-palp</i>	<i>Bembidion (Bembidion) quadripustulatum</i>		14/06/2000	SP579210		Bicester Wetland Reserve	field record	OBRC			NERC-S41	Notable-B
<i>A Beetle</i>	<i>Sepedophilus pedicularius</i>		16/01/2003	SP598222		Gavray Drive Meadows	Collection from 'grass-tussocks'	OBRC				Notable
<i>A Beetle</i>	<i>Amidobia talpa</i>		16/01/2003	SP5922	1 km record	Gavray Drive Meadows	Collection from 'grass-tussocks'	OBRC				Notable
<i>A Beetle</i>	<i>Philonthus fumarius</i>		16/01/2003	SP5922	1 km record	Gavray Drive Meadows	Collection from 'grass-tussocks'	OBRC				Notable-B
Invertebrates - Butterflies												
<i>Grizzled Skipper</i>	<i>Pyrgus malvae</i>		28/05/1990	SP5622	1 km record		field record	BC			NERC-S41	RL-GB-post2001-VU
<i>Grizzled Skipper</i>	<i>Pyrgus malvae</i>	1	18/05/1997	SP5723	1 km record		field record	BBOWT			NERC-S41	RL-GB-post2001-VU
<i>Grizzled Skipper</i>	<i>Pyrgus malvae</i>	1 Adult	18/05/1997	SP5723	1 km record	Bicester N W	field record	BC			NERC-S41	RL-GB-post2001-VU
<i>Grizzled Skipper</i>	<i>Pyrgus malvae</i>	Adults	14/06/2002	SP588204		Graven Hill		OLWS			NERC-S41	RL-GB-post2001-VU
<i>Grizzled Skipper</i>	<i>Pyrgus malvae</i>	1 Individual	02/06/2013	SP597223		Gavray Drive Meadows	field record	LN			NERC-S41	RL-GB-post2001-VU
<i>Small Blue</i>	<i>Cupido minimus</i>		01/06/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>		13/08/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>		24/07/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>		27/07/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>	10 to 29	28/05/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>		01/06/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>Small Blue</i>	<i>Cupido minimus</i>		01/08/1990	SP5622	1 km record		field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-NT
<i>White-letter Hairstreak</i>	<i>Satyrus w-album</i>	2 to 9	27/07/1997	SP5622	1 km record	Whitelands Farm	field record	BC		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	2 Adults	15/06/2008	SP597222		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	2 Adults	19/06/2015	SP597222		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	2 Adults	30/06/2013	SP597222		Gavray Drive Bicester	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	2 Adults	15/06/2007	SP597222		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	1 Adult	22/06/2010	SP598221		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	2 Adults	15/06/2007	SP598222		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Black Hairstreak</i>	<i>Satyrus pruni</i>	1	17/06/2014	SP5982207		Gavray Drive Meadows	field record	BC		WACA-Sch5-s9.5a/s9.5b		RL-GB-post2001-EN
<i>Brown Hairstreak</i>	<i>Thecla betulae</i>	1 Individual	16/09/2013	SP597223		Gavray Drive Meadows	field record	LN		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-VU
<i>Brown Hairstreak</i>	<i>Thecla betulae</i>	1 Female	22/09/2013	SP599219		Gavray Drive Meadows (non LWS)	photographed	LN		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-VU

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
<i>Brown Hairstreak</i>	<i>Thecla betulae</i>	1	27/10/2005	SP599219		Gavray Drive Meadows	photographed	OLWS		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-VU
<i>Brown Hairstreak</i>	<i>Thecla betulae</i>	1 Female	16/09/2013	SP599220		Gavray Drive Meadows (non LWS)	photographed	LN		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-VU
<i>Brown Hairstreak</i>	<i>Thecla betulae</i>	1	27/10/2005	SP599220		Gavray Drive Meadows		OLWS		WACA-Sch5-s9.5a/s9.5b	NERC-S41	RL-GB-post2001-VU
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		28/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Adult	28/05/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		30/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		30/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		28/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	10 to 29	13/08/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	10 to 29	01/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		15/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		24/07/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		27/07/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		15/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		01/08/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	10 to 29	01/06/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>		07/09/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Adult	10/08/1997	SP5722	1 km record	Bicester - S W	field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	2 to 9	18/05/1997	SP5723	1 km record	Bicester N W	field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Adult	06/07/1997	SP5823	1 km record	Bicester N	field record	BC				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Individual	06/08/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Individual	01/08/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	2 Individuals	10/07/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Individual	27/06/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Individual	16/06/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	1 Individual	24/08/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41
<i>Small Heath</i>	<i>Coenonympha pamphilus</i>	Adults	26/06/2002	SP598222		Gavray Drive Meadows		OLWS				NERC-S41
<i>Wall</i>	<i>Lasionmata megera</i>		01/08/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Wall</i>	<i>Lasionmata megera</i>		13/08/1990	SP5622	1 km record		field record	BC				NERC-S41
<i>Wall</i>	<i>Lasionmata megera</i>		22/08/1990	SP580212			field record	BC				NERC-S41
Invertebrates - Moths												
<i>Blood-Vein</i>	<i>Timandra comae</i>	1 Individual	27/06/2013	SP597223		Gavray Drive Meadows	field record	LN				NERC-S41

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
<i>Cinnabar</i>	Tyria jacobaeae	1 Larva	10/08/2013	SP597223		Gavray Drive Meadows	field record	LN			NERC-S41	
Mammals - Terrestrial (bats)												
<i>Noctule Bat</i>	Nyctalus noctula	2 Flying	01/01/2013-31/12/2013	SP57002190		Near Bicester		EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Pipistrelle Bat species</i>	Pipistrellus	Droppings	08/07/2010	SP5830722278		St Edburg's Church, Bicester	dung/droppings/frass/pellet, etc.	EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Pipistrelle Bat species</i>	Pipistrellus		28/01/2012	SP58812229		Bicester Town Council offices, Garth Park, Launton Road, Bicester, Oxon OX26 2PS	field record	MOP	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Common Pipistrelle</i>	Pipistrellus pipistrellus		08/08/1995	SP560216		Chesterton	field record	NE	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b		
<i>Common Pipistrelle</i>	Pipistrellus pipistrellus	<8 hunting	01/01/2013-31/12/2013	SP57002190		Near Bicester		EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b		
<i>Common Pipistrelle</i>	Pipistrellus pipistrellus		03/08/2009-04/08/2009	SP584216		A41 Bridge, Bicester	aural bat detector	EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b		
<i>Soprano Pipistrelle</i>	Pipistrellus pygmaeus	1 Flying	01/01/2013-31/12/2013	SP57002190		Near Bicester		EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Long-eared Bat species</i>	Plecotus	Droppings	08/07/2010	SP5830722278		St Edburg's Church, Bicester	dung/droppings/frass/pellet, etc.	EC	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
<i>Brown Long-eared Bat</i>	Plecotus auritus		28/01/2012	SP58812229		Bicester Town Council offices, Garth Park, Launton Road, Bicester, Oxon OX26 2PS	field record	MOP	HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	
Mammals - Terrestrial (excl. bats)												
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57412008		Gagle Brook, south of Chesterton	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57662053		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57672052		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57672069		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57722106		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP57732091		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP58272189		Bicester Village Stream, Bicester Village Retail Park	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP58272190		Bicester Village Stream, Bicester Village Retail Park	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP58292138		Bicester Wetland Reserve	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT
<i>European Otter</i>	Lutra lutra	Droppings	24/07/2009-18/08/2009	SP58392185		Bicester Village Stream, Bicester Village Retail Park	dung/droppings/frass/pellet, etc.	EC	HabDir-A2np HabDir-A4	HabReg-Sch2 WACA-Sch5-s9.4b/s9.4c/s9.5a/s9.5b	NERC-S41	RL-Global-post2001-NT

Taxon Name	Common Name	Abundance / Sex / Stage	Date	Grid Ref.	Grid Ref. Qualifier	Location	Type of Record	Data Origin	European Directives	UK Legislation	NERC s41	Other Designations
<i>Eurasian Badger</i>	Meles meles	1	30/04/2007	SP561211		A41southbound, just before Chesterton overpass	dead on road	LN				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	1	17/03/2009	SP564204		A41 Northbound	dead on road	LN				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	1	31/03/2010	SP567206		A41, southbound	dead on road	LN				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	Signs	24/07/2009-18/08/2009	SP574200		Gagle Brook, south of Chesterton	tracks/trail	EC				Badgers-1992
<i>Eurasian Badger</i>	Meles meles		31/03/2004	SP575215		A41	dead on road	DBRC				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	2 Latrines	30/09/2014	SP5868720007		Plantation off Circular Rd, Bicester		MOP				Badgers-1992
<i>Eurasian Badger</i>	Meles meles		2007	SP59142084		Woodland adjacent to Wretchwick Lodge, Ambosden		MOP				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	1 Dead	16/10/2012	SP593223		AA421, Bicester	field record	LN				Badgers-1992
<i>Eurasian Badger</i>	Meles meles	1 Dead	02/02/2012	SP595222		Gavray Drive, Bicester	field record	MOP				Badgers-1992
<i>Eurasian Badger</i>	Meles meles		24/07/2009-18/08/2009	SP59582223		Gavray Drive Meadows., Upper Langford Brook	field record	EC				Badgers-1992
<i>Polecat</i>	Mustela putorius	1 Dead	21/04/2012	SP574214		A34 near Bicester	dead on road	MOP	HabDir-A5	HabReg-Sch4	NERC-S41	
<i>Polecat</i>	Mustela putorius	1	14/10/2006	SP596208		A41, nr. entrance to M.O.D. Bicester Graven Hill	dead on road	LN	HabDir-A5	HabReg-Sch4	NERC-S41	
<i>West European Hedgehog</i>	Erinaceus europaeus	2 alive	2013	SP565228		Confidential	hibernating	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	2	31/10/2006	SP569232		Bicester	field record	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	3	03/11/2006	SP572226		Bicester	field record	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	3 alive	2014	SP581230		Confidential	hibernating	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	1	18/10/2006	SP582222		Bicester	field record	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	1	30/10/2006	SP582229		Bicester	field record	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	1	07/11/2006	SP591232		Churchill Road, Bicester	field record	PTES				NERC-S41
<i>West European Hedgehog</i>	Erinaceus europaeus	1 Dead	14/05/2006	SP592226		100m SW of bridge over Bicester Ring Rd, between Gavray Drive & Railway	dead on road	LN				NERC-S41
<i>European Water Vole</i>	Arvicola amphibius		Jun-03	SP580230		Bicester		BBOWT				WACA-Sch5-s9.1k/s9.1t/s9.2/s9.4a/s9.4b/s9.4c/s9.5a/s9.5b
<i>European Water Vole</i>	Arvicola amphibius		Sep-03	SP581228		River Bure, Bicester		BBOWT				WACA-Sch5-s9.1k/s9.1t/s9.2/s9.4a/s9.4b/s9.4c/s9.5a/s9.5b
<i>European Water Vole</i>	Arvicola amphibius		Feb-00	SP595226		Ray Catchment		BBOWT				WACA-Sch5-s9.1k/s9.1t/s9.2/s9.4a/s9.4b/s9.4c/s9.5a/s9.5b
Reptiles												
<i>Slow-worm</i>	Anguis fragilis	1 Immature	25/09/2009	SP598223		Gavray Drive Meadows	field record	EC				WACA-Sch5-s9.1k/s9.5a/s9.5b
<i>Slow-worm</i>	Anguis fragilis	2 Females	22/09/2009	SP598223		Gavray Drive Meadows	field record	EC				WACA-Sch5-s9.1k/s9.5a/s9.5b
<i>Slow-worm</i>	Anguis fragilis	1 Female; 1 Immature	23/09/2009	SP598223		Gavray Drive Meadows	field record	EC				WACA-Sch5-s9.1k/s9.5a/s9.5b
<i>Grass Snake</i>	Natrix natrix	1	Summer 1994	SP5602167		Barnside, Alchester Rd, Chesterton		ORAG				WACA-Sch5-s9.1k/s9.5a/s9.5b
<i>Grass Snake</i>	Natrix natrix	1	Summer 2000	SP5602167		Bignell Park, Chesterton		ORAG				WACA-Sch5-s9.1k/s9.5a/s9.5b
<i>Grass Snake</i>	Natrix natrix		28/07/1987	SP572210		Roman Road by Hayfield	field record	BBOWT				WACA-Sch5-s9.1k/s9.5a/s9.5b

Status Key. Produced January 2014 by Thames Valley Environmental Records Centre

EUROPEAN DIRECTIVES

- BirdsDir-A1 - Species listed on Annex 1 of EC Directive 79/409/EEC on the Conservation of Wild Birds.
- HabDir-A2, HabDir-A4 & HabDir-A5 - Annex 2 and Annexes 4/5 respectively of the EC Habitats Directive. This is the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

UK LEGISLATION: CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010

This legislation translates the European Habitats Directive (see above) into UK law where species are listed in Schedule 2 and Schedule 4. Species are tagged as HabReg-Sch2 or HabReg-Sch4.

UK LEGISLATION: WILDLIFE AND COUNTRYSIDE ACT 1981

Schedule 1 Wild Birds

prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs. It prohibits possession of wild birds (dead or alive) or their eggs. In addition:

- WACA-Sch1(pt 1) – There are additional penalties for offences relating to birds on this schedule and it is also an offence to disturb such birds at the nest or with dependent young.
- WACA-Sch1(pt 2) – Covers the protection of birds which may be killed during the open season.

(Please note that some schedule 1 bird records will refer to species that do not breed in the county, e.g. over-wintering birds such as Redwing or Fieldfare. Although we include them in the annotated records, only they and their nests, eggs and dependent young enjoy extra protection under the W&C 1981 act. If you are in any doubt about the breeding status of a bird please contact us at TVERC)

Schedule 5 Wild Animals

- WACA-Sch5_sect9.1 – covers intentional killing injuring or taking (species are covered by all or some of these)
- WACA-Sch5_sect9.2 – Covers possession or control (live or dead animal, part or derivative)
- WACA-Sch5_sect9.4a – Covers damage to or destruction of any structure or place used by a scheduled animal for shelter or protection.
- WACA-Sch5_sect9.4b – Covers disturbance of animal occupying such a structure or place.
- WACA-Sch5_sect9.4c – Covers obstruction of access to any structure or place which any such animal uses for shelter or protection
- WACA-Sch5_sect9.5a – Covers selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative).
- WACA-Sch5_sect9.5b – Covers advertising for buying or selling such things.

Schedule 8 Wild Plants

- WACA-Sch8 - Covers any picking, uprooting or destruction of plants listed on the Schedule. It also prohibits the sale, etc, or possession for the purpose of sale of any plants on the Schedule.

PRIORITY NERC S.41 2006

Species listed in Section 41 of the Natural Environment and Rural Communities Act 2006 as a species of principle importance. These are very similar to the list of UKBAP and have superseded them. Species are tagged NERC S.41.

OTHER DESIGNATIONS: RED LISTS

Global Red List Species (tagged GlobalRed) - Species listed by the International Union for Conservation of Nature (IUCN) in the IUCN Red List of Threatened Species. Species included are from post 1994 and post 2001 lists.

GB Red List Species (tagged GBRed) - Species included in national red lists. Species included are from pre 1994 and post 2001 lists. Please note not all taxon groups are currently covered, for example fungi.

Abbreviations:

- EX** – Extinct A taxon is Extinct when there is no reasonable doubt that the last individual has died.
- EW** – Extinct in the Wild. Species known to survive only in cultivation, in captivity or as a naturalised population(s) well outside the past range.
- CR** – Critically Endangered (CR) Species facing an extremely high risk of extinction in the wild in the immediate future.
- EN** – Endangered: Species that are not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.
- VU** – Vulnerable: A species is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future
- NT** – Near Threatened – A taxon considered to likely to become endangered in the near future.
- LR(cd)** – Lower risk (conservation dependent)
- DD** – Data deficient – A taxon with insufficient data to make an assessment of its risk of extinction.
- RE** – Regionally Extinct – Taxa that are considered extinct within the region but populations exist elsewhere in the world.
- Inde** – indeterminate – based on a pre 1994 category: Taxa which are known to be Endangered, Vulnerable or Rare but with insufficient data to place them in one of the categories.
- Insu** – Insufficiently known - based on a pre 1994 category which equates to data deficient.

Species included here are from information compiled by JNCC (The Joint Nature Conservation Committee).

OTHER DESIGNATIONS: NATIONALLY NOTABLE SPECIES

This covers invertebrate species not falling within IUCN categories but never the less uncommon in Britain.

Nationally Notable A (Tagged Notable-A): Taxa which occur in <30 10 km (hectad) squares or for less well recorded groups within <7 vice counties.

Nationally Notable B (Tagged Notable-B): Taxa which don't fall within IUCN categories but are uncommon in Britain and occur in 31-100 10 km sq/ or for less or for less well recorded groups between 8 and 20 vice counties

Notable (Tagged Notable): Taxa known to be scarce (occurring in between 16 and 100 10km squares) but for which there is insufficient information to assign them to the above categories.

This designation comes from the National Biodiversity Network (NBN) species dictionary but is supported by JNCC.

OTHER DESIGNATIONS: NATIONALLY RARE OR SCARCE SPECIES

This designation covers species that are recognised to occur in only a few locations in Britain.

Rare (tagged as Status-NR) = occurring in 15 or fewer hectads (10 km squares) in the UK

Scarce (tagged as Status-NS) = occurring in 16 – 100 hectads in the UK.

OTHER DESIGNATIONS: BIRDS OF CONSERVATION CONCERN LISTS & RED LIST FUNGI

These lists were drawn up by leading governmental and non-governmental conservation organizations including the RSPB and British Trust for Ornithology. The most recent version was published in May 2009.

Red List (tagged Bird-Red) - species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered.

Amber List (tagged Bird-Amber) - Amber list species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare breeders (fewer than 300 pairs), those with internationally important populations in the UK, those with localised populations, and those with an unfavourable conservation status in Europe.

Red List Fungi – This designation uses the Red Data List of Threatened British Fungi (preliminary assessment) by Shelley Evans (BMS Conservation Officer). Species are designated as:

Fungi Red-CR – Critically Endangered

Fungi Red-EN – Endangered

Fungi Red-NT – Near Threatened

Fungi Red-VU – Vulnerable

These follow current IUCN guidelines (2001) as closely as possible but with adaptations to take into account the fungal lifestyle and associated practicalities of fungal recording.

OTHER DESIGNATIONS: LOCAL BAP SPECIES

For any Local Authority that has drawn up a list of BAP species. Designations will only apply to species recorded from the Local Authority area.

Currently, only Bracknell Forest Council have such a BAP list and relevant records are tagged Bracknell LBAP.

INVASIVE NON-NATIVE SPECIES

Species appearing on the Environment Agency list of non-native invasive species 2014. Species may have the following designations:

Priority Species: Species affecting EA interests the most

Rapid Response Species: Very invasive species that are not yet established

DATA ORIGIN KEY

Data Origin Abbreviation	Origin Details
AN	Abingdon Natural History Society
ANHSO	Ashmolean Natural History Society (& Rare Plant Group)
BAT	Bat Licence Returns (from licenced Bat Recorders)
BBG	Binfield Badger Group
BBOWT	Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust
BC	Butterfly Conservation (includes Upper Thames and National Data)
BDS	British Dragonfly Society
BENHS	British Entomological Natural History Society
BFC	Bracknell Forest Council
BIG	Berkshire Invertebrate Group
BLWS	Berkshire Local Wildlife Sites Project
BMG	Berkshire Mammal Group
BOC	Berkshire Bird Clubs
BOS	Banbury Ornithological Society
BRAG	Berkshire Reptile & Amphibian Group
BRC	Biological Record Centre (Monk's Wood)
BSBBG	Berks & South Berks Bat Group
BSBI	Botanical Society of the British Isles
BTC	Banbury Town Council
BTO	British Trust for Ornithology
BUWG	Bracknell Urban Wildlife Group
BWARS	Bees Wasps & Ants Recording Society
CBT	Childe Beale Trust
CDC	Cherwell District Council
COS	County Ornithological Services (also known as BCS)
CRPG	Cotswold Rare Plant Group
EA	Environment Agency (formally the National Rivers Authority)
EC	Professional Ecological Consultant
ET	The Earth Trust (formally the Northmoor Trust)
FLC	Friends of Longcot Churchyard
FSO	Fungus Survey of Oxfordshire
FWAG	Farmland Wildlife Advisory Group
GCN	GCN Licence Return Records
HA	Highways Agency
LN	Local/National Expert (known to TVERC)
LWVP	Lower Windrush Valley Project
MGLG	Moor Green Lakes Group
MOP	Member of the Public
NDD	National Dormouse Database
NE	Natural England/EN/NCC
NFC	Newbury Field Club
NHM	Natural History Museum
NPD	National Ponds Database
NRG	Newbury Ringing Group
NT	National Trust
OBG	Oxfordshire Bat Group
OBRC	Oxfordshire Biological Record Centre (TVERC precursor)

DATA ORIGIN KEY (Contd)

Data Origin Abbreviation	Origin Details
OBU	Oxford Brookes University
OCC	Oxfordshire County Council
OFG	Oxfordshire Flora Group
OLWS	Oxfordshire Local Wildlife Sites Project
OMG	Oxfordshire Mossing Group
OOS	Oxfordshire Ornithological Society
ORAG	Oxfordshire Reptile & Amphibian Group
OS	Otter Spotter Project
OUNHM	Oxford University Natural History Museum
OUWG	Oxford Urban Wildlife Group
OX	Oxford City Council
PC	Pond Conservation
PL	Plantlife
PTES	People's Trust for Endangered Species
RBC	Reading Borough Council
RBWM	Royal Borough of Windsor & Maidenhead
RDNHS	Reading and District natural History Society
RM	Reading Museum
RSPB	Royal Society for the Protection of Birds
RUWG	Reading Urban Wildlife Group
RWP	Reading Woodlands Plan
SODC	South Oxfordshire District Council
SW	Shotover Wildlife
TVERC	Thames Valley Environmental Record Centre
TVFG	Thames valley Fungus Group
TW	Thames Water
U	Unknown
UKWOT	UK Wild Otter Trust
VCH	Victoria County History (historical records)
VWH	Vale of White Horse District Council
VWT	Vincent Wildlife Trust
WB	West Berkshire District Council
WBC	Wokingham Borough Council
WFG	Wychwood Flora Group
WIA	Wildlife in Ascot Group
WILDCRU	Wildlife Conservation Research Unit
WMUWG	Windsor & Maidenhead Urban Wildlife Group
WODC	West Oxfordshire District Council
WS	Wytham Survey
WWT	Wildfowl & Wetlands Trust
YE	Dick Greenaway, concerning land owned by Yattendon Estate