

PRELIMINARY ECOLOGICAL APPRAISAL
LAND AT WEST ROAD, LYMPHAM, SOMERSET

carried out by



commissioned by

EG CARTER

On behalf of

SOUTH WESTERN HOUSING SOCIETY

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PRELIMINARY ECOLOGICAL APPRAISAL
LAND AT WEST ROAD, LYMPHAM



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The information, data and advice which has been prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report and its contents remain the property of Clarkson and Woods Ltd. until payment has been made in full.



1 INTRODUCTION

- 1.1.1 Clarkson and Woods Ltd. was commissioned by EG Carter and South Western Housing Society to carry out a Preliminary Ecological Appraisal (PEA) of Land at West Road, Lympsham, BS24 0EG in Somerset (OS reference: ST336539).
- 1.1.2 The proposal is understood to comprise of 20 residential units with associated habitat clearance, subsequent landscaping, access and parking.
- 1.1.3 The survey was carried out on 23rd August 2017 by Polly Luscombe, an experienced ecologist, who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). At the time of survey, the weather conditions were dry and overcast with an average temperature of 16°C.
- 1.1.4 A habitat survey was carried out based on standard field methodology set out in the *Handbook for Phase 1 Habitat Survey* (2003 edition)¹ in addition to assessing the site for evidence of or potential to support protected and notable species. This report provides the results of the survey and highlights where further surveys may be necessary.
- 1.1.5 The aim of this report is to inform the scheme design at the earliest stage so that ecological constraints can be avoided or minimised and opportunities for ecological enhancement included where possible. Where survey evidence is equivocal and/or where ecological constraints cannot be avoided recommendations for further surveys have been made where appropriate.
- 1.1.6 This Preliminary Ecological Appraisal does not seek to carry out a full impact assessment in line with CIEEM guidelines as detailed development proposals have not been established at the time of writing. **This document is not intended to be included with any planning application submission.**
- 1.1.7 Unless the client indicates to the contrary, information on the presence of species will be passed to the county biological records centre in order to augment their records for the area.

¹ Nature Conservancy Council. (1990 - 2003 edition). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*, Joint Nature Conservation Committee



2 SURVEY RESULTS AND RECOMMENDATIONS

2.1 Desk Study

Data search – SERC

2.1.1 The Somerset Environmental Records Centre (SERC) were also consulted to consider designated sites and further notable species found near to the proposed development site.

Data search – Designated sites within 2km of the site

2.1.2 No sites with statutory designation were identified within this search area.

Data search – Local Designations within 1km of the site

2.1.3 Seven Local Wildlife Sites were identified within a 2km radius of the site with Lymphsham Heronry at the closest point 600m NW of the site.

2.1.4 All other sites were over 1.4km from the proposed development and consisted of a unimproved calcareous grasslands (1.7 and 1.8km), grassland and orchard supporting hare populations (1.5km and 1.1km respectively) and the River Axe known to support legally protected species (2km NE).

Data search – Local Conservation Priorities:

2.1.5 The following habitats and species are listed in the Sedgemoor Local Biodiversity Action Plan (2009) and are considered relevant to this site:

Habitats:

- Ditches and ponds (focusing on rare plants and invertebrates)
- Gardens and urban greenspace
- Hedgerows and hedgerow trees

Species:

- Bats
- Otter

2.1.6 In addition to the above, Water vole *Arvicola amphibious* and European eel *Anguilla anguilla* have also been noted as species of importance within the Somerset IDB (Internal Drainage Board) Biodiversity Action Plan (April 2010)².

SERC Data search – Protected Notable Species:

2.1.7 A small number of water voles records have been reported 2.2km west of the site (2014) and presence of water voles found 2km SE on the site (1996).

2.1.8 A collection of mammal records have been submitted from a site 1km NE of the site, including BAP species hedgehog *erinaceus europaeus* (2014) and brown hare *Lepus europaeus* (2000),

² Halpin and Brewin (2010) Somerset IDB Biodiversity Action Plan 2010 Somerset Drainage Board Consortium [online] http://www.somersetdrainageboards.gov.uk/conservation_11_1271066518.pdf



plus badger *Meles meles* (2000). A grass snake *natrix natrix* was also seen at the same location (2000).

2.1.9 Great-crested newt records (single male and female) have been reported within a pond situated 2km west of the site (2014).

2.1.10 Bird species associated with ditch habitats and located within a 2km distance include reed bunting *emberiza schoeniclus* 1.4km SW and 1.8km NE of the site in 2000 and county notable cetti's warbler *cettia cetti* both within the OS grid containing the development and more precisely 1.8km SW of the site (2000). Reed bunting is an amber listed Bird of Conservation Concern and Species of Principal Importance.

2.1.11 A series of grey heron records have been submitted from Lymphsham Heronry in 2000, 2003 and 2004.

In-house records from Clarkson and Woods

2.1.12 In-house data searches identified the presence of a small roost of brown-long recorded approx. 1.5km east of the site (2012) and evidence of water voles and badger 2.1km east of the site, in addition to a moorhen sighting (2007).

MAGIC search:

2.1.13 No EPS (European Protected Species) Licences were identified on the Magic website³ within 2km of the site. The closest licence (dated 2015-2017) was located approx. 2.4km west of the site and affected great crest newts (resting place only).

2.2 Planning Policy

2.2.1 The Local Development Framework Core Strategy: Shaping the Future of Sedgemoor 2006-27 (adopted 2011) sets out planning policy up until 2027 and is of relevance to Brent Knoll village. The document was referred to as part of the assessment of potential ecological constraints and opportunities below.

2.3 Field Survey Results

General Description

2.3.1 The site comprised two improved grassland fields, used at the time of survey for grass ley, caravan storage/pitch and horse grazing. The fields were dominated by perennial rye-grass *Lolium perenne* with occasional herbaceous species such as red clover *Trifolium pratense*, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens* and shepherd's purse *Capsella bursa-pastoris*. The north and southern boundaries were bordered by ditches, predominantly wet, with another (west-east) wet ditch separating the two fields. The easterly boundary of the site proposal was bounded by an active slurry lagoon along the north-easterly edge and open field to the south.

³ Accessed online at <http://www.natureonthemap.naturalengland.org.uk>



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- 2.3.2 The western edge of the site was bounded by a combination of hedgerow, wooded belt, dry ditch and property bounded by fence line, ditch and wall.
- 2.3.3 Ditches were bordered by hedgerow on a minimum of one side, with scrubby growth along the central and northern ditch encompassing the ditches completely and prohibiting access. Considerable scrubby growth had also established around agricultural equipment abandoned in the northern field.
- 2.3.4 Results from the ecological survey are included in map form on Figure 1.
- 2.3.5 Whilst many of the habitat types present are common within the local landscape, the site is generally considered to be of moderately high ecological importance due to the 'mosaic' of habitat types present and the site's connectivity to other features of ecological value in the wider landscape.

Habitats

Improved grassland

- 2.3.6 Two fields existed on site with a wet ditch and hedgerow separating each field. Both fields consisted of improved grassland, intensively managed and not grazed at the time of survey suggesting use as grass ley. Perennial rye-grass dominated with additional grasses typical of improved grassland also found (e.g. Yorkshire fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*). The improvement of field condition is likely to limit floristic variation and associated invertebrate diversity within in the fields; however any seasonal cattle-grazing is of significant greater value to wildlife due to greater numbers of invertebrates associated with cattle and their dung.
- 2.3.7 Herb and grass-rich field margins were located 1-2m wide from field edges along hedgerows and within some corners around unused agricultural implements.

Tall ruderals

- 2.3.8 A strip of raised soil situated in parallel to the southern ditch created an area of tall, herbaceous ruderal vegetation, including creeping thistle *Cirsium arvense* and broad-leaved dock *Rumex obtusifolius*. Given the location and extent of the vegetation, it is probable that sediment cleared from the adjacent ditch created this area for ruderals to establish.

Ditches (wet and dry)

- 2.3.9 Both wet and dry ditches were recorded on site, forming boundaries to the south (wet ditch) (R1 on Figure 1), north-west (dry ditch and R4 on Figure 1) and the northern edge of the site (wet ditch labelled as R5 on Figure 1). Each wet ditch connected into the wider ditch network characteristic of the local landscape.
- 2.3.10 The northern bank of R1 was open with ditch banks supporting herb-rich margins and ungrazed vegetation. The ditch bounding the north of the site (R4) was dry along its western edge whilst eastern stretches held water. In places R5 was heavily scrubbed and silted with a strong smell of slurry notable within and adjacent to where the ditch bounded an adjacent slurry lagoon.



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- 2.3.11 Another ditch, wet at the time of survey, created a central division between the two fields recorded on site (R2 on Figure 1 above). The central ditch lay within an unmanaged hedgerow with scrubby growth, preventing access into the ditch.
- 2.3.12 A small and heavily vegetated ditch was recorded within the boundaries of a residence located on the western edge of the site.
- 2.3.13 Heavy shading from overgrown trees and/or scrub compromised the biodiversity value of R2 and R5 in particular, due to reduced light penetration, limited access and accumulation of nutrients from dead vegetation/leaf matter.

Hedgerows

- 2.3.14 Hedgerows present on site were dominated by native species and as such designated as a UK Biodiversity Action Plan (BAP) habitat. The most significant length of hedgerow (H3 on Figure 1) created a division through the centre of the site supported a number of woody species including hawthorn *crataegus monogyna*, elm *ulmus minor*, blackthorn *prunus spinosa*, ash *fraxinus excelsior* and grey willow *salix cinera*. Well-established and with limited management, the hedgerow had an average height of 5m.
- 2.3.15 A short stretch of hedgerow bounded the SW corner of the site and had been cut by flail to an average height of 2-3 metres. Further north along the western edge of the site the hedgerow had established as a line of trees bordering a wooded belt of broadleaved trees (see below).
- 2.3.16 The boundary of a residence situated on the western edge of the site was bounded by a fenceline and recently planted hedgerow consisting of native whips (hawthorn and blackthorn).
- 2.3.17 Considerable areas of scrub were found on site, in particular adjacent to the central ditch/hedgerow and around unused agricultural implements abandoned within the north-western corner of the northern field. This included an abandoned disused trailer/mobile wooden shed.

Mature trees

- 2.3.18 Few standard trees were present on site as most mature trees were within and part of established hedgerows. A mature standard ash *Fraxinus excelsior* was recorded within the central hedgerow with several horse chestnut trees *aesculus hippocastanum* and fruit trees established within the wooded belt (see below). All standard mature trees identified on site were considered to have negligible potential for supporting roosting bats.
- 2.3.19 Three immature apple trees *malus spp.* and a single maple *acer spp.* had been planted adjacent to a fence located to the north of the site.

Broadleaved woodland belt

- 2.3.20 A narrow wooded belt situated in the NW of the site supported a mix of planted broadleaved trees (horse chestnut, fruit trees) bounded by a ditch (dry at the time of survey) and hedge consisting of a line of trees to the west (H4 on Figure 1). Significant scrub and woody growth had established and extended into a dry ditch within the NW corner of the area.



Stone wall

- 2.3.21 A wall bounded the northern section of a residence located on the west on the site. In places, the wall was being repaired with a significant pile of stones/rubble present – see TN5 on Figure 1.

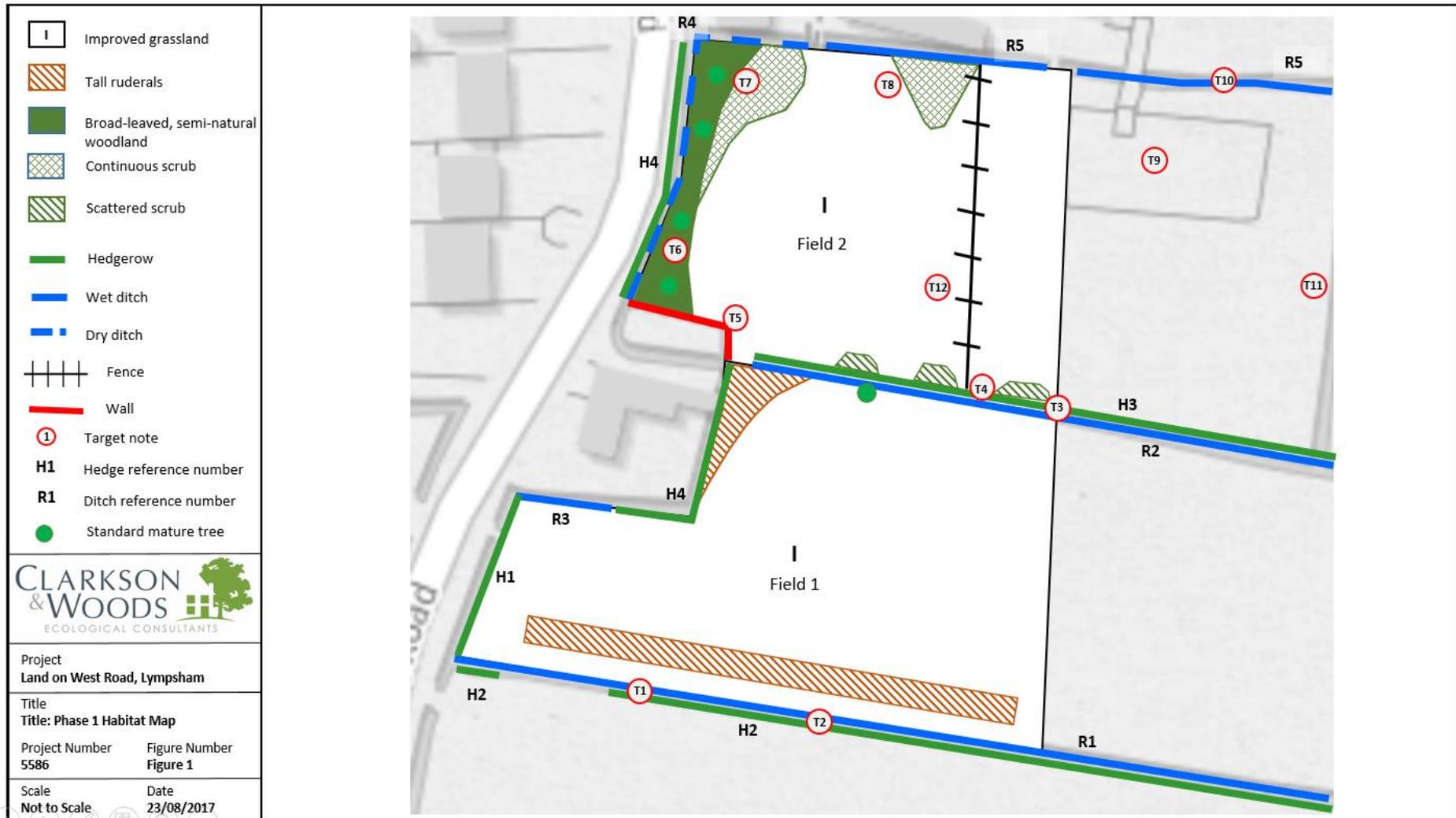


Figure 1: Phase 1 Habitat Map – Land at West Road, Lympsham, Somerset



Table 1: Target Notes included in Figure 1 (Phase 1 Habitat Map – Land at West Road, Lympsham)

No.	Description
TN1	Water vole vegetation feeding remains and burrows
TN2	Small amount water vole droppings, plus burrows and feeding remains
TN3	Mammal path
TN4	Wooden plank with large mammal claw marks, leading to mammal path
TN5	Pile of stone rubble and soil
TN6	Woodland area with small number of mature chestnut trees
TN7	Discarded farm equipment surrounded by scrub
TN8	Mammal path leading into area of scrub
TN9	Slurry lagoon
TN10	Potential water contamination with farm waste
TN11	Two badger latrines
TN12	Four immature trees (fruit and maple)



3 POTENTIAL ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

3.1.1 The recommendations below may change as further surveys are completed and the design of the site progresses.

3.1.2 Details of the legislative protection afforded to those protected habitats and species which have been identified as occurring or potentially occurring on the site are detailed in Appendix A.

3.2 Habitats

Improved grassland

3.2.1 Loss of grazed pasture cannot be mitigated for on-site.

3.2.2 Loss of green infrastructure cannot be mitigated for on-site. However, potential enhancements of retained grassland within any granted development (in accordance with Policy D20: Green Infrastructure within Sedgemoor District Council's Core Strategy (adopted 2011)) includes the recommendation of any public greenspace seeded with an appropriate species-rich grassland mix. Ideally propagated from grassland located in close vicinity to the site or alternatively a prepared wildflower-rich grassland mix, such as Emorsgate EM10 Tussock Mixture. Future management should be tailored and specific to ensuring the establishment and management of a species-rich grassland, including a low density cutting regime to minimise disturbance and encourage the creation of tussocks that provide optimal grassland habitat for invertebrates. This would improve foraging habitat for birds and bats and enhance the site for reptiles and amphibians amongst other wildlife.

Tall ruderals

3.2.3 Ruderals present may support a number of invertebrates; however the impact of the loss of this habitat would be marginal and increasing species-rich grassland through planting, as recommended above, presents an opportunity to improve the site for invertebrates.

Ditches (wet and dry)

3.2.4 Notwithstanding any ditch mitigation required for any protected species (see below), ditches should be retained and vegetated buffers established, at least 10m in width. In accordance with Somerset Drainage Boards Consortium⁴, buffers should be 9m ideally and a minimum of 6m established from the bank top to allow management operations. This will avoid deterioration of ditches, including ditches dry at the time of survey but with potential to alter with seasonal changes in water-levels. Deterioration could result from direct impacts (including during the construction phase) where development occurs in close proximity to ditches or indirect effects such as pollution generated from contaminated run-off.

⁴ Somerset Drainage Boards Consortium (2006) Policy document: Watercourses Part 3: Protecting Access to Watercourses and Culvert Lower [accessed online at [http://www.somersetdrainageboards.gov.uk/Watercourses - Part 3 Protecting access to watercourses and culverts Dec 06.pdf](http://www.somersetdrainageboards.gov.uk/Watercourses_-_Part_3_Protecting_access_to_watercourses_and_culverts_Dec_06.pdf)]



3.2.5 Loss of the central ditch (R2 on Figure 1) cannot be mitigated for on-site. Nevertheless, other ditches on/surrounding the site have potential to be improved for wildlife, both for species known to be present on site and those with potential to move through the site (e.g. otter and bats). Sensitive ditch management could improve the value of the ditches by addressing overshading, with an aim of creating a mosaic of different habitat conditions. Any management should ensure that ditches and associated habitats are maintained on a rotational basis over a five year period. Enhancement of features which provide wildlife corridors, such as watercourses, is positively supported by local planning policies (Policy D14: Natural Environment).

Hedgerows

3.2.6 Hedgerows should be retained where possible and not form part of the new property curtilages, to ensure their appropriate management in the long-term. This is particularly valid for the dividing hedge (H3) between Field 1 and Field 2 (see Figure 1) and proposals should seek to retain as much of these features as possible to retain valuable habitat on site.

3.2.7 Where this is not found to be possible, the loss of any hedgerow feature should be mitigated for through the planting of native, species-rich hedgerows elsewhere on site, which is positively supported by and in accordance with local planning policies. However, the siting of such planting must give consideration to other key habitats on site to ensure that their value for protected species is maintained. This applies to the proposed location of new hedgerow in close proximity to ditches which should be at a minimum of 6m and ideally 10m, to avoid overshading/scrubbing up and maintain the value of ditches for water voles.

3.2.8 Hedgerows also provide wildlife corridors for foraging species, such as bats using hedgerows to navigate the local landscape and the provision of foraging and nesting habitat for birds. Therefore a 10m buffer should exist between any hedgerow and proposed buildings or hardstanding to protect the hedgerows and associated wildlife from disturbance whilst maintaining the function of such corridors as wildlife foraging and commuting habitat.

3.2.9 With an aim of improving the value of hedgerows on site, management plans could be prepared to set out future management of hedgerows and with an aim to encouraging a mosaic of habitat/hedgerow structures, including scrub management.

Mature trees and wooded belt

3.2.10 Mature trees should be retained where possible as their inherent value enhances site diversity, in addition to providing habitat for nesting birds. Any loss of mature trees should therefore be replaced with appropriate native tree planting.

3.2.11 Any future loss of dead wood, lost naturally or through essential management (i.e. for health and safety reasons), should be retained in a suitable area of the site to provide valuable habitat for wildlife through the provision of shelter, habitat and food sources of saproxylic (dead wood) invertebrates.



3.2.12 Any development proposals should account for the inclusion of root protection zones around the base of mature trees to ensure tree roots are adequately protected during (and before) construction.

3.3 Artificial lighting

3.3.1 Artificial lighting is detrimental to wildlife species (particularly bats) intolerant of artificial night time light pollution, with some species actively avoiding lit areas and associated deterioration of previously suitable habitat. Housing layout and the use of lighting within the design should seek to avoid light spill onto the buffer habitat, ditches and hedgerows/trees (including those adjacent to but outside of the site boundary) with houses positioned to avoid direct spill onto these habitats. Avoidance of lighting these areas should be ensured during the operational phase of development through selective use of lighting features, such as the use of motion-sensitive security lighting, low-level lighting columns and directional cowls wherever possible. Glare from lighting should also be avoided through the use of careful positioning and accessories such as baffles and screens. Additional landscape planting can also be used to provide natural screening of light spill.

3.3.2 During the construction phase, all artificial lighting must be directional and only illuminate the place of work, with night-time lighting avoided after dark where hedgerows, ditches and trees are affected.

3.4 Management Plans

3.4.1 A Construction Environmental Management Plan (CEMP) should be prepared to detail how retained habitats and features will be protected from impacts during construction. For example how pollution/run-off will be avoided to prevent impact on retained or adjacent habitats, alongside other measures such as the prevention of light pollution of wildlife habitat.

3.4.2 A Landscape and Ecological Management Plan (LEMP) is also recommended, setting out the long-term management of retained and new habitats within the site. Such management plans are often requested by LPA as a planning condition.

3.5 Badgers

3.5.1 A badger latrine was noted east of the proposed development site within the same field, but no setts were found at the time of survey indicating badgers use the site for foraging and commuting purposes with setts likely to be present elsewhere within the local vicinity.

3.5.2 Features such as the disused trailer/mobile wooden shed situated within the wooded belt may create conditions favoured by mammals such as badger. Although no setts were found during the survey an update inspection of the site is recommended prior to construction.

3.6 Bats

3.6.1 The ditches and hedgerows on site provide linear habitat features that are well-connected into the wider landscape and likely to be used by commuting and foraging bats. To determine how bats use these habitats it will be necessary to undertake further surveys. In accordance with



current Bat Survey Guidelines (BCT, 2016) the habitat on site currently provides moderate suitability for foraging and commuting bats due to ditches, grassland and hedgerows present. Therefore a minimum survey effort required for such a site consists of one survey per visit (April – October inclusive) in appropriate conditions for bats and two automated bat detectors over the same period. However, provided that sufficient habitat can be retained and enhanced (through both habitat management and lighting restrictions) as part of the proposals, as detailed within Figure 2 the survey scope could be reduced. This would need to be first discussed and agreed with the LPA ecologist based on a precautionary approach which would incorporate mitigation into the proposals. It seems likely that the minimum acceptable level of survey effort would be one survey undertaken in each season (spring, summer and autumn) coupled with static detector surveys.

- 3.6.2 Trees on site offered negligible roosting potential and as such no further surveys of the trees will be required.
- 3.6.3 In accordance with local planning policies (Policy D14: Natural Environment - Sedgemoor District Council's Core Strategy adopted 2011), existing hedgerow boundaries should be retained where possible to maintain features used by commuting bats navigating through the local landscape and ensure dark corridors remain within and connecting to features adjacent to the site. Where hedgerows are planted and to maximise their benefits for wildlife, any hedgerow planting throughout the development would benefit from the incorporation of native species, local sourced wherever possible, and favoured by invertebrates to increase bat food sources on site.
- 3.6.4 As bats have the potential to be most significantly impacted by light spill and poor lighting design, it is likely that an ecologically sensitive lighting plan will be required. This plan should be designed by a qualified lighting engineer with the input of an ecologist and should seek to contain lighting to where it is needed and to limit light spillage and glare onto all key habitats identified in the above further bat surveys. Lux contour modelling is likely to be necessary as part of this and lux level limits likely to be imposed based on the findings of further survey.
- 3.6.5 To increase bat roosting opportunities within the site bat boxes should be installed on the buildings and mature trees on site. Boxes such as Schwegler 3FN, 1FQ, 1FR Bat tube, 1FF and 2F with double fronted panel should be provided. These boxes would enhance the site for species known to be present within the area and create a range of roosting opportunities. Any bat boxes provided will need to be protected from light spill resulting from the development and should be installed on properties and mature trees adjacent/within the dark corridors.

3.7 Otter

- 3.7.1 No evidence of otter was found during the survey with ditches considered too small to support otter holts. Nevertheless, ditches are likely to provide transitional habitats for otters moving throughout the wider landscape. Therefore to enable otters to continue using the site lighting design must ensure that undeveloped buffers adjacent to ditches remain unlit and are not affected by light spill.



3.8 Water vole

- 3.8.1 Evidence of water vole presence (feeding remains and droppings) was found on the ditch bounding the south of the site (see TN1 and TN2 on Figure 1). This ditch is not set to be lost within the proposed design of the development, however construction and landscaping designed in close proximity to ditches has potential to harm water vole.
- 3.8.2 Proposed designs should aim to avoid direct impacts of water vole habitat. Where retention of habitat is not possible, and water voles are confirmed to be present, a licence from Natural England will be required to intentionally damage/destroy burrows or displace water voles. Detailed water vole surveys extending 100m upstream and downstream of the proposed development may be required to inform mitigation measures.
- 3.8.3 Current proposals show that the central ditch (R2 on Figure 1) will be culverted. Although the current condition of this ditch provides sub-optimal habitat for water voles and signs of water vole were not found during the survey, any future management of the surrounding hedgerow and ditch bank that opens up the ditch and reduces shading has potential to improve the suitability of ditch and associated habitat for water voles. A thorough survey of the ditch for water vole was not possible at the time of survey due to the fact that the ditch was heavily vegetated by scrub which prevented access into the watercourse.
- 3.8.4 Any works affecting confirmed sub-optimal habitats will need to be undertaken on a precautionary approach basis with risk avoidance method statements prepared and works only undertaken with ecological supervision. One female territory is likely to be affected where permanent impacts from works resulting in a loss of 50m bankside habitat occur⁵.
- 3.8.5 Sensitive timing of works would be necessary to minimise potential impacts on water voles, with works undertaken during March – April and the end of August/September recommended to coincide outside of the breeding season but when water voles are active⁶
- 3.8.6 Measures would need to be taken during construction to ensure protection of water vole habitat outside of the immediate development footprint and to minimise the risk of pollutants/increased sediment ditch water quality.
- 3.8.7 A minimum 10m buffer of undeveloped and undisturbed grassland habitat should be retained and enhanced for water vole along banks of ditches around the site. The edge of this habitat should be delineated with a fence and planted either side with dense scrub/trees to discourage access by cats. The specification of fence will need to be agreed with the LPA ecologist. The 10m grassland bankside buffer will need to be maintained as grassland to prevent scrub encroachment through a landscape management plan.

⁵ Strachan R., Moorhouse T. and Gelling M. (2011) *Water Vole Conservation Handbook*. 3rd edition, Wildlife Conservation Research Unit, Oxford

⁶ Arnott D.A. (2001) *Water vole mitigation techniques: a questionnaire research project (No.415)*. Peterborough: Natural England



- 3.8.8 Lighting design must also ensure that the established buffers remain dark with any light spill avoided both during construction and operation (refer to 'Artificial Lighting' below for further details).
- 3.8.9 Any increase in domestic animals on site, especially cats, will present an increased risk of water vole predation. Inclusion of hedgerow planting either side of a cat proof fence to create natural barriers between development and ditches (appropriately distanced from the ditch bank) would provide an element of protection. Provision of advice to residents with regards to reducing risk of wildlife predation should also be considered.
- 3.8.10 Measures would need to be taken during construction to ensure protection of water vole habitat outside of the immediate development footprint and to minimise the risk of pollutants/increased sediment ditch water quality. These would be outlined within a CEMP.

3.9 Dormice

- 3.9.1 Despite the structure of some of the hedgerows present providing sufficient cover to support dormice, diversity of foraging resources was limited and the relative isolation of hedgerows to other connective habitat across the wider landscape make the presence of this species highly unlikely.

3.10 Amphibians

- 3.10.1 A desk-search was made for ponds within 500m of the site using OS maps. Five ponds were found to be within this range, with the closest 230m SE of the site.
- 3.10.2 Extensive surveys of ditches 5km SE of the site as part of the Hinkley C application did not record any great crested newts within drainage ditches similar to those found on site. Given the distance of ponds from the site and fact that the ditches provide sub-optimal habitat for great crested newts it is considered unlikely that this species is present within the site given their absence in similar ditches nearby and the relative isolation of the closest pond.
- 3.10.3 More widespread species of amphibians including common toad and common frog may be present in small numbers at the margin of sites and along/within ditch banks. The creation of log piles in close proximity to ditch banks or undisturbed margins would further enhance them for common amphibians.

3.11 Reptiles

- 3.11.1 The ditch banks, field margins and corners with rough grassland all provide suitable habitat for widespread reptiles known to be present within the area, e.g. grass snake *Natrix natrix* and slow-worm *Anguis fragilis*. This includes potential hibernation features in the form the property wall/rubble present and potential breeding habitat within an adjacent garden and manure piles on an adjacent farm.
- 3.11.2 A reptile survey should be undertaken of suitable habitat across the site. Where surveys confirm the presence of reptile, a Reptile Mitigation Strategy will be required and agreed with the local



planning authority (LPA) ecologist. Mitigation measures detailed within the strategy will depend upon the number and species of reptiles found, as well as their distribution across the site.

- 3.11.3 It may be possible to retain reptiles on site providing that a sufficient amount of habitat is retained and enhanced to support the population. However, if it is necessary to undertake a translocation then the strategy will include identification of a suitable reptile receptor site.
- 3.11.4 Following completion of any development, log piles and bespoke reptile hibernacula should be installed at the base of hedgerows or adjacent to ditch borders to increase invertebrate diversity and provide sheltering/overwintering habitat for reptiles.

3.12 Birds

- 3.12.1 All hedgerows and trees within the site provide suitable bird nesting habitat. Where works to hedgerows and/or trees is necessary, clearance should only be undertaken outside the breeding bird season (March to August inclusive). Where this is not possible, small areas of vegetation could be cleared providing a suitably experienced ecologist has checked for nesting birds first. This includes all life stages of occupants (chicks and fledglings as well as eggs). Any active nests will be legally protected until hatched young have fledged. Any nest would also be subject to regular careful monitoring to ensure that a second brood is not raised.
- 3.12.2 The retention and creation of habitats including hedgerows, trees and species-rich grassland will provide high quality foraging resources for birds, providing such habitats receive long-term sensitive management, i.e. in accordance with a LEMP. To mitigate for the loss of valuable habitat for birds, new planting, comprising of native species to maximise value for biodiversity, should be used to replace any lost hedgerow and/or trees, in the addition to nesting boxes as detailed below.
- 3.12.3 Bird boxes could be installed within the site on buildings and retained trees. In-built boxes could include house sparrow *Passer domesticus* terraces and house martin *Delichon urbicum* cups. Additional boxes such as Schwegler 1B 26mm entrance, 3SV with predator protection and 1ZA Schwegler wren roundhouse could be installed within the hedgerows to increase the nesting opportunities.

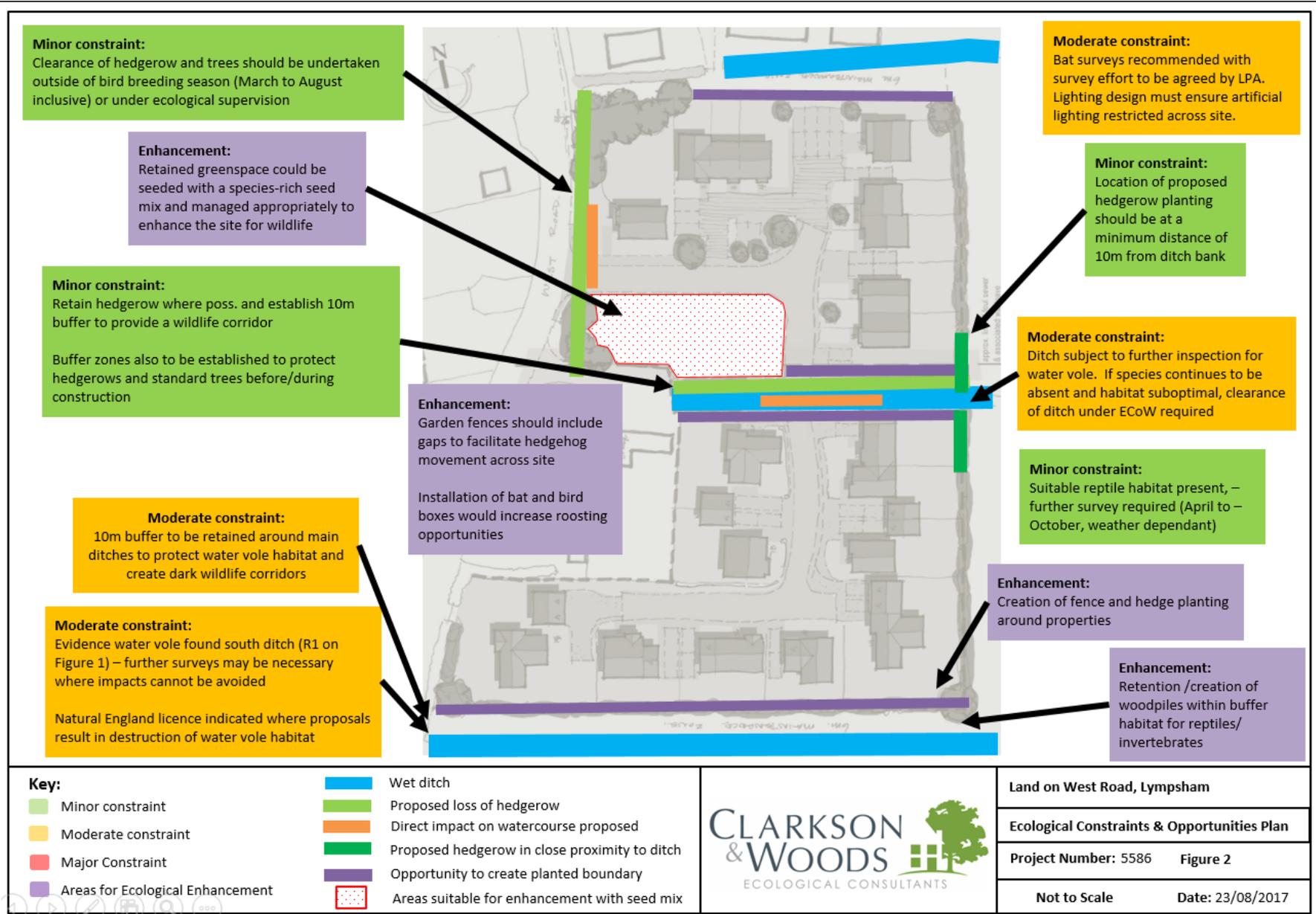
3.13 Invertebrates

- 3.13.1 Overall the site is likely to support a fairly restricted range of common invertebrates due to intensive management; however coarse grassland along hedgerow bases, ditch banks and field corners is likely to be of some value, as well as dead wood present within the wooded belt. Ditches in good condition will also support aquatic invertebrate fauna. General sensitive management of ditches and with an aim of creating a mosaic of habitat structure will improve their value to invertebrates. The creation of habitat piles (such as wood/log piles) adjacent to ditches would also benefit invertebrates and other species. Any wood generated during site clearance could be kept and used to create such features.



3.14 Other Protected Species, Species of Conservation Concern and Invasive Species

3.14.1 The site provided suitable habitat for foraging hedgehogs *Erinaceus europaeus*. Therefore, any property boundary fences installed as part of development should have small, suitably sized gaps constructed at the base of fencelines to facilitate the movement of hedgehogs across the site and between gardens. However in an effort to discourage access by cats the fence line between houses and the ditch banks should not include any gaps.





4 KEY RECOMMENDATIONS

4.1.1 Based on the initial site survey, the below recommendations detail the surveys likely to be required to assess the potential impacts on those habitats/species occurring/likely to occur on site based on the initial site survey. The surveys will inform the impact assessment and mitigation strategy. Preliminary recommendations for mitigation are also provided below; other mitigation measures specifically designed for protected/notable species may also be required based on the outcome of further surveys.

Habitat/Species	Recommended survey or mitigation work	Timescale
All habitats	Prepare a Construction Ecological Management Plan (CEMP) Prepare a Landscape and Ecological Management Plan (LEMP)	Prior to planning submission to avoid imposition of planning conditions
Improved grassland	Enhance retained greenspace with species-rich grass seed mix Prepare associated management plans (CEMP/LEMP)	Design stage Prior to commencement of works on site
Ditches	To ensure ditches receive protection, retain undeveloped buffers adjacent to all ditches present on site. Ensure protection of ditches with a 10m buffer during construction and operation Include details of impact avoidance measures in a CEMP (or similar) Include details of future buffer management in a LEMP (or similar)	Design stage Prior to commencement of works on site Prior to commencement of works on site Prior to commencement of works on site
Hedgerows and mature trees	Retain hedgerows and create a 10m buffer into designs Replace any removed hedgerow with native, species-rich planting, but with due regard to proximity to ditches Protect all retained hedgerows/mature trees and their root systems with root protection fencing during construction (to BS5837:2012 and following arboriculturalist advice)	Design stage Design stage Prior to commencement of works on site
Wooded belt	Include proposed enhancements that aim to improve the wooded area as a woodland within a LEMP (or similar) Retain as much of the woodland belt as possible to provide connectivity into the wider landscape	Prior to commencement of works on site Design stage



Habitat/Species	Recommended survey or mitigation work	Timescale
Badgers	Updated inspection of the site recommended prior to construction.	Prior to commencement of works on site
Bat - activity	<ol style="list-style-type: none"> 1. Bat activity surveys required with survey effort to be confirmed following consultation with the LPA (as soon as permitted by client). The following surveys will be required at a minimum: 2. One scoping survey (walked) 3. Deployment of static detectors for five nights each season (spring, summer and autumn) 	<ol style="list-style-type: none"> 1. As soon as possible 2. April to October inclusive (and prior to planning submission) 3. Same as Item 2
	<p>Layout and landscaping proposals should incorporate the provision of 'dark corridors' to enhance the site to facilitate continued usage of the site by foraging and commuting bats</p> <p>A lighting strategy, developed in consultation with an ecologist, is likely to be required by the LPA and should seek to avoid/minimise impacts on bats</p>	<p>Design stage</p> <p>Before planning submission and informed and signed-off by an ecologist</p>
Bats - roost	Opportunities exist for the provision of additional bat roosting features and inclusion in any revised plans	Design stage
Otter	To ensure site retains its value to otters, establish a lighting strategy developed in consultation with an ecologist to ensure undeveloped buffers are not affected by light spill.	Design stage and before planning submission
Water voles	<p>Review loss of hedgerow and associated ditch culverting to avoid impact on watercourse</p> <p>Displacement or destruction of water vole habitat would require permission granted under Natural England licence</p> <p>Any works affecting confirmed sub-optimal habitats will need to be undertaken on a precautionary approach basis with risk avoidance method statements prepared detailing how works will only be undertaken with ecological supervision</p> <p>Inclusion of impact avoidance measures and long-term management of buffer habitat to be prepared in relevant management plans (CEMP and LEMP)</p>	<p>Design stage</p> <p>Mitigation measures to be incorporated into the design stage of development; however any licence can only be applied for once planning permission has been granted</p> <p>To be prepared prior to commencement of works on site</p> <p>Prior to commencement of works on site</p>



Habitat/Species	Recommended survey or mitigation work	Timescale
Reptiles	<p>Complete reptile survey (deployment of refugia and a series of seven separate survey visits)</p> <p>Opportunities exist for the creation of refuge features/hibernacula on site, within buffer strips and on bank sides in particular</p>	<p>To be conducted between April and mid-October inclusive</p> <p>Design stage</p>
Birds	<p>Nesting bird check required (by a suitably qualified ecologist) where trees, scrub or hedgerow directly affected by construction activities (including site clearance) during the bird nesting season (March – August inclusive)</p> <p>Opportunities exist for the incorporate of additional bird nesting features into the proposed development and on/within site boundaries</p>	<p>Indicated between March and August (inclusive) and no more than 48 hours prior to site clearance commencing</p> <p>Design stage</p>
Invertebrates	<p>Opportunities exist to enhance the site for invertebrates through incorporation of refuge features/wood piles on site, within buffer strips and on bank sides in particular, as well as the retention of dead wood and/or wood felled during construction</p>	<p>Design stage</p>
Additional species	<p>Inclusion of wildlife features within any property boundaries to facilitate their movement throughout the site and gardens following development</p>	<p>Design stage</p>



5 CONCLUSIONS

- 5.1.1 The site contains habitats of high ecological importance with potential to support a range of protected/notable species. Undertaking further surveys will inform the final layout to avoid impacts where possible and, where necessary allow appropriate mitigation to be designed. Despite the presence (and potential) of protected/notable habitats and species on site an ecologically sensitive scheme could potentially be designed provided that measures detailed within the ECOP are followed.



APPENDIX A: WILDLIFE LEGISLATION & SPECIES INFORMATION

BADGERS

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended) against damage or destruction of a sett, or disturbance, death or injury to the badgers. The Act defines a sett as "any structure or place which displays signs indicating current use by a badger". The definition of current use is subject to considerable debate. Natural England have produced guidance on the definition of current use. (*Badgers and Development – A guide to best practice and development. Natural England 2011*). Given the ambiguity surrounding the definition in all circumstances we would recommend an assessment of current use is always undertaken by a qualified ecologist. Natural Resources Wales (NRW) have a slightly different definition of current use. Please see the NRW website for further information. Penalties for offences against badgers or their setts include fines of up to £5,000 and/or up to six months in prison.

Disturbance of badgers could be caused by any digging activity or scrub clearance within 30 metres of an occupied sett and therefore every case needs to be assessed individually. Felling of trees close to a badger sett may also cause disturbance in some situations. Some activities such as pile driving may cause disturbance at even greater distances, and should be discussed with Natural England or NRW.

Licences are issued by Natural England (or NRW in Wales) to allow the disturbance of badgers, and the destruction of their setts in certain circumstances, in relation to development. Full planning permission must be obtained before a licence application will be considered. Although licences can be applied for at any time of year, disturbance of badgers or exclusion of badgers from a sett can only take place between 1 July and 30 November, to avoid the breeding season when dependant young may be underground. This restriction may be relaxed in some cases where a sett is seasonal and badgers can be shown to be absent from a sett at that time of year.

This report contains information of a confidential nature relating to the location of badger setts. Public access to this data should be restricted to those who have a legitimate need to assess the information and to know the exact situation of the setts rather than simply that badgers are present.

BATS

All 17 species of bat known to breed in England and Wales, and their roost sites, are protected under the Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a bat, or to deliberately disturb a bat such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of bats in their resting places, and damage to or obstruction of resting places are also offences under the Wildlife and Countryside Act 1981 (as amended). Under UK law a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time. Penalties for offences against bats or their roosts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of or alteration to roost sites, or which could result in killing of or injury to bats, need to take place under licence. Works which could disturb bats may also be licensable, though this needs to be assessed on a case by case basis, as bats' sensitivity to disturbance varies depending on normal background levels, and the definition of disturbance offences under the Habitats Regulations is complex. In practice this means that works involving modification or loss of roosts (typically in buildings, trees or underground sites) or significant disturbance to bats in roosts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of bats in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

DORMICE

Dormice and their nests are protected in England and Wales under the Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a dormouse, or to deliberately disturb a dormouse such that its ability to hibernate, breed or rear young, or such



that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of dormice in their nests, and damage to or obstruction of nests are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against dormice or their nests include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of nest sites, or which could result in killing of or injury to dormice, need to take place under licence. Works which could disturb dormice may also be licensable, though this is rarely the case unless loss of dormouse habitat is also proposed, and should be assessed on a case by case basis. In practice this means that works involving any removal of habitat (typically woodland, hedgerows, and scrub) supporting dormice are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of dormice in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

AMPHIBIANS

Great Britain supports seven native amphibian species. The four most widespread species; smooth and palmate newts, common frog, and common toad, receive partial protection under the Wildlife and Countryside Act 1981 (as amended) which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy. The great crested newt, pool frog and natterjack toad are also fully protected in England and Wales under the Conservation of Habitats and Species Regulations 2010 (as amended). Penalties for offences against amphibian species include fines of up to £5,000 and/or up to six months in prison.

Four amphibian species (great crested newt, pool frog, common toad, natterjack toad) are listed as priority species under the UK Biodiversity Action Plan, and are therefore considered to be Species of Principal Importance in England and Wales (excluding the pool frog, which does not occur in Wales) under the Natural Environment and Rural Communities (NERC) Act 2006. All public bodies including local and regional authorities have a duty under this legislation to have regard for the conservation of biodiversity.

GREAT CRESTED NEWTS

Great crested newts are protected in England and Wales under the Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a great crested newt, or to deliberately disturb a great crested newt such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place for great crested newts. Intentional or reckless disturbance of great crested newts in places of shelter (ponds or terrestrial refuges), and damage to or obstruction of places of shelter are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against great crested newts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of ponds or terrestrial habitat, or which could result in killing of or injury to great crested newts, need to take place under licence. Works which could disturb great crested newts may also be licensable, though this is rarely the case unless loss of great crested newt habitat is also proposed, and should be assessed on a case by case basis. In practice this means that works involving any removal of or significant modification to ponds or terrestrial habitats (typically rough grassland, scrub, hedgerow bases and woodland) supporting great crested newts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of great crested newts in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

REPTILES

All six native reptile species receive protection under the Wildlife and Countryside Act 1981 (as amended). The four more common species (common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix*) receive partial protection which makes it an offence to intentionally kill or injure a reptile. The two



other reptile species (smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis*), both of which are rare with very restricted UK ranges receive full protection under the Conservation of Habitats and Species Regulations 2010 (as amended). Penalties for offences against reptile species include fines of up to £5,000 and/or up to six months in prison.

Works such as site clearance or topsoil stripping which could result in killing or injury of reptiles could be considered result in an offence unless measures are taken to minimise the risk of this occurring. Any inadvertent impacts on common reptile species despite these mitigation measures being in place would be considered an 'incidental result of an otherwise lawful operation' which 'could not reasonably have been avoided' and therefore not an offence. Works which could affect smooth snakes or sand lizards, or their habitats, would need to take place under licence from Natural England or Natural Resources Wales. However sites supporting smooth snakes or sand lizards are very rarely affected by development proposals.

In practice, mitigation for impacts of development on common reptiles generally comprise one or more of the following techniques: displacement, in which reptiles are encouraged to move to suitable retained habitat by changing the management of areas affected by development; exclusion, where reptile-resistant fencing is provided between a development site and suitable retained habitat allowing reptiles to be trapped from the development footprint and released elsewhere on the site; and translocation, where animals are trapped from a development site and released on another suitable site nearby. Reptile mitigation proposals, particularly those involving translocation of animals, should be agreed in advance with the local planning authority.

BIRDS

All British birds, their nests and eggs (with certain exceptions) are protected under the Wildlife & Countryside Act 1981 (as amended) which makes it an offence to: intentionally kill, injure or take a wild bird; intentionally take, damage or destroy nests which are in use or being built; intentionally take or destroy birds' eggs; or possess live or dead wild birds or eggs. A number of species receive additional protection through inclusion on Schedule 1 of the Wildlife and Countryside Act; for these it is also an offence to intentionally or recklessly disturb birds while nest building, or at a nest containing eggs or young, or to disturb the dependant young of such a bird. Penalties for offences against bird species include fines of up to £5,000 and/or up to six months in prison.

General licences for control of some bird species are issued by Natural England and Natural Resources Wales in order to prevent damage or disease, or to preserve public health or public safety, but it is not possible to obtain a licence for control of birds or removal of eggs/nests for development purposes. Consequently if nesting birds are present on a development site when works are programmed to start it is usually necessary to delay works, at least in the areas supporting nests, until any chicks have fledged and left the nest. It is usually possible, once chicks have hatched, for an experienced ecologist to predict approximately when they are likely to fledge, in order to inform programming of works on site.

OTTERS

Otters and their holts are protected in England and Wales under the Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure an otter, or to deliberately disturb an otter such that its ability to breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of otters in their holts, and damage to or obstruction of holts are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against otters or their holts include fines of up to £5,000 and/or up to six months in prison.

Any development works which are likely to involve the loss of holts, or which could result in killing of or injury to otters (which are only likely to occur extremely rarely), need to take place under licence. Works which could disturb otters may also be licensable, though this is also rarely the case as the majority of developments on watercourses and coastal areas where otters are present can be carried out in a way which avoids significant disturbance.

Where it is necessary, licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of otters in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.



WATER VOLES

Water voles *Arvicola amphibius* receive protection under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to: intentionally kill, injure, or take a water vole; intentionally or recklessly disturb a water vole whilst in its place of shelter; intentionally or recklessly damage, obstruct or destroy a water vole's place of shelter; or intentionally or recklessly obstruct access to a place of shelter. Penalties for offences against water voles include fines of up to £5,000 and/or up to six months in prison.

Works such as watercourse re-profiling, installing culverts, or topsoil stripping close to watercourses and ponds which could result in destruction or obstruction of burrows could be considered reckless, and/or could be considered intentional if water voles are killed or injured, unless measures are taken to minimise the risk of this occurring. Any inadvertent impacts on water voles despite these mitigation measures being in place would be considered an 'incidental result of an otherwise lawful operation' which 'could not reasonably have been avoided' and therefore not an offence.

In practice, mitigation for impacts of development on water voles generally comprise one or more of the following techniques: displacement, in which water voles are encouraged to move to suitable retained habitat by changing the management of areas affected by development; exclusion, where water vole-resistant fencing is provided between a development site and suitable retained habitat allowing animals to be trapped from the development footprint and released elsewhere on the site; and translocation, where animals are trapped from a development site and released on another suitable site nearby. Water vole mitigation proposals, particularly those involving translocation of animals, should be agreed in advance with Natural England or Natural Resources Wales.

PLANNING POLICY IN RELATION TO BIODIVERSITY - ENGLAND

The National Planning Policy Framework (NPPF), issued in March 2012, has superseded Planning Policy Statement 9: Biodiversity and Geological Conservation (August 2005). Additional guidance can be found online at <http://planningguidance.planningportal.gov.uk/blog/guidance/>. Further guidance is also available within the Government Circular ODPM 06/2005 on Biodiversity and Geological conservation although it should be noted that this document is currently being updated by DEFRA. The NPPF simplifies and collates a number of previous planning documents and outlines the government's objective towards biodiversity.

The NPPF identifies ways in which the planning system should contribute to and enhance the natural and local environment (Paragraph 109), including:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

It also emphasises the importance of conserving biodiversity and areas covered by landscape designations (Paragraph 115):

Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads.

When determining planning applications, the NPPF states that local planning authorities should aim to conserve and enhance biodiversity (Paragraph 118) by applying principles including:

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



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- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
 - the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas and possible Special Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them".

ECOLOGICAL ENHANCEMENTS

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them".

In England, the National Planning Policy Framework (NPPF), issued in March 2012, states that the planning system should contribute to "*minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*". It also states that "*opportunities to incorporate biodiversity in and around developments should be encouraged*".

In Wales, Technical Advice Note 5 on Nature Conservation and Planning (2009) states that the planning system should "look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally", and that when making planning decisions, local authorities should "promote the conservation and enhancement of statutorily designated areas and undeveloped coast" and "adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation".

UK BIODIVERSITY ACTION PLANS

The UK Biodiversity Action Plan (UK BAP) 2011 is a policy first published in 1994 to protect biodiversity and stems from the 1992 Rio Biodiversity Earth Summit. The policy is continuously revised to combine new and existing conservation initiatives to conserve and enhance species and habitats, promote public awareness and contribute to international conservation efforts. Each plan details the status, threats and unique conservation strategies for the species or habitat concerned, to encourage spread and promote population numbers.

Species or habitats identified as priorities under the UK Biodiversity Action Plan receive some status in the planning process through their identification as Species/Habitats of Principal Importance in England and Wales, under the Natural Environment and Rural Communities (NERC) Act 2006 (as amended).

Current planning guidance in England, the National Planning Policy Framework, does not specifically refer to Species or Habitats of Principal Importance, though it includes guidance for conservation of biodiversity in general. Supplementary guidance is available online at <http://planningguidance.planningportal.gov.uk/blog/guidance/> and this guidance indicates that it is 'useful to consider' the potential effects of a development on the habitats or species on the Natural Environment and Rural Communities Act 2006 section 41 list.

Current planning guidance in Wales, TAN 5 (2009) states that when making planning decisions, local authorities should "protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans".



PROTECTED PLANTS

All wild plants receive some protection under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence for any unauthorised person to intentionally uproot any wild plant. Additionally, certain rare species of plants listed on Schedule 8 of the Act are given greater protection. For these species, it is an offence to intentionally pick, uproot or destroy them, or to possess or sell them (live or dead), or anything derived from them. Penalties for offences under this legislation include fines of up to £5,000 and/or up to six months in prison.

Schedule 8 of the Act is reviewed every 5 years, but currently it includes 185 species or sub-species of vascular plants, bryophytes (mosses, liverworts and hornworts), lichens and stoneworts (see www.jncc.gov.uk for current list), all protected due to their rarity and/or restricted distributions.

Works which could result in uprooting or destruction of plants listed on Schedule 8 of the Act could result in an offence being committed, unless measures are taken to minimise the risk of this occurring. Any inadvertent impacts on Schedule 8 plants despite these mitigation measures being in place, and impacts on other plant species during development works, would be considered an 'incidental result of an otherwise lawful operation' which 'could not reasonably have been avoided' and therefore not an offence.

In practice, the mitigation measures required on the very rare occasions when Schedule 8 plants are affected by development proposals will be determined by the ecological requirements of the species concerned, and any mitigation strategy should be agreed in advance with Natural England or Natural Resources Wales.

THE HEDGEROWS REGULATIONS

In England and Wales the Hedgerows Regulations (1997) as amended confer a level of protection on hedgerows (though hedgerows within or bordering domestic gardens are excluded), particularly those hedgerows classified as 'Important' under the legislation. The Regulations require those wishing to remove hedgerows to submit a Hedgerow Removal Notice to the Local Planning Authority (LPA), which will then determine whether the hedgerow affected is classified as 'Important' under the Regulations. If it is, the LPA will either approve the proposed hedgerow removal, or issue a retention notice. It is an offence to remove or destroy a hedgerow which is subject to a retention notice, or to remove one without a removal notice.

Routine management of hedgerows, removal of hedgerows for development which has been granted planning consent, and certain other situations are allowed under the Regulations, which also specifically exclude hedgerows within or bordering domestic gardens. Determination of whether a hedgerow should be classified as 'Important' is based on a number of criteria including assessment of its likely historic value (e.g. old parish boundary or part of an ancient monument), ecological value (e.g. presence of protected species, and/or diversity of tree/shrub species in the hedgerow), and landscape value (e.g. associated with a public footpath, or being associated with hedgebanks, ditches, hedgerow trees etc).

Ancient and species-rich hedgerows are listed as a priority habitat in the UK Biodiversity Action Plan (2011).

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