

Guilford Car Park, Burford

Ecological Appraisal

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Olive Greening Trust April 2019 to undertake an Ecological Appraisal in respect of proposed development of land at Guilford Car Park, Burford, Oxfordshire.
- ii) **Proposals.** The proposals are for development of the site to extend the existing public car park and to install two footbridges across the River Windrush.
- iii) **Survey.** The site was surveyed in May 2019 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger, Water Vole and Otter.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Taynton Quarries Site of Special Scientific Interest located approximately 2.8km to the north-west of the site. The nearest non-statutory designated site is Burford Wet Grassland Local Wildlife Site (LWS) located approximately 0.7km west of the site. The site is situated within the Upper Windrush Biodiversity Opportunity Area/Conservation Target Area. A small area of Priority Habitat will be lost due to the proposals, however, enhancements to the retained Priority Habitat within the wider field are considered to compensate for this loss, whilst contributing to the restoration of biodiversity at a landscape-scale. All other ecological designations in the surrounding area are physically well separated from the site and are therefore unlikely to be adversely affected by the proposals.
- v) **Habitats.** The site is dominated by grassland which is likely to qualify as the Priority Habitat 'Coastal and Floodplain Grazing Marsh'. Two small sections of the River Windrush and a hedgerow are also included within the site boundary and these are also likely to qualify as Priority Habitats. The grassland, hedgerow and river are features of ecological importance and of local-district level value. The river and the majority of the hedgerow are to be retained and protected under the proposals. The grassland will be lost under the proposals and accordingly, compensation through enhancement of off-site habitats adjacent to the site is proposed.
- vi) **Protected Species.** The site generally offers limited opportunities for protected species, given its relative isolation from other suitable habitats. There is potential for Water Vole, Otter and other mammals to pass through the site on occasion and foraging/commuting bats may utilise the site and adjacent habitats. Nesting birds are likely to be present within suitable habitat at the site and could therefore potentially be adversely affected by the proposals. Accordingly, a number of precautionary safeguards/mitigation measures will be implemented to protect these species.
- vii) **Enhancements.** The proposals present the opportunity to secure a number of biodiversity benefits, including additional native tree and shrub planting, enhancements to the watercourses to improve their value for Water Vole, new roosting opportunities for bats, and more diverse nesting habitats for birds.
- viii) **Summary.** In summary, the proposals have sought to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm. On the contrary, the opportunity exists to provide a number of benefits for biodiversity at the site, particularly in accordance with the objectives of the Upper Windrush Biodiversity Opportunity Area/Conservation Target Area.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Olive Greening Trust in April 2019 to undertake an Ecological Appraisal in respect of proposed development of land at Guilford Car Park, Burford centred at grid reference SP 2543 1235 (see Plan 5632/ECO1).

1.1.2 The proposals are for development of the site to extend the existing public car park and to install two footbridges across the River Windrush.

1.2 Site Overview

1.2.1 The site is located in west Oxfordshire within an urban-edge context. The site is divided into two main sections, the larger of which is bound to the north, east and west by grassland, beyond which to the north lies an ordinary watercourse and the River Windrush to the east and west. To the south, this area of the site is bound by an existing car park. The smaller section of the site is bound by the existing car park to the west, grassland to the north and east, and an ordinary watercourse to the south. In addition, two further areas of site are present, where the footbridges are proposed, which include small sections of the River Windrush. The remainder of the site comprises grassland and a hedgerow.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are proposed so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are identified with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings the Thames Valley Environmental Records Centre (TVERC) was contacted, with data requested on the basis of a search radius of 2km. Where information has been received from TVERC this is reproduced on Plan 5632/ECO2, where appropriate.
- 2.1.2 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (25km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. Relevant information is reproduced on Plan 5632/ECO2, where appropriate.
- 2.1.3 In addition, the Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in May 2019 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology¹, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal² to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats, Badger, Water Vole and Otter, as described below.

¹ Joint Nature Conservation Committee (2010, as amended) '*Handbook for Phase 1 habitat survey: A technique for environmental audit.*'

² Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) '*Guidelines for Preliminary Ecological Appraisal.*'

Bats³

Visual Inspection Surveys

2.3.2 **Trees.** Trees within and immediately adjacent to the site were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁴ as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Badger (*Meles meles*)⁵

2.3.4 A detailed Badger survey was carried out in May 2019. The survey comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Water Vole (*Arvicola amphibious*)⁶

2.3.5 The watercourses within and adjacent to the site were thoroughly searched for signs of Water Vole in May 2019. Such signs include latrines, tunnels, lawns (small areas of vegetation grazed by Water Vole) and footprints. The banks of the watercourse were examined thoroughly (where accessible) and from the watercourse itself where scrub and water depth allowed.

Otter (*Lutra lutra*)⁷

2.3.6 The watercourses within and adjacent to the site were thoroughly searched for signs of Otter in May 2019. Such signs include holts (underground chambers used for lying up), spraints, prints, paths and slides. The banks of the watercourse were examined thoroughly (where accessible) and from the watercourse itself where scrub and water depth allowed.

2.4 Survey Constraints and Limitations

2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the site.

³ Surveys based on: English Nature (2004) '*Bat Mitigation Guidelines*' and Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁴ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁵ Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

⁶ Surveys based on: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) '*Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

⁷ Surveys based on: Life in UK Rivers (2003) '*Monitoring the Otter - Conserving Natura 2000 Rivers*'. Monitoring Series No. 10

2.4.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.5 Principles of Ecological Evaluation

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)⁸, which involves identifying ‘important ecological features’ within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 5632/1.

2.6 National Policy Approach to Biodiversity in the Planning System

2.6.1 The National Planning Policy Framework (NPPF)⁹ describes the Government’s national policies on ‘conserving and enhancing the natural environment’ (Chapter 15). NPPF is accompanied by Planning Practice Guidance on ‘Biodiversity, ecosystems and green infrastructure’ and ODPM Circular 06/2005¹⁰.

2.6.2 NPPF takes forward the Government’s strategic objective to halt overall biodiversity loss¹¹, as set out at Paragraph 170, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

‘minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures’

2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 175:

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

- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*

⁸ CIEEM (2018) ‘Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine’, Chartered Institute of Ecology and Environmental Management, Winchester

⁹ Ministry of Housing, Communities & Local Government (2018) ‘National Planning Policy Framework’

¹⁰ ODPM (2006) ‘Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice’

¹¹ DEFRA (2011) ‘Biodiversity 2020: A strategy for England’s wildlife and ecosystem services’

- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2013¹², which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2013, section 5.5).

2.7 Local Policy

2.7.1 The West Oxfordshire Local Plan 2031 is the principle planning document guiding future development within the West Oxfordshire District. The following policies and extracts of policies within the Local Plan are of relevance to ecology:

'POLICY EH3: Biodiversity and geodiversity

2.7.2 *The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity and minimise impacts on geodiversity, including by:*

- *giving sites and species of international nature conservation importance and nationally important sites of special scientific interest the highest level of protection from any development that will have an adverse impact;*
- *requiring a Habitats Regulations Assessment to be undertaken of any development proposal that is likely to have a significant adverse effect, either alone or in combination, on the Oxford Meadows SAC, particularly in relation to air quality and nitrogen oxide emissions and deposition;*
- *protecting and mitigating for impacts on priority habitats, protected species and priority species, both for their importance individually and as part of a wider network;*

¹² British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2013

- *avoiding loss, deterioration or harm to locally important wildlife and geological sites and sites supporting irreplaceable habitats (including ancient woodland, Plantations on Ancient Woodland Sites and aged or veteran trees), UK priority habitats and priority species, except in exceptional circumstances where the importance of the development significantly and demonstrably outweighs the harm and the harm can be mitigated through appropriate measures and a net gain in biodiversity is secured;*
- *ensuring development works towards achieving the aims and objectives of the Conservation Target Areas (CTAs) and Nature Improvement Areas (NIAs);*
- *promoting the conservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species populations, particularly within the CTAs and NIAs;*
- *taking all opportunities to enhance the biodiversity of the site or the locality, especially where this will help deliver networks of biodiversity and green infrastructure and UK priority habitats and species targets and meet the aims of CTAs;*
- *ensuring that all applications that might adversely affect biodiversity are accompanied by adequate ecological survey information in accordance with BS 42020:2013 unless alternative approaches are agreed as being appropriate with the District Council's ecologist;*
- *all major and minor applications demonstrating a net gain in biodiversity where possible. For major applications this should be demonstrated in a quantifiable way through the use of a Biodiversity Impact Assessment Calculator (BIAC) based on that described in the DEFRA Biodiversity Offsetting guidance or a suitably amended version. For minor applications a BIAC will not usually be required but might be requested at the Council's discretion;*
- *all development incorporating biodiversity enhancement features.*

2.7.3 *All developments will be expected to provide towards the provision of necessary enhancements in areas of biodiversity importance.*

POLICY EH4: Public realm and green infrastructure

2.7.4 *The existing areas of public space and green infrastructure of West Oxfordshire will be protected and enhanced for their multi-functional role, including their biodiversity, recreational, accessibility, health and landscape value and for the contribution they make towards combating climate change.*

2.7.5 *Public realm and publicly accessible green infrastructure network considerations should be integral to the planning of new development.*

2.7.6 *New development should:*

- *avoid the loss, fragmentation loss of functionality of the existing green infrastructure network, including within the built environment, such as access to waterways, unless it can be demonstrated that replacement provision can be provided which will improve the green infrastructure network in terms of its quantity, quality, accessibility and management arrangements*

- *maximise opportunities for urban greening such as through appropriate landscaping schemes and the planting of street trees*
- *demonstrate how lighting will not adversely impact on green infrastructure that functions as nocturnal wildlife movement and foraging corridors*

POLICY EH7: Flood risk

2.7.7 *In assessing proposals for development:*

- *sustainable drainage systems to manage run-off and support improvements in water quality and pressures on sewer infrastructure will be integrated into the site design, maximising their habitat value and ensuring their long term maintenance*
- *and required for flood management will be safeguarded from development and, where applicable, managed as part of the green infrastructure network, including maximising its biodiversity value.*

POLICY EH8: Environmental protection

2.7.8 *Proposals which are likely to cause pollution or result in exposure to sources of pollution or risk to safety, will only be permitted if measures can be implemented to minimise pollution and risk to a level that provides a high standard of protection for health, environmental quality and amenity. The following issues require particular attention:*

- *Artificial Light - The installation of external lighting and lighting proposals for new buildings, particularly those in remote rural locations, will only be permitted where:*
 - *the proposal would not have a detrimental effect on local amenity, character of a settlement or wider countryside, intrinsically dark landscapes or nature conservation.*
- *Water resources - Proposals for development will only be acceptable provided there is no adverse impact on water bodies and groundwater resources, in terms of their quantity, quality and important ecological features.'*

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 5632/ECO2. The nearest statutory designation is Taynton Quarries Site of Special Scientific Interest (SSSI) located approximately 2.8km to the north-west of the site. The SSSI is designated on the basis of its limestone grassland habitats and calcareous fen habitat which support a range of uncommon plants and invertebrates. The next nearest statutory designation is Westwell Gorse SSSI located approximately 3.4km to the west of the site. The SSSI is designated for its unimproved calcareous grassland, scrub and woodland, which support a range of uncommon plants including the nationally rare species Downy-fruited Sedge *Carex tomentosa*.
- 3.1.2 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting SSSIs, taking into account the type and scale of developments. The site sits within an IRZ in relation to Taynton Quarries SSSI; however the IRZ applies to airports, helipads and other aviation proposals, quarries and livestock/poultry units and therefore does not apply to the proposed development.

Evaluation

- 3.1.3 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well separated from the site by existing development and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 5632/ECO2. The nearest non-statutory designated site is Burford Wet Grassland Local Wildlife Site (LWS) located approximately 0.7km west of the site. The LWS is designated for the Priority Habitats 'Coastal and Floodplain Grazing Marsh' and 'Lowland Meadow' which are present within the site, comprising wet grassland, mudflats and open water. A variety of floral species are supported by the site and BTO Red-listed bird species including Lapwing *Vanellus Vanellus* have been recorded breeding within the site.
- 3.2.2 The next nearest non-statutory designation is Dean Bottom LWS, located approximately 1.6km north of the site. The LWS is designated for the presence of the Priority Habitat 'Lowland Calcareous Grassland' which is a rare habitat in Oxfordshire. The site supports a number of Red-listed bird species including Skylark *Alauda arvensis*, Song Thrush *Turdus philomelos* and Yellowhammer *Emberiza citronella*. Invertebrate species recorded at the site include the Priority Species Duke of Burgundy *Hamearis lucina* and Small Heath *Coenonympha pamphilus*.
- 3.2.3 The site is located within the Upper Windrush Biodiversity Opportunity Area/Conservation Target Area (BOA/CTA). The aim of these areas is to provide targeted locations to

conserve habitats and wildlife at a landscape scale. Development within these areas should increase connectivity of wildlife habitats and result in a net gain for biodiversity.

Evaluation

3.2.4 Although the proposals will result in the loss of a small area of land identified as the Priority Habitat 'Coastal and Floodplain Grazing Marsh', this area is not considered to be a prime example of this habitat (see the relevant section in Chapter 5 below). In addition, although the site is included within the Upper Windrush BOA/CTA because it forms part of a wider linear feature, it is somewhat fragmented by the existing car park immediately adjacent to the south. The proposals are of a design and scale that they would not result in further fragmentation of the Priority habitat and, as such, are not contrary to the objectives of the BOA/CTA. Indeed, the proposals present the opportunity to enhance the area of the Priority Habitat that is present within the wider field in which the site is located. Through the creation of wet ditches, river restoration techniques including installation of soft revetments, new native species planting and the installation of bat and bird boxes, the biodiversity value of the retained area of Priority Habitat surrounding the site will be increased, contributing to the restoration of biodiversity at a landscape-scale, in line with the BOA/CTAs and Policy EH3 of the West Oxfordshire Local Plan.

3.2.5 Overall, although the proposals will result in the loss of a small area of Priority Habitat, the ecological mitigation/enhancements within the wider field are considered to compensate for this loss, such that the biodiversity of the retained Priority Habitat within the Upper Windrush BOA/CTA is maximised under the proposals. All other non-statutory designations in the surrounding area are well separated from the site by existing development and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

Description

3.3.1 There are no records of any notable or veteran trees within or adjacent to the site. The site is identified on the MAGIC database as the Priority Habitat 'Coastal and Floodplain Grazing Marsh'. This is discussed further within the relevant habitat section in Chapter 4 below.

Evaluation

3.3.2 A small area of the Priority Habitat 'Coastal and Floodplain Grazing Marsh' will be lost under the proposals, however, this area is not considered a prime example of this Priority Habitat (see the relevant section in Chapter 5 below) and the mitigation/enhancements to the retained Priority Habitat within the wider field in which the site is situated are considered to compensate for the loss. Subject to the implementation of appropriate mitigation measures (as discussed below in Chapter 4) it is unlikely that any other Priority Habitats or any notable or veteran trees will be significantly affected by the proposals.

3.4 Summary

3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and, subject to the implementation of appropriate mitigation measures (as described above), it is unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 No specific records of any protected, rare or notable plant species from within or immediately adjacent to the site are included within the information returned from TVERC. A number of records of Priority Species were returned from the 2km search radius including Cornflower *Centaurea cyanus*, Fine-leaved Sandwort *Minuartia hybrida* and Grape-hyacinth *Muscari neglectum*, dating between 1982 and 2003, none of which originate from within or adjacent to the site. No evidence for the presence of any of these species within the site was recorded during the survey work undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats/ecological features were identified within/adjacent to the site:

- Coastal and Floodplain Grazing Marsh Priority Habitat;
- Watercourses;
- Hedgerow;
- Trees;
- Grassland (off-site);
- Scrub (off-site); and
- Tall Ruderal (off-site).

4.2.3 The locations of these habitat types and features are illustrated on Plan 5632/ECO3 and described in detail below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, the grassland, hedgerow and watercourse are considered to qualify as Priority Habitats and therefore constitute important ecological features. This is discussed further in the relevant habitat sections below.

4.4 Coastal and Floodplain Grazing Marsh Priority Habitat

Description

- 4.4.1 The site is dominated by floodplain grassland, labelled G1 on Plan 5632/ECO3 (see Photographs 1 and 2), which had been recently mown at the time of survey, such that the sward was uniformly short (approximately 15cm). Grass species present within the sward include Perennial Rye-grass *Lolium perenne*, Cock's-foot *Dactylis glomeratus*, Smooth Meadow-grass *Poa pratensis*, Yorkshire-fog *Holcus lanatus*, Red Fescue *Festuca rubra*, Barren Brome *Bromus sterilis* and Meadow Foxtail *Alopecurus pratensis*. Herb species present within the sward include Creeping Cinquefoil *Potentilla reptans*, Creeping Buttercup *Ranunculus repens*, Meadow Buttercup *Ranunculus acris*, Shining Crane's-bill *Geranium lucidum*, Cut-leaved Crane's-bill *Geranium dissectum*, Sorrel *Rumex acetosa*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Ribwort Plantain *Plantago lanceolata*, Dandelion *Taraxacum officinalis* agg., Cow Parsley *Anthriscus sylvestris*, Cleavers *Galium aparine*, Nettle *Urtica dioica*, Dock *Rumex* sp., Creeping Thistle *Cirsium arvense* and Hogweed *Heracleum sphondylium*.

Evaluation

- 4.4.2 The grassland within the site supports a relatively low diversity of common and widespread species, which is reflective of the nature of the Priority Habitat 'Coastal and Floodplain Grazing Marsh'. This habitat type is periodically flooded by an adjacent watercourse, providing nutrients to the soil, resulting in an abundance of the most competitive species and, accordingly, low species diversity. Often, ditches are present which hold water for a longer period of time and these can be species-rich. No ditches are present within the grassland on-site and although a slight depression was noted, the species composition was much the same as throughout the grassland. Traditionally, the Priority Habitat 'Coastal and Floodplain Grazing Marsh' is grazed and/or cut for hay or silage. In this instance, the grassland is reported to be subject to a cut at the beginning of summer to provide additional grounds for the Burford Festival, and then again at the end of the summer for hay/silage.
- 4.4.3 Overall the grassland within the site is considered likely to qualify as the Priority Habitat 'Coastal and Floodplain Grazing Marsh' and therefore constitutes an important ecological feature. Nationally, 'Coastal and Floodplain Grazing Marsh' habitats are declining, with an estimated 10,000ha of this habitat remaining in the UK¹³. However, some features that are typical of this Priority Habitat, such as ditches and animal grazing, are absent from the site and the percentage of injurious weeds is relatively high, such that the grassland within the site is not considered to be a good example of this habitat type.
- 4.4.4 The proposals will result in the loss of the grassland within the site (approximately 0.8ha) and this is considered to be of moderate ecological significance. Accordingly, enhancements to the retained grassland within the wider field (approximately 2ha) are proposed to mitigate/compensate for this loss and improve the ecological value of the retained Priority Habitat within the wider field (see Chapter 6).

¹³ JNCC (2011) *UK Biodiversity Action Plan Priority Habitat Descriptions: Coastal and Floodplain Grazing Marsh*. Ed. Maddock A.

4.5 Watercourses (On-site and Off-site)

Description

- 4.5.1 A single watercourse is present within the site (labelled WC1 on Plan 5632/ECO3) and three off-site watercourses are present in close proximity to the site (labelled WC2-WC4 on Plan 5632/ECO3). The watercourses are described in detail below.

Watercourse WC1 (on-site)

- 4.5.2 The main area of the site lies approximately 16m east of the River Windrush (WC1); however, the site boundary includes two small sections of WC1, where the proposed pedestrian bridges are located. The river is approximately 10m wide and flows north to south with a silt and gravel substrate and moderate flow (see Photograph 3). Small earth banks are present with tall ruderal vegetation including Great Willowherb *Epilobium hirsutum*, Burdock *Arctium* sp., Soft Brome *Bromus hordeaceus* and Hard Rush *Juncus inflexus*. Small patches of scrub are present including Bramble *Rubus fruticosus* agg., Dog-rose *Rosa canina* and Hawthorn *Crataegus monogyna*. A young Sycamore *Acer pseudoplatanus* is also present along the watercourse, located approximately 30m north of the site boundary. No aquatic species were observed within the watercourse, although the water was turbid, such that any aquatics present may not have been seen.

Watercourse WC2 (off-site)

- 4.5.3 An ordinary watercourse branches off from the River Windrush and flows west to east approximately 10m north of the site (see Photograph 4). The watercourse is approximately 2m wide with a cobble/gravel substrate and shallow earth banks. Riffles and pools up to 50cm deep are present. The watercourse is heavily shaded by trees and scrub, such that it is devoid of aquatic vegetation, whilst ruderal, scrub and grass species are present on the banks. Species include Barren Brome, Soft Brome, Meadow Foxtail, Creeping Buttercup, White Dead-nettle *Lamium album*, Cow Parsley, Comfrey *Symphytum officinale*, Prickly Sow-thistle *Sonchus asper*, Cleavers, Nettle, Creeping Thistle, Hemlock *Conium maculatum*, Hogweed and Hawthorn.

Watercourse WC3 (off-site)

- 4.5.4 The southern boundary of the site is approximately 10m from another ordinary watercourse which flows west to east (see Photograph 5). The watercourse is approximately 3m wide and 2ft deep with a fast flow and gravel substrate. No aquatic vegetation is present, although the water has a high turbidity, potentially obscuring aquatic plants. Steep earth banks, approximately 1m high, are heavily shaded by trees and scrub. Marginal vegetation includes Nettle, Cleavers, Pendulous Sedge *Carex pendula*, Ground Ivy *Glechoma hederacea*, Comfrey, Cow Parsley and young Ash *Fraxinus excelsior*.

Watercourse WC4 (off-site)

- 4.5.5 A fourth watercourse is present approximately 110m to the east of the site, forming the eastern boundary of the wider field (see Photograph 6). This watercourse is a distributary of the River Windrush which re-joins the main watercourse further downstream. Watercourse WC4 is approximately 6m wide and has a moderate north to south flow, with a silt substrate. Steep earth banks are present, particularly on the eastern side where the banks are almost vertical.

Evaluation

- 4.5.6 The section of the River Windrush (watercourse WC1) within the site forms part of a larger linear wildlife corridor providing connectivity with the local landscape and it likely to qualify as a Priority Habitat. The watercourse is therefore considered to form an important ecological feature and is of value at the district level.
- 4.5.7 Two footbridges are to be installed across the River Windrush (WC1) as part of the proposals to provide access to the existing and proposed car parks. The proposed bridges will be clear span, such that the flow of the River Windrush is not anticipated to be impeded under the proposals. The bridge abutments set back from the river bank on small sections of tall ruderal/grassland; these habitats comprise common and widespread species and do not form important ecological features such that the loss of these small sections of habitat is of negligible ecological significance. There is potential for adverse effects on watercourse WC1 and associated wildlife through pollution events during the construction and operational phases, overshadowing and/or excessive illumination. However, through the implementation of appropriate mitigation, as outlined in Chapter 6, adverse impacts on the watercourse are likely to be negligible.
- 4.5.8 The remaining watercourses provide further linear connectivity within the surrounding landscape and are of value at the local to District level. These watercourses will be fully retained and protected under the proposals, such that adverse impacts are not anticipated as a result of the development.

Hedgerow

Description

- 4.5.9 A single hedgerow is present within the site, labelled H1 on Plan 5632/ECO3 (see Photograph 7). The hedgerow is described in more detail in Table 4.1 below.

Table 4.1. Hedgerow description.

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify [#]
H1	1.5m	1m	<u>Hawthorn</u> (d), <u>Dogwood</u> , <u>Blackthorn</u> , <u>Ash</u> (y) and <u>Horse Chestnut</u> (y), Snowberry	3	Green Alkanet, Nettle, Cleavers, Ivy, Dock, Hogweed, Silver Weed, Cow Parsley, Ground Ivy and Barren Brome	Standard trees, <10% gaps	Managed to a box shape. Young in age, most likely planted when existing car park was installed.	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

* estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch

[#] likely to qualify – as ‘important’ under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

- 4.5.10 From a preliminary appraisal, hedgerow H1 is considered to be species-rich¹⁴ but is unlikely to qualify as ecological ‘important’ under the Hedgerows Regulations 1997, based on the number of woody features and associated features. Hedgerow H1 is likely to qualify

¹⁴ i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

as a Priority Habitat based on the standard definition¹⁵, which includes all hedgerows (>20m long and <5m wide) consisting predominately (≥80%) of a least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in Great Britain qualify as Priority Habitat under this definition.

- 4.5.11 On this basis, hedgerow H1 constitutes an important ecological feature, although given its managed nature and the relatively limited connections to other habitats, hedgerow H1 is of importance at no more than the local level.
- 4.5.12 The proposals incorporate the retention of the majority of hedgerow H1, with the only losses occurring to two small sections of the hedgerow for access roads to the new car park (~10m in total). The retained sections of the hedgerow will be protected during the construction phase of the proposals as per the recommendations included at Chapter 6 below. New species-rich native hedgerow planting within the new car park is proposed, providing additional linear features within the site, which will offset the loss of the two small sections of hedgerow.

4.6 Trees

Description

- 4.6.1 A number of trees were recorded within the site, largely associated with hedgerow H1 (as set out at Table 4.1 above). Standard trees within the hedgerows were noted to be relatively young in age.

Evaluation

- 4.6.2 The standard trees recorded within hedgerows are young in age and are therefore currently of limited ecological interest and do not constitute important ecological features at present. At any rate, it is understood that the trees within the hedgerow will be retained and protected under the proposals. As such, subject to recommended safeguards set out at Chapter 6 below, no adverse impacts on trees within the site are anticipated as a result of the proposals. On the contrary, new native tree planting will provide a net gain for this habitat type within the site, maximising opportunities for biodiversity under the proposals.

4.7 Grassland (Off-site)

- 4.7.1 The grassland present within the site extends off-site to the east into the wider field (labelled G2 on Plan 5632/ECO3). Here, the grassland is less regularly managed, such that the sward height is approximately 20 to 30cm (see Photograph 8). The species composition of grassland G2 is similar to grassland G1, with the addition of Meadowsweet *Filipendula ulmaria*, Common Mouse-ear *Cerastium fontanum*, Bugle *Ajuga reptans*, Tufted Hair-grass *Deschampsia cespitosa*, Ground Ivy, Germander Speedwell *Veronica chamaedrys*, Selfheal *Prunella vulgaris* and Lesser Celandine *Ranunculus ficaria*.

4.8 Scrub (Off-site)

- 4.8.1 Patches of scattered scrub are present in the area surrounding the site, particularly along watercourse WC2. Species present include Hawthorn, Bramble, Dog-rose *Rosa canina* and Elder *Sambucus nigra*.

¹⁵ Based on: Biodiversity Reporting and Information Group (2011) 'UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions', ed. Ant Maddock

4.9 Tall Ruderal (Off-site)

4.9.1 The grassland between the site and watercourses WC2 and WC3 does not appear to be regularly mown, such that ruderal species are dominant (see Photograph 9). Species present within the tall ruderal habitat include Cleavers, Nettle, Cow Parsley, Hogweed, Creeping Thistle, Hemlock, Prickly Sow Thistle, Comfrey, Dead-nettle, Creeping Buttercup, Foxtail, Soft Brome and Barren Brome.

4.10 Habitat Evaluation Summary

4.10.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.2. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Floodplain Grazing Marsh	Local to District
Watercourses	District
Hedgerow	Local

4.10.2 No other habitats are present within the site and those others that lie adjacent to the site include scrub and tall ruderal. However, these habitats do not form important ecological features.

5 Faunal Use of the Site

5.1 Overview

5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats, Badgers, Water Vole and Otter, with the results described below.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, no Priority Species were recorded within the site.

5.3 Bats

5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 5632/2 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also considered S41 Priority Species.

5.3.2 **Background Records.** A record of an injured juvenile Pipistrelle *Pipistrelle* sp. was returned from TVERC within the 1km grid square containing the site. The record was dated 2015, but no further information as to its precise location in relation to the site was available. Information received from TVERC also returned records of Brown Long-eared Bat *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Daubenton's Bat *Myotis daubentonii*, Lesser Horseshoe Bat *Rhinolophus hipposideros*, Natterer's Bat *Myotis nattereri*, Noctule *Nyctalus noctula*, Serotine *Eptesicus serotinus* and Soprano Pipistrelle *Pipistrellus pygmaeus* within 2km of the site. The next closest record was for a feeding Daubenton's Bat *Myotis daubentonii*, located approximately 150m south of the site, dated 2014.

5.3.3 Survey Results

Visual Inspection Surveys

Trees

5.3.4 A number of young to semi-mature trees are present on site which do not exhibit features with potential for roosting bats.

5.3.5 Evaluation and Assessment of Likely Effects

Roosting

Trees

- 5.3.6 The trees within/adjacent to the site are young to semi-mature in age, such that they do not yet exhibit potential roosting features for bats. At any rate, it is understood that the trees within the site are to be retained and protected under the proposals. The provision of bat boxes within the wider site will provide an instant net gain in roosting opportunities, whilst new tree planting has the potential to afford roosting opportunities for bats in the long-term. Accordingly, subject to the implementation of the recommendation outlined at Chapter 6 below in relation lighting, it is considered that bats will be fully safeguarded under the proposals.

Foraging/Commuting

- 5.3.7 The grassland and watercourse within the site offer suitable foraging habitat for bats, and watercourse WC1 and the adjacent off-site watercourses provide linear commuting corridors which are well connected to the wider environment. However, equivalent, if not superior, foraging and commuting habitats including a distributary of the River Windrush and more diverse grassland is present to east of the site. Overall, the site is considered to be of local level value for foraging and commuting bats.
- 5.3.8 The proposals will result in the loss of grassland within the site, reducing potential foraging habitat; however, given the relatively small area of grassland within the site and the abundance of similar grassland habitats within the wider area, this is considered to be of minor ecological significance. Furthermore, the proposals include a number of enhancements to the wider field in which the site is located, including new native species planting and the creation of wet ditches which will enhance the foraging opportunities for bats. As such, the loss of the relatively small area of grassland is unlikely to significantly adversely impact foraging bats.
- 5.3.9 In terms of connectivity, the proposals are unlikely to result in the loss of any important commuting routes. The main section of the site is situated 16m away from the River Windrush, whilst the two clear span footbridges are unlikely to disrupt bats commuting along this watercourse. The loss of the two small sections of hedgerow H1 is unlikely to disrupt any existing flight paths for bats. Nonetheless, the planting of tree specimens either side of the new access roads, will provide 'hops-overs' to ensure that any existing commuting routes are maintained.
- 5.3.10 Overall, subject to the implementation of the recommendations outlined at Chapter 6 below, along with other ecological enhancements, it is considered that the conservation status of local bat populations will be safeguarded under the scheme.

5.4 Badger

- 5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 5632/2 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{16, 17}
- 5.4.3 **Background Records.** No records of Badger within or adjacent to the site were returned from TVERC. The closest record was for a dead Badger recorded on the A424, approximately 500m north-west of the site, dated 2004.
- 5.4.4 **Survey Results and Evaluation.** No Badger setts were found within or immediately adjacent to the site, nor were any other signs of Badger activity such as foraging scrapes, dung pits or latrines. The grassland within the site offers suitable foraging habitat for Badger, however, the lack of evidence of this species indicates that the site is not an important foraging resource for any local Badger population. Additionally, the site is physically isolated from other suitable habitat in the surrounding area by the watercourses which surround the wider field on all sides. Accordingly, the site is considered to be of value at the site level for this species and the loss of the grassland within the site is considered unlikely to have a significant adverse impact on the local Badger population. Nonetheless, Badgers are dynamic animals and, accordingly, precautionary mitigation measures are recommended at Chapter 6 to safeguard this species.

5.5 Water Vole

- 5.5.1 **Legislation.** Water Vole is fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 5632/2 for detailed provisions). There is no provision under the Act for licensing what would otherwise be offences for the purpose of development. Such activities must be covered by the defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided.
- 5.5.2 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to trap and translocate Water Vole for the purpose of conservation. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. NE would also require assurance that the actions would make a positive contribution to Water Vole conservation.
- 5.5.3 **Background Records.** TVERC returned a record of Water Vole, dated 2000, from the 1km grid square containing the site, although no further information about the precise location of the record was available. No specific records of Water Vole within or adjacent to the site were returned from the desktop study. A number of records of Water Vole were returned from the surrounding search area, with the closest recent record of this species being located approximately 110m north of the site, dated 2015.
- 5.5.4 **Survey Results and Evaluation.** The site contains two small sections of the River Windrush (watercourse WC1) which, along with the other adjacent off-site watercourses, may offer suitable habitat for Water Voles. In addition, the grassland within the site may offer suitable terrestrial habitat for this species. Accordingly, specific survey work was

¹⁶ English Nature (2002) 'Badgers and Development'

¹⁷ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

undertaken to determine the presence or likely absence of this species within the watercourses both on and off-site.

- 5.5.5 No latrines, feeding lawns, droppings or footprints were recorded in the watercourses within and adjacent to the site. A small number of burrows characteristic of Water Vole were recorded within the off-site section of watercourse WC1 and WC2, albeit it was not possible to conclude whether the burrows were created by, or are in current use by, this species. Overall, given the lack of evidence of this species and the level of disturbance of the watercourse edges by dog walkers and their dogs, it is considered that Water Vole are not currently resident in the sections of the watercourses within and adjacent to the site. Nonetheless, the presence of potential Water Vole burrows indicates that they may have been present in the past and it remains possible that Water Vole utilise the watercourses for commuting on occasion.
- 5.5.6 The proposals include the installation of two clear span footbridges over watercourse WC1 and it is understood that the abutments for these bridges will be set back from the banks of the river. Given that Water Vole are not considered to be resident along the sections of watercourse WC1 within and adjacent to the site, it is considered unlikely that Water Voles will be adversely impacted by the installation of the proposed bridges. The installation of the clear span bridges will not impact commuting opportunities for Water Voles along the River Windrush or the future colonisation of the river banks by this species.
- 5.5.7 Furthermore, Water Voles will generally utilise terrestrial habitats within 2-5m of a watercourse,¹⁸ and although it is anticipated the small bridge footings will be placed in this area, the remainder of the site is located approximately 12m from the nearest section of watercourse, such that it is considered unlikely that any commuting Water Vole would utilise the grassland within the main site. Accordingly, the loss of the grassland is unlikely to adversely affect Water Vole. Nonetheless, Water Vole are dynamic animals and accordingly, a number of recommendations are outlined at Chapter 6 to ensure this species is fully protected under the proposals.

5.6 Otter

- 5.6.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 5632/2 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.
- 5.6.2 **Background Records.** No specific records of Otter within or adjacent to the site were returned from the desktop study. A number of records of Otter were returned from the surrounding search area, with the closest specific record of this species being droppings located approximately 75m east of the site, dated 2003.
- 5.6.3 **Survey Results and Evaluation.** The site includes two small sections of watercourse WC1 which offers suitable foraging and commuting habitat for Otters. The grassland within the main area of the site offers sub-optimal habitat for this species, having a short sward with no scrub/taller vegetation to provide sheltering/lying up opportunities. No signs of Otter such as spraints or holts were recorded along the watercourses within and adjacent to the

¹⁸ Strachan, R., Moorhouse, T. and Gelling, M. (2011) 'Water Vole Conservation Handbook'

site. Furthermore, the data search returned no recent records of Otter within the local area. In addition, the sections of watercourse within and adjacent to the site are subject to regular daily disturbance by dog walkers, reducing the value of this habitat for Otter.

- 5.6.4 As described above for Water Vole, the installation of the two clear span footbridges will result in the loss of small areas of grassland for the abutments which will be set back from the river bank. Overall, given that no evidence of Otter was found during the specific survey work undertaken, it is considered unlikely that this species is regularly utilising the site, albeit potential remains for Otter to make occasional use of the watercourses for commuting. The installation of the clear span bridges will not impact commuting opportunities for Otter or prevent this species from utilising the river banks in the future. The proposals are therefore unlikely to have a significant impact on Otter.

5.7 Other Mammals

- 5.7.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species and should be assessed as important ecological features.
- 5.7.2 **Background Records.** No specific records of other mammals from within or adjacent to the site were returned from the desktop study. A number of records of Hedgehog *Erinaceus europaeus*, Brown Hare *Lepus europaeus*, Harvest Mouse *Micromys minutus* and Polecat *Mustela putorius* (all Priority Species) were returned from within the 2km search area around the site. The closest record was for a Hedgehog located approximately 100m west of the site, dated 2006.
- 5.7.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Deer tracks were recorded along the off-site watercourse WC2 and other mammal species likely to utilise the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration.
- 5.7.4 The desktop study returned background records of Hedgehog, Brown Hare, Harvest Mouse and Polecat (all Priority Species) within the surrounding area. Although they are Priority Species, Hedgehog and Brown Hare remain common and widespread in England. The grassland within the site offers potential opportunities for these species, and indeed Polecat, albeit abundant areas of suitable habitat are likely to be present within the local area. The habitats utilised by Harvest Mice include grassland with tussocks, woodland and wetlands. The site contains grassland which offers limited opportunities for this species as it lacks large tussocks and reed beds which are utilised by Harvest Mice for sheltering and nesting.
- 5.7.5 The local area contains habitats that are similar to the grassland within the site, offering abundant similar opportunities for other mammals, if not superior opportunities where hedgerows and woodland are present adjacent to the grassland. Furthermore, the site is subject to regular disturbance by dog walkers and people utilising the existing car park. In addition, the site is relatively isolated from other habitats by the watercourses which entirely surround the wider field. Indeed the only current access into the wider field is a vehicle bridge into the existing car park from the town of Burford.

5.7.6 Overall, there is no evidence to suggest that the site would be of more than local level value for the species listed above. The proposals will result in the loss of the grassland within the site, however, this is unlikely to significantly affect local populations of any of the species listed above. The proposals include a number of enhancements to the wider field which will improve the value of the retained habitats for other mammals. It is, however, recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog and Hare, and indeed Harvest Mouse and Polecat, in the event that these species enter the site during construction, as detailed in Chapter 6 below.

5.8 Amphibians

5.8.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 5632/2 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.8.2 **Background Records.** No records of Great Crested Newt were returned from the 2km search area surrounding the site. A number of records of Common Toad (Priority Species) were returned, the closest of which was located approximately 850m south of the site, dated 2016.

5.8.3 **Evaluation and Assessment of Likely Effects.** No waterbodies are present on-site, such that there is no suitable breeding habitat for amphibians. Additionally, based on a review of OS mapping no ponds appear to be present within 250m of the site and those situated within 500m are physically separated from the site by a number of watercourses and existing development. The grassland within the site offers suitable terrestrial habitat for amphibians, however, the isolation from suitable breeding habitat makes it unlikely that amphibians are present on-site. Furthermore, no records of Great Crested Newts were returned from the record centre within 2km of the site. It is therefore unlikely that amphibians, including Great Crested Newts, will be adversely affected by the proposals.

5.9 Reptiles

5.9.1 **Legislation.** All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5632/2 for detailed provisions. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.

5.9.2 **Background Records.** Information returned from TVERC contained a single reptile record which was for three Common Lizards *Zootoca vivipara* located approximately 1.85km east of the site, dated 2012.

5.9.3 **Evaluation and Assessment of Likely Effects.** The site offers some foraging potential for reptiles and there are small tussocks within the grassland which could provide shelter/refuge. However, the site is isolated from other open areas of grassland within the wider environment by the watercourses and, furthermore, just a single record of reptile was returned from within 2km of the site by the record centre. In addition, the site is

known to periodically flood, reducing its suitability for reptiles. Taking the above points into considered, it is unlikely that a reptile population is present within the site and therefore it is considered likely that the local conservation status of reptiles within the local area will be maintained post-development. Nonetheless, there remains potential for reptiles to move through the site on occasion, particularly Grass Snake which will forage and commute in water. Accordingly, a number of precautionary safeguards are recommended at Chapter 6.

5.10 Birds

5.10.1 Legislation. All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 5632/2 for detailed provisions).

5.10.2 Conservation Status. The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status¹⁹. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

5.10.3 Background Records. Information from the data search included records for several bird species within the 1km grid square containing the site. These included the Red Listed species Cuckoo *Cuculus canorus*, Spotted Flycatcher *Muscicapa striata*, Tree Sparrow *Passer montanus*, Turtle Dove *Streptopelia turtur* (all Priority Species) and Fieldfare *Turdus pilaris*. Records for the following Amber listed species Honey Buzzard *Pernis apivorus*, Osprey *Pandion haliaetus*, Shoveler *Anas clypeata*, Swift *Apus apus*, Tawny Owl *Strix aluco*, Teal *Anas crecca*, Wigeon *Anas penelope* and Willow Warbler *Phylloscopus trochilus* were also returned within the 1km grid square containing the site. More detailed information regarding the precise location of these records in relation to the site was not available.

5.10.4 Survey Results. Several species of bird were observed within the site during the Phase 1 survey including Jackdaw *Corvus monedula*, Swift (approximately five flying above the site), Wood Pigeon *Columba palumbus*, Blackbird *Turdus merula* and Green Woodpecker *Picus viridis*.

5.10.5 Evaluation. Most of the birds recorded at the site are not listed as having any special conservation status, although Swift is included on the Amber list as a result of declines in UK breeding populations. However, the habitats present are common in the surrounding area and there is no evidence to suggest the site is of elevated value at a local level for this species.

5.10.6 Despite being considered as the Priority Habitat 'Coastal and Floodplain Grazing Marsh', the grassland within the site does not appear to flood for significant lengths of time. To be of value for breeding waders, water levels must be maintained at high levels through the spring and early summer²⁰. For wintering waders and wildfowl, water levels must be maintained at high levels during the winter, creating shallow pools. Given the species

¹⁹ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

²⁰ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

composition of the grassland and anecdotal evidence, the grassland within the site does not appear to hold water for significant lengths of time during these periods. Furthermore, the informal use of the site by dog walkers is likely to disturb any breeding/wintering birds utilising the site. Accordingly, the site is not considered to be of elevated value for breeding/wintering waders.

- 5.10.7 The proposals will result in the loss of the grassland and two small sections of hedgerow H1 to facilitate site access and this could potentially affect any nesting birds that may be present at the time of works. Accordingly, a number of safeguards in respect of nesting birds are proposed, as detailed in Chapter 6 below. In the long-term, a net gain in nesting opportunities for birds will be provided at the site, through the provision of bird nest boxes and new hedgerow/tree planting, as described in Chapter 6 below.

5.11 Invertebrates

- 5.11.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5632/2 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.
- 5.11.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of records of Priority Species were returned from a location approximately 850m south of the site where various trapping techniques including the use of Malaise traps have been used. The records include species such as Wall *Lasiommata megera*, Small Heath *Coenonympha pamphilus*, White Admiral *Limenitis camilla*, Goat Moth *Cossus cossus*, August Thorn *Ennomos quercinaria*, Beaded Chestnut *Agrochola lychnidis*, Brindled Beauty *Lycia hirtaria*, Figure of Eight *Diloba caeruleocephala*, Buff Ermine *Spilosoma luteum*, Cinnabar *Tyria jacobaeae*, Galium Carpet *Epirrhoe galiata*, Dark-barred Twin-spot Carpet *Xanthorhoe ferrugata*, Deep-brown Dart *Aporophyla lutulenta*, Dot Moth *Melanchra persicariae*, Dusky Thorn *Ennomos fuscantaria*, Garden Tiger *Arctia caja* and Ghost Moth *Hepialus humuli*. The records range in date from 1984 to 2014.
- 5.11.3 **Survey Results and Evaluation.** The grassland within the site is likely to support a range of invertebrate species. However, the site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates²¹, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations, and the site is not considered to support an important invertebrate assemblage.

²¹ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

5.12 Summary

5.12.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Likely absent	Negligible
Bats – Foraging/Commuting	Likely present	Local
Badger	Likely absent	Site
Water Vole	Likely absent	Site
Otter	Likely absent	Site
Great Crested Newt	Likely absent	Negligible
Reptiles	Likely absent	Site
Birds	Confirmed presence on site	Local

5.12.2 Other fauna supported by the site include non-priority species of mammals and invertebrates. However, these species do not form important ecological features.

6 Mitigation Measures and Ecological Enhancements

6.1 Mitigation

6.1.1 Based on the habitats, ecological features and associated fauna identified within/adjacent to the site, it is proposed that the following mitigation measures (**MM1 – 10**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013).

Hedgerows and Trees

6.1.2 **MM1 – Hedgerow and Tree Protection.** Retained trees and sections of hedgerow H1 shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees/hedgerows.

Watercourses

6.1.3 **MM2 – Pollution Prevention.** In order to safeguard watercourses WC1-WC4 against any potential run-off or pollution events during construction, the following safeguards will be implemented:

- Storage areas for chemicals, fuels, etc. will be sited well away from the watercourses (minimum 10m), and stored on an impervious base within an oil-tight bund with no drainage outlet. Spill kits with sand, earth or commercial products approved for the stored materials shall be kept close to storage areas for use in case of spillages;
- Where possible, and with prior agreement of the sewage undertaker, silty water should be disposed of to the foul sewer or via another suitable form of disposal, e.g. tanker off-site;
- Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. will be carried out in a contained area as far from the watercourses as practicable (minimum 10m), to avoid contamination; and
- Refuelling of plant will take place in a designated area, on an impermeable surface, away from the watercourses (minimum 10m).

6.1.4 Post-development, the drainage system for the development will ensure the watercourse is not subject to adverse changes in surface water run-off or quality.

Priority Habitat 'Coastal and Floodplain Grazing Marsh'

6.1.5 It is understood that although the wider field lies outside of the site boundary, the land is owned by the applicant, such that enhancements of the wider field are possible. Therefore, to compensate for the loss of the Priority Habitat 'Coastal and Floodplain Grazing Marsh' within the site (~0.8ha), a number of enhancements to the habitats within the wider field (~2ha) are recommended, as described below.

6.1.6 **MM3 – Wet Ditches.** It is recommended that the possibility of creating wet ditches within the wider field is explored, with careful consideration given to changes in the levels of the floodplain. The wider field is currently utilised by dog walkers, such that an informal

footpath has established around the circumference of the field. A circular wet ditch could be created within the circumference of the informal footpath. Not only would this provide new aquatic habitat within the site and potential pockets of species-rich grassland, the presence of the ditch may discourage dog walkers and their dogs from entering into the middle of the field, improving the value of the land for breeding/wintering birds. Wet ditches are a characteristic feature of the Priority Habitat 'Coastal and Floodplain Grazing Marshes' so by creating these features, the value of the wider field as a Priority Habitat will increase.

- 6.1.7 **MM4 – River Bank Restoration.** The proposals present the opportunity to improve the structure of the banks of the River Windrush (watercourse WC1) within and adjacent to the site. Currently, the banks are somewhat eroded and the marginal/aquatic vegetation has limited species diversity. It is recommended that the potential to install soft revetments is explored, using materials such as Hazel *Corylus avellana* faggots to strengthen the river bank. The revetments would be infilled where the bank is currently eroded and these areas planted up with native marginal species to provide further support and enhance the riverbank habitat.

Bats

- 6.1.8 **MM5 – Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the watercourses and grassland within the wider field, will be minimised in accordance with good practice guidance²² to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:

- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats. Light exclusion zones or 'dark corridors' may be used to provide interconnected areas free of artificial illumination to allow bats to move around the site;
- **Variable Lighting Regimes** – VLRs can be employed, which involve switching off/dimming lights for periods during the night, for example when human activity is generally low (e.g. 12.30 – 5.30am). The use of VLRs may be particularly beneficial during the active bat season (April to October). Motion sensors can also be used to limit the time lighting is operational;
- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination. The type of light should also be considered, for example lights with high ultraviolet content (e.g. metal halide or mercury lights) should be avoided or fitted with UV filters; and
- **Directionality** – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow.

²² Stone, E.L. (2013) 'Bats and lighting: Overview of current evidence and mitigation guidance.' ILP (2011) 'Guidance notes for the reduction of obtrusive light' Institution of Lighting Professionals, GN01:2011; and Bat Conservation Trust (2014) 'Artificial Lighting and Wildlife – Interim Guidance: Recommendations to help minimise the impact of artificial lighting'.

Water Vole and Otter

- 6.1.9 **MM6 - Update survey.** An update survey should be undertaken prior to the commencement of works to confirm the continued absence of Water Vole and Otter along the sections of the watercourses which are within and adjacent to the site.

Wild Mammals

- 6.1.10 **MM7 – Wild Mammal Construction Safeguards.** In order to safeguard wild mammals should they enter the site during construction works, the following measures will be implemented:

- Any trenches or deep pits within the site that are to be left open overnight will be provided with a means of escape should a wild mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes should be blanked off at the end of each working day so as to prevent wild mammals gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no wild mammals have become trapped overnight. Should a Badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped Badger be encountered a suitably qualified ecologist will be contacted immediately for further advice;
- The storage of topsoil or other 'soft' building materials in the site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections with consideration given to temporarily fencing any such mounds to exclude Badgers;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming wild mammals;
- Fires will only be lit in secure compounds away from areas of wild mammal activity and not allowed to remain lit during the night; and
- Unsecured food and litter will not be left within the working area overnight.

- 6.1.11 **MM8 – Badger Update Survey.** Given that no evidence of Badgers has been recorded within or adjacent to the site it is considered that Badgers do not currently pose a constraint to development. Nonetheless, Badgers are dynamic animals and levels of Badger activity can rapidly change at a site, with new setts being created at any time. It is therefore recommended that an update survey is carried out prior to commencement of site works in order to confirm the current status of Badgers at the site.

Amphibians and Reptiles

- 6.1.12 **MM9 – Management Regime.** It is recommended that the grassland within the site be maintained at a short sward height, to ensure the site remains sub-optimal for amphibians and reptiles. This will discourage these species groups from entering the site in the unlikely event that they are present within the surrounding area.

Nesting Birds

- 6.1.13 **MM10 – Timing of Works.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Ecological Enhancements

- 6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP). The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 - EE5**), the opportunity exists for the proposals to deliver a number of biodiversity benefits at the site.

Habitat Creation

- 6.2.2 **EE1 – New Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Downy Birch *Betula pubescens*, Alder, Willow *Salix* sp., Hornbeam *Carpinus betula* and Field Maple *Acer campestre*, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn *Prunus spinosa*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, Rowan *Sorbus aucuparia* and Hazel *Corylus avellana*.

Bats

- 6.2.3 **EE2 - Bat Boxes.** A number of bat boxes will be incorporated within the wider field. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees within the wider field, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east, south or south-westerly direction. The precise number and locations of boxes features should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Water Voles

- 6.2.4 **EE3 – Planting of Buffer Strip.** Given the regularly disturbance by dog walkers and the nature of the proposals adjacent to watercourse WC1, it is recommended that enhancement efforts for Water Voles are focused along the watercourse WC4. This watercourse has much taller earth banks than watercourse WC1 so is already considered a more suitable habitat for this species. It is recommended that a strip of scrub vegetation is

planted, set back slightly from the watercourse (up to 5m) to create a buffer to the watercourse from dog walkers and their dogs. A strip of lush marginal vegetation can then be maintained between the strip of scrub and the watercourse, providing foraging and sheltering opportunities for Water Vole.

Birds

- 6.2.5 **EE4 - Bird Boxes.** A number of bird nesting boxes are to be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. Ideally, the bird boxes will have greater potential for use if sited on suitable, retained trees within the wider site, situated as high up as possible. The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.
- 6.2.6 New planting as part of the landscaping scheme and the creation of wet ditches will provide additional foraging opportunities for a range of bird species.

Invertebrates

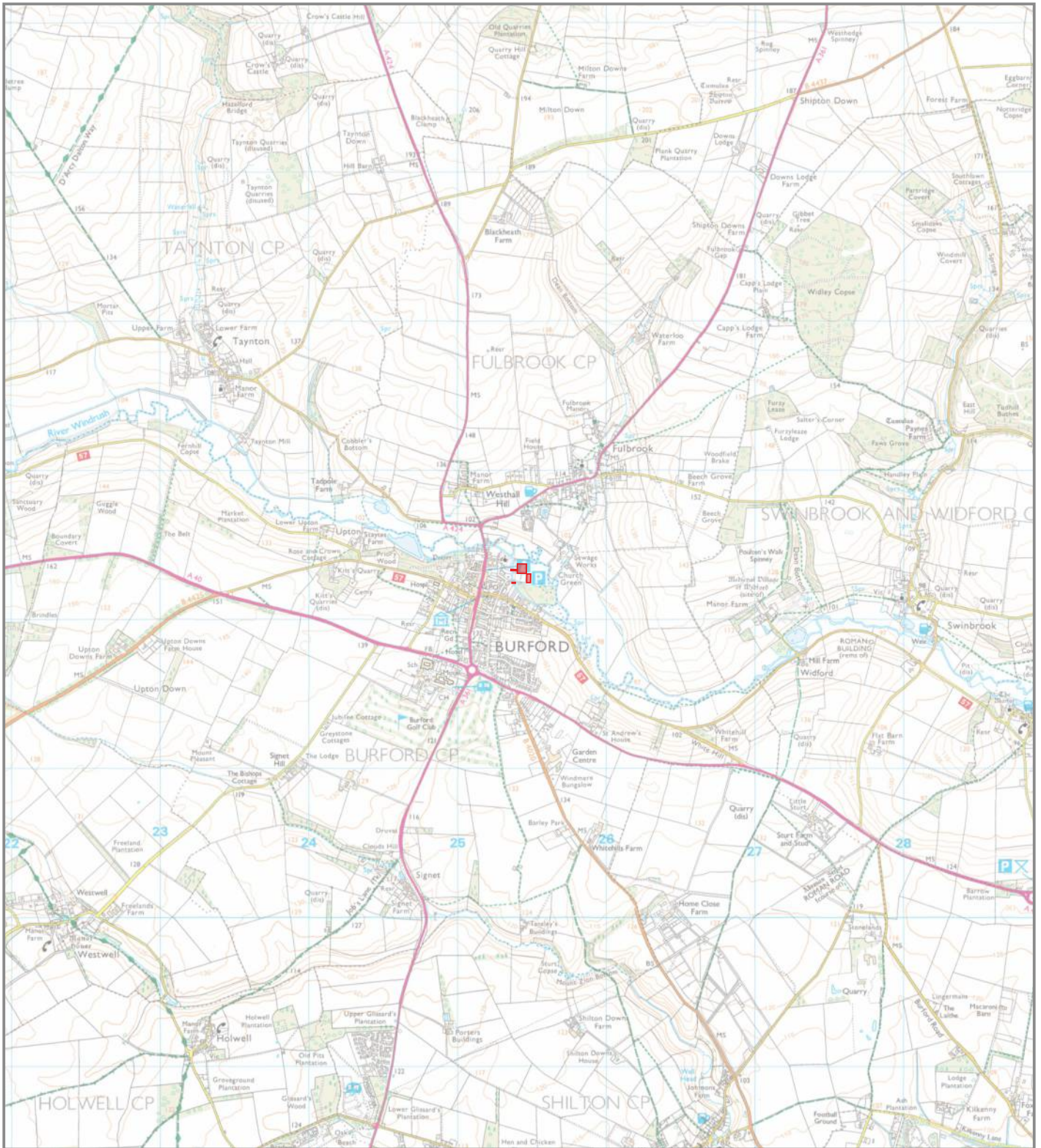
- 6.2.7 **EE5 – Wet Ditches.** The creation of wet ditches within the wider field will provide additional aquatic habitat at the site, resulting in an increase in the diversity of invertebrates utilising the site.

7 Conclusions

- 7.1 Aspect Ecology has carried out an Ecological Appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.
- 7.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.
- 7.3 The Phase 1 habitat survey has established that the site contains habitats of ecological importance and, where it has not been practicable to avoid loss of these habitats, enhancement of off-site habitats has been proposed to compensate for this loss.
- 7.4 The habitats within the site have potential to support several protected species, including species protected under both national and European legislation. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.
- 7.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of biodiversity benefits as part of the proposals.

Plan 5632/ECO1:

Site Location



Key:

 Site Location

aspect ecology

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Guidenford Car Park, Burford PROJECT

Site Location TITLE

5632/ECO1 DRAWING NO.

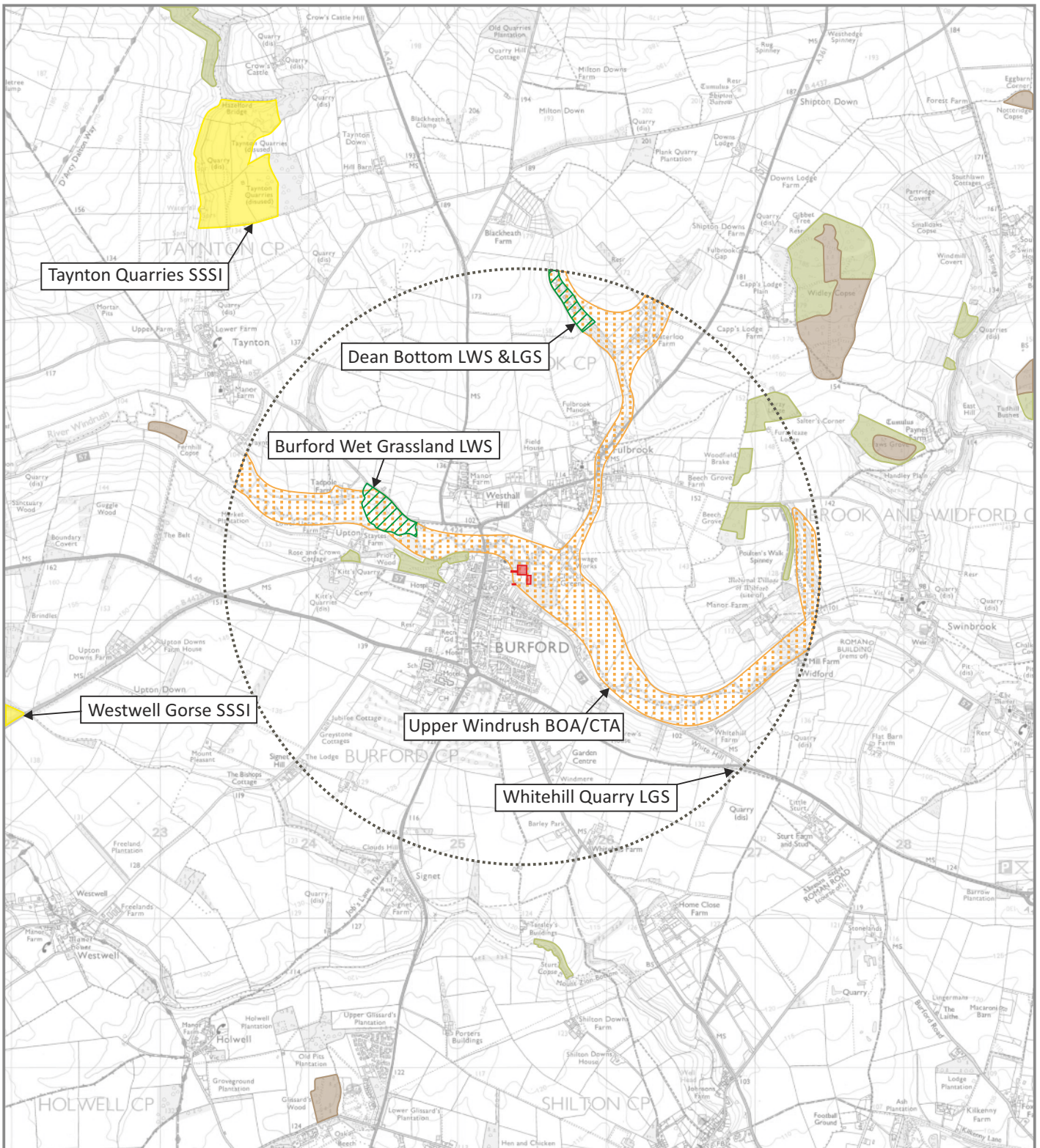
- REV.

August 2019 DATE



Plan 5632/ECO2:

Ecological Designations



Key:

- Site Location
 - Site of Special Scientific Interest (SSSI)
 - Local Wildlife Site (LWS)
 - Biodiversity Opportunity Area/Conservation Target Area (BOA/CTA)
 - Ancient & Semi-Natural Woodland (ASW)
 - Ancient Replanted Woodland (ARW)
 - Local Record Centre 2km Search Area
- Only non-statutory designations occurring within 2km of the site centre are shown*



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Ecological Designations TITLE

5632/ECO2 DRAWING NO.

- REV.

August 2019 DATE



Plan 5632/ECO3:

Habitats and Ecological Features



- Key:**
- Site Boundary
 - Priority Habitat Coastal and Floodplain Grazing Marsh (short sward)
 - Priority Habitat Coastal and Floodplain Grazing Marsh (long sward)
 - Watercourse
 - Tree
 - Hedgerow
 - Tall Ruderal
 - Scattered Scrub
 - Hardstanding
 - Photograph Location



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Habitats and Ecological Features	TITLE
5632/ECO3	DRAWING NO.
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August 2019	DATE



Photographs

Photograph 1 : Grassland G1



Photograph 2 : Grassland G1



Photograph 3 : Watercourse WC1 (River Windrush)



Photograph 4 : Watercourse WC2 (Off-site)



Photograph 5 : Watercourse WC3 (Off-site)



Photograph 6 : Watercourse WC4 (Off-site)



Photograph 7 : Hedgerow H1



Photograph 8 : Grassland G2 (Off-site)



Photograph 9 : Tall Ruderal (Off-site)



Appendix 5632/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 5632/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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