Ecological Impact Assessment

Land at Lynchmead Farm, Weston-Super-Mare

Mead Realisations Ltd

April 2020

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EAD Ecology was commissioned by Mead Realisations Ltd to undertake an Ecological Impact Assessment (EcIA) of a proposed residential development on land at Lynchmead Farm, Weston-super-Mare. This report documents the EcIA, which was undertaken in accordance with BS42020:2013 and Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (2018).

The ecological baseline of the site was derived through desk study and ecological site surveys, including Extended Phase 1 habitat, hedgerow, great crested newt, reptile, breeding bird, wintering bird, dormouse, bat, badger, otter and water vole surveys. The work was carried out by members of CIEEM in accordance with CIEEM's Code of Conduct and following standard published methods.

Baseline

Designated sites

The site does not lie within or adjacent to any designated sites of nature conservation importance. Five European designated sites occur within 10km of the site; these are the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site, North Somerset & Mendip Bats SAC and Mendip Limestone Grasslands SAC. A further five nationally-designated sites lie within 5km of the site boundary and eight Sites of Nature Conservation Importance (SNCI) are within the 2km study area.

Habitats

The survey area comprised four poor semi-improved and improved grassland pasture fields, and a small industrial site with modern industrial units. Species-poor hedgerows and wet ditches formed the majority of field boundaries, with some mature broadleaved trees, areas of tall ruderal vegetation and dense scrub also present. The application site comprised the southern half of the survey area.

Protected / notable species

- No notable or invasive plant species were recorded within the survey area.
- No notable invertebrates were recorded within the survey area.
- The survey area provided suitable breeding and terrestrial habitat for common and widespread amphibians, including common toad (a Priority species). A great crested newt eDNA survey was undertaken of ditches within the survey area and one off-site pond. The results of the eDNA survey were negative, indicating that the species is absent from the site.
- A 'Low' population of grass snake was recorded within the survey area. Suitable reptile habitat was restricted to the field margins, with the majority of the short-grazed grassland within the site unsuitable for reptiles.
- The survey area provided nesting habitat for widespread bird species, including notable species such as house sparrow, spotted flycatcher and dunnock; all Priority Species.
- No qualifying species from the Severn Estuary SPA/Ramsar Site were recorded within the survey area. The wintering bird assessment concluded that although the site lies within the dispersal range of waterfowl from the Severn Estuary, the distance between the site and the estuary (minimum 1.5km) means that it is unlikely there are significant movements of waterfowl between the two.
- No dormice, or evidence of dormouse activity, were recorded within the survey area during the course of the survey. This species was, therefore, considered to be absent from the site.
- A two-entrance outlier sett was recorded within application site and an additional subsidiary badger sett was recorded to the north within the wider survey area. The site provides suitable

foraging habitat for badgers, and evidence of foraging badgers, such as feeding signs, prints, latrines and paths were recorded throughout the site.

- A minimum of 10 bat species were recorded foraging and/or commuting within the survey area during the bat survey. Common pipistrelle was the most abundant species; several light-sensitive species were recorded including greater and lesser horseshoe, *Myotis* species, long-eared species and barbastelle bat. Greater horseshoe bat activity within the site was considered to be moderate. The highest levels of bat activity were recorded along the hedgerow that runs through the centre of the site from north to south. No bat roosts were identified.
- No signs of otter were recorded during the survey of the ditches within the site. However, given the favourable conservation status of the species in the locality, the ditches are likely to be periodically used by otters moving through their territory.
- No signs of water vole were recorded during the survey of the ditches within the site. This species was, therefore, considered to be absent from the survey area.
- The site provided suitable habitat for hedgehog and water shrew, which may occasionally occur within the site. Hedgehog is a Priority species and water shrew is a North Somerset BAP species

Potential effects, avoidance, mitigation, compensation and enhancement

There is the potential that new residents from the development could increase recreational pressure on the Severn Estuary European Sites, in-combination with other residential development in the vicinity of the estuary. Water quality effects on the Severn Estuary are considered unlikely as the implementation of standard pollution control measures during construction, and SuDS drainage proposals integrated into the development design, would protect water quality in waterbodies around the site. No effects on other designated sites are predicted.

Site clearance would result in the loss of amenity, improved and poor semi-improved grassland, tall ruderal and approximately 520m of species-poor/defunct hedgerow. Landscape proposals would include native scrub planting, wildflower meadow seeding, scattered native tree planting, new native species-rich hedgerow, wetland meadow seeding and marginal vegetation planting around a network of swales. This would mitigate habitat loss in the medium-term, as new habitats established.

Site clearance would also result in loss available habitat for protected and notable species during construction and there is the risk of direct impacts (i.e. killing or injury) to common amphibians, reptiles, nesting birds and hedgehogs. There would also be the potential for disturbance to commuting and foraging bats arising from lighting during and post-construction.

Measures undertaken to avoid, mitigate and compensate negative effects and provide ecological enhancement would include the following:

- A financial contribution towards West of England Green Infrastructure Plan or to off-site green infrastructure provision would be made, to ensure that there would be no recreational effects on the Severn Estuary European Sites.
- Site clearance (including hedgerow removal) would be preceded by a hand search of suitable habitats for amphibians, reptiles and hedgehog by an experienced ecologist. Any amphibians, reptiles or hedgehogs found would be captured and moved to suitable habitat adjacent to the site.
- Nesting bird habitat (e.g. hedgerows) would be removed outside of the bird nesting season (i.e. removed between October and February) or subject to a pre-start check by an ecologist to ensure that no active nests were affected.
- Retained hedgerows and mature trees would be protected from disturbance during construction through the use of temporary barriers (e.g. Heras fencing). Work would be undertaken in accordance with BS5837.

- No lighting would be left on during the night during the construction period. Any security lighting would be positioned at low-height and motion activated on short-timers. The lighting design would ensure that dark corridors were maintained through the site.
- A minimum of 20 bat and 20 bird boxes would be included within the fabric of new buildings.
- Hedgehog passes would be created within new garden fences to allow hedgehogs to move around the site post-development.

A Construction and Ecological Management Plan (CEcoMP) would be produced to detail measures to ensure habitat and species protection during construction. A Landscape and Ecological Management Plan (LEMP) would be produced to detail how retained and proposed habitats will be managed in the long-term.

Residual effects
No long-term significant residual effects are predicted. Proposed mitigation would ensure that there would be no in-combination recreational effects on the Severn Estuary European Sites, and no effects on other designated sites are predicted. New habitats would enhance the biodiversity value of the site as they established, and provide opportunities for a range of species. All negative residual construction impacts would be short-term. Mitigation measures during construction would ensure legal compliance in respect of protected species.

Conclusions
Overall, it is considered that the development would protect, maintain and enhance the biodiversity within the site in accordance with policies concerning the conservation of biodiversity in the National Planning Policy Framework (2019), North Somerset Core Strategy and the North Somerset Sites and Policies Plan. If North Somerset Council considered that Habitats Regulations Assessment of the development was required, it could conclude that there would be no effect on the integrity of the Severn Estuary SAC/SPA/Ramsar Site, and that there would no likely significant effect on other European designated sites, alone and in-combination with other plans or projects.

1 Introduction, background and approach

1.1 Introduction

1.1.1 EAD Ecology was commissioned by Mead Realisations Ltd to undertake an Ecological Impact Assessment (EcIA) of a proposed residential development on land at Lynchmead Farm, Weston-super-Mare (approximate OS Grid Reference ST358642; refer to Figures 1 and 2); hereafter referred to as 'the site'. This report documents the EcIA, which was undertaken in accordance with BS42020:2013 and following Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (2018) and includes the following sections:

- Description of the existing ecological baseline;
- Identification of the potential impacts of the proposals during and post-construction;
- Identification of proposed avoidance, mitigation and compensation measures for negative impacts, and further enhancement measures;
- Summary of residual ecological effects, i.e. those occurring after mitigation;
- Consideration of cumulative effects; and
- Conclusions, including assessment of compliance with wildlife legislation and planning policy.

1.2 Legislation and planning policy

Wildlife legislation

1.2.1 The following wildlife legislation is relevant to the proposed development:

- Conservation of Habitats and Species Regulations 2017 (as amended).
- Wildlife and Countryside Act 1981 (as amended).
- Countryside and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- Protection of Badgers Act 1992.
- Hedgerow Regulations 1997 (as amended).

1.2.2 A summary of wildlife and protected species legislation is provided in Appendix 1.

National planning policy

1.2.3 The National Planning Policy Framework (NPPF 2019) includes the Government's policy on the protection of biodiversity through the planning system. A summary of the relevant paragraphs of the NPPF is provided in Appendix 1.

Local planning policy

1.2.4 The North Somerset Core Strategy (re-adopted January 2017) is the strategic document to guide development within North Somerset up to 2026. Within the Core Strategy, Policy CS4: Nature Conservation is relevant to the ecological assessment of the proposed development (refer to Appendix 1).

1.2.5 The North Somerset Sites and Policies Plan (Part 1): development management policies (adopted July 2016) contains generic development management policies against which planning applications and development proposals are assessed. Within this publication, Policies DM8 (Nature Conservation) and DM9 (Trees) are relevant to this assessment; refer to Appendix 1.

1.2.6 North Somerset Council's Supplementary Planning Document (SPD) 'Biodiversity and Trees' (2005) provides additional guidance for developers, with relevance to nature conservation.

1.3 Approach

Ecological baseline

1.3.1 The ecological baseline was determined through desk study and site survey.

Desk Study

1.3.2 Biodiversity information was requested from Bristol Regional Environmental Records Centre (BRERC) for a study area of 2km radius around the site in April 2018. Information requested included the location and details of the following:

- Designated sites of nature conservation importance (statutory and non-statutory; extended to 5km for statutory sites and 10km for European-designated sites using the Defra MAGIC website);
- Previous records of protected and/or notable species, including Species of Principal Importance for Conservation in England (formerly UK Biodiversity Action Plan (BAP) Priority Species, now referred to as 'Priority Species') and Somerset and North Somerset BAP (SBAP) Priority Species. The radius of the search area was increased to 4km for records of bats.

1.3.3 Information was also obtained from the following websites (12 April 2018):

- https://magic.defra.gov.uk/MagicMap.aspx – Information on protected sites;
- http://jncc.defra.gov.uk – information on protected sites, Priority Habitats and Species; and
- https://www.gov.uk/government/organisations/natural-england – information on protected sites and standing advice.

Site Survey

1.3.4 An Extended Phase 1 Habitat survey of the site was undertaken on 5 April 2018; The survey followed guidelines published by JNCC (2010) and Institute of Environmental Assessment (1995), and identified the main habitat types on the site and the presence/potential presence of protected and notable species. The results of the survey were detailed on a Phase 1 Habitat plan, with target notes used to identify specific features of ecological interest; refer to Figure 3. A botanical species list was recorded, although no attempt was made to record every plant species on the site. An update Phase 1 Habitat Survey was carried out on 11 March 2020, to assess whether there had been any significant changes to the on-site habitats, and the implications such changes would have to the status of protected species on the site.

1.3.5 The 2018 Extended Phase 1 Habitat survey identified the potential for protected and notable species within the survey area. Further (Phase 2) surveys were subsequently undertaken to determine if such species were present. A summary of these surveys is provided in Table 1.1 below; full details of methodologies and results are contained in Appendices 2 to 11. All surveys were carried out following standard published methods.

Table 1.1: Summary of Phase 2 ecological surveys

Survey	Date	Details
Hedgerow Survey	May 2018	Survey of hedgerows to determine whether they were 'important' under ecological criteria of the Hedgerows Regulations 1997; refer to Appendix 2.

Table 1.1: Summary of Phase 2 ecological surveys

Survey	Date	Details
Great crested newt survey	April 2018	eDNA analysis and Habitat Suitability Assessment of the ditches onsite and one offsite pond identified within 500m of the site. Refer to Appendix 3.
Reptile survey	April - June 2018	Deployment and seven checks of artificial refugia; refer to Appendix 4.
Breeding bird survey	April - June 2018	Three visits to record breeding bird species assemblage and estimate number of pairs/territories; refer to Appendix 5.
Wintering bird assessment	May 2018 and November 2018 to January 2019	Three visits to record wintering bird species and review of desk study information to identify use of the site and general suitability of the site for waterfowl; refer to Appendix 6.
Hazel dormouse	April – September 2018	Deployment of nest tubes and monthly checks; refer to Appendix 7.
Badger survey	May 2018	Search for signs of activity e.g. setts, latrines; refer to Appendix 8.
Bat roost presence/absence survey	August – September 2018	Emergence surveys of trees identified as having potential for roosting bats; refer to Appendix 9.
Bat activity survey	April – October 2018	Monthly transect and static detector surveys; refer to Appendix 10.
Otter and water vole survey	April 2018	Survey of ditch network for signs of otter and water vole activity e.g. holts, prints, spraint, droppings, feeding signs; refer to Appendix 11.

Survey limitations

1.3.6 The March 2020 Extended Phase 1 Habitat survey confirmed that there had been no significant changes to the status of the habitats within the site since the 2018 surveys. Therefore, the results of the 2018 protected species surveys are considered to be suitable to inform the impact assessment and mitigation strategy. No other significant limitations to the surveys were identified.

Evaluation of ecological features

1.3.7 The importance of the ecological features identified was evaluated using criteria for habitats and species based on CIEEM guidelines (2018). Ecological importance was classified using an eight-level geographic scale from 'Sub-Parish' (low) to 'International' (high); refer to Appendix 12. Legal protection of species is considered in Section 4 (mitigation) and does not specifically form part of the valuation process.

Confirmation of 'important' ecological features

1.3.8 Features were identified that were considered 'important', in accordance with CIEEM guidelines (2018), and therefore subject to further detailed assessment. Features that were unlikely to be affected by the project, or were sufficiently widespread, unthreatened or resilient to potential project impacts, were not considered important in the context of the proposed development, and were not, therefore, subject to further assessment.

Identification of potential impacts

1.3.9 Potential impacts on the important ecological features were described for the construction and post-construction phases of the development.

Avoidance, mitigation, compensation and enhancement measures

1.3.10 The proposed development (refer to Figure 2) was informed by the ecological baseline, including the presence/predicted presence of protected species. Therefore, the impact assessment was of a partially-mitigated scheme. Additional avoidance, mitigation, compensation and enhancement measures for the construction and post-construction phases of the development were identified; where appropriate, recommendations for how these measures could be secured (for example, through planning conditions/obligations or Natural England licensing) were also identified.

Residual effects

1.3.11 An assessment of the residual positive, negative or neutral ecological effects was undertaken following CIEEM (2018) guidelines. The effect timescale was given as:

- Acute, immediate and discrete.
- Short-term: 0-3 years.
- Medium-term: 3-10 years.
- Long-term: 10+ years.

1.3.12 Effects were described at a geographical scale (refer to Appendix 12); effects identified at Sub-Parish level and below were not considered 'Significant'.

1.3.13 The conclusion to the assessment confirms any significant residual effects, compliance with national planning policy (including the avoidance of 'significant harm' in accordance with Paragraph 175 of the NPPF, 2019), and compliance with relevant policies of the North Somerset Core Strategy (re-adopted January 2017), the North Somerset Sites and Policies Plan (Part 1) and the North Somerset Council's Supplementary Planning Document (SPD) 'Biodiversity and Trees' (2005).

2 Ecological baseline

2.1 Designated sites of conservation importance

European-designated sites

2.1.1 The site does not lie within or adjacent to any statutory designated sites of nature conservation importance. Five European designated sites occur within 10km of the site; these are Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site, North Somerset & Mendip Bats SAC and Mendip Limestone Grasslands SAC. Further details of these sites are presented in Table 2.1 and Appendix 13. The site lies outside of the area identified as a 'Bat Consultation Zone' (BCZ) in respect of North Somerset and Mendip Bats SAC (North Somerset and Mendip Bats SAC Guidance on Development Version 2.1, 2019).

Nationally-designated sites

2.1.2 Five nationally-designated sites lie within 5km of the site boundary; refer to Table 2.1 and Appendix 13.

Table 2.1: Statutory designated sites within the study area

Site name	Nature conservation designation	Reason for designation	Approximate distance and direction from site
European designated sites within 10km			
Severn Estuary	SAC	Designated for the presence of the following habitats and species: • Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Reefs; • Atlantic salt meadows; • Sea lamprey; • River lamprey; • Twaite shad.	1.5km north
	SPA	Qualifies by regularly supporting at least 20,000 waterfowl, and by supporting populations of European importance of over-wintering Bewick's swan, curlew, dunlin, pintail, redshank and shelduck, and on-passage ringed plover.	
	Ramsar Site	Designated for its estuarine habitats, wintering birds and migratory fish populations.	
North Somerset	SAC	Designated for the presence of the following habitats and species:	5.7km south-east

Table 2.1: Statutory designated sites within the study area

Site name	Nature conservation designation	Reason for designation	Approximate distance and direction from site
and Mendip Bats		• Semi-natural grasslands and scrubland facies on calcareous substrates. • *Tilio-Acerion* forests of slopes, screes and ravines. • Caves not open to the public • Lesser horseshoe bat • Greater horseshoe bat	
Mendip Limestone Grasslands	SAC	Designated for the presence of the following habitats and species: • Semi-natural grasslands and scrubland facies on calcareous substrates. • European dry heaths. • *Tilio-Acerion* forests of slopes, screes and ravines. • Caves not open to the public • Greater horseshoe bat	8.2km south-east
Nationally designated sites within 5km			
Severn Estuary	SSSI	Estuarine habitats with internationally important populations of waterfowl and migratory fish.	1.5km north
Middle Hope	SSSI	Calcareous grassland and scrub habitats.	1.9km north
Weston Woods	Local Nature Reserve	Ancient and secondary broadleaved woodland.	2.3km west
Puxton Moor	SSSI	Low-lying agricultural land drained by a network of rhynes and ditches. The area supports aquatic plant communities of great nature conservation interest.	4.5km southeast
Ellenborough Park West	SSSI	Old sand dune system with dune grassland and maritime plant species.	4.9km southwest

Non-statutory designated sites

2.1.3 No non-statutory sites occur within or adjacent to the site. There are eight Sites of Nature Conservation Importance (SNCI) within the 2km study area; refer to Appendix 13. The closest of these is River Banwell (part of) SNCI, located approximately 450m to the east of the site. One Avon Wildlife Trust Reserve, Blake's Pools, is located approximately 2km to the north-east of the site.

2.2 Habitats within the site boundary

2.2.1 Habitat descriptions are provided below; these should be read in conjunction with the Phase 1 Habitat Plan and target notes (TNs; refer to Figure 3). Note that the survey boundary shown on Figure 3 includes a wider area than the application site boundary; refer to Figure 1.

2.2.2 The survey area comprised four poor semi-improved and improved grassland pasture fields, and a small industrial site with modern industrial units. Species-poor hedgerows and wet ditches formed the majority of field boundaries, with some mature broadleaved trees, areas of tall ruderal vegetation and dense scrub also present. The site comprised the southern half of the survey area.

Amenity grassland

2.2.3 A small residential garden area comprised of amenity grassland was present in the south of the survey area, within the western site parcel. This habitat was dominated by perennial ryegrass and contained common and widespread herbs such as dandelion and daisy.

Buildings

2.2.4 A complex of industrial buildings [TN14 & 15] was present in the south-east of the site. These were one-storey buildings constructed of breeze block, concrete, steel frame, wooden panel and corrugated steel sheeting.

Ditches

2.2.5 A network of wet ditches was present around the majority of field boundaries. These were 2-5m wide, with little associated vegetation. Some common reed and floating sweet-grass were present in places. 'Ditches and ponds' are a Somerset Action Plan habitat.

Hardstanding

2.2.6 Hardstanding was present around the buildings in the south-east of the site.

Hedgerow (species-poor)

2.2.7 Species-poor hedgerows, some with mature trees and some defunct, were present along field boundaries throughout the site. Woody species present included hawthorn, elm, ash, blackthorn, willow, holly and dog rose. Ground flora had low species diversity; species present included ivy, common nettle and cleavers.

2.2.8 Six hedgerows within the survey area qualified as 'important' when assessed against ecological criteria of the Hedgerows Regulations 1997, all of which were at least partly located within the site; refer to Appendix 2. Hedgerow is a Priority Habitat and hedgerows and hedgerow trees are a Somerset BAP habitat.

Improved grassland

2.2.9 A field of improved grassland pasture was partly located within the western parcel of the site. This was horse-grazed with a short sward and low species-diversity. The dominant species was perennial rye-grass, with annual meadow-grass and Yorkshire fog, and occasional white clover, common ragwort, common nettle, ribwort plantain and dandelion.

Poor semi-improved grassland

2.2.10 Three fields of sheep-grazed poor semi-improved grassland were present in the east and south of the survey area; all were at least partly located within the site. This habitat was dominated by

perennial rye-grass, rough meadow-grass, cocksfoot and creeping bent with frequent Yorkshire fog and soft rush. Creeping buttercup, white clover, hogweed and yarrow were also recorded.

Scattered broadleaved trees

2.2.11 Several scattered birch, ash and willow trees were present along the southern boundary of the site, immediately to the north of residential buildings located outside of the site.

Scrub

2.2.12 Several areas of dense and scattered bramble scrub were present throughout the survey area, largely along field boundaries. An area of dense hawthorn scrub was present around the buildings in the southeast of the site.

Tall ruderal

2.2.13 Several large areas of tall ruderal weeds occurred along field boundaries, dominated by common nettle, with occasional hogweed and broadleaved dock.

2.3 Surrounding habitats

2.3.1 The site is located on the northern edge of Weston-super-Mare, with Ebdon Road and a number of residential buildings forming the southern boundary, beyond which was recent residential development. To the north, west and east was low-lying agricultural land, comprising a mosaic of pasture and arable farmland, interspersed by hedgerows and a network of ditches.

2.4 Protected and notable species

Plants

Desk Study

2.4.1 Numerous notable plant species have been recorded within the 2km study area including:

- Round-leaved whitebeam, tubular water-dropwort, sea barley, prickly saltwort and slender hare's ear (Priority Species); and
- Bluebell (protected under Schedule 8 of the WCA 1981).

Site survey

2.4.2 No notable species were recorded during the site survey, and their presence within the site was considered unlikely.

Invasive plants

Desk Study

2.4.3 There were numerous records of invasive plants within the 2km study area, including:

- Himalayan Balsam;
- Wall cotoneaster;
- Japanese rose;
- Water fern;
- Common cord-grass;
- Small-leaved cotoneaster;
- Montbretia;
- Canadian waterweed;
- Virginia-creeper;

- Curly waterweed; and
- Nuttall's waterweed.

2.4.4 All of these species are listed on Schedule 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended), making it an offence to plant or otherwise cause these species to grow in the wild.

Site survey

2.4.5 No invasive species were recorded during the Extended Phase 1 habitat survey or during any visits associated with other Phase 2 surveys.

Invertebrates

Desk Study

2.4.6 The following invertebrate species have been recorded within the study area:

- Priority Species: feathered gothic, small heath, wall, green-brindled crescent, mouse moth, small blue, shaded broad-bar, lackey, hedge rustic, grey dagger, small square-spot, double dart, rustic, blood-vein, knot grass moth, flounced chestnut, beaded chestnut, garden tiger, sprawler, mottled rustic, small square-spot, figure of eight, small phoenix, dusky thorn, spinach moth, garden dart, shoulder-striped wainscot, rosy minor, v-moth, dot moth, pretty chalk carpet, powdered quaker, large wainscot, mullein wave, white ermine, buff ermine, cinnabar, oak hook-tip, dingy skipper, small emerald, Glanville fritillary, grizzled skipper, crescent, golden dart, money spider, comb-footed spider, latticed heath, brick, minor-shoulder knot, grayling, oblique carpet
- Nationally notable: sea-wormwood weevil, hoverfly sp., scavenger water beetle

Site survey

2.4.7 Grassland, hedgerow, scrub and ditches were likely to provide habitat for a range of common / widespread invertebrate species; the presence of significant populations of notable invertebrate species was considered unlikely.

Amphibians

Desk Study

2.4.8 There were numerous amphibian records within the 2km study area, including great crested newt, common frog and common toad. The nearest record of great crested newt is from approximately 2km to the northeast of the site. Great crested newt receives legal protection and is a Priority Species. Common toad receives partial legal protection and is a Priority Species.

Site survey

2.4.9 The majority of the wet ditches within the site were heavily shaded and unsuitable for amphibians, although some more open areas of ditch were present and could provide suitable breeding habitat for amphibians. Study of aerial photography and OS maps revealed one pond within 500m of the site boundary. This pond was located approximately 90m to the west of the site; refer to Appendix 3.

2.4.10 An eDNA survey was undertaken of the off-site pond and two ditches within the survey area; refer to Appendix 3. The results of the great crested newt eDNA survey were negative, indicating that the species is absent from the site. Common toad, palmate newt and smooth newt may potentially utilise the ditches within the site for breeding habitat. Hedgerows, scrub, grassland and field margins provided suitable terrestrial habitat.

Reptiles

Desk Study

2.4.11 Grass snake and slow-worm (Priority Species and legally protected) have been recorded within the 2km study area. Additionally, a single record of European pond terrapin was recorded 1.2km east and 2.1km south; an invasive / non-native species listed on Schedule 9 of the WCA 1981 (as amended).

Site survey

2.4.12 A 'Low' population of grass snake was recorded within the survey area; refer to Appendix 4. Suitable reptile habitat was restricted to the field and ditch margins, with the majority of the short-grazed grassland within the site unsuitable for reptiles.

Birds

Desk Study

2.4.13 Numerous notable bird species have been recorded in the study area, including 19 species with specific legal protection (listed on Schedule 1 of the Wildlife and Countryside Act 1981, as amended) and 12 Priority Species. The majority of these were waterfowl associated with the Severn Estuary. Further details of these species are provided in Appendix 6. All breeding birds, their nests, eggs and young are legally protected; refer to Appendix 1.

Site survey

2.4.14 A total of 31 species were recorded during the breeding bird surveys (refer to Appendix 5), of which 25 species were confirmed, probably or possibly breeding within the survey area. These included:

- House sparrow, which was confirmed breeding in buildings on the south-east side of the survey area. This is a Priority Species and Red-listed Bird of Conservation Concern (Eaton et al 2015).
- Spotted flycatcher, which possibly nested (individual in suitable breeding habitat). This is a Priority Species and Red-listed Bird of Conservation Concern.
- Dunnock, which probably bred (3+ territories). This is a Priority Species and Amber-listed Bird of Conservation Concern (Eaton et al 2015).

2.4.15 The presence of ground nesting species such as skylark was considered unlikely due to existing levels of disturbance / grazing within the site.

2.4.16 The wintering bird surveys recorded no waterfowl species listed on the citation for the Seven Estuary SPA / Ramsar Site on, or adjacent to, the site or wider survey area. The only species recorded on site that are associated with coastal and estuarine habitats were snipe, herring gull and black-headed gull; refer to Appendix 6.

2.4.17 Wet ditches surrounding the fields are likely to support low numbers of common and widespread wetland species such as moorhen, mallard and grey heron during the winter months. Small numbers of snipe and teal may also occur, potentially in greater numbers during extreme weather conditions, although there are larger areas of more suitable habitat in the vicinity. The site lacked any significant areas of standing water, and therefore the potential presence of diving duck/grebe species was excluded. The site lacked suitable habitat to regularly support qualifying species of the Severn Estuary SPA. Overall, it was considered unlikely that the site would be used by significant populations of birds from the Seven Estuary on a regular basis.

Hazel dormouse

Desk Study

2.4.18 There were no records of hazel dormouse within the 2km search area. Hazel dormouse is fully protected by UK and European legislation and is a Priority Species.

Site survey

2.4.19 No dormice, or evidence of dormouse activity, were recorded within the survey area during the course of the survey; refer to Appendix 7. This species was, therefore, considered to be absent from the survey area and is not considered further within this assessment.

Badger

Desk Study

2.4.20 There were numerous records of badger within the 2km search area. The closest record was within 0.3km of the site. Badgers and their setts are legally protected.

Site survey

2.4.21 A partially-used subsidiary badger sett was recorded in the north of the survey area, outside of the site, and a two-entrance outlier sett was recorded in the west of the site; refer to Appendix 8. The site provided suitable foraging habitat for badgers, and evidence of foraging badgers, such as feeding signs, prints, latrines and paths were recorded throughout the survey area.

Bats

Desk Study

2.4.22 There are no known previous records of bat roosts within the site boundary. Bat records from within the 4km study area include:

- Common pipistrelle, serotine, noctule, unidentified pipistrelle species, long-eared species and unidentified bat species (all are legally protected); and
- Brown long-eared, noctule, Leisler's bat and soprano pipistrelle (all legally protected and Priority Species).

2.4.23 The closest known roost to the site is a common pipistrelle roost; located approximately 2.4km southeast of site. All bats are legally protected and a number are Priority Species. 'Bats' is a Somerset BAP species, and greater horseshoe bat is a North Somerset BAP species.

Site surveys
Roost survey

2.4.24 The results of the bat roost and activity surveys are presented in Appendix 9. The survey identified 15 trees within the survey area as having 'moderate' or 'high' bat roost potential (Collins 2016. Subsequent surveys of one of the trees did not identify any bat roosts. The remaining identified trees would not be affected by the proposed development and no further surveys were undertaken.

Activity Surveys

2.4.25 The results of the bat activity surveys are presented in Appendix 10. A total of 306 bat calls from a minimum of six species were recorded at sample points during the seven transect surveys. Common pipistrelle was the most abundant species (approximately 63% of all registrations), followed by serotine (16%), *Nyctalus* species or serotine (7%) and soprano pipistrelle (5%). The

remaining c.9% of calls were from noctule, long-eared bat species, *Nyctalus* species and *Myotis* species.

2.4.26 The highest levels of bat activity were recorded along the hedgerow that runs through the centre of the site from north to south. Bat activity and species diversity were lowest in the south eastern corner of the site, adjacent to the industrial site, where only occasional pipistrelle species passes were recorded. Outside of sample points, generally low to moderate levels of common pipistrelle activity were recorded at locations across the site. Occasional passes from soprano pipistrelle and *Nyctalus* species/serotine were also recorded throughout.

Static detector survey

2.4.27 The results of the static bat detector surveys are presented in Appendix 10. At least ten species were recorded during the static detector survey with an overall total of 33280 registrations. Common pipistrelle was the most abundant species comprising 77% of all recordings, followed by soprano pipistrelle (12%), *Nyctalus* species (4%), serotine/*Nyctalus* species (2%), serotine (2%), greater horseshoe bats (1%) and *Myotis* bats (1%). Other species recorded on static detectors but accounting for less than 1% of registrations were Nathusius' pipistrelle, undetermined pipistrelle species, lesser horseshoe bat, barbastelle and long-eared bats.

2.4.28 The highest overall levels of bat activity were recorded on the two static detectors located either side of the central double hedgerow. These two locations also recorded the highest levels of greater horseshoe and lesser horseshoe bat registrations. Greater horseshoe bat activity across the site was deemed 'moderate' in relation to other EAD Ecology sites within the south west.

Otter

Desk Study

2.4.29 Numerous records of otter were recorded within the 2km search area. The closest of these was recorded approximately 0.7km east of the site. Otter receives full legal protection, is a Priority Species and is a North Somerset BAP species.

Site survey

2.4.30 No signs of otter were recorded during the survey of the ditches within the site. However, given the favourable conservation status of the species in the locality, the ditches are likely to be periodically used by otters moving through their territory. Otter is legally protected and is a Somerset and North Somerset BAP species.

Water vole

Desk Study

2.4.31 A single record of water vole was recorded approximately 2.4km northeast of the site. Water vole is legally protected, a Priority Species and is a North Somerset BAP species.

Site survey

2.4.32 No signs of water vole were recorded during the survey of the ditches within the site. This species was, therefore, considered to be absent from the survey area and is not considered further within this assessment.

Other mammals

Desk Study

2.4.33 Notable mammal records within the survey area include hedgehog, harvest mouse and brown hare; all of which are Priority Species. There are also records of water shrew, which is a North Somerset BAP species.

Site survey

2.4.34 The site provided suitable habitat for hedgehog and water shrew, which were assumed to be present.

2.5 Evaluation and confirmation of important ecological features

2.5.1 An evaluation of the ecological features within the study area is provided in Table 2.1 below. This also includes confirmation of 'important' ecological features in the context of the proposed development, i.e. those that have been included in, or excluded from, further assessment.

Table 2.1: Evaluation and confirmation of important ecological features

Ecological feature	Ecological importance	Included in detailed assessment?	Reason
Designated sites of nature conservation importance			
European Designated Sites within 10km	International	Yes	Importance reflected by designation. Potentially impacted by proposed development.
SSSIs within 5km	National	Yes	Importance reflected by designation. Potentially impacted by proposed development.
Non-statutory sites within 2km	District - County	Yes	Importance reflected by designation. Potentially impacted by proposed development.
Habitats on the site			
Amenity grassland	Sub-Parish	Yes	Common, widespread habitat. Potentially impacted by proposed development.
Buildings	Sub-Parish	Yes	Common, widespread habitat. Potentially impacted by proposed development.
Ditches	Parish	Yes	Acts as an ecological corridor within the landscape. 'Ditches and Ponds' is a Somerset Action Plan habitat. Potentially impacted by proposed development.
Improved grassland	Sub-Parish	Yes	Common, widespread habitat. Potentially impacted by proposed development.
Poor semi-improved grassland	Sub-Parish	Yes	Common, widespread habitat. Potentially impacted by proposed development.
Scattered trees	Sub-Parish	Yes	Common, widespread habitat. Likely to support a range of species including invertebrates and nesting birds. Potentially impacted by proposed development.
Scrub	Sub-Parish	Yes	Common and widespread habitat of limited ecological value. Potentially impacted by proposed development.
Species-poor hedgerows	Parish	Yes	Contain a range of species and act as wildlife corridors. 'Hedgerows' is a Priority Habitat; 'Hedgerows and Hedgerow Trees' is a Somerset Action Plan habitat. Potentially impacted by proposed development.
Tall ruderal	Sub-Parish	Yes	Common, widespread habitat. Potentially impacted by proposed development.

Table 2.1: Evaluation and confirmation of important ecological features

Ecological feature	Ecological importance	Included in detailed assessment?	Reason
Adjacent habitats			
Improved grassland and arable	Sub-Parish	Yes	Common widespread habitats. Potentially impacted by proposed development.
Hedgerows	Sub-Parish to Parish	Yes	Priority Habitat that function as ecological corridors. Potentially impacted by proposed development.
Ditches	Parish	Yes	Somerset Action Plan habitat that function as ecological corridors. Potentially impacted by proposed development.
Protected and notable species			
Plants	Sub-Parish	Yes	No notable or invasive species recorded or considered likely to occur within the site. Common/widespread species may be impacted by the proposed development.
Invertebrates	Sub-Parish	Yes	The habitats within the site are likely to provide habitat for common and widespread invertebrates. The presence of notable species considered unlikely.
Amphibians	Sub-Parish	Yes	Suitable terrestrial habitat for common amphibians. Great crested newt considered absent. Potentially impacted by proposed development.
Reptiles	Sub-Parish	Yes	Field margins within the survey area supported a 'Low' population of grass snake. Potentially impacted by proposed development.
Birds	Sub-Parish to Parish	Yes	Provided foraging and nesting habitat for a range of species, including widespread but declining species such as dunnock. Potentially impacted by proposed development. Site not considered to be of importance to waterfowl species listed on the citation for the Seven Estuary SPA.
Dormouse	Negligible	No	Not recorded during the surveys so assumed to be absent.
Badger	Sub-Parish	Yes	A partially-used subsidiary badger sett and a two-entrance outlier sett were present within the survey areas; the site provides foraging habitat and a movement corridor for badgers. Badgers are common and widespread in the vicinity. Potentially impacted by proposed development.

Table 2.1: Evaluation and confirmation of important ecological features

Ecological feature	Ecological importance	Included in detailed assessment?	Reason
Bats	Parish	Yes	At least ten species recorded foraging or commuting within the survey area including greater and lesser horseshoe, barbastelle, noctule, soprano pipistrelle and long-eared bat, which are Priority Species. The survey area was used by moderate numbers of greater horseshoe bats. The highest levels of bat activity were recorded along the central hedgerow. No bat roosts were identified. Potentially impacted by proposed development.
Otter	Sub-Parish	Yes	No signs of otter recorded. Watercourse likely to be periodically utilised. Potentially impacted by proposed development.
Water vole	Negligible	No	Not recorded during the surveys so assumed to be absent.
Hedgehog	Sub-Parish	Yes	The site provided suitable habitat and presence of this Priority Species assumed. Potentially impacted by proposed development.
Water shrew	Sub-Parish	Yes	The site provided suitable habitat and presence of this Priority Species assumed. Potentially impacted by proposed development.

3 Assessment of ecological effects

3.1 The proposed development

Development description

3.1.1 The proposed development comprises the construction of up to 75 dwellings including surface water drainage works, strategic landscaping, internal access roads and pedestrian footway; refer to Figure 2.

Ecological design and avoidance measures

3.1.2 The proposed development would incorporate an integrated landscape and ecological design, including the creation of new wildlife habitats within the site. Refer to the illustrative landscape plan (Figure 4) and Ecological Constraints and Opportunities Plan (Figure 5) for further information on the proposed ecological design and avoidance measures. The design would include the following features:

- Retention of the majority of existing trees;
- New landscape planting within the residential development site including native scrub planting, wildflower meadow seeding and scattered native tree planting;
- Creation of native species-rich hedgerows to mitigate unavoidable hedgerow loss;
- Wetland meadow seeding and marginal vegetation planting around a network of swales;
- Public and perimeter open space including a village green / orchard and 'green corridors'; and
- Provision of bird and bat boxes within the fabric of new buildings and on retained trees at a minimum ratio of one box per two dwellings.

3.1.3 A Construction and Ecological Management Plan (CEcoMP) would be produced to detail measures to ensure habitat and species protection during construction. A Landscape and Ecological Management Plan (LEMP) would be produced to detail how retained and proposed habitats will be managed in the long-term. Both of these documents would be agreed with North Somerset Council prior to the start of construction.

3.2 Unmitigated effects during construction

Designated sites of nature conservation importance

3.2.1 The wintering bird assessment (refer to Appendix 6) recorded no waterfowl species listed on the citation for the Seven Estuary SPA and concluded it was unlikely that the site would be used by significant populations of birds from the Seven Estuary on a regular basis. It is therefore considered unlikely that bird populations associated with these European sites would be affected by construction activities, and therefore no Likely Significant Effect is predicted.

3.2.2 Although unlikely, there is a risk that pollution entering the ditch network during construction, for example as a result of an accidental fuel spillage or sediment-laden run-off, could spread beyond the site boundary along the ditch network linked to the site, and affect the water quality of the Severn Estuary SAC/SPA/Ramsar (approximately 1.5km north of the site). However, given the distance from the site and the likely dilution of any pollutant entering the ditch network, it is considered unlikely that such an incident would affect the conservation objectives of the Severn Estuary Sites. Furthermore, standard pollution control measures during construction would ensure that such effects did not occur; refer to Paragraph 4.1.3. Overall, therefore, it is concluded

that there would be no likely significant effect on the Severn Estuary European Sites during construction.

3.2.3 No impacts on other statutory and non-statutory designated sites are foreseen during the construction phase of the development.

Habitats on the site

3.2.4 Construction would result in the removal of the following (all measurements are approximate):

- Amenity grassland (0.02ha);
- Hardstanding (0.13ha);
- Improved /Poor semi-improved grassland (4.36ha);
- Scattered broadleaved trees and scrub;
- Species-poor/defunct hedgerow (520 linear metres); and
- Tall ruderal (0.28ha).

3.2.5 The loss of the above habitats would be mitigated in the medium to long-term through the implementation of the proposed landscape strategy; refer to Figure 4 and Paragraph 3.1.2.

3.2.6 Construction could lead to direct effects on retained hedgerows and other vegetation, for example through disturbance from construction lighting, vehicular damage or accidental removal. There is also a risk that pollution arising from construction could affect the water quality of retained wet ditch habitats.

Habitats adjacent to the site

3.2.7 In the absence of mitigation, accidental pollution of on-site ditches could lead to direct effects on the water quality of the wider ditch network, and dust produced by construction activities could affect adjacent trees and hedgerows.

Protected and notable species

Plants

3.2.8 No significant impacts are predicted.

Invertebrates

3.2.9 Site clearance would result in the loss of habitat for common and widespread invertebrates although alternative habitat occurs in the vicinity. This would be mitigated in the medium to long-term by the implementation of the landscape and drainage proposals.

Amphibians

3.2.10 Site clearance could result in the killing and injuring of common toads and removal of terrestrial habitat. Mitigation measures are proposed to ensure animal welfare; refer to Paragraph 4.1.4.

Reptiles

3.2.11 Site clearance could result in the killing and/or injury of grass snake, and the removal of grassland margins and hedgerow sections would reduce the amount of suitable habitat for reptiles. Mitigation measures would be implemented to ensure legal compliance; refer to Paragraph 4.1.4.

Birds

3.2.12 Depending on the timing of site clearance it could have a direct effect on nesting birds, their eggs and young. Mitigation measures are proposed to ensure legal compliance; refer to Paragraphs 4.1.5 - 4.1.6. Habitat clearance, particularly hedgerow and tree / scrub removal, would result in the loss of nesting and foraging habitat used by a range of common / widespread species. This would be mitigated by new habitat creation in the medium-term onwards.

Badger

3.2.13 The development footprint would be more than 20m from the outlier sett on the western boundary of the site, and therefore there would be no impacts on this sett. No other works are proposed within 20m of badger setts.

3.2.14 Site clearance would result in the loss of habitat used by foraging and travelling badgers. Construction could also result in death/injury to individual badgers (e.g. through badgers becoming trapped in excavations). Mitigation measures would be implemented to ensure legal compliance and protect the welfare of any affected animals; refer to Paragraphs 4.1.8- 4.1.9.

Bats

3.2.15 Site clearance would result in the loss of grassland pasture and hedgerows within the site. The loss of species-poor/defunct hedgerow would be unlikely to significantly affect bats in the long-term; surveys recorded low levels of activity in the areas of hedgerow removal, and new habitat creation, including a net increase in native hedgerow (refer to Paragraph 3.3.4) and the maintenance of green corridors though the site, would ensure that the site would remain suitable for commuting/foraging bats. The loss of grassland would decrease habitat for night-flying invertebrates, thereby reducing the value of the site for foraging bats. This would be mitigated in the medium-term onwards through habitat creation measures.

3.2.16 No trees with bat roost potential would be removed; therefore, no direct impacts on a bat roost are predicted.

3.2.17 Construction lighting has the potential to disrupt commuting and foraging activity for bats using retained and adjacent habitats, particularly light-sensitive species such as greater horseshoe and *Myotis* species. Best practice measures are proposed to minimise negative effects; refer to Paragraph 4.1.10.

Otter

3.2.18 Construction effects on otter are considered unlikely; refer to Paragraph 4.1.13 for proposed mitigation. Best practice measures to protect retained and adjacent habitats during construction (refer to Paragraph 4.1.3) would ensure that suitable habitat for otter (i.e. the ditches) would not be negatively affected.

Hedgehog and water shrew

3.2.19 Removal of habitats within the site would reduce the area of habitat for water shrew and hedgehog, although the hedgerows and ditches would predominantly be retained and there is alternative habitat in the vicinity. Effects on hedgehog would be mitigated by new habitat creation proposals. There is also the potential that individual hedgehogs could be killed or injured during site clearance; measures are proposed to protect animal welfare; refer to Paragraph 4.1.14.

3.3 Post-construction effects

Designated sites of nature conservation importance

Severn Estuary SAC/SPA/Ramsar Site

3.3.1 Consultation was undertaken with Natural England in March 2019 to establish the risk of negative effects on European designated sites; the Natural England consultation response is provided in Appendix 14. In accordance with their advice, it is considered that there is the potential that the Severn Estuary European Sites could be affected by the proposed development as a result of changes in water quality and potential recreational impacts. These are considered further below:

- *Changes in water quality:* There is the potential that surface water runoff from the proposed development could release urban pollutants into the surrounding ditch network, which could theoretically affect the quantity or quality of water entering the Severn Estuary, downstream of the site. The proposed drainage strategy for the site is set out in a separate flood risk assessment (FRA) submitted with the application (Vectos, 2019). This confirms that a SuDS drainage scheme would be implemented for the development, comprising a number of measures including a network of swales. This would ensure that 'greenfield' runoff from the development would be achieved, and that the SuDS components would have a 'pollution index' that would exceed the 'pollution hazard index' for the development; i.e. that pollution risk would be fully mitigated. Accordingly, it is considered that there would be no risk to water quality within the Severn Estuary as a result of the proposed development, and hence there would be no likely significant effect on the European sites.
- *Increased recreational pressure:* There is the potential that new residents from the development could increase recreational pressure on the Severn Estuary. This could occur, for example, as a result of increased dog walkers along footpaths adjoining the estuary, resulting in disturbance to qualifying waterfowl species or damage to SAC features. As the number of residents within the development would be relatively small, it is considered unlikely that such effects would be significant for the proposed development in isolation. However, there is a risk that the development could result in an 'in-combination' effect with other plans or projects. This is in accordance with the Habitats Regulations Assessment (HRA) of the emerging West of England Joint Spatial Plan (JSP, 2018), which confirms that, without mitigation, there would be a likely significant effect on the Severn Estuary for residential development identified within the JSP, which includes development in Weston-super-Mare. Accordingly, the proposed development would be required to provide (or contribute towards) mitigation to ensure that such effects were avoided.

Other designated sites

3.3.2 No effects on other designated sites are predicted. As discussed in Paragraph 2.1.1, the site lies outside of the area identified as a 'Bat Consultation Zone' (BCZ) in respect of North Somerset and Mendip Bats SAC. Although greater and lesser horseshoe bats were recorded using the site, the distance from the SAC (5.7km) indicates that it is unlikely that these would be part of the core designated population. Accordingly, no likely significant effect on the SAC is predicted. Nonetheless, the development would incorporate measures to reduce potential impacts to these and other bat species; refer to Paragraph 4.2.6. The application site is also considered too distant from Mendip Limestone Grasslands SAC to affect this site, and no likely significant effect in respect of this site is predicted.

3.3.3 No mechanisms or pathways have been identified likely to affect other statutory or non-statutory designated sites.

Habitats on the site

3.3.4 Landscape and ecological proposals are summarised out in Paragraph 3.1.2. Net habitat changes are described in Table 3.1. Habitat loss would comprise predominantly habitats of low ecological importance (i.e. hardstanding and improved grassland); hedgerow loss would be mitigated through new hedgerow creation, and new wildflower meadow and native shrub planting would enhance the biodiversity value of the site as these habitats established.

Table 3.1: Biodiversity budget

Habitat	Importance	Habitat loss	Habitat Gain	Balance
Hardstanding	Sub-Parish	0.13ha	2.60ha (hardstanding buildings and residential garden)	+2.47ha
Improved / poor semi improved grassland	Sub-Parish	4.36ha	Nil	-4.36ha
Wildflower meadow	Parish	Nil	1.16ha (Emorsgate EM2 mix)	+1.16ha
Native shrub planting	Parish	Nil	0.19ha (mixed native shrub planting)	+0.19ha
Orchard	Parish	Nil	0.03ha	+0.03ha
Species-rich hedgerow	Parish	Nil	1430 lin.m (native hedgerow)	+1430 lin.m
Species-poor hedgerow	Parish	520 lin.m	400 lin.m (Pollarded willow)	-120 lin.m
Suitable urban drainage system (SuDS)	Sub-Parish	Nil	0.34ha	+0.34ha
Tall ruderal	Sub-Parish	0.28ha	Nil	-0.28ha

3.3.5 Without mitigation, hedgerows that back directly on to rear gardens could be adversely affected through interference / inappropriate management from householders.

Habitats adjacent to the site

3.3.6 No significant effects on adjacent habitats are predicted.

Protected and notable species

Plants

3.3.7 No significant negative impacts are predicted. New landscape planting, including new wildflower meadow, native shrub and hedgerow planting would increase botanical diversity on the site.

Invertebrates

3.3.8 No significant negative impacts are predicted. New habitats and residential gardens within the site, including wildflower meadow and species-rich hedgerow would be suitable for a range of common / widespread invertebrate species.

Amphibians

3.3.9 No significant negative impacts are predicted. Residential gardens and new hedgerows would provide terrestrial habitat for amphibians, and the swales would provide breeding habitat.

Reptiles

3.3.10 No significant negative impacts are predicted. Residential gardens and new landscape planting would provide suitable habitat for reptiles.

Birds

3.3.11 New tree and hedgerow planting would result in an increase in habitat available for nesting birds, including dunnock, and nesting boxes would benefit a range of species, including species of conservation concern / Priority Species such as house sparrow and swift. Residential gardens would also be likely to provide suitable foraging and nesting habitat as they became established.

3.3.12 It would be expected that a proportion of residents within the new development would own cats, and therefore local bird populations may also be adversely affected by increased predation. However, it would be expected that a proportion of residents within the development area will provide supplementary feeding for birds, which is likely to help winter survival rates within the local population of some species and has been shown to improve breeding success in the following spring (Robb et al., 2008). There is likely to be a change of species composition from an 'agricultural' species assemblage to a more 'urban' species assemblage.

Badger

3.3.13 As they matured, proposed habitat creation measures would offset habitat loss associated with site clearance. It is considered possible that there may be an increased risk of badger collision/fatalities due to the presence of a new road and increased traffic; however, vehicles would be moving slowly within the site and this impact is considered unlikely.

Bats

3.3.14 Lighting from the development may reduce the value of the habitats around the new development for foraging and commuting bats, although 'light-tolerant' species such as common pipistrelle are likely to continue to forage throughout the site post-construction and a central 'dark corridor' would allow more light-sensitive species to move across the site. Residential gardens and the creation of new hedgerows, swale network, shrubs and trees would provide foraging habitat for widespread bat species as they matured. Overall, due to the moderate level of bat species diversity and activity, it is considered unlikely that effects of development lighting would be significant; measures are nonetheless proposed to minimise lighting effects on bats and other species; refer to paragraphs 4.2.6 - 4.2.7.

Otter

3.3.15 The presence of new roads within the site is unlikely to result in a significant increase in the risk of otter mortality, for the same reasons provided for badger (refer to Paragraph 3.3.13). As this species is considered likely to occur within the site on an occasional / infrequent basis, other significant impacts are considered unlikely.

Hedgehog

3.3.16 Hedgehogs are likely to use gardens and newly created habitats within the site for foraging and shelter. However, without mitigation, close-board fences are likely to impede the movement of hedgehogs between gardens. The presence of roads within the site is considered unlikely to result

in a significant increase in hedgehog mortality as the site already has roads in close proximity and the new roads would be subject to low traffic volumes, travelling at low speeds.

4 Avoidance, mitigation, compensation and enhancement

4.1 Avoidance, mitigation, compensation and enhancement during construction

Designated sites of nature conservation importance

4.1.1 Pollution prevention measures outlined in Paragraph 4.1.3 would ensure that there was no risk of potential construction effects on the water quality affecting the Severn Estuary SAC/SPA/Ramsar Site. No specific mitigation measures for designated sites are considered necessary during the construction phase.

Habitats within and adjacent to the site

4.1.2 Retained hedgerows and trees would be protected from potential damage during construction through the use of temporary barriers (e.g. Heras fencing). Construction would be undertaken in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction'. No lighting would be left on during the night during the construction period. Any security lighting would be low-level and motion activated on short-timers. All contractors' compounds would be located away from hedgerows, ditches and trees to minimise potential lighting, disturbance and dust impacts.

4.1.3 Construction would be undertaken following industry best practice to minimise the risk of pollution or run-off affecting retained habitats within and adjacent to the site, including the ditches. This would include full adherence to Defra pollution prevention guidance (https://www.gov.uk/guidance/pollution-prevention-for-businesses). Measures to control pollution and run-off would be specified within a Construction Environmental Management Plan (CEMP) for the site; all habitat protection measures would be detailed in the CEcoMP (refer to Paragraph 3.1.3), which would be appended to the CEMP.

Protected and notable species

Reptiles and amphibians

4.1.4 Habitat manipulation of the grassland would be undertaken prior to works to encourage any grass snake and amphibians present to move out of the working area into adjacent retained habitats; this would involve two-stage cutting between April and early October. The vegetation would first be cut to 150mm and then left for a week to allow individuals to move into adjacent habitat. Grassland would then be cut to ground level to discourage individuals from re-entering the site. Topsoil would subsequently be stripped from the site after a further week, rendering it unsuitable for reptiles or amphibians. An ecologist would undertake a watching brief during the second cut and topsoil strip to search for any reptiles or amphibians present. An ecologist would also supervise removal of the hedgebank. Any individuals found would be relocated to suitable adjacent habitat e.g. grassland / hedgerows outside of the development footprint.

Birds

4.1.5 Hedgerow clearance would be undertaken outside of the main bird-breeding season (i.e. between October and February) to ensure that there were no effects to nesting birds. If any site clearance was required during the bird nesting season, an ecologist would first check the habitat for active nests. If any were found, the nest and its immediate surroundings would be left undisturbed until the eggs had hatched and young had fledged.

4.1.6 Hedgerow protection fencing would be installed to ensure that hedgerows adjacent to the construction area were protected from disturbance and transgression of machinery and vehicles during construction (refer to Paragraph 4.1.1 above).

4.1.7 A minimum of 20 Schwegler type 1A swift boxes (or similar) would be incorporated into the new buildings at a height of at least 4m. The boxes would avoid south facing aspects and would be located at the highest point of the wall below the eaves; exact locations would be determined by an ecologist and detailed in the CEcoMP.

Badger

4.1.8 A pre-construction survey of the development site and surrounding area would be undertaken to confirm that no new setts had established that could be affected by the development. The retained badger sett on the western site boundary would be protected from disturbance and transgression of machinery and vehicles during construction through installation of fencing to create a 20m buffer zone around the sett.

4.1.9 To ensure no negative effects on any badger entering the site during construction, excavations and piping (>200mm in diameter) would be fenced/capped overnight to deter badgers from entering. Excavations that could not be covered would have a means of escape for any animals that may fall in (e.g. sloping sides/ramps a maximum of 1:2 gradients). Fuel, oil and chemicals would only be stored in secure sites within the construction compound and no fires would be lit.

Bats

4.1.10 All contractors' compounds would be located away from hedgerows and trees to minimise potential lighting and disturbance impacts. No lighting would be left on during the night during the construction period. Any security lighting would be positioned at low-height and motion activated on short-timers. The retained hedgerows would be maintained as corridors and would remain suitable for use by foraging and commuting bats.

4.1.11 Although no direct impacts to trees suitable for roosting bats are predicted, this would be reviewed once detailed development proposals were confirmed. In the event that such trees would be affected, these would be subject to further survey to confirm the status of any roost. If present, works affecting the tree(s) would be subject to a Natural England Mitigation Licence, once full planning consent was received. Any additional required mitigation measures (e.g. provision of replacement roost features) would be specified in the Licence Method Statement.

4.1.12 To enhance roost availability for crevice roosting species within the site, a minimum of 20 2FR Schwegler bat tubes (or similar approved) would be installed on the gable walls of new residential units, avoiding north-facing locations. These boxes would not require maintenance and would provide permanent roosting habitat for crevice dwelling bat species. Exact locations would be specified by the ecologist and detailed in the CEcoMP.

Otter

4.1.13 Prior to construction, an update otter survey of the site would be undertaken to ensure no otter holts/couches were present within or in close proximity to the working area. Should a holt/couch be found, any work likely to cause disturbance or damage would be covered by a Natural England Otter Mitigation Licence.

Hedgehog

4.1.14 To ensure that hedgehogs were not killed or injured during construction, hedgerow clearance would be preceded by a search for sheltering hedgehogs by an experienced ecologist. Any sheltering hedgehogs would be relocated to retained hedgerow outside the development area.

4.2 Avoidance, mitigation, compensation and enhancement post-construction

Designated sites of nature conservation importance

4.2.1 In accordance with Natural England advice (refer to Appendix 14), the development would provide mitigation to ensure that there would be no in-combination recreational effects on the Severn Estuary European Sites. Currently, a West of England Green Infrastructure Plan (GIP) is in preparation that will provide strategic mitigation for development across the region; if required, the proposed development would provide an appropriate financial contribution towards the delivery of the GIP. In the event that the GIP was not in place prior to commencement of the development, Natural England has confirmed that mitigation could be provided through a contribution to off-site green infrastructure provision. Contact with the North Somerset Green Spaces Officer has been made, who has indicated that suitable projects within the District, towards which the development could contribute, would be available. Additional consultation with North Somerset Council and Natural England is proposed to ensure that the required measures would be implemented prior to the commencement of the development. Accordingly, it can be concluded that the development could be progressed with no risk to the integrity of the Severn Estuary European Sites, alone or in-combination with other plans or projects.

4.2.2 In accordance with Paragraph 3.3.1, the provision of a SuDS drainage strategy within the development would ensure that no water quality effects on the Severn Estuary would occur. Therefore, no specific mitigation measures would be required.

Habitats on the site

4.2.3 Habitat management would be included in the LEMP to ensure appropriate long-term management and monitoring of new and retained habitats within the development. The LEMP would cover the first ten-year post-construction phase, after which time it would be reviewed for the next ten-year period and agreed with North Somerset Council.

4.2.4 Post and wire mesh fencing would be proposed for residential gardens where these abut new and retained hedgerows. These would allow protection of the hedgerow and also light to penetrate to maintain hedgerow flora. This requirement would be set out in the CEcoMP and identified for retention in the LEMP.

Habitats adjacent to the site

4.2.5 In accordance with Paragraph 3.3.1, the provision of a SuDS drainage strategy within the development would ensure that water quality in the surrounding ditch network would be protected. Therefore, no specific mitigation measures would be required.

Protected and notable species

Bats

4.2.6 The lighting design for the development would ensure that lighting impacts to bats were minimised. The detailed design of public-realm lighting would ensure that the green corridors through the site remain unlit. Lighting would be designed to direct light to discrete areas appropriate for the task and prevent spill on to adjacent habitats. Lighting along roads and

footpaths would be kept to the minimum required for security and public health and safety. The lighting design would consider the following characteristics.

- Narrow Spectrum lights with no UV content; e.g. warm white LED.
- Variable lighting regimes (motion sensors or part night lighting) in areas close to hedgerows and trees.
- Directional downlights - illuminating below the horizontal plane.
- Reducing the height of light units (whilst ensuring light does not spill above the vertical plane).
- Use of use of fore/rear shields to restrict light direction.
- Avoidance of upward light (e.g. ground mounted floodlights up-lighting trees, buildings and vegetation).

4.2.7 Lighting proposals would be subject to review by an ecologist and any lighting along adopted highways would be subject to agreement with North Somerset Council.

Hedgehog

4.2.8 Hedgehog passes would be created within new garden fences to allow hedgehogs to move around the site post-development. Each gap would have a minimum dimension of 13cm x 13cm and would be cut out of a gravel board on the bottom of the fence, or a similar sized gap left at the end of a board. One hedgehog pass would be created in each boundary fence and specified in the hard landscape designs.

4.3 Mechanisms for mitigation delivery

4.3.1 Preparation and implementation of the proposed CEcoMP and LEMP could be secured via a planning condition. These documents would also detail responsibilities for the delivery of the construction and post-construction mitigation and management measures.

5 Residual effects

5.1 Summary of residual effects

5.1.1 Table 5.1 below provides a summary of the ecological assessment and identifies the residual ecological effects arising from the proposed development.

Designated sites of nature conservation importance

5.1.2 No negative effects are predicted. There would be no Likely Significant Effect on any European designated site. Implementation of standard measures during construction to control pollution risk, specified in the CEMP and CEcoMP, would ensure that effects on Severn Estuary sites are avoided.

5.1.3 Implementation of strategic / off-site measures would ensure that there would be no effect on the integrity of the Severn Estuary SAC/SPA/Ramsar Site as a result of recreational impacts, alone or in-combination with other plans or projects. No likely significant effect is predicted on the Severn Estuary or other European designated sites through other impact pathways.

Habitats

5.1.4 Loss of habitats from the construction phase would be mitigated in the long-term by the new habitat creation. Implementation of a LEMP would ensure effective long-term management of these habitats. Overall, it is considered there would be a positive long-term residual effect on habitats at Sub-Parish level.

Species

5.1.5 Direct effects on amphibians, reptiles, birds, badger and hedgehog would be avoided through species-specific mitigation including appropriate timing of habitat clearance and ecological supervision. Measures to avoid light-spill during the construction phase would minimise potential effects on bats, and habitat protection measures would prevent potential effects on reptiles and otter. Construction ecological mitigation measures would be specified in the CEcoMP.

5.1.6 All residual negative construction effects are considered to be at Sub-Parish level or below and are therefore not significant. Mitigation measures would be provided for all potential direct effects on protected species, which would ensure legal compliance.

5.1.7 No significant residual effects are predicted. Creation and management of new hedgerow habitat would create habitat for a range of species; provision of bird and bat boxes would increase nesting/roosting habitat for nesting birds and roosting bats.

5.2 Cumulative effects

5.2.1 There would be no significant negative residual effects on protected/notable species, and a long-term positive effect on habitats is predicted as a result of this development. Therefore, no negative cumulative effects would occur.

5.3 Conclusion

5.3.1 No long-term significant residual effects are predicted. There would no effect on the integrity of European-designated site as a result of the development, and no effects on other designated sites are predicted. No significant negative residual effects to protected or notable species would occur,

and there would be a long-term positive effect on habitats. Mitigation measures during construction would ensure legal compliance in respect of protected species.

5.3.2 Overall, it is considered that the development would protect, maintain and enhance the biodiversity within the site in accordance with policies concerning the conservation of biodiversity in the National Planning Policy Framework (2019), North Somerset Core Strategy and the North Somerset Sites and Policies Plan. If North Somerset Council considered that Habitats Regulations Assessment of the development was required, it could conclude that there would be no effect on the integrity of the Severn Estuary SAC/SPA/Ramsar Site, and no likely significant effect on other European designated sites, alone and in-combination with other plans or projects.

Table 5.1: Summary of ecological assessment

Ecological feature	Potential unmitigated impact	Avoidance, mitigation, compensation and enhancement	Residual effect
Designated sites of nature conservation importance			
Severn Estuary SAC/SPA/Ramsar Site	No effects during construction.	N/A	No likely significant effect. Neutral; not significant.
	Potential effects of increased recreational pressure.	A financial contribution towards West of England GIP or to off-site green infrastructure provision.	No effect on site integrity. Neutral; not significant.
North Somerset & Mendip Bats SAC Mendip Limestone Grasslands SAC	No impacts predicted.	N/A	No likely significant effect. Neutral; not significant.
All Other designated sites.	No effects predicted.	N/A	Neutral; not significant.
Habitats			
Amenity, improved and poor semi-improved grassland, tall ruderal and species-poor hedgerows.	Permanent removal through site clearance of 4.36ha grassland, 0.28ha tall ruderal and 520 linear metres of species-poor/defunct hedgerow.	New habitat creation, including 1430 linear metres of species-rich hedgerow, 1.16ha of wildflower meadow.	Negative, short-term effect significant at Parish level. Positive effect at Sub-Parish level in the long term.
	Potential damage / interference to hedgerows where these back on to dwellings.	Protective mesh fencing where hedgerows back on to dwellings to deter interference from householders.	
Hedgerows, trees and ditches.	Accidental damage and pollution during construction.	Protection of retained trees and hedgerows in accordance with BS5837:2012. Implementation of pollution control measures.	Neutral; not significant.
Protected and notable species			
Plants	No effects predicted.	New landscape planting will increase botanical diversity.	Neutral; not significant.

Invertebrates	No effects on notable invertebrates predicted.	New habitats and residential gardens would provide habitat for common / widespread invertebrate species.	Neutral; not significant.
Amphibians and reptiles	Possible direct effects during site clearance. Loss of terrestrial habitat.	Ecological supervision during site clearance. Loss of terrestrial habitat mitigated by habitat creation and management, including creation of breeding habitat.	Negative, short-term effect at Sub-Parish level; not significant. Neutral effect in the medium-term onwards.
Birds	Killing, injury and disturbance of nesting birds.	Site clearance undertaken outside of nesting season or subject to pre-clearance check for nesting birds by ecologist.	Negative, short-term effect at Sub-Parish level; not significant. Neutral effect in the medium-term onwards; not significant.
	Loss of habitat.	Loss of habitat would be mitigated by habitat creation and provision of bird boxes.	
Badger	Potential accidental damage to outlier sett and loss of foraging habitat during construction.	Pre-construction survey. Protective fencing 20m around sett, and best practice measures during construction, including capping of excavations. New habitat creation.	Neutral; not significant.
Bats	Habitat loss	Protection of retained habitats during construction. New habitat creation and provision of bat boxes.	Negative, short-term effect at Sub-Parish level; not significant. Neutral in medium-term onwards; not significant.
	Impacts of construction / development lighting	No permanent construction lighting; any security lighting would be low-level and motion activated on short-timers. Development layout would ensure that dark habitat corridors were maintained through the site.	
Otter	No effects predicted.	Habitat protection measures would protect otter habitat (i.e. the ditches).	Neutral; not significant.

Hedgehog	Possible direct effects during construction and loss of habitat.	A search for hedgehogs would be undertaken as part of site clearance. Loss of the habitat would be mitigated by the proposed habitat creation within the site. Hedgehog passes to be provided in new garden fences.	Neutral; not significant.

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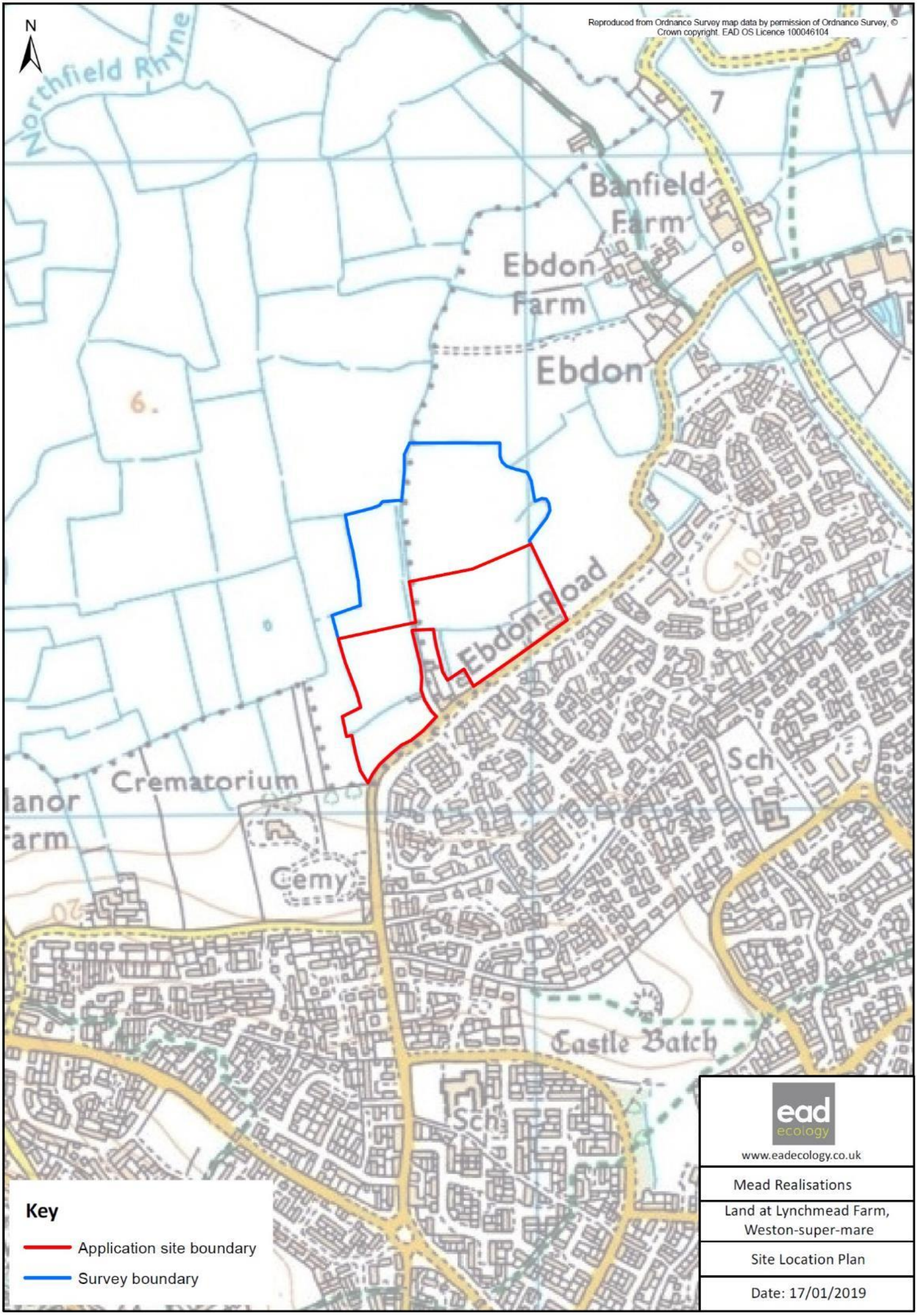
Figure 1: Site location plan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Northfield Rhyne
Banfield Farm
Ebdon Farm
Ebdon
Ebdon Road
Crematorium
Cemy
Castle Batch
Sch
Key
Application site boundary
Survey boundary
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Land at Lynchmead Farm, Weston-super-mare
Site Location Plan
Date: 17/01/2019

Figure 2: Illustrative masterplan

Existing Agricultural Pasture Land

Existing Drainage Gulleys

Ebdon

4.99ha

The Ebdon Arms & Local Centre

Existing Industrial Units

Wheatfield Drive

Ebdon Road

The Cornfields

To Worle

Weston-super-Mare Crematorium

Legend

- Application boundary - 4.99ha
- Primary road network
- Secondary road network
- Proposed bridge/ access
- Proposed site entrance
- Area also under client
- Proposed pedestrian routes
- Existing trees retained
- Proposed trees
- Area of proposed highway upgrades - For detailed proposals refer Vectos transport plans that accompany this application

Landscape Intervention

- A Village green/Wetland Meadow
- B Integrated Swale systems (Sustainable Urban Drainage)
- C Vehicular free green corridor
- D Areas of designated woodland/ecological buffering
- E Proposed area of attenuation
- F Green infrastructure connection

Net Developable Area

Net Developable Area - 2.91ha

Public Open Space - 2.09ha

Density	No.
25.7dph	75

N 0m 100m

Lynchmead Farm, Weston-Super-Mare — D
Illustrative Masterplan — DH/DE
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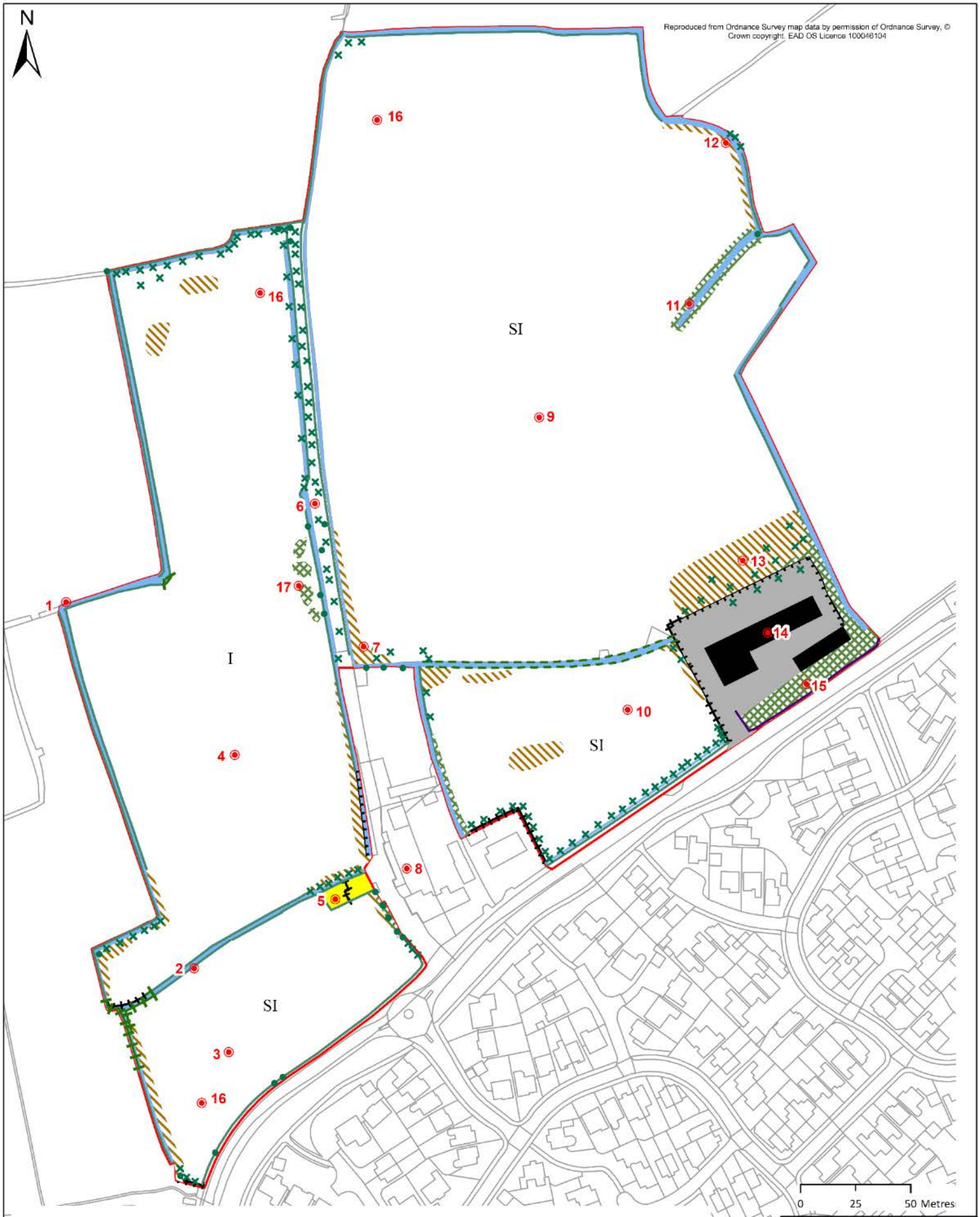
Drawing Status PLANNING

Figure 3: Phase 1 Habitat plan and target notes



Key

- Amenity grassland
- Building
- Dense scrub
- Fence
- Hardstanding
- I — Improved grassland
- SI — Poor semi-improved grassland
- Scattered broadleaved trees
- Scattered scrub
- Species-poor hedgerow
- Species-poor hedgerow (defunct)
- Species-poor hedgerow with trees
- Survey boundary
- Tall ruderal
- Target note
- Wall
- Wet ditch

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Land at Lynchmead Farm, Weston-super-mare

Phase 1 Habitat Plan

Date: 25/03/2020

Target notes	
1	Species-poor hedgerow comprising hawthorn, blackthorn, willow and bramble; flailed to 2-3m height. Narrow wet ditch at base of hedgerow, approximately 1m wide with no associated vegetation. 
2	Wet ditch with species-poor hedgerow either side; heavily shaded with overhanging trees and shrubs; little associated aquatic vegetation. 

3	Poor semi-improved grassland pasture field with old drains indicating previous use as a water meadow. Sward approximately 10-20cm height, and dominated by cocksfoot, perennial rye-grass and Yorkshire fog, with creeping buttercup, broadleaved dock, lesser celandine, creeping bent and common nettle. 
4	Improved grassland with short sward (10cm) and tall ruderal growth in areas. Species comprised perennial rye-grass, Yorkshire fog, cocksfoot, common ragwort, daisy, creeping buttercup, common mouse-ear and common nettle. 
5	Small garden area associated with adjacent farm house.

6	Green lane bordered on both sides by species-poor hedgerow and wet ditch. 
7	Area of mature trees, including willow and ash, with bales of hay. 

8	Several residential properties and associated gardens immediately adjacent to survey boundary. 
9	Large field of sheep-grazed poor semi-improved grassland pasture. 
10	Poor semi-improved grassland pasture field. Sward approximately 10-20cm height, and dominated by cocksfoot, perennial rye-grass and Yorkshire fog, with creeping buttercup, broadleaved dock, lesser celandine, creeping bent and common nettle.

11	Wet ditch approximately 1m wide with recently flailed dense scrub on either side. 
12	Wet ditch approximately 4m wide with common reed and floating sweet-grass 

13	Earth bank with tall ruderal vegetation domainer by common nettle and scattered bramble scrub 
14	Small industrial site with concrete block and render industrial units and corrugated sheet roof. 

15	Bank with dense hawthorn growth. 

16	Large piles of brash. 

17	Emergent willow saplings and bramble. 

Figure 4: Landscape strategy plan

Key

- Site boundary
- Views to wider landscape
- Existing trees retained
- Existing hedge retained
- Existing rhyne

Proposed

- Native trees
- Semi-ornamental trees
- Native hedge planting
- Willows regularly pollarded
- Mixed native shrub planting
- Community orchard
- Wildflower meadow selectively mown to provide more formal areas of grass
- Pedestrian routes
- Integrated swale systems (Sustainable Urban Drainage)

Lynchmead Farm
Weston-super-Mare

Illustrative Landscape Masterplan L5

Scale : As shown

0 50 100m

N

Drawn :	PF	Checked :	NE
Dwg No :	2714/05	Revision :	A
Date :	02/03/2020		

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LYNCHMEAD FARM:INDICATIVE SPECIES LIST

TREES

Juglans regia: English walnut

Salix fragilis: Crack willow

Prunus avium: Wild cherry

Prunus padus: Bird cherry

Quercus robur: Engish oak

SHRUBS for domestic curtilages

Amelanchier canadensis - Amelanchier

Berberis thunbergii - Japanese barberry

Ceanothus thyrsiflorus 'Repens' - Creeping blue blossom

Cornus alba 'Elegantissima' - Dogwood

Cornus stolonifera 'Flaviramea' - Dogwood

Cornus stolonifera 'Kelseyi' - Dogwood

Cotoneaster dammeri - Bearberry cotoneaster

Euonymus europaeus - Spindle

Hebe 'Midsummer Beauty' - Shrubby Veronica

Hebe pinguifolia - Shrubby Veronica

Hydrangea quercifolia - Oak-leaved hydrangea

Lavandula angustifolia 'Hidcote' - English lavender

Lonicera pileata - Box-leaved honeysuckle

Olearia macrodonta - New Zealand holly

Potentilla fruticosa - Shrubby cinquefoil

Pyracantha 'Orange Glow' - Firethorn

Ribes sanguineum - Flowering currant

Rosa rugosa 'Alba' - White Japanese Rose

Rosmarinus officinalis - Rosemary

Symphoricarpos x chenaultii 'Hancock' - Snowberry

Viburnum lantana - Common wayfaring tree

Viburnum opulus - Guelder rose








NATIVE HEDGEROW and NATIVE SHRUBS

Trees

Acer campestre – Field maple

Malus sylvestris – Crab apple

Quercus robur - English oak

Shrubs

Acer campestre – Field maple

Corylus avellana - Hazel

Crataegus monogyna - Hawthorn

Ilex aquifolium - Holly

Prunus spinosa - Blackthorn

Rosa canina - Dog rose

Sambucus nigra - Elder

Viburnum lantana - Common wayfaring tree

Viburnum opulus - Guelder rose

WILD FLOWER MEADOW

Emorsgate seed mix EM2 - standard general purpose meadow mixture or similar.

ORCHARD

Malus domestica: Apple

Prunus domestica: Plum

Prunus domestical institia: Damson

Pyrus communis: Pear

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L7 rev A

Figure 5: Ecological constraints and opportunities plan


N
Key
Feature lost - potential adverse effect
Feature retained / protected - potential neutral effect
New feature - potential beneficial effect
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New native shrub, hedgerow, tree and wildflower planting. This will provide suitable habitat for a range of species including invertebrates, birds, reptiles and amphibians.
New boundary
A minimum of 20 bat and 20 bird boxes incorporated within the fabric of new buildings. Average of one box per two residential units.
Retained hedgerows, vegetation and mature trees would be protected from disturbance during construction through the use of temporary barriers (e.g. Heras fencing).Work would be undertaken in accordance with BS5837.
New boundary
EBDON ROAD
Hedgehog passes created within new residential garden fences to allow movement post-development.
SuDS drainage feature to provide suitable habitat for reptiles and amphibians.
Site clearance (including hedgerow removal) would be preceded by a hand search of suitable habitats for amphibians, reptiles and hedgehog by an experienced ecologist. Any amphibians, reptiles or hedgehogs found would be captured and moved to suitable habitat adjacent to the site.
Nesting bird habitat (e.g. hedgerows) would be removed outside of the bird nesting season (i.e. removed between October and February) or subject to a pre-start check by an ecologist to ensure that no active nests were affected.
No lighting would be left on during the night during the construction period. Any security lighting would be positioned at low-height and motion activated on short-timers. The lighting design would ensure that dark corridors were maintained through the site.
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Land at Lynchmead Road, Weston-super-mare
Ecological Constraints and Opportunities Plan
Date: 01/04/2020

Appendix 1: Legislation and planning policy

Wildlife Legislation

Conservation of Habitats and Species Regulations 2017 (as amended)
These Regulations, also referred to as the 'Habitats Regulations', implement the EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC) and the EC Directive on the Conservation of Wild Birds (79/409/EEC). The Regulations provide for the designation and protection of 'European Sites' (Natura 2000 sites). They convey a statutory requirement for local planning authorities to undertake a 'Habitats Regulations Assessment' of the potential impacts of plans and projects, including development proposals, on European Sites. The provisions also include protection of 'European Protected Species' (EPS). Under the Regulations, local planning authorities have to consider three 'derogation tests' when deciding whether to grant permission for a development that affects an EPS, which are as follows:

- the development must be for over-riding public interest or for public health and safety;
- there are no satisfactory alternatives to the proposed development; and
- the favourable conservation status of the EPS concerned must be maintained.

Wildlife and Countryside Act 1981 (as amended)
This Act is the principal wildlife legislation in Great Britain. It includes provisions for important habitats to be designated and protected as Sites of Special Scientific Interest (SSSIs). Numerous plant and animal species, and the places that they use for shelter and protection, are also protected under the Act, including all birds, their nests and eggs.

Countryside and Rights of Way Act 2000
Referred to as the CROW Act, this legislation increases the protection of SSSIs and strengthens wildlife enforcement action. The Act also strengthens the protection of protected species under the Wildlife and Countryside Act 1981 (as amended) through the introduction of a new offence of 'reckless disturbance'.

Natural Environment and Rural Communities Act 2006
This Act places a duty on all public bodies and statutory undertakers to have due regard to the conservation of biodiversity in all their functions. It also requires the publication of a list of habitats and species of principal importance for the conservation of the biodiversity. This list, known as the Section 41 list, includes all Priority Habitats and Species of Principal Importance for the Conservation of Biodiversity in England.

Protection of Badgers Act 1992
This Act was introduced primarily for animal welfare reasons, as opposed to species conservation. It provides protection of badgers and their setts.

Hedgerow Regulations 1997 (as amended)
These Regulations include provisions for the protection of hedgerows and make it an offence to remove 'important' hedgerows without consent from the local planning authority. Where planning permission is granted for a development proposal, the removal of 'important' hedgerows is deemed to be permitted.

National Planning Policy

National Planning Policy Framework (2019)

The National Planning Policy Framework (NPPF) includes the Government's policy on the protection of biodiversity through the planning system. Planning policies and decisions should contribute to and enhance the local environment by minimising impacts on, and providing net gains in, biodiversity. Plans should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Paragraph 175 of the NPPF states: "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;*

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[1] 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.*

The Natural Environment section of the Planning Practice Guidance[2] provides additional guidance in respect of biodiversity within the planning system.

[1] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

[2] https://www.gov.uk/guidance/natural-environment (accessed July 2018)

Local Planning Policy

CS4

Living within environmental limits

CS4: Nature conservation

North Somerset contains outstanding wildlife habitats and species. These include limestone grasslands, traditional orchards, wetlands, rhynes, commons, hedgerows, ancient woodlands and the Severn Estuary. Key species include rare horseshoe bats, otters, wildfowl and wading birds, slow-worms and water voles.

The biodiversity of North Somerset will be maintained and enhanced by:

1) seeking to meet local and national Biodiversity Action Plan targets taking account of climate change and the need for habitats and species to adapt to it;
2) seeking to ensure that new development is designed to maximise benefits to biodiversity, incorporating, safeguarding and enhancing natural habitats and features and adding to them where possible, particularly networks of habitats. A net loss of biodiversity interest should be avoided, and a net gain achieved where possible;
3) seeking to protect, connect and enhance important habitats, particularly designated sites, ancient woodlands and veteran trees;
4) promoting the enhancement of existing and provision of new green infrastructure of value to wildlife;
5) promoting native tree planting and well targeted woodland creation, and encouraging retention of trees, with a view to enhancing biodiversity.

Background

3.55 Biodiversity is concerned with the rich variety of plant and animal species and fungi, within their various habitats. National guidance promotes the conservation and enhancement of biodiversity as an integral part of sustainable development.

3.56 North Somerset has a particularly rich biodiversity and variety of habitats. Species present include those which have undergone severe national declines, including many birds, bats, water voles, dormice, great crested newts and the brown hare. This rich variety of wildlife is a valuable resource that adds greatly to the identity of the area and quality of life.

3.57 Internationally Important European Sites or Natura 2000 sites include the Severn Estuary SSSI, a Ramsar site, Special Protection Area (SPA) and Special Area of Conservation (SAC), an outstanding area for its migratory and over-wintering birds. The other SACs are the North Somerset and Mendip Bats which supports rare greater and lesser horseshoe bats, the Mendip Limestone Grasslands and the Avon Gorge Woodlands.

3.58 Natura 2000 sites are statutorily protected under the Habitats Regulations. Habitats Regulation Assessment (HRA) is required to investigate whether projects or plans, alone or in combination, are likely to have a significant effect on Natura 2000 sites.

3.59 North Somerset also includes 39 Sites of Special Scientific Interest (SSSIs) of national importance, and two National Nature Reserves (Leigh Woods and part of the Gordano Valley).

3.60 205 sites in North Somerset have been designated as Wildlife Sites in the adopted Replacement Local Plan as important local areas for biodiversity, and there are 12 designated Local Nature Reserves such as at Uphill. It is important that habitats rich in species are not confined to reserves but that interconnected networks of such habitats exist throughout an area to allow dispersal and interbreeding between different populations.

3.61 The North Somerset Biodiversity Action Plan (BAP) 2005 highlights the value of a wide variety of wildlife habitats, including UK Biodiversity Action Plan (BAP) priority habitats. They include for example, coastal habitats, such as mudflats, sand dunes, saltmarsh, and maritime cliffs and slopes, and inland lakes. Other examples are the extensive network of watercourses, comprising rivers, streams, rhynes and ditches. These habitats support many types of mammals, amphibians, reptiles, birds, fish, invertebrates and plants.

CS4

3.62 Extensive woodland areas, of many different types, occur, such as ancient and more recent semi-natural woodland, wet woodland, veteran trees, and parkland. However semi-natural habitats (not subject to intensive agricultural practices so retaining a high diversity of species) comprise only 8% of the land area of North Somerset. The district also contains UK priority grassland habitats, including lowland calcareous grassland, lowland meadows and lowland dry acid grassland.

3.63 The traditional hedgerows, stone walls and the extensive network of rural road verges, with scrub and grassland habitats, function as wildlife corridors, as well as refuges for wildflowers, invertebrates, reptiles, amphibians, small mammals and birds. Hedgerows, areas of livestock grazing and features such as ponds, wetlands, scrub and woodland edges are all important to bats.

3.64 Old orchards and urban public and private open spaces, such as parks and urban gardens, are also important for biodiversity. Commons are also a valued resource, often comprising semi improved grassland which can be important for wildlife and recreation. Trees are very important for wildlife, providing food and shelter, nesting and roosting sites for birds and bats and habitats for invertebrates.

The Core Strategy approach

3.65 The policy reflects the importance of meeting regional biodiversity targets. It also emphasises the need to design development to maximise benefits to biodiversity, incorporating and enhancing natural habitats and features, particularly networks of habitats, which are very important as wildlife corridors. It stresses that development should not result in net loss of biodiversity interest, and promotes achievement of a net gain where possible.

3.66 The policy sets out the requirement to protect and enhance biodiversity in broad terms, although more detailed guidance will be provided within the Sites and Policies Development Plan Document.

3.67 The policy reflects the importance of strategies very relevant to biodiversity, including the emerging Green Infrastructure Strategy. Green infrastructure includes linear green space which can provide valuable wildlife corridors.

3.68 The policy reflects the importance of trees for biodiversity, and regard must be had to the Biodiversity and Trees SPD, which includes guidance for developers on planning for biodiversity; e.g. screening for the presence of biodiversity, undertaking tree and ecological surveys and planning to protect, retain and manage existing trees, habitats and species.

How and where the policy will be delivered

3.60 Policy CS4 recognises the importance of locations supporting priority habitats, and also networks of habitats, designated or not, ancient woodlands and veteran trees. The policy seeks to protect and enhance biodiversity as a whole but particularly at those valuable locations, and locations where development occurs. The policy is consistent with the aims of South West Nature Map – A Planner's Guide by Biodiversity South West (February 2007), which refers to Strategic Nature Areas that represent the best areas to maintain and expand wildlife habitats through their management, restoration and/or re-creation.

3.70 Development proposals will be carefully assessed to ensure protection and enhancement of biodiversity, including retention and incorporation of important features, using conditions and or planning obligations to mitigate any potentially adverse impacts.

3.71 The council will have close regard to its duty under the Natural Environment and Rural Communities (NERC) Act, to have regard to the purpose of conserving biodiversity in exercising its functions, so far as is consistent with the proper exercising of those functions. This includes the need to consider habitats and species of principal importance in England as set out in section 41 of the NERC Act.

3.72 Planning applications which have the potential to impact on biodiversity will need to be accompanied by ecological surveys which incorporate a biodiversity impact assessment, describing the biodiversity interest of the site, and the nature and extent of any impact of the proposed development. They should outline any mitigation measures and the steps to be taken to retain, incorporate, protect, enhance and where appropriate manage the biodiversity interest, as part of the proposals.

3.73 Use of guidance for developers such as the SPD on Biodiversity and Trees, and the emerging Green Infrastructure Strategy for North Somerset will be particularly useful.

3.74 The council and developers will liaise and work closely with the various advisory bodies and interest groups on biodiversity, including for example Natural England, the Avon Biodiversity Partnership, Avon Wildlife Trust, the Bristol Regional Environmental Records Centre (BRERC), North Somerset Parish Wildlife Wardens, etc.

Monitoring and review

3.75 As a general approach, it would be prudent to monitor whether the principle that there should be no net loss of native habitat and species, and where possible net gain, as a result of development is being upheld. Use of Local Area Agreement measures for biodiversity, and also national indicators, such as implementation of active conservation management of local sites, would also be appropriate.

DM8

Policy DM8

Legally Protected Species and Habitats and Species of Principal Importance in England – Priority Habitats and Species

Development which could harm, directly or indirectly, species, which are legally protected, or species and habitats that have been identified as Species or Habitats of Principal Importance in England (also known as Section 41 or 'Priority' species and habitats) will not be permitted unless the harm can be avoided or mitigated by appropriate measures.

Development proposals should ensure that, where appropriate, provision is made for:

- any lighting scheme to avoid adverse impacts on light averse wildlife;
- retention of native woodland, native trees (to include veteran trees), native hedgerows, watercourses, ponds, rhynes, other wetland habitats such as reedbeds, botanically diverse grasslands, traditional orchards, geological features, and other major natural features, habitats or wildlife corridors, and their protection during construction work;
- protection of ecosystem resources, to include water quality;
- compensatory provision, within the site itself, or immediate vicinity if practicable, of at least equivalent biodiversity value, where the loss of habitats or features of importance to wild flora and fauna is unavoidable;
- incorporation of habitat features of value to wildlife within the development (to include within building design) and including those which meet the needs of local species (e.g. provision of nesting features for swifts, swallows, house sparrows, bats);
- appropriate long term management of retained and newly created features of importance to wildlife;
- provision of monitoring of key species to evaluate impact of site management;
- planting of locally appropriate native species of local origin wherever possible; and
- measures to link habitats within the development and also that link into adjoining wildlife corridor networks.

Policy DM8

Ecological mitigation measures provided within the development

Where development proposals may impact legally protected and notable species and habitats, they will need to be accompanied by an up to date ecological survey assessment as part of the submitted application. This will include:

- site context information provided by a local records data search of designated sites, legally protected and notable species in proximity;
- a description of the biodiversity interest of the site, to include current land use; and including, where applicable, regard for any Strategic Nature Areas;
- the nature and extent of the impact on legally protected species and habitats, Section 41 species and habitats/or other notable species of the proposed development or change of use of land; and the measures that may be needed to avoid, mitigate or compensate the identified impacts;
- the steps to be taken to retain, protect, enhance, link and, where appropriate, create and manage the biodiversity interest over the longer term; which may include monitoring;
- where necessary effective lighting design to avoid artificial light spill to wildlife habitats/corridors to avoid impacts on light averse wildlife.

Justification

North Somerset contains four sites of European importance, designated as Special Areas of Conservation (SACs). These include: the North Somerset and Mendip Bats SAC, Mendip Limestone Grasslands SAC, Avon Gorge Woodlands SAC and the Severn Estuary SAC. The Severn Estuary is also designated as a Special Protection Area (SPA), due to the internationally important assemblages of overwintering/wading birds that it supports; and is also designated as a Ramsar site, as it is an internationally important wetland.

The purpose of the 5km consultation zone set around the North Somerset SSSI component maternity and hibernation horseshoe bat roosts of the North Somerset and Mendip Bats SAC is to protect greater and lesser horseshoe bat navigation and foraging habitats (to include key habitats for insect prey such as cattle grazed pastures and wetlands). Protection of these habitats is required to ensure that these roosts continue to be viable and maintained in 'favourable condition' and that populations of horseshoe bats are maintained at favourable

DM8

conservation status. Horseshoe bats are known to be light sensitive requiring unlit, intrinsically dark navigation routes and foraging habitats. Following consultation with Natural England North Somerset Council are looking into producing detailed guidance on the North Somerset & Mendip Bat SAC for future proposed development in and around the 5km zone.

Any proposals with potential to directly or indirectly impact on a European site/SSSI will be subject to consultation with the government's statutory nature conservation body, Natural England.

North Somerset also supports other European protected species that are rare or declining across Europe, notably hazel dormouse, otter, a wide diversity of bat species and great crested newt.

The overall aim is to contribute to the international and national objective to halt loss of biodiversity, by the protection and creation of key habitats; and the maintenance of linked, coherent ecological networks, so that populations of species are not isolated and thereby made vulnerable to local extinction. Important ecological networks within North Somerset district include: the locally characteristic network of rhynes (wet ditches and their associated banks and marginal habitats) locally characteristic of the North Somerset Levels and Moors landscape; and which link to other key local wetland habitats such as reedbeds and wet woodlands (alder and willow), and to the watercourse networks/ catchments of the district and adjoining counties. Such networks are important for species such as otter, water vole and kingfisher.

On higher ground, notably on the limestone ridges, there are extensive networks of tall native hedgerows and tree lines, which are significant in providing key habitat links between woodlands for woodland species such as dormouse, as well as providing navigation routes for bats from breeding and hibernation roosts to insect rich foraging habitats. It is essential that key habitats are linked to allow migration and interbreeding of populations of local key species. It should also be recognised that linear corridors of taller grassland and herbaceous vegetation (provided by road verge networks, cycle routes, public rights of way routes) are also important wildlife corridors for migration and dispersal. These locally characteristic habitats have contributed to the continued presence of rare species within the North Somerset District and need to be protected if this area is to continue to be a significant stronghold for many of these species.

Retained and enhanced habitats will ensure the continued functionality of essential ecosystem services, such as flood storage, flood attenuation and crop pollination (provided by local populations of insect pollinators).

Developers should be aware that there are statutory controls relating to biodiversity. For example Habitats Regulation Assessment may be required under the Conservation of Habitats and Species Regulations 2010, which relate to Articles 6(3) and (4) of the Habitats Directive, where a planning application could impact on the integrity of a European Site such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites.

Delivery and monitoring

This policy is monitored through indicators set out in the Core Strategy Monitoring Framework. These will be reported on annually in the North Somerset Council Annual Monitoring Report.

DM9: Trees and Woodlands

Links to CS1 Addressing climate change and carbon reduction, CS4 Nature conservation, CS5 Landscape and the historic environment, CS9 Green infrastructure, CS12 Achieving high quality design and place making and

Replacement Local Plan Policies ECH/5 Historic Parks and Gardens, ECH/7 Landscape character areas, ECH/10 Biodiversity

Policy aim

Incorporate existing trees and wooded areas into design proposals where practical. Ensure the planting of new trees is properly designed and adequately maintained in the longer term and recognise the place-making quality of trees

Policy DM9

Development proposals affecting trees should:

- demonstrate that the retention, protection and enhancement of tree canopy cover has been considered throughout the design and development process;
- evaluate, at a level of detail appropriate to the proposal, the short and longer-term impacts that the development may have on existing trees;
- achieve high quality design by demonstrating that the long term retention of appropriate trees is realistic, and that the trees are viewed as an asset by new occupants rather than as an issue of conflict. The future growth of tree canopy and roots should be fully accounted for when designing:

DM9

Policy DM9

(i) the location, spacing and orientation of buildings, gardens and green spaces;

(ii) the location of underground services;

(iii) the relative positions of trees and windows for light;

(iv) specific issues relating to tree species eg. aphid honey dew, fruit drop, density of canopy, leaves and needles;

(v) future management requirements and accessibility.

- provide high quality physical protection of retained trees, which includes working methods that will be clearly communicated and understood by all site staff;
- include, where practical, the introduction of appropriate new tree planting and woodland creation as an integral part of the design and landscaping of new developments, using native species of local origin wherever possible;
- include, where appropriate, the provision of new large-growing street and open space trees that are planted in high-quality tree pit designs, which maximise tree health and minimise future maintenance of the street surface;
- protect ancient woodland and veteran trees, particularly where these provide important habitats;
- ensure the engineering requirements to accommodate tree planting and future tree growth in relation to building foundation design are complied with;
- include, for larger-scale developments, an initial tree maintenance specification for new trees to ensure they thrive and grow to healthy maturity, and
- provide a plan for the management of wooded areas that balances the protection and enhancement of biodiversity with increased opportunities for recreation and play.

The council will consider the use of Tree Preservation Orders where appropriate individual trees or groups of trees are considered worthy of protection.

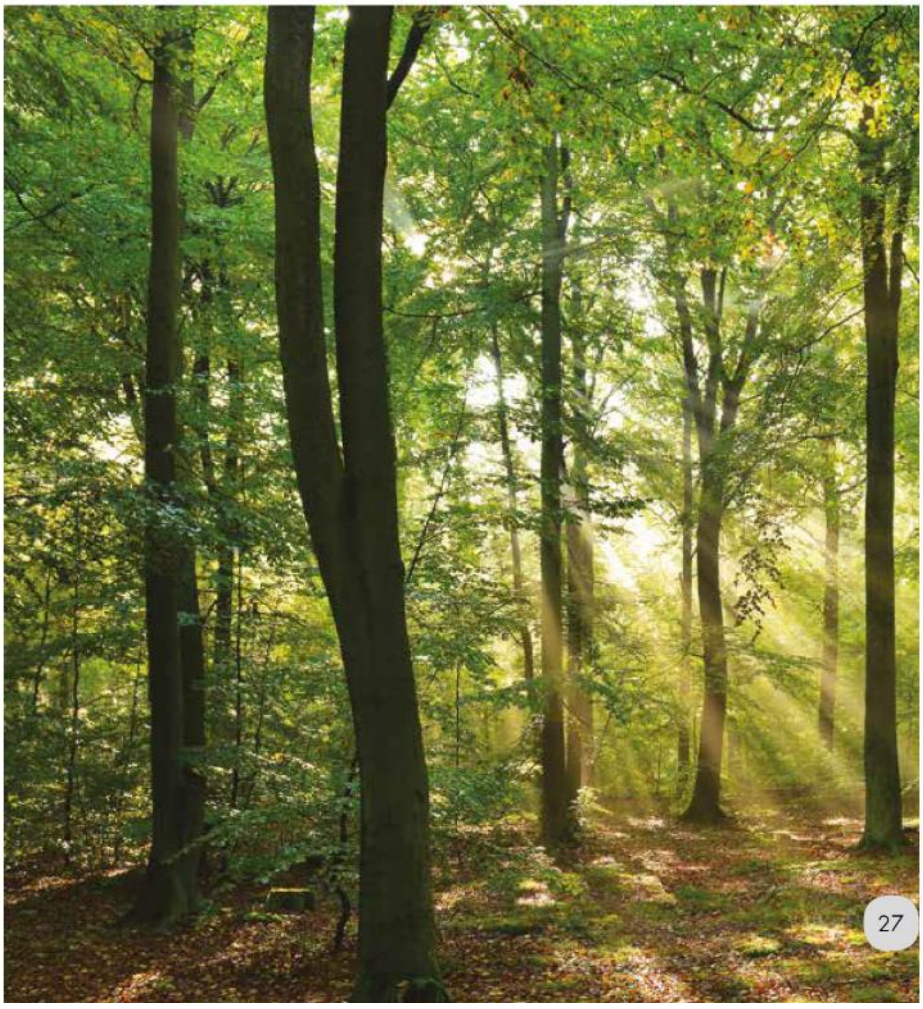
Justification

This policy is to provide more detailed guidance on new planting and the protection of existing trees. Proposed developments will be expected to demonstrate that they adhere to the procedures and principles set out in British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations).

Where the loss of trees is essential to allow for appropriate development a suitable number and species of replacement trees should be provided, to compensate for the loss in canopy cover. We would generally expect trees to be replaced on a one for one basis as a minimum.

Delivery and monitoring

This policy is monitored through indicators set out in the Core Strategy Monitoring Framework. These will be reported on annually in the North Somerset Council Annual Monitoring Report. Monitoring will be expanded to cover indicators relating to replacement planting.



Species legislation and conservation status

Invertebrates
A number of UK invertebrates are protected by international and national legislation, including the EC Habitats Directive (1992) and the Wildlife and Countryside Act 1981 (as amended). In addition, numerous species are Priority Species.

Plants
All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. stinking goosefoot, red helleborine, monkey orchid) are afforded additional protection against picking, uprooting, destruction and sale. Bluebell (*Hyacinthoides non-scripta*) is protected against sale only. Further species are also protected under the Conservation of Habitats and Species Regulations 2017.

Notable plant species include those that are listed as:

- Nationally vulnerable **– A** taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A-E for Vulnerable, and is therefore considered to be facing a high risk of extinction in the wild (Cheffings C M & Farrell L (Eds) (2005) *Species Status No. 7 – The Vascular Plant Red Data List for Great Britain*, JNCC (online)
- Nationally scarce – species recorded in 16-100 hectads in Great Britain
- Nationally rare – species occurring in 15 or fewer hectads in Great Britain

Section 14 of the Wildlife and Countryside Act 1981 (as amended) prohibits the planting of certain invasive plant species in the wild, or otherwise causing them to grow there. Prohibited plants are listed on Part 2 of Schedule 9 and include Japanese knotweed, Himalayan balsam and giant hogweed.

Amphibians
There are seven native amphibian species present in Britain. These are afforded varying degrees of protection under national and European legislation. Great crested newts (*Triturus cristatus*) and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act 2000 and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a great crested newt.
- Damage or destroy any place used for shelter or protection by great crested newts, including resting or breeding places; or intentionally or recklessly obstruct access to such a place.
- Deliberately, intentionally or recklessly disturb great crested newts.

Great crested newt and common toad (*Bufo bufo*) are Priority Species.

Reptiles
Slow-worm (*Anguis fragilis*), viviparous/common lizard (*Zootoca vivipara*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) are protected under the Wildlife and Countryside Act 1981 (as amended) against intentional killing and injuring. These species are also Priority Species.

Birds

The bird breeding season generally lasts from March to early September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way (CRoW) Act 2000. This legislation makes it illegal, both intentionally and recklessly, to:

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

Furthermore, birds listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) are protected against intentional or reckless disturbance whilst nest building and when at or near a nest containing eggs or young. Dependent young of Schedule 1 species are also protected against disturbance.

In addition to this legal protection, the leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds regularly found here and produced a list of birds of conservation concern. Of the 244 species assessed, 67 were placed on the Red List of high conservation concern, 96 on the Amber List of medium conservation concern and 81 on the Green List of low conservation concern:

- Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; and those with internationally important or localised populations.

Badger

Badger (*Meles meles*) is a widespread and common species. However, badgers are legally protected under The Protection of Badgers Act 1992, due to animal welfare concerns. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, or obstructing access to it.

A badger sett is defined in the legislation as "*any structure or place, which displays signs indicating current use by a badger*".

Bats

There are 18 species of bats found in the UK, 17 of which are known to breed here. The conservation status of these species is summarised in the table below:

Common name	Scientific name	IUCN Red List*	Priority Species
Greater horseshoe	*Rhinolophus ferrumequinum*	LC	Yes
Lesser horseshoe	*Rhinolophus hipposideros*	LC	Yes
Daubenton's	*Myotis daubentonii*	LC	No
Brandt's	*Myotis brandtii*	LC	No
Whiskered	*Myotis mystacinus*	LC	No

Common name	Scientific name	IUCN Red List*	Priority Species
Natterer's	*Myotis nattereri*	LC	No
Bechstein's	*Myotis bechsteinii*	NT	Yes
Alcathoe bat	*Myotis alcathoe*	DD	No
Greater mouse-eared	*Myotis myotis*	LC	No
Common pipistrelle	*Pipistrellus pipistrellus*	LC	No
Soprano pipistrelle	*Pipistrellus pygmaeus*	LC	Yes
Nathusius' pipistrelle	*Pipistrellus nathusii*	LC	No
Serotine	*Eptesicus serotinus*	LC	No
Noctule	*Nyctalus noctula*	LC	Yes
Leisler's	*Nyctalus leisleri*	LC	No
Barbastelle	*Barbastella barbastellus*	NT	Yes
Brown long-eared	*Plectorus auritus*	LC	Yes
Grey long-eared	*Plectorus austriacus*	LC	No

*IUCN categories: LC Least Concern, NT Near Threatened, DD Data Deficient

All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a bat.
- Damage or destroy a bat roost; or intentionally or recklessly obstruct access to bat roosts.
- Deliberately, intentionally or recklessly disturb a bat, including in particular any disturbance which is likely:
  - to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
  - *to affect significantly the local distribution or abundance of the species to which they belong.*

A bat roost is defined in the legislation as "*any structure or place which a bat uses for shelter or protection*". Roosts are protected whether or not bats are present at the time.

Otter

Otters (*Lutra lutra*) are fully protected under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act 2000 and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill an otter
- Damage or destroy any structure or place used for shelter or protection by an otter; or intentionally or recklessly obstruct access to such a place.
- Deliberately, intentionally or recklessly disturb an otter whilst it is occupying a structure or place which it uses for shelter or protection

Otter is a Priority Species.

Hazel dormouse

The hazel dormouse (*Muscardinus avellanarius*) is fully protected under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW)

Act 2000 and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a dormouse.
- Damage or destroy any structure or place used for shelter or protection by a dormouse; or intentionally or recklessly obstruct access to such a place.
- Deliberately, intentionally or recklessly disturb a dormouse whilst it is occupying a structure or place which it uses for shelter or protection.

Hazel dormouse is a Priority Species.

Wildlife Legislation

1 Conservation of Habitats and Species Regulations 2017 (as amended)

These Regulations, also referred to as the 'Habitats Regulations', implement the EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC) and the EC Directive on the Conservation of Wild Birds (79/409/EEC). The Regulations provide for the designation and protection of 'European Sites' (Natura 2000 sites). They convey a statutory requirement for local planning authorities to undertake a 'Habitats Regulations Assessment' of the potential impacts of plans and projects, including development proposals, on European Sites. The provisions also include protection of 'European Protected Species' (EPS). Under the Regulations, local planning authorities have to consider three 'derogation tests' when deciding whether to grant permission for a development that affects an EPS, which are as follows:

- the development must be for over-riding public interest or for public health and safety;
- there are no satisfactory alternatives to the proposed development; and
- the favourable conservation status of the EPS concerned must be maintained.

2 Wildlife and Countryside Act 1981 (as amended)

This Act is the principal wildlife legislation in Great Britain. It includes provisions for important habitats to be designated and protected as Sites of Special Scientific Interest (SSSIs). Numerous plant and animal species, and the places that they use for shelter and protection, are also protected under the Act, including all birds, their nests and eggs.

3 Countryside and Rights of Way Act 2000

Referred to as the CROW Act, this legislation increases the protection of SSSIs and strengthens wildlife enforcement action. The Act also strengthens the protection of protected species under the Wildlife and Countryside Act 1981 (as amended) through the introduction of a new offence of 'reckless disturbance'.

4 Natural Environment and Rural Communities Act 2006

This Act places a duty on all public bodies and statutory undertakers to have due regard to the conservation of biodiversity in all their functions. It also requires the publication of a list of habitats and species of principal importance for the conservation of the biodiversity. This list, known as the Section 41 list, includes all Priority Habitats and Species of Principal Importance for the Conservation of Biodiversity in England.

5 Protection of Badgers Act 1992

This Act was introduced primarily for animal welfare reasons, as opposed to species conservation. It provides protection of badgers and their setts.

6 Hedgerow Regulations 1997 (as amended)

These Regulations include provisions for the protection of hedgerows and make it an offence to remove 'important' hedgerows without consent from the local planning authority. Where planning permission is granted for a development proposal, the removal of 'important' hedgerows is deemed to be permitted.

Appendix 2: Hedgerow survey

Hedgerow survey

1 Methodology

The hedgerow survey was undertaken on 18 May 2018 in accordance with survey guidelines published by Defra (2007). The survey focused on the ecological component of the assessment; no cultural heritage aspects were assessed. For each hedgerow, a 30m section(s) was surveyed in detail, identifying any woody and woodland indicator species present. Other features, such as the presence of a bank, gaps or hedgerow trees were also noted. Each hedgerow was then assessed against the criteria set out in the Hedgerow Regulations to establish whether or not it was 'Important'.

2 Results

Table A2.1 and Figure A2.1 below details the results of the hedgerow survey. Six of the eighteen hedgerow lengths surveyed were assessed as being 'ecologically important'.

3 References

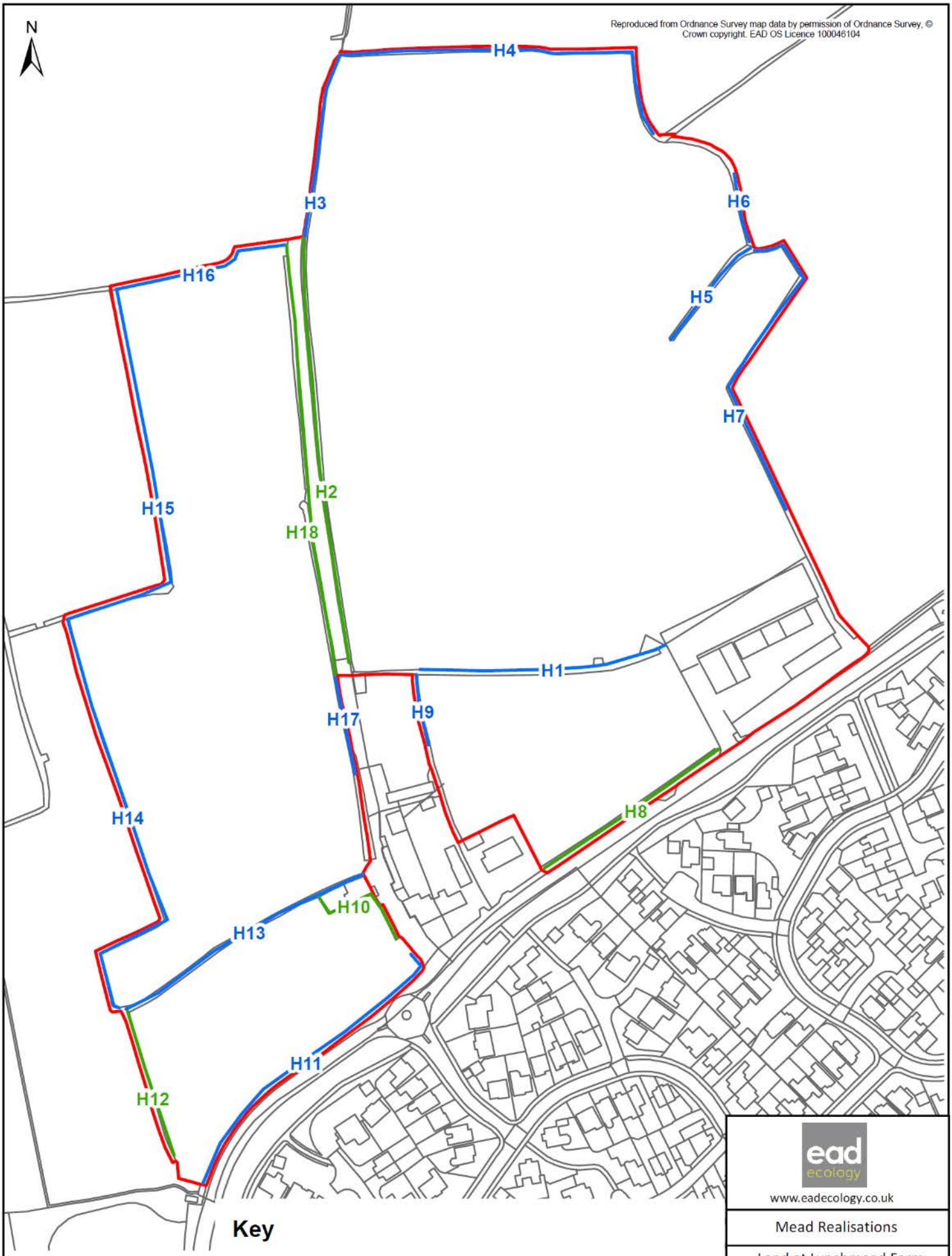
Defra (2007) *Hedgerow Survey Handbook - a standard procedure for local surveys in the UK*. Defra, London.

Table A2.1 Hedgerow survey results

Hedgerow number (refer to Hedgerow survey plan)	Length (m approx.)	Presence of protected/notable species	Parallel to right of way	Gaps <10% hedgerow length	Parallel to hedgerow within 15m	Wall/bank over half length of hedgerow	Ditch over half length of hedgerow	Number of connections	At least one standard tree per 50m length	Woody species	Average number of woody species in 30m length	Woodland indicator species	Number of woodland indicator species	Important
H1	115	N	N	Y	N	N	Y	1	N	Ash, blackthorn, goat willow, hawthorn	4	Lords-and-ladies	1	N
H2	196	N	N	Y	Y	N	Y	3	N	Goat willow, hawthorn, hawthorn, blackthorn, ash, white willow, hazel, field maple, elm	6.5	Soft shield fern, false wood brome	2	Y
H3	82	N	N	Y	N	N	Y	3	N	Field maple, blackthorn, hawthorn, ash	4	Hart's tongue	1	N
H4	168	N	N	Y	N	N	Y	2	N	Blackthorn, hawthorn, hazel	3	False wood brome	1	N
H5	50	N	N	Y	N	N	Y	2	Y	Blackthorn, hawthorn, white willow	3	-	0	N
H6	30	N	N	N	N	N	Y	2	N	Hawthorn	1	-	0	N
H7	158	N	N	Y	N	N	Y	2	N	Blackthorn, hawthorn, ash, rose sp.	3	Hart's tongue	1	N
H8	95	N	N	Y	N	N	Y	0	Y	Blackthorn, hawthorn, elder, field maple, ash, goat willow	6	Herb-Robert, false wood brome, lords-and-ladies	3	Y
H9	33	N	N	Y	N	N	Y	1	N	Blackthorn, hawthorn, elder rose sp.	5	-	0	N

Table A2.1 Hedgerow survey results

Hedgerow number (refer to Hedgerow survey plan)	Length (m approx.)	Presence of protected/notable species	Parallel to right of way	Gaps <10% hedgerow length	Parallel to hedgerow within 15m	Wall/bank over half length of hedgerow	Ditch over half length of hedgerow	Number of connections	At least one standard tree per 50m length	Woody species	Average number of woody species in 30m length	Woodland indicator species	Number of woodland indicator species	Important
H10	57	N	N	Y	N	N	N	2	N	Elder, hazel, blackthorn, silver birch, holly, yew, wild privet, elm, apple	9	Lords-and-ladies	1	Y
H11	139	N	N	Y	Y	N	N	1	Y	Blackthorn, hawthorn, hazel, elder, ash, elm	5.5	Lords-and-ladies	1	Y
H12	78	N	N	Y	N	N	Y	3	N	Horse chestnut, hawthorn, blackthorn, elder, field maple, cherry	6	Lords-and-ladies	1	N
H13	121	N	N	Y	N	N	Y	3	N	Blackthorn, hawthorn, hazel, elder	3	Lords-and-ladies	1	N
H14	209	N	N	Y	N	N	Y	4	N	Blackthorn, hawthorn, ash, hazel, elder, field maple	3	Lords-and-ladies, hart's tongue	2	N
H15	192	N	N	Y	N	N	Y	3	N	Blackthorn, hawthorn, white willow, rose sp., hazel, wild privet, grey willow	5	Lords-and-ladies	1	N
H16	82	N	N	Y	N	N	Y	4	Y	Blackthorn, hawthorn, rose sp.	3	-	0	N
H17	48	N	N	Y	N	N	Y	1	Y	Ash, alder, blackthorn, hawthorn, grey willow, white willow	6	Lords-and-ladies	1	Y
H18	196	N	N	Y	Y	N	Y	3	N	Blackthorn, hawthorn, ash, white willow, elm, field maple, goat willow	6	Lords-and-ladies	1	Y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H1
H2
H3
H4
H5
H6
H7
H8
H9
H10
H11
H12
H13
H14
H15
H16
H17
H18
Key
Hedgerow 'important' under the hedgerow regulations
Hedgerow 'not' important under the hedgerow regulations
Survey boundary
0
25
50 Metres
ead ecology
www.eadecology.co.uk
Mead Realisations
Land at Lynchmead Farm, Weston-super-mare
Hedgerow Survey Plan
Date: 21/09/2018

Appendix 3: Great crested newt survey

Great crested newt survey

1 Methodology

Ordnance survey mapping (1:25000) and aerial photography were used to search for ponds within 250m from the site boundary, in line with Natural England guidance (English Nature, 2001; refer to Figure A3.1) taking into account the results of English Nature Research Report 576 (English Nature, 2004).

The network of ditches onsite and one offsite pond were sampled for environmental great crested newt DNA (eDNA) on 30 April 2018; refer to Figure A3.1 Each pond and ditch was visited and sampled in accordance with the methods outlined in the technical report that accompanies Defra's research project into eDNA (Biggs *et al*, 2014). Water sampling was undertaken by a Natural England great crested newt survey licence holder. Samples were subsequently analysed by Applied Genomics using quantitative polymerase chain-reaction testing.

2 Results

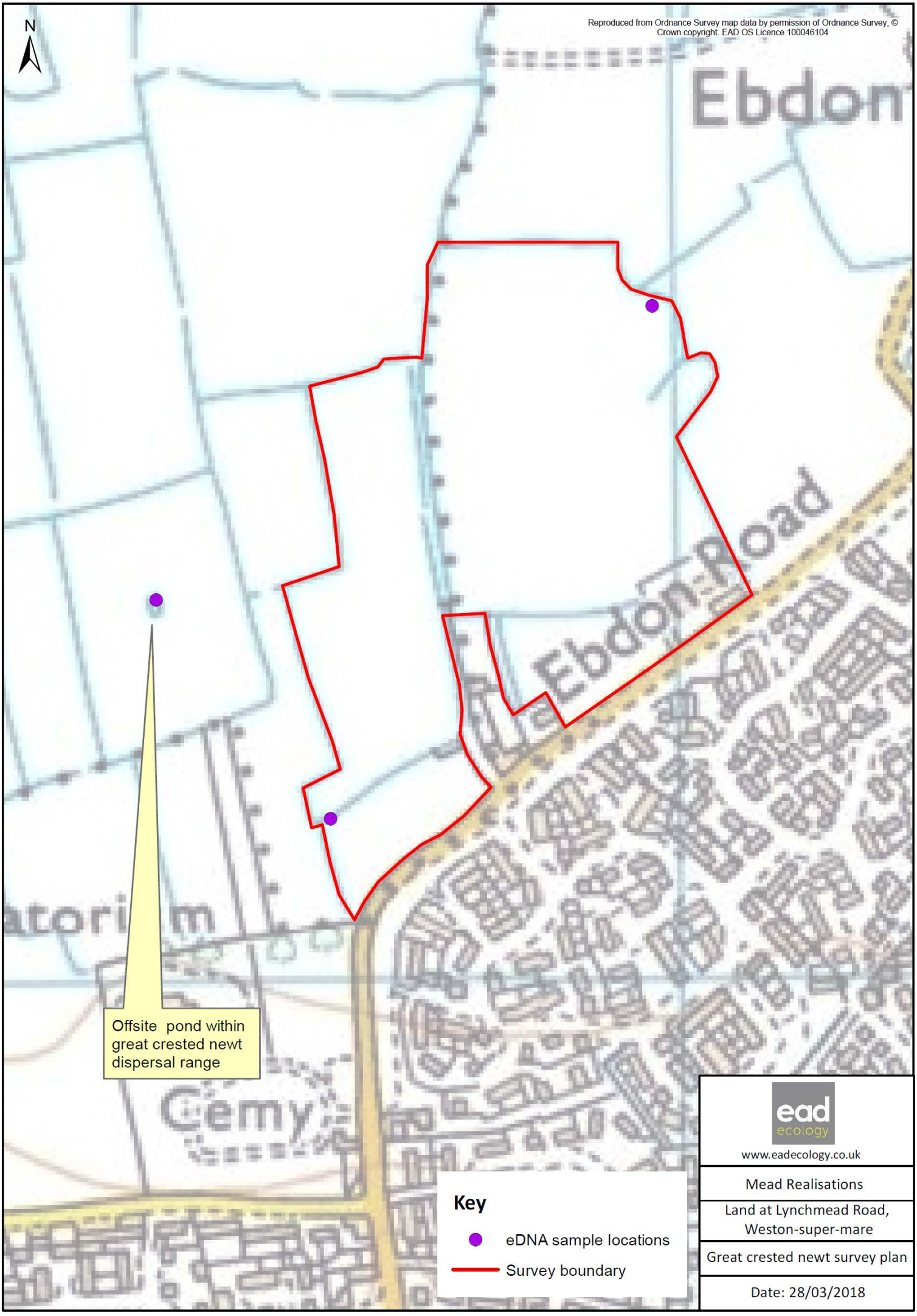
The samples came back negative for great crested newt eDNA so the species was considered to absent from the site.

3 References

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA.* Freshwater Habitats Trust, Oxford.

English Nature (2004) *Species Conservation Handbook*. English Nature, Peterborough.

English Nature (2001). *Great Crested Newt Mitigation Guidelines*. English Nature.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Ebdon
Ebdon Road
Offsite pond within great crested newt dispersal range
Key
eDNA sample locations
Survey boundary
ead ecology
www.eadecology.co.uk
Mead Realisations
Land at Lynchmead Road, Weston-super-mare
Great crested newt survey plan
Date: 28/03/2018

Appendix 4: Reptile survey

Reptile survey results

1 Methodology

A reptile survey was undertaken according to standard methodology (English Nature 1994; Froglife 1999). 123 artificial refuges (1mx1m roofing felt tiles) were placed in suitable habitat within the site and checked on seven occasions in appropriate weather conditions in May and June 2018 (refer to Table A4.1). There were no limitations to the results of the survey.

2 Results

The survey results are shown in Table A4.1 below; also refer to Reptile Survey Plan. A 'low population' of grass snake was recorded within the site (Froglife, 1999). Refer to Reptile Survey Plan, Figure A4.1, for specific locations.

Table A4.1 Reptile survey results

Visit number	Date	Start Time	Temperature ('C)	Cloud cover	Wind force	Results
1	15.05.18	10:30	15	0/8	2-3	1 sub-adult grass snake
2	18.05.18	12:00	17	2/8	1-2	1 adult grass snake, 1 juvenile grass snake
3	25.05.18	10:45	13	8/8	0-1	1 sub-adult grass snake
4	07.06.18	15:00	18	8/8	0	1 adult grass snake, 1 juvenile grass snake
5	11.06.18	09:30	18	0/8	1-2	No reptiles recorded
6	14.06.18	16:30	17	2/8	0	1 juvenile grass snake
7	22.06.18	09:40	16	0	0	No reptiles recorded

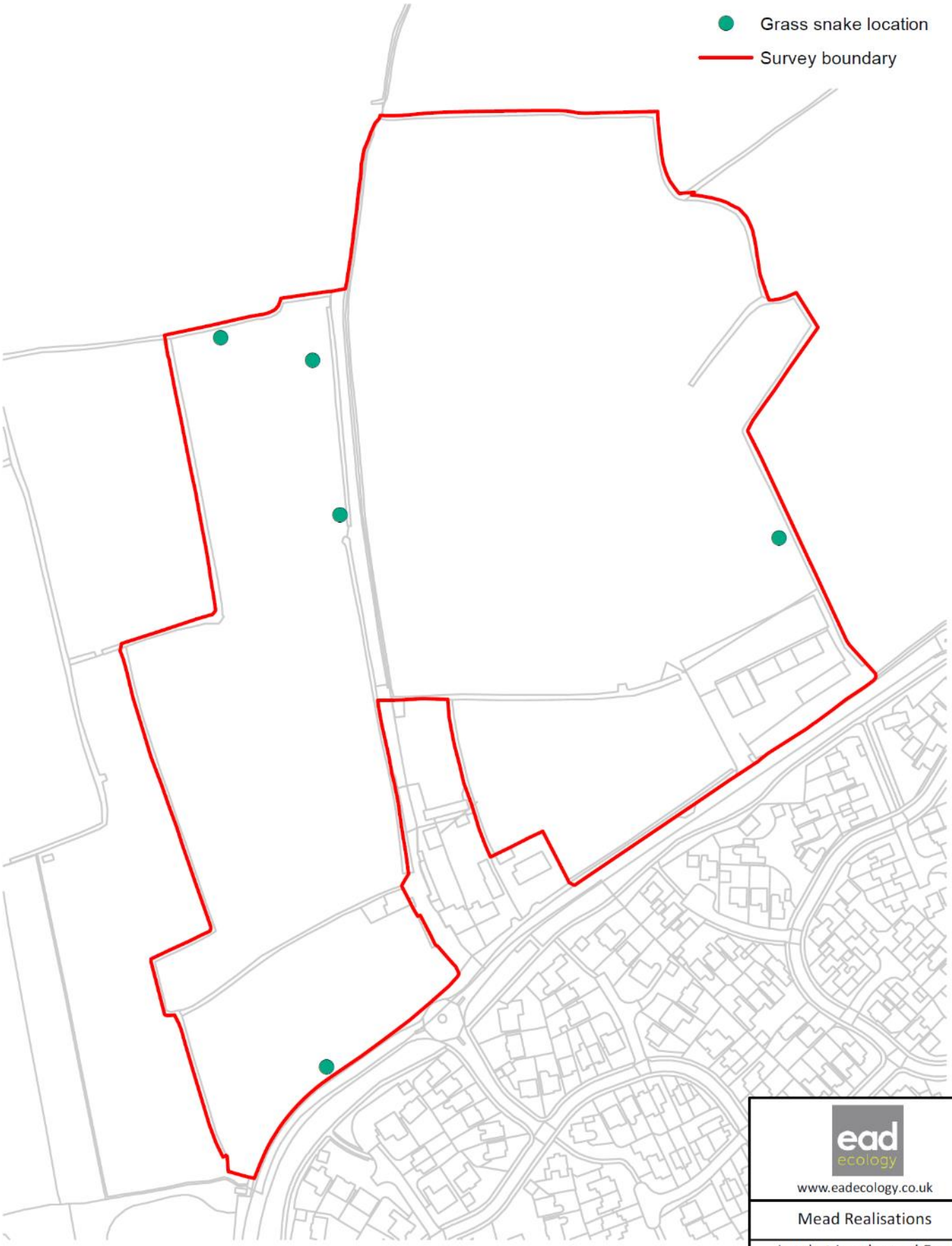
3 References

English Nature (2004) *Species Conservation*

N

Key

- Grass snake location
- Survey boundary



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www.eadecology.co.uk

Mead Realisations

Land at Lynchmead Farm, Weston-super-mare

Reptile Survey Plan

Date: 17/08/2018

Appendix 5: Breeding bird survey

Breeding bird survey

1 Methodology

A breeding bird survey was undertaken based on an adapted Common Bird Census (CBC) methodology (Gilbert *et al* 1998). Three survey visits were carried out between April and June 2018 by an experienced ornithologist, following a transect route that allowed for full coverage of the survey area. Visits were made during the morning in suitable weather conditions (avoiding rain and strong winds, although showery days were acceptable). The locations of all birds seen and/or heard during each visit were mapped and any breeding-related behaviour was recorded (such as singing, displaying or carrying food). Data from the three visits were analysed to produce an estimate of the number of breeding pairs or territories within the survey area.

2 Results

Survey dates, times and weather conditions are provided in Table A5.1.

Table A5.1: Survey conditions

Visit number	Date	Time	Weather at start
1	26 April 2018	08:30 – 10:30	Cloud 6/8, wind F3-4, temperature 8°C
2	15 May 2018	08:20 – 10:20	Cloud 1/8, wind F1-2, temperature 10°C
3	28 June 2018	08:15 – 10:30	Cloud 0/8, wind F3-4, temperature 16°C

Table A5.2 provides a summary of the results and categorises each species' breeding status within the two survey areas based on the BTO's categories of breeding evidence:

- Confirmed breeding (e.g. recently fledged young, adult carrying food to nest);
- Probable breeding (e.g. permanent territory, courtship display);
- Possible breeding; (e.g. singing male in suitable nesting habitat); or
- Non-breeding (e.g. flying over only).

A total of 31 species were recorded, of which 25 species were confirmed, probably or possibly breeding within the survey area. These included:

- House sparrow, which was confirmed breeding in buildings on the south-east side of the survey area. This is a Priority Species and Red-listed Bird of Conservation Concern (Eaton et al 2015).
- Spotted flycatcher, which possibly nested (individual in suitable breeding habitat). This is a Priority Species and Red-listed Bird of Conservation Concern.
- Dunnock, which probably bred (3+ territories). This is a Priority Species and Amber-listed Bird of Conservation Concern (Eaton et al 2015).

3 References

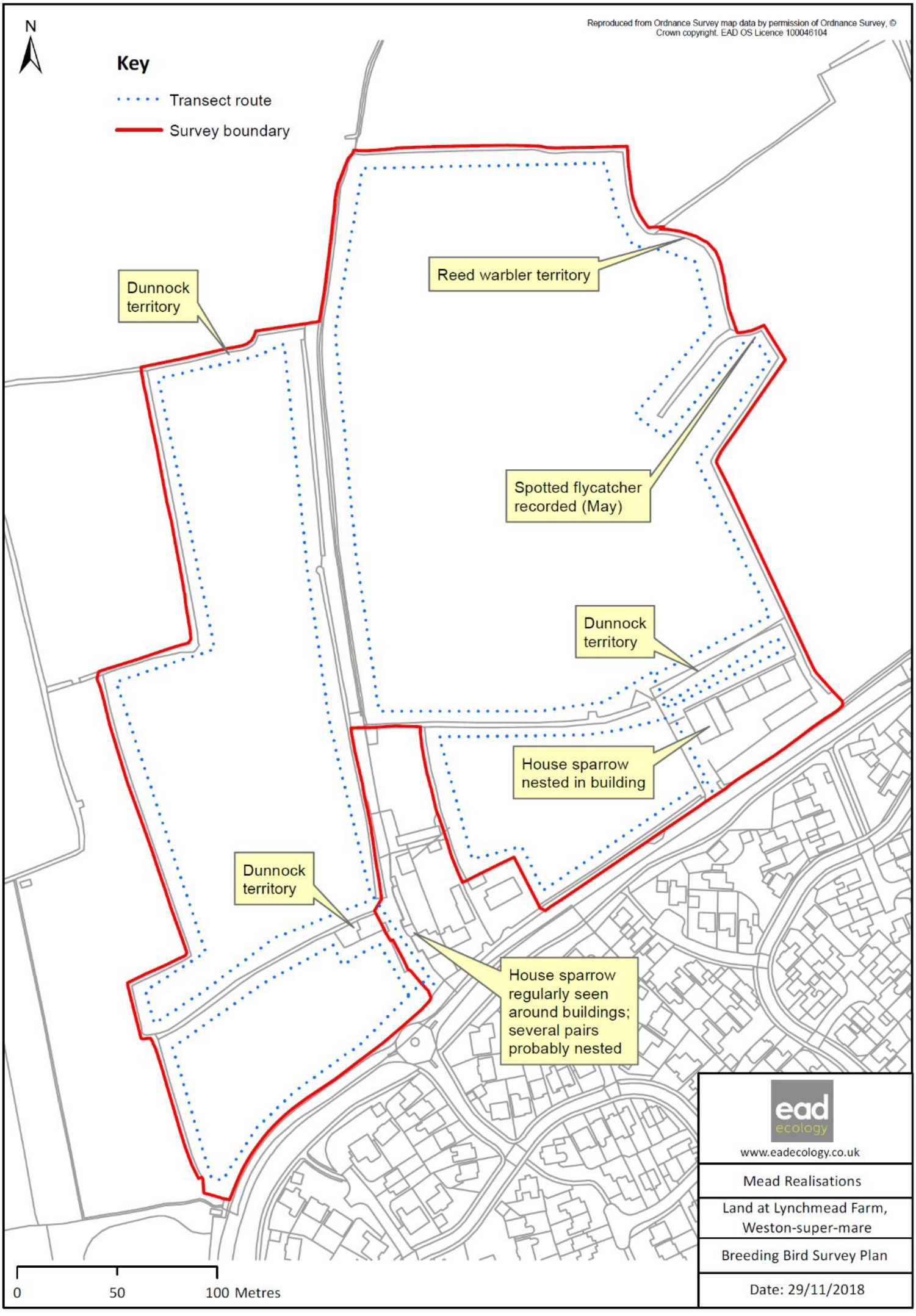
Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man.* British Birds **108**, 708–746.

Gilbert G, Gibbons DW, Evans J (1998) *Bird Monitoring Methods*. RSPB, Sandy, Bedfordshire

Table 5.2 Breeding bird survey results

Common name	BTO species code	Legal & Conservation Status (standard protection and Green/unlisted unless stated)	Date & no. recorded			Breeding status				Notes
			26 April 2018	15 May 2018	28 June 2018	Confirmed	Probable	Possible	Non-breeding	
Blackbird	B.		4	6	4	✓				2-3 pairs in trees and hedgerows; juveniles recorded.
Blackcap	BC		0	0	1			✓		Possible territory in far south-western corner of site.
Blue tit	BT		2	4	4	✓				1-2 pairs in trees and hedgerows; juveniles recorded.
Buzzard	BZ		0	1	1				✓	Seen in flight only; did not breed within survey area.
Carrion crow	C.		2	2	4	✓				One pair confirmed breeding; second pair possibly nested.
Chaffinch	CH		4	3	0		✓			3-4 territories in trees and hedgerows.
Chiffchaff	CH		4	1	1		✓			One territory along western boundary of survey area.
Collared dove	CD		1	0	1			✓		Individual present in suitable breeding habitat (buildings).
Dunnock	D.	Amber, Priority Species, Avon BAP	6	2	3		✓			At least three territories in hedgerows and scrub.
Goldfinch	GO		8	5	6		✓			3-4 pairs probably nested in trees and hedgerows.
Great tit	GT		5	7	2	✓				2-3 pairs in trees and hedgerows; juveniles recorded.
Greenfinch	GR		1	3	2		✓			One territory on western side of survey area.
House martin	HM	Amber, Avon BAP	0	1	4				✓	Seen foraging in flight; did not breed within survey area.
House sparrow	HS	Red, Priority Species, Avon BAP	15	21	13	✓				Present around buildings on southern side; at least one pair nested in building on south-eastern side of survey area
Kestrel	K.	Amber	0	1	0				✓	Female flew over; did not breed within survey area.

Common name	BTO species code	Legal & Conservation Status (standard protection and Green/unlisted unless stated)	Date & no. recorded			Breeding status				Notes
			26 April 2018	15 May 2018	28 June 2018	Confirmed	Probable	Possible	Non-breeding	
Lesser black-backed gull	LB	Amber	0	0	1				✓	One flew over and landed briefly in field; non-breeding.
Lesser whitethroat	LW		0	1	0			✓		Male singing in suitable breeding habitat (hedgerows).
Long-tailed tit	LT		2	0	5	✓				One pair nested in hedgerows/scrub; family party seen.
Magpie	MG		5	7	7	✓				At least one pair bred successfully; juveniles recorded.
Moorhen	MH		0	1	0			✓		Individual present in suitable breeding habitat (ditch).
Pheasant	PH		0	1	0			✓		Individual present in suitable breeding habitat (fields).
Pied wagtail	PW		0	2	0		✓			Pair recorded displaying on buildings within survey area.
Reed warbler	RW	Avon BAP	0	2	1		✓			One territory in reeds on north-east side of survey area.
Robin	R.		4	6	3	✓				Up to five territories in trees and hedgerows; juvenile seen.
Sedge warbler	SW		1	0	0					Male singing in suitable breeding habitat (reeds).
Sparrowhawk	SH		1	1	0		✓			Probably bred in central hedgerow; agitated calls heard.
Spotted flycatcher	SF	Red, Priority Species, Avon BAP	0	1	0			✓		Individual present in suitable breeding habitat (hedgerow).
Swallow	SL	Avon BAP	2	3	0				✓	Seen foraging in flight; did not breed within survey area.
Swift	SI	Amber	0	1	0				✓	Seen foraging in flight; did not breed within survey area.
Woodpigeon	WP		16	14	7	✓				Several pairs probably bred; two active nests recorded.
Wren	WR		12	13	7	✓				At least 10 territories in hedgerows and scrub.


N
Key
Transect route
Survey boundary
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Dunnock territory
Reed warbler territory
Spotted flycatcher recorded (May)
Dunnock territory
House sparrow nested in building
Dunnock territory
House sparrow regularly seen around buildings; several pairs probably nested
0
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100 Metres
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Mead Realisations
Land at Lynchmead Farm, Weston-super-mare
Breeding Bird Survey Plan
Date: 29/11/2018

Appendix 6: Wintering bird assessment

Wintering bird assessment

1 Methodology

A wintering bird assessment was undertaken to evaluate the suitability of the site for wintering birds, specifically wetland species (waterfowl). This comprised:

- A review of desk study information, including designated sites;
- A site walkover survey, which was undertaken by an experienced ornithologist on 15 May 2018 to evaluate the suitability of the site for waterfowl species; and
- Three monthly surveys undertaken between November 2018 and January 2019. These surveys were undertaken by an experienced ornithologist within two hours of high tide. Any waterfowl species recorded were mapped and counted, and any relevant behaviour (e.g. roosting or feeding) recorded.

2 Results

Desk study

Severn Estuary Special Area of Conservation (SPA), Site of Special Scientific Interest (SSSI) and Ramsar site lies approximately 1.5km north of the site at its nearest point. The SPA is designated for its overwintering populations of the following bird species:

- Bewick's swan
- Curlew
- Dunlin
- Pintail
- Redshank
- Shelduck

The Severn Estuary also qualifies as 'a wetland of international importance' by regularly supporting over 20,000 waterfowl during winter. There are no other SPAs/Ramsar sites within 10km of the site or SSSIs designated for bird interest within 5km of the site.

Data received from Bristol Regional Environmental Records Centre (BRERC) included records for a range of notable waterfowl species within 2km of the site; refer to Table A6.1

Table A6.1: **Notable waterfowl species recorded within 2km of the site**.

Common name	Annex 1[3]	Schedule 1[4]	Red/Amber[5]	Priority[6]	Avon BAP[7]
Arctic skua			Red	✓	
Avocet	✓	✓	Amber		
Barnacle goose	✓		Amber		
Bar-tailed godwit	✓		Amber		
Black-headed gull			Amber		
Black-necked grebe		✓	Amber		

[3] Listed on Annex 1 of the EC Birds Directive.
[4] Listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
[5] Status in Birds of Conservation Concern 4 (Eaton et al 2015).
[6] Listed under Section 41 of the NERC Act 2006.
[7] Listed on the Avon Biodiversity Action Plan.

Common name	Annex 1[3]	Schedule 1[4]	Red/Amber[5]	Priority[6]	Avon BAP[7]
Black-tailed godwit		✓	Red	✓	
Brent goose			Amber	✓	
Common gull			Amber		
Common sandpiper			Amber		
Common scoter		✓	Red	✓	
Common tern	✓		Amber		
Curlew			Red	✓	✓
Dunlin			Amber		✓
Eider			Amber		
Gadwall			Amber		✓
Gannet			Amber		
Garganey		✓	Amber		
Goldeneye			Amber		
Golden plover	✓				
Greenshank		✓	Amber		
Green sandpiper		✓	Amber		
Great black-backed gull			Amber		
Greylag goose			Amber		
Grey partridge			Red	✓	✓
Grey plover			Amber		
Herring gull			Red	✓	
Kingfisher		✓	Amber		
Knot			Amber		
Lapwing			Red	✓	✓
Lesser black-backed gull			Amber		
Little egret	✓				
Mallard			Amber		
Mediterranean gull	✓	✓	Amber		
Mute swan			Amber		
Oystercatcher			Amber		
Pintail			Amber		
Pochard			Red		✓
Redshank			Amber		✓
Ringed plover			Red		✓
Shelduck			Amber		✓
Shoveler			Amber		✓
Snipe			Amber		
Spotted redshank			Amber		
Storm petrel	✓		Amber		
Teal			Amber		✓
Tufted duck					✓
Turnstone			Amber		
Whimbrel		✓	Red		
Wigeon			Amber		

Common name	Annex 1[3]	Schedule 1[4]	Red/Amber[5]	Priority[6]	Avon BAP[7]
Woodcock			Red		

The majority of these records originate from within or adjacent to the Severn Estuary SPA/SSSI/ Ramsar, between 1.5 and 2km north of the site. There are no confirmed records of any waterfowl species from within the site.

Site survey
The site comprised four improved and poor semi-improved grassland (pasture) fields, and a small area of hardstanding with modern industrial units. Species-poor hedgerows and wet ditches formed the majority of the field boundaries, with some mature broadleaved trees, areas of tall ruderal vegetation and dense scrub also present.

The dates, times and weather conditions for the wintering bird surveys are presented in Table A6.2.

Table A6.2: Survey conditions

Visit number	Date	High tide	Time	Weather at start
1	28 November 2018	10:04	09:50 – 11:00	Cloud 8/8, wind F4-5, temperature 13°C
2	19 December 2018	16:00	15:05 – 16:10	Cloud 8/8, wind F2-3, temperature 8°C
3	8 January 2019	08:01	08:00 – 09:15	Cloud 6/8, wind F1-2, temperature 6°C

None of the bird species listed on the citation for the Seven Estuary SPA were recorded on, or adjacent to, the site during the survey. The only species recorded on site that are associated with coastal and estuarine habitats were snipe, herring gull and black-headed gull; refer to Winter Bird Survey Plan for locations.

Site assessment
The results of the surveys indicate that the site is not regularly used by significant waterfowl populations from the Severn Estuary SPA. The largest field, on the north-east side of the site, was considered suitable to support low numbers of lapwing and golden plover, both of which are known to use open farmland during the winter for roosting and foraging. The field measured approximately 5.3ha and had the most 'open' aspect of all the fields on site, with surrounding hedgerows containing relatively few tall trees that could provide vantage points for predators. Any use is likely to be on an infrequent/occasional basis, and would depend on other factors, including management of the field (lapwings favour a short sward and will avoid areas of tall, rank grassland; Natural England 2011), and weather elsewhere in the UK and continental Europe (freezing conditions may cause an influx of lapwing and golden plover to south west England). In any circumstance, numbers of wintering lapwings and golden plovers using the north-east field are unlikely to be significant, as there are large areas of alternative suitable habitat in the vicinity of the site. The presence of other waterfowl in the field was considered unlikely.

Other fields within the site were less than 3ha in size and had a more enclosed nature, with a greater number of mature trees in the field boundaries that could provide visual screens and vantage points for predators. Furthermore, these fields were situated closer to roads and residential development, where there would be an increased risk of disturbance from human activity. These fields were therefore considered unlikely to support lapwing, golden plover or other wintering waterfowl.

Although the site lies within the dispersal range of waterfowl from the Severn Estuary, the distance between the site and the estuary (minimum 1.5km) means that it is unlikely there are significant

movements of waterfowl between the two. The site lacked suitable habitat to regularly support qualifying species of the Severn Estuary SPA.

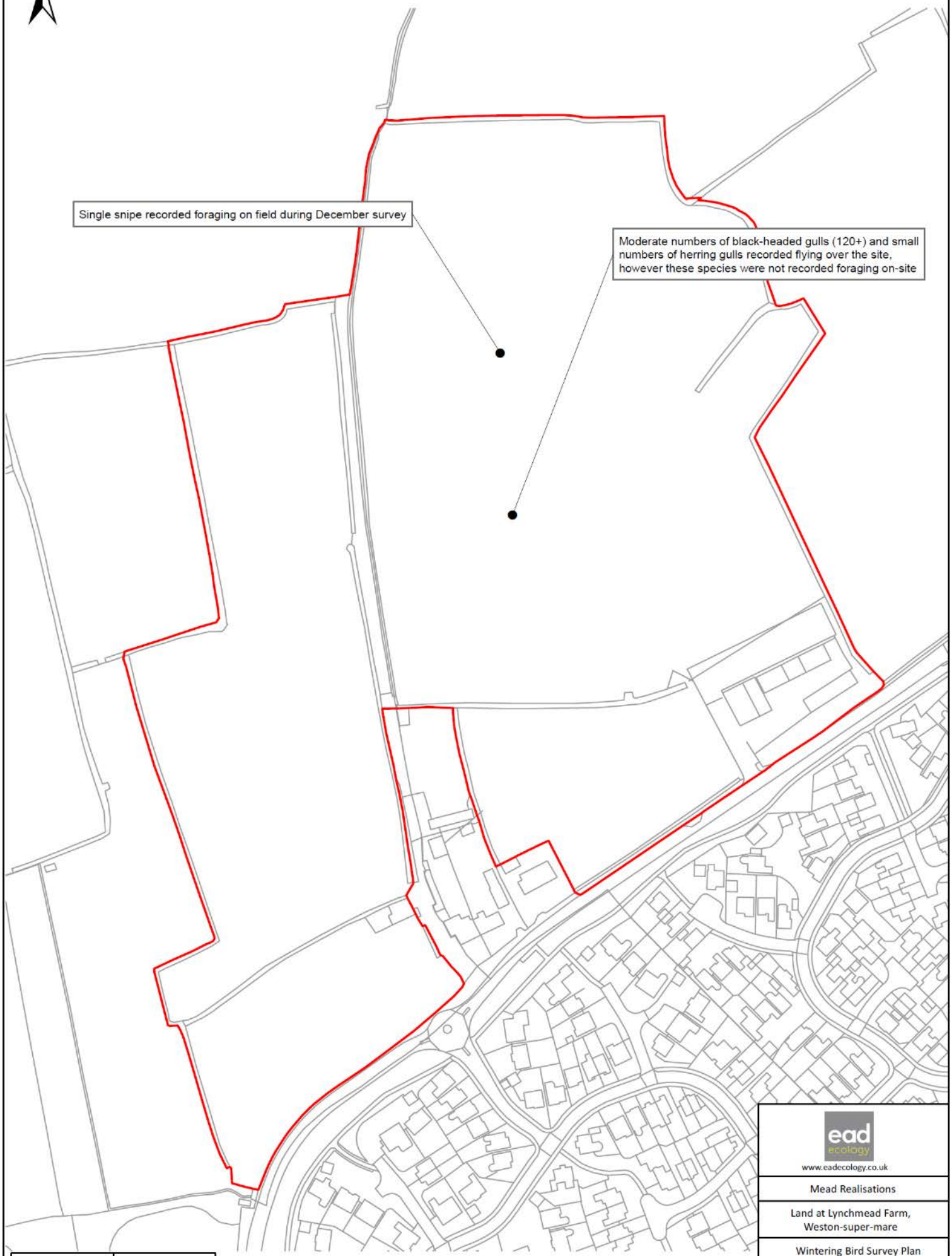
Wet ditches surrounding the fields are likely to support low numbers of common and widespread wetland species such as moorhen, mallard and grey heron during the winter months. Small numbers of snipe and teal may also occur, potentially in greater numbers during extreme weather conditions, although there are larger areas of more suitable habitat in the vicinity. The site lacked any significant areas of standing water, therefore the potential presence of diving duck/grebe species was excluded.

Overall, the site was assessed as being of Parish importance for wintering birds in accordance with CIEEM (2018) guidelines.

3 References

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. CIEEM, Winchester.

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 Isle of Man*. British Birds 108, 708–746.



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Land at Lynchmead Farm, Weston-super-mare

Wintering Bird Survey Plan

Date: 09/01/2019

Appendix 7: Hazel dormouse survey

Hazel dormouse survey

1 Methodology

The survey was undertaken following standard methodology (Bright *et al*. 2006). Dormouse nesting tubes were installed within suitable habitat within the survey boundary on 23 April 2018 (refer to Figure A7.1 for locations). Dormouse surveys were completed on 25 May, 22 June, 10 July, 7 August and 26 September 2018. 90 dormouse nest tubes were installed giving an index score of 37.8. The suggested minimum score for adequate survey effort is 20 (Chanin & Woods 2003).

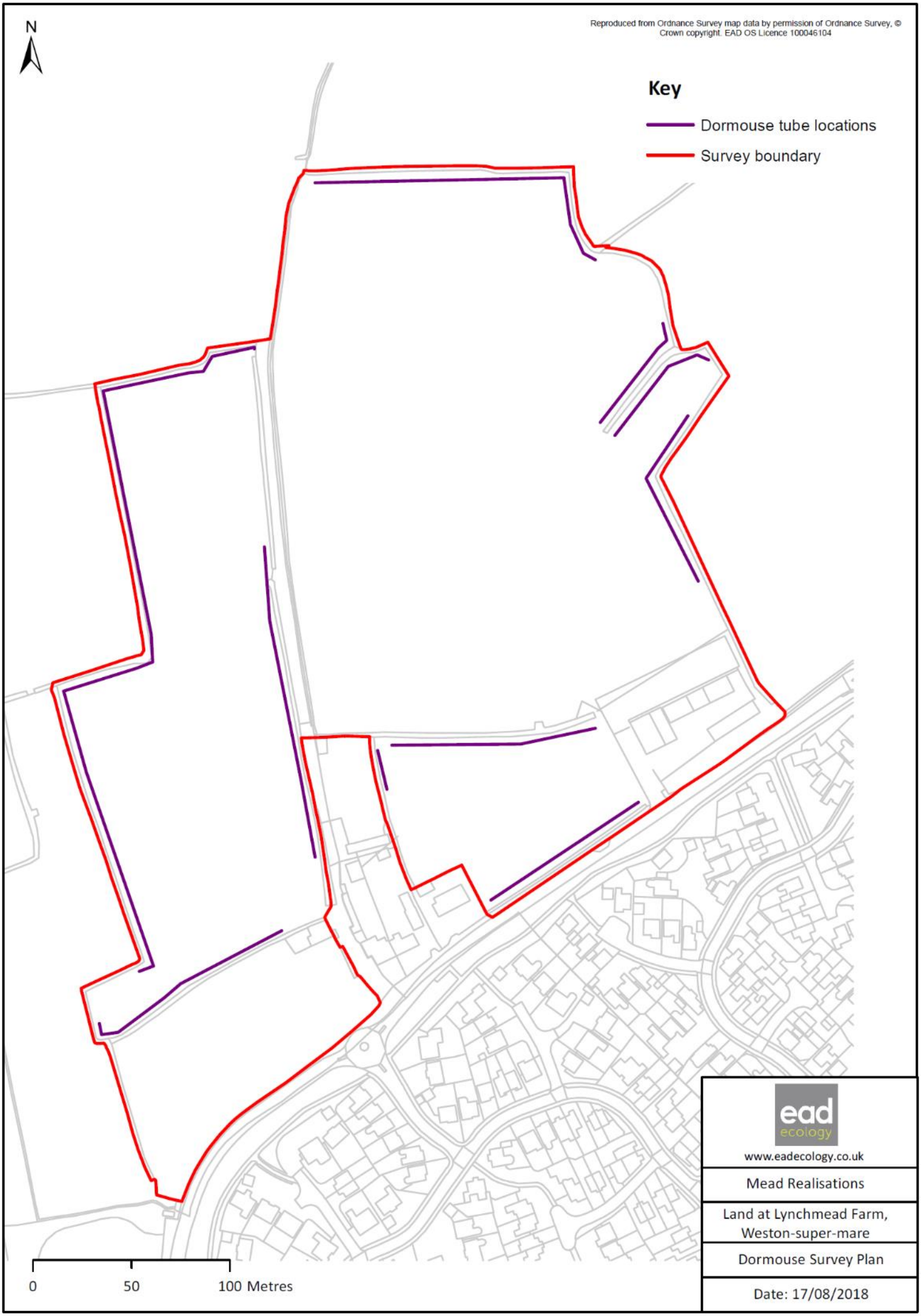
2 Results

No evidence of hazel dormouse was recorded during the nest tube survey.

3 References

Bright, P., Morris, P and Mitchell-Jones, T. 2006. *The Dormouse Conservation Handbook 2nd edition*. English Nature, Peterborough.

Chanin, P. & Woods, M., 2003. *Surveying dormice using nest tubes: results and experiences from the South West Dormouse Project*. English Nature Research Report 524. Peterborough.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Key
Dormouse tube locations
Survey boundary
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Land at Lynchmead Farm, Weston-super-mare
Dormouse Survey Plan
Date: 17/08/2018

Appendix 8: Badger survey results

Badger survey

1 Methodology

The badger survey was undertaken in accordance with the Mammal Society publication 'Surveying badgers' (Harris *et al*, 1989). A search for badger setts and other badger activity (e.g. hairs, pathways, latrines, foraging signs) was carried out on 4 May 2018. All areas of the sites were surveyed, in addition to a 30m buffer around the boundary where possible.

2 Results

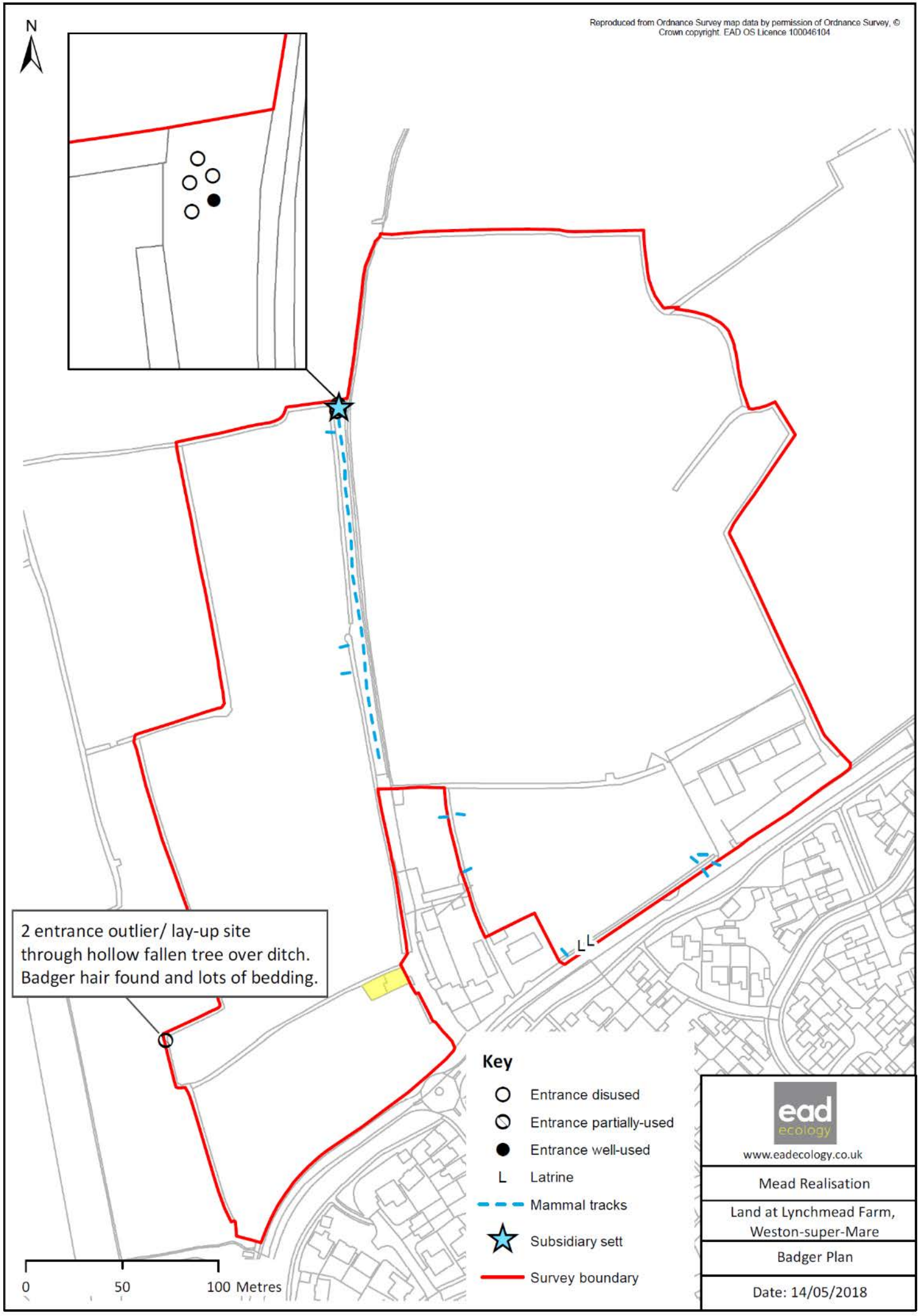
A partially-used subsidiary badger sett and a two-entrance outlier sett were recorded within site; refer to Badger Survey Plan below for locations.

Other evidence of badger activity within the site was also recorded, including prints, feeding signs, latrines and paths.

Habitats within the site provided suitable foraging habitat for badger.

3 References

Harris S, Cresswell P and Jefferies D (1989) *Surveying Badgers*. The Mammal Society, Bristol.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2 entrance outlier/ lay-up site through hollow fallen tree over ditch. Badger hair found and lots of bedding.
L
L
Key
Entrance disused
Entrance partially-used
Entrance well-used
L Latrine
Mammal tracks
Subsidiary sett
Survey boundary
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Mead Realisation
Land at Lynchmead Farm, Weston-super-Mare
Badger Plan
Date: 14/05/2018

Appendix 9: Bat roost survey

Bat roost survey

1 Methodology

Buildings

Both buildings within the site (refer to Figure A9.1) were subject to a ground-level bat roost assessment on 4 May 2018 for their potential to support roosting bats following BCT (2016) guidelines (refer to Table A9.1). All buildings were inspected externally.

The survey was completed by a Natural England licensed bat ecologist and involved a search of the exterior of the structures on the site for bat evidence (e.g. droppings; feeding remains). Binoculars, a high-powered torch and an endoscope were used as necessary.

Trees

All trees within the site were inspected on 4 May 2018 for their potential to support roosting bats following BCT 2016 Guidelines (refer to Table A9.1). Surveys were undertaken by a Natural England Licenced bat ecologist using binoculars to inspect the tree for its potential to support roosting bats.

Table A9.1 Assessing bat roost potential (taken from Collins, 2016)

Suitability	Description of Roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of the species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2 Results

Buildings

The smaller of the two industrial units was constructed of concrete block and render walls with a pitched corrugated sheet metal roof. In the larger of the two industrial units, lower half of the wall comprised concrete block and render, with the upper half constructed of wooden panels. The roof was pitched and comprised of corrugated metal.

Based on the lack of potential roosting features, both buildings were assessed as having 'Negligible' bat roost suitability, and no further roost surveys were undertaken.

Trees

Five trees with 'Moderate' bat roost potential and one tree with 'Low' bat roost potential were identified within the site; refer to Table A9.2.

Table A9.2. Ground based tree roost inspection

Tree Reference	Species	Bat roost features	BCT Roost Category (Collins 2016)
1	Ash	Multi-stem pollarded tree with woodpecker holes	Moderate
2	Ash		Negligible
3	Ash		Negligible
4	Ash	Hollow trunk	Moderate
5	Ash		Negligible
6 - 10	Group of birch tree		Negligible
11	Willow sp.		Negligible
12	Willow sp.	Four visible woodpecker holes	Moderate
13	Ash	Hollow trunk and dense ivy growth	Moderate
14	Unknown (dead tree)	Dense ivy growth and knot hole	Low
15	Willow sp.	Woodpecker holes and knot holes	Moderate

Tree 13 (refer to Figure A9.1) was located immediately adjacent to the proposed site access and assessed as having 'Moderate' bat roost potential. Two surveys were therefore undertaken in accordance with BCT guidelines; a dawn re-entry survey on 29 August 2018 and a dusk emergence survey on 25 September 2018. Surveys were undertaken during suitable weather conditions (refer to Table A9.3). Two surveyors equipped with bat detectors and recording equipment monitored the tree for any bats emerging at dusk or returning to roost at dawn. For the dusk survey, surveyors were in position for 15 minutes prior to sunset until approximately 1.5 hours after sunset; during the dawn survey, the surveyors were in position 1.5 hours prior to sunrise until sunrise. All bats were recorded for subsequent analysis to species where possible.

Table A9.3. Weather conditions during dusk/dawn surveys

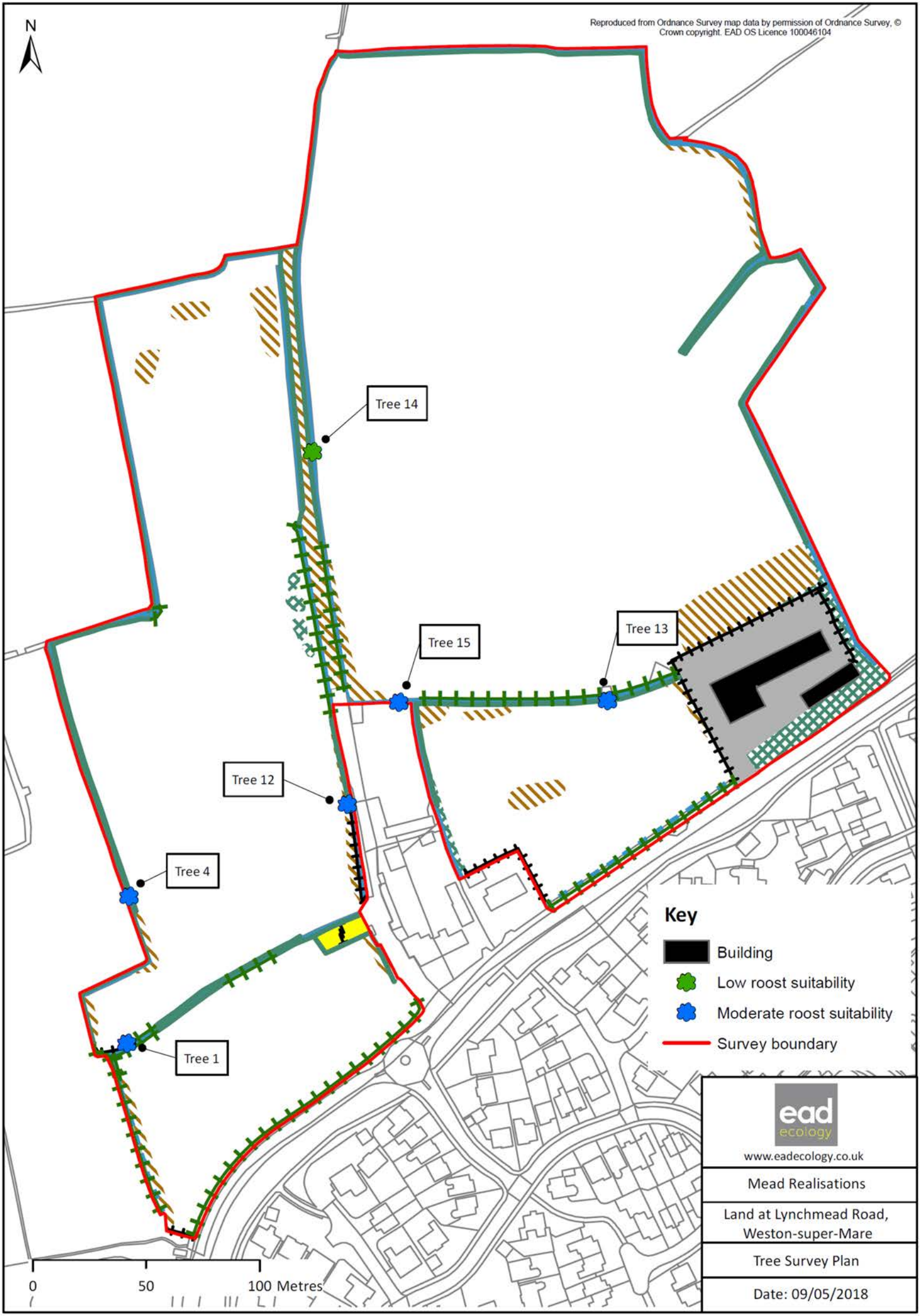
Date	**Temp**	**Cloud cover (%)**	**Wind**	**Rain**
29 August 2018	13	80	0	0
25 September 2018	12	50	0-1	0

No bats were recorded emerging from or re-entering Tree 13 and no evidence of bat roosts were recorded.

3 References

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

English Nature (2004) *Species Conservation Handbook*. English Nature, Peterborough.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Reproduced from Ordnance Survey map data by permission of Ordnance Survey, © Crown copyright. EAD OS Licence 100046104
Tree 14
Tree 15
Tree 13
Tree 12
Tree 4
Tree 1
Key
Building
Low roost suitability
Moderate roost suitability
Survey boundary
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Mead Realisations
Land at Lynchmead Road, Weston-super-Mare
Tree Survey Plan
Date: 09/05/2018

Appendix 10: Bat activity and static detector surveys

Bat activity and static detector survey

1 Methodology

Bat activity survey

The bat activity survey comprised two elements: transect survey and static detector survey. Transect surveys were carried out on a monthly basis and four static detectors were deployed on site for at least five nights per month between April and October 2018 in accordance with BCT guidelines (Collins, 2016). The survey was undertaken to determine the use of the site by bats by identifying the species present, their commuting routes and key foraging areas.

Transect survey

For each monthly transect survey, two surveyors walked one of two, predetermined transect routes within the site boundary (refer to Figure A10.1). The route contained six sample points where the number of bat calls was recorded over a three-minute period and observations were made of bat behaviour and flight direction, where possible. The starting point of the transect and direction in which it was walked was varied between surveys to reduce bias. Surveys began at sunset and lasted at least two hours. The transect was walked, and each sample point sampled, at least twice per survey visit. Surveyors were equipped with Anabat Express and Batbox Duet bat detectors in order to record any echolocation calls for subsequent analysis. A desk-based analysis of these recordings was subsequently undertaken using the software application 'AnalookW' and relevant literature (Russ 2012). A Bat Activity Index (BAI) was calculated for the transect sample point data, based on the number of bat registrations per minute.

Static detector survey

Four static bat detectors (Anabat Express detectors) were placed in separate locations within the site for at least five nights per month between April and October 2018. Analysis was undertaken following the same technique used for the bat transect survey data. A sufficient volume of data was collected to estimate relative bat activity, which was done by dividing the number of bat registrations by unit of time (in this case, per night). This provided a quantitative comparison of bat activity between species, locations and months.

Categorising greater horseshoe static detector survey results

In order to categorise bat activity recorded during the Static Detector surveys, a comparison was made of the BAI of the static detectors used in the present survey with the BAI of static detectors within a reference dataset; percentiles calculated using the reference dataset were used to define categories of bat activity. For example, a BAI recorded during the present survey, that fell between the 83.33 and 100 percentiles of the reference dataset, was considered to represent a 'High' level of activity. The reference data set is comprised of up to 88 static detectors and 16 sites in the South West of England; refer to Table A10.1 for details of the reference data set used for bat activity categorisation.

Table A10.1 Reference levels of bat activity

Data set	Month	Very Low Activity: <0 Percentile	Low Activity: 0 - 16.67 Percentile	Low/Moderate Activity: 16.67 - 33.33 Percentile	Moderate Activity: 33.33 - 66.67 Percentile	Moderate/High Activity: 66.67 - 83.33 Percentile	High Activity: 83.33 - 100 Percentile	Very High Activity: ≥ 100 Percentile
Greater Horseshoe Bat								
Static detector	Total (based on 88 static detectors at 16 sites)	BAI <0.00	BAI 0.00 – 0.12	BAI 0.12 - 0.24	BAI 0.24 – 0.66	BAI 0.66 – 1.66	BAI 1.66 – 30.93	BAI >30.93

Limitations
There were no significant limitations to the surveys.

2 Results

Bat activity survey
At least ten bat species were recorded during the transect and static detector surveys. Species name abbreviations used in the results hereafter are provided in Table A10.2.

Table A10.2: Species recorded during bat activity survey

Common name	Scientific name	Species code
Common pipistrelle	*Pipistrellus pipistrellus*	Pp
Soprano pipistrelle	*P. pygmaeus*	Ppyg
Pipistrelle species	*P. sp.*	Pip sp.
Nathusius' pipistrelle	*P. nathusii*	Pn
Lesser horseshoe bat	*Rhinolophus hipposideros*	LHS
Greater horseshoe bat	*R. ferrumequinum*	GHS
Long-eared bat species	*Plecotus sp.*	Pl sp.
Noctule	*Nyctalus nyctalus*	Nn
Nyctalus sp.	*Nyctalus sp.*	Nysp
Serotine	*Eptesicus serotinus*	Es
Nyctalus sp. or serotine	*Nyctalus/Eptesicus sp.*	Ny/Es
Barbastelle	*Barbastella barbastellus*	Bb
Myotis species	*Myotis sp.*	My sp.

Weather conditions during the transect surveys are provided in Table A10.3.

Table A10.3. Weather during bat activity surveys

Session	Date	Start – End Times	Sunset	Cloud (Octas) start / end	Wind start / end	Temp (^{0}C)
1	26.04.18	20.20-22.26	20.26	8/8 / 1/8	Force 0-1 / Force 0-1	10-9
2	30.05.18	21.15-23.16	21.16	8/8 / 8/8	Force 0 / Force 0	15-15
3	28.06.18	21.30-23.30	21.32	4/8 / 0/8	Force 0-1 / Force 0-1	23-23
4	23.07.18	21.05-23.13	21.13	2/8 / 4/8	Force 0-1 / Force 1-2	22-21
5	28.08.18	20.08-22.07	20.08	8/8 / 8/8	Force 0-1 / Force 0-1	16-16
6	17.09.18	19.23-21.23	21.23	0/8 / 0/8	Force 0 / Force 0-1	19-17
7	10.10.18	18.30-20.31	18.30	1/8 / 2/8	Force 1 / Force 1	19-17

A total of 306 bat calls from a minimum of six species were recorded at sample points during the seven transect surveys (refer to Table A10.4 and Graph A10.1). Of these calls, the majority (63%) were from common pipistrelle, 16% of calls were from serotine, 7% were from *Nyctalus* sp. or serotine, 5% were from soprano pipistrelle, and the remaining c.9% of calls were noctule, long-eared bat species, *Nyctalus* sp. and *Myotis* sp. The highest numbers of bat calls were recorded at Points F and E along the western side of the hedgerow that runs through the centre of the site (refer to Bat Survey Plan below). Bat activity and species diversity were lowest at Point K, located in the south eastern corner of the site, where occasional common pipistrelle passes and pipistrelle species were recorded. Records of serotine came from all Points except B, C and K.

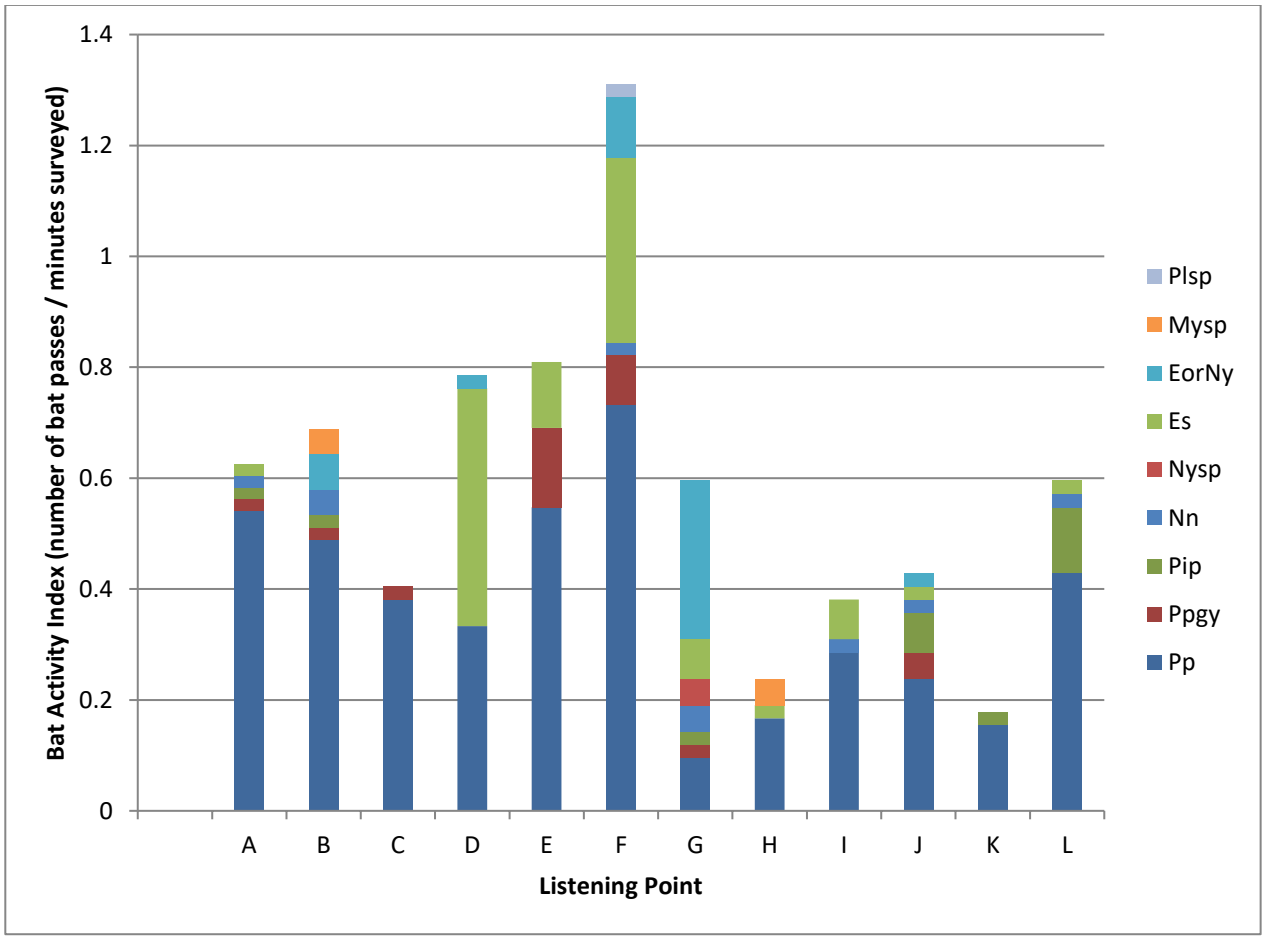
In terms of monthly variation, the highest number of bat calls at sample points (65) was recorded in July and the lowest (23) in May. Outside of sample points, generally low to moderate levels of common

pipistrelle activity were recorded at locations across the site. Occasional passes from soprano pipistrelle and *Nyctalus* sp/serotine were also recorded throughout.

Table A10.4: Summary of transect sample point data

Species	Listening Station												Total
	A	B	C	D	E	F	G	H	I	J	K	L	
Pp	26	22	16	14	23	33	4	7	12	10	7	18	192
Ppgy	1	1	1	0	6	4	1	0	0	2	0	0	16
Pip	1	1	0	0	0	0	1	0	0	3	1	5	12
Nn	1	2	0	0	0	1	2	0	1	1	0	1	9
Nysp	0	0	0	0	0	0	2	0	0	0	0	0	2
Es	1	0	0	18	5	15	3	1	3	1	0	1	48
EorNy	0	3	0	1	0	5	12	0	0	1	0	0	22
Mysp	0	2	0	0	0	0	0	2	0	0	0	0	4
Plsp	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	**30**	**31**	**17**	**33**	**34**	**59**	**25**	**10**	**16**	**18**	**8**	**25**	306

Graph A10.1 Bat Activity Index (BAI) of sample point data



Static detector survey

At least ten species were recorded during the static detector survey with an overall total of 33280 registrations (refer to Tables A10.5). Common pipistrelle was the most abundant species comprising 77% of all recordings, followed by soprano pipistrelle (12%), *Nyctalus* species (4%), serotine/*Nyctalus* species

(2%), serotine (2%), greater horseshoe bats (1%) and myotid bats (1%). Other species recorded on static detectors but accounting for less than 1% of registrations were Nathusius' pipistrelle, undetermined pipistrelle species, lesser horseshoe bat, barbastelle and long-eared bats.

The highest overall levels of bat activity were recorded at Position 2, located towards the centre of the site (refer to Figure A10.1), which recorded 273.1 bat passes per night on average. This location also recorded the highest levels of greater horseshoe bat (GHS) activity with a total of 193 registrations. Peak GHS activity occurred in August (BAI 12.57), with activity in April – July ranging from BAI 2.88 to BAI 4.5. No GHS were recorded at Position 2 in September and only one registration was recorded in October.

Position 3 was located in the western half of the site and recorded a BAI of 234 (refer to Figure A10.1 and Table A10.5). Common pipistrelle accounted for approximately 82% of all registrations recorded at this location. Position 3 recorded the highest levels of lesser horseshoe bat (LHS) registrations with 69% of all LHS registrations across the site. This position also recorded the second highest levels of GHS activity (BAI 1.53).

Position 4 was located near the south west corner of the site (refer to Figure A10.1). The activity at this position was 'moderate/high' in comparison with other EAD Ecology sites (BAI 153.72). This location recorded the highest level of myotid bats (BAI 2.70) and the only barbastelle registrations that were recorded on site (three registrations recorded in July).

Position 1 was located towards the north eastern boundary of the site and recorded the lowest levels of activity across the site (BAI 48.28; refer to Figure A10.1 and Table. A10.5). GHS activity at this location was 'moderate/high' (BAI 1), exceeding the levels of activity recorded at Position 4 (BAI 0.62).

GHS activity across the site was deemed 'moderate' in relation to other EAD Ecology sites within the south west. As mentioned previously, GHS activity at Position 2 was 'high' (BAI 4.11), Position 1 & 2 were 'moderate/high' (BAI 1 & 1.53, respectively), with Position 4 recording the lowest levels of GHS activity but this was still deemed to be 'moderate' levels of GHS activity (BAI 0.62). Positions 2 and 3 are located adjacent to or in close proximity to the central hedgerow that runs north to south.

Graph A10.2 Bat Activity Index (BAI) of static detector data

3 Reference

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

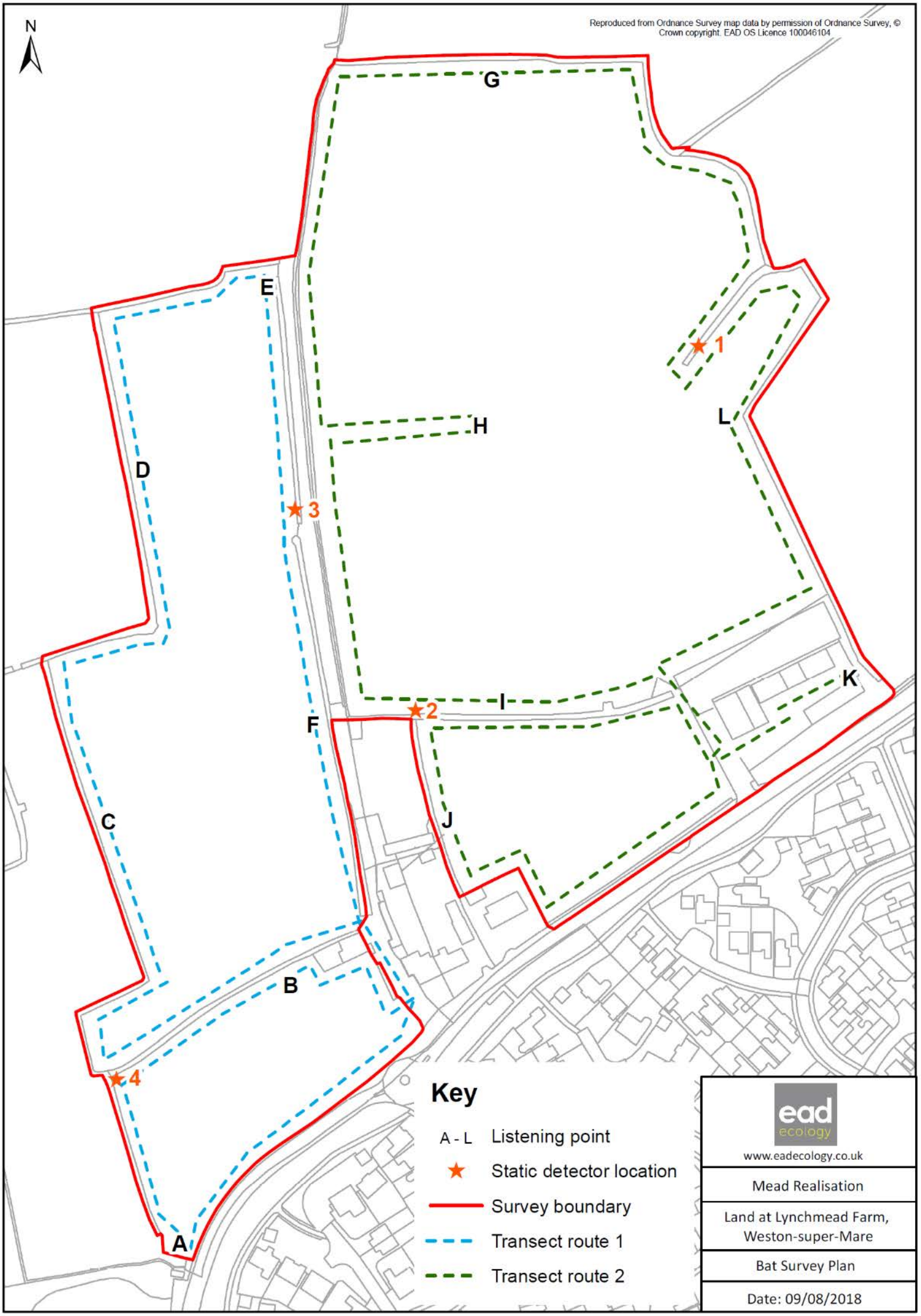
Russ J (2012) *British Bat Calls: A Guide to Species Identification.* Pelagic Publishing, Exeter

Table A10.5: Summary of static detector data

Detector Position	Month	No. of nights	Pp	Ppyg	Pip	Pn	LHS	GHS	Nn	Nysp	Es	Bb	EorNy	Mysp	Plsp	Total
Position 1	April	7.00	10.57	0.43	0.00	0.00	0.14	2.86	1.00	0.00	0.00	0.00	1.57	0.00	0.00	**16.57**
	May	6.00	14.17	2.17	0.00	0.00	0.17	0.67	4.00	0.67	1.50	0.00	1.67	0.33	0.50	**25.83**
	June	6.00	12.50	1.83	0.00	0.00	0.00	0.67	2.50	17.33	0.83	0.00	3.67	0.17	0.50	**40.00**
	July	9.00	33.33	1.11	0.22	0.00	0.00	0.56	0.44	6.22	5.22	0.00	0.44	0.44	0.44	**48.44**
	August	7.00	84.14	2.14	0.00	0.00	0.00	1.43	0.14	8.43	3.00	0.00	1.86	0.57	0.14	**101.86**
	September	6.00	36.50	2.17	0.00	0.00	0.00	0.33	0.50	12.00	6.50	0.00	4.33	5.17	0.50	**68.00**
	October	5.00	26.00	1.00	0.00	0.00	0.00	0.20	0.00	2.20	0.20	0.00	0.20	0.20	0.60	**30.60**
Total for position		**46.00**	**32.00**	**1.52**	**0.04**	**0.00**	**0.04**	**1.00**	**1.17**	**6.65**	**2.65**	**0.00**	**1.89**	**0.93**	**0.37**	**48.28**
Position 2	April	7.00	665.57	172.14	0.00	0.14	0.14	4.14	1.57	0.00	0.00	0.00	0.86	0.14	0.00	**844.71**
	May	6.00	20.17	2.17	0.00	0.00	0.17	4.50	2.83	0.00	1.33	0.00	1.50	0.83	0.00	**33.50**
	June	6.00	67.17	2.50	0.17	0.00	0.00	3.67	2.50	18.33	9.67	0.00	3.33	1.00	0.83	**109.17**
	July	9.00	128.56	19.44	0.56	0.00	0.00	2.89	1.78	21.44	11.67	0.00	8.56	0.78	0.33	**196.00**
	August	7.00	125.00	7.00	1.00	0.00	0.00	12.57	0.57	15.00	5.43	0.00	15.57	1.14	0.57	**183.86**
	September	6.00	102.83	3.17	0.00	0.00	0.00	0.00	0.33	8.67	0.17	0.00	2.83	3.33	0.17	**121.50**
	October	6.00	315.33	59.50	0.00	0.00	0.00	0.17	0.00	0.17	0.00	0.00	0.83	5.00	0.17	**381.17**
Total for position		**47.00**	**206.89**	**39.00**	**0.28**	**0.02**	**0.04**	**4.11**	**1.38**	**9.81**	**4.47**	**0.00**	**5.17**	**1.64**	**0.30**	**273.11**
Position 3	April	7.00	54.14	7.14	0.00	0.00	0.71	1.71	1.71	0.00	0.00	0.00	1.14	0.00	0.00	**66.57**
	May	6.00	598.50	46.00	0.00	0.00	0.17	4.83	2.17	0.00	3.00	0.00	1.00	4.33	0.17	**660.17**
	June	6.00	125.83	6.33	0.17	0.00	0.00	2.17	0.33	11.67	3.33	0.00	3.83	3.17	1.50	**158.33**
	July	9.00	119.11	8.78	0.00	0.00	0.33	1.11	3.00	14.44	4.78	0.00	3.78	1.89	0.00	**157.22**
	August	7.00	112.57	7.71	0.57	0.00	0.00	0.71	0.29	7.57	6.43	0.00	0.43	0.43	0.86	**137.57**
	September	6.00	138.50	51.00	2.33	0.00	1.33	0.33	0.17	9.67	6.17	0.00	4.67	1.17	0.83	**216.17**
	October	6.00	265.17	49.83	1.00	0.00	1.67	0.17	0.17	0.83	0.50	0.00	0.33	3.67	1.00	**324.33**
Total for position		47.00	**191.64**	**23.45**	**0.53**	**0.00**	**0.57**	**1.53**	**1.23**	**6.72**	**3.53**	**0.00**	**2.21**	**2.00**	**0.57**	**234.00**
Position 4	April	7.00	193.71	20.14	0.00	0.00	0.86	1.29	1.86	0.00	0.00	0.00	0.86	1.29	0.00	**220.00**
	May	6.00	54.17	8.17	0.00	0.00	0.17	0.67	0.67	0.00	0.00	0.00	0.83	1.83	0.17	**66.67**
	June	6.00	82.67	10.00	0.00	0.00	0.00	0.83	0.83	5.17	2.83	0.00	2.33	2.33	2.33	**109.33**
	July	9.00	171.00	27.11	1.00	0.00	0.00	0.11	1.22	6.00	0.22	0.33	10.89	1.78	2.22	**221.89**

Table A10.5: Summary of static detector data

Detector Position	Month	No. of nights	Pp	Ppyg	Pip	Pn	LHS	GHS	Nn	Nysp	Es	Bb	EorNy	Mysp	Plsp	Total
	August	7.00	123.43	47.14	24.29	0.00	0.00	1.29	0.57	23.86	1.86	0.00	6.86	2.29	0.29	**231.86**
	September	6.00	127.33	10.00	0.33	0.00	0.00	0.17	0.17	2.33	0.00	0.00	4.33	7.17	0.50	**152.33**
	October	6.00	12.00	0.00	0.00	0.00	0.17	0.00	0.00	0.67	0.00	0.00	0.00	3.00	0.00	**15.83**
Total for position		47.00	**115.23**	**18.81**	**3.85**	**0.00**	**0.17**	**0.62**	**0.81**	**5.74**	**0.68**	**0.06**	**4.19**	**2.70**	**0.85**	**153.72**
Overall average (all positions)			**137.00**	**20.80**	**1.18**	**0.01**	**0.21**	**1.82**	**1.15**	**7.24**	**2.83**	**0.02**	**3.37**	**1.82**	**0.52**	**177.97**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Reproduced from Ordnance Survey map data by permission of Ordnance Survey, © Crown copyright. EAD OS Licence 100046104
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F
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C
B
4
A
Key
A - L Listening point
Static detector location
Survey boundary
Transect route 1
Transect route 2
ead ecology
www.eadecology.co.uk
Mead Realisation
Land at Lynchmead Farm, Weston-super-Mare
Bat Survey Plan
Date: 09/08/2018

Appendix 11: Otter and water vole surveys

Otter and water vole survey

1 Methodology

A water vole and otter survey of the watercourses within the site was undertaken on 20 April 2018. The water vole survey followed standard methodology (Strachan and Moorhouse, 2006), which involved recording signs of water voles including burrows, latrines and feeding remains.

The otter survey followed standard guidelines (NRA, 1993), which involved recording signs of otter activity including prints, tail slides, feeding signs, spraint and potential places of refuge.

2 Results

No evidence of otter or water voles was recorded within the survey boundary.

3 References

Strachan R and Moorhouse T (2006). *Water Vole Conservation Handbook, 2nd Edition*. Wildlife Conservation Research Unit (WildCRU), Oxford University.

National Rivers Authority (1993). *Otters and River Habitat Management*. Conservation Technical Handbook Number 3.

Appendix 12: Baseline evaluation criteria

Baseline evaluation criteria

Key evaluation categories are as follows:

- International value (internationally designated sites, or sites meeting criteria for international designation. Sites supporting populations of internationally important species);
- UK value (sites with UK importance);
- National value (nationally designated sites (e.g. SSSIs) or sites meeting SSSI selection criteria. Sites containing viable areas of threatened Priority Habitat or supporting a viable population of Red Data Book species or supplying critical elements of their habitat requirements);
- Regional value (sites exceeding county-level designations but not meeting SSSI criteria. Sites containing viable areas of threatened habitats on the Regional BAP, supporting viable populations of species that are nationally scarce or included in the regional BAP due to rarity);
- County value (sites meeting criteria for county or metropolitan designations. Site containing a viable area of a threatened habitat identified on the county BAP or supporting viable populations of county or metropolitan rarities e.g. county BAP or county 'Red Data Book' species);
- District value (undesignated sites or features that are considered to appreciably enrich the habitat resource within the context of the Borough or District);
- Parish value (areas of habitat considered to appreciably enrich the habitat resource within the context of a parish or neighbourhood);
- Sub-Parish (ecological resource not meeting any of the above criteria).

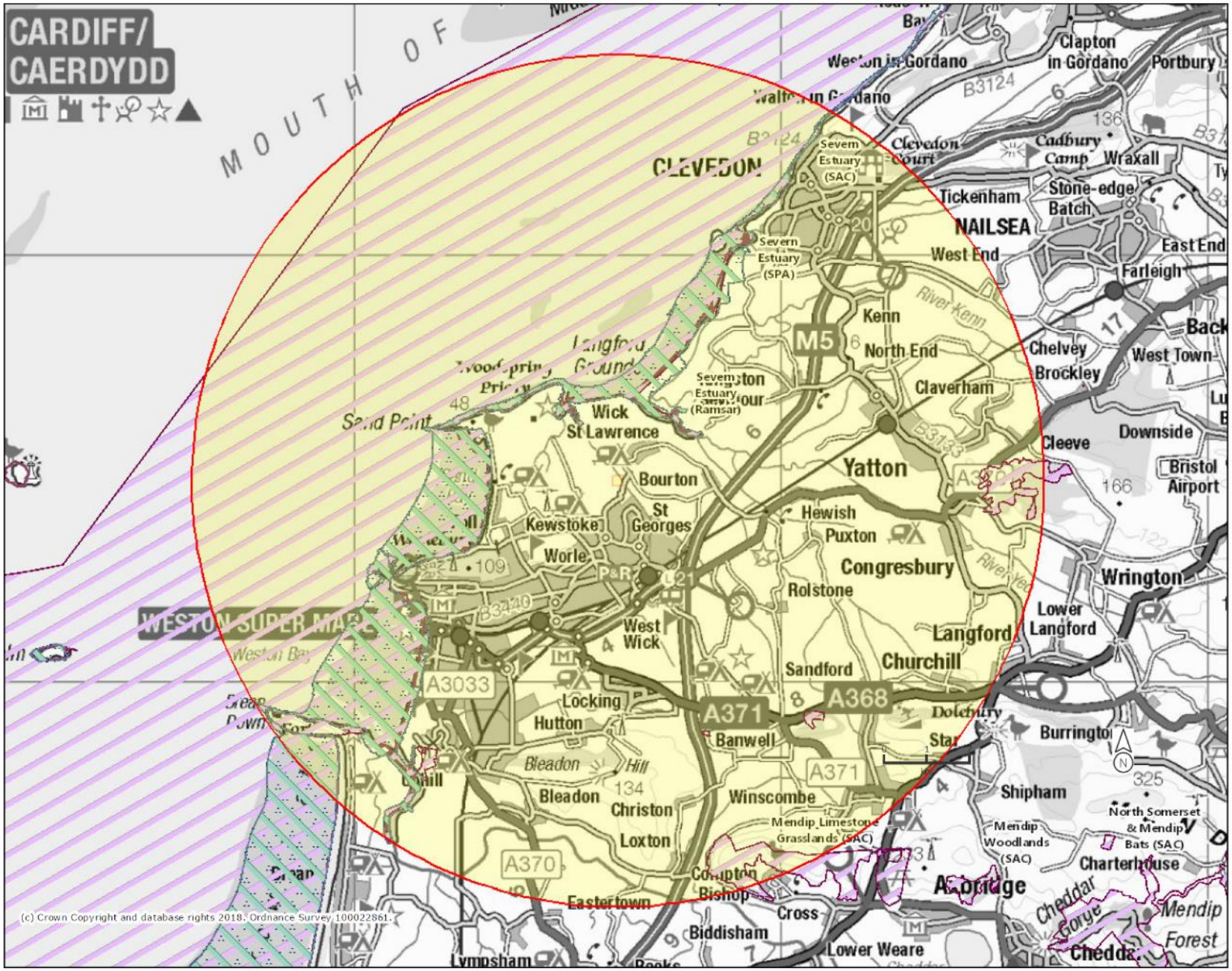
Additional criteria employed were from the following:

- Schedules and Annexes of UK and European wildlife legislation (e.g. Wildlife and Countryside Act (1981) (as amended) and Conservation of Habitats and Species Regulations 2017 (as amended);
- International conventions on wildlife (e.g. Bern Convention, Bonn Convention);
- Section 41 list of Habitats and Species of Principal Importance;
- Taxon-specific conservation lists (e.g. Red Data Lists; Red/Amber Lists).

Appendix 13: Designated sites of nature conservation importance

MAGiC

10km European designated sites



Legend

- Ramsar Sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

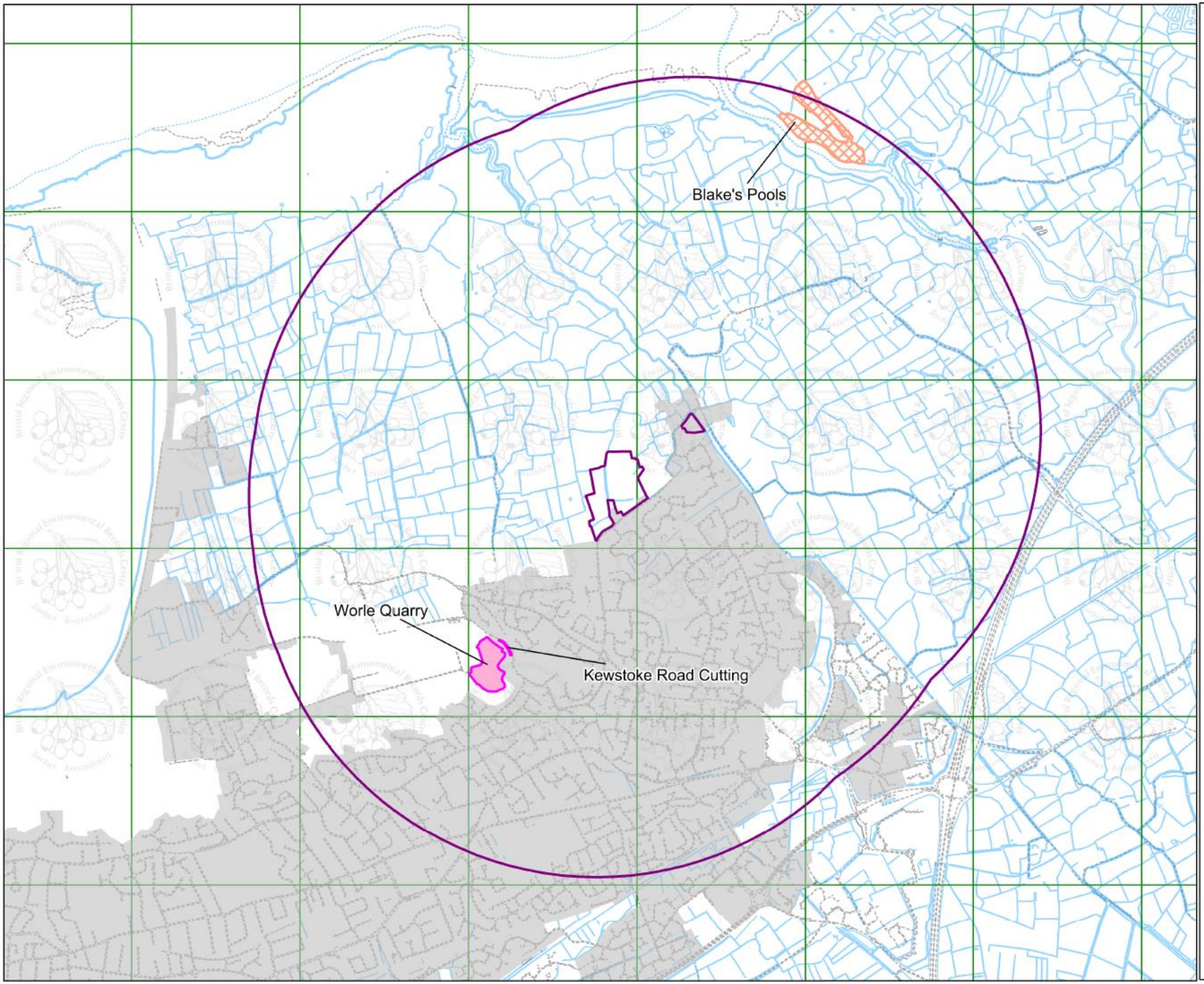
Projection = OSGB36
xmin = 318500
ymin = 153300
xmax = 353800
ymax = 175900

0 1.5 3
km

Map produced by MAGIC on 12 April, 2018.

European designated sites within 10km of the site

Site name	Nature conservation designation	Reason for designation	Approximate distance and direction from site
European designated sites within 10km			
Severn Estuary	SAC	Designated for the presence of the following habitats and species: • Estuaries; • Mudflats and sandflats not covered by seawater at low tide; • Sandbanks which are slightly covered by sea water all the time; • Reefs; • Atlantic salt meadows; • Sea lamprey; • River lamprey; • Twaite shad.	1.5km north
	SPA	Qualifies by regularly supporting at least 20,000 waterfowl, and by supporting populations of European importance of over-wintering Bewick's swan, curlew, dunlin, pintail, redshank and shelduck, and on-passage ringed plover.	
	Ramsar	Designated for its estuarine habitats, wintering birds and migratory fish populations.	
North Somerset and Mendip Bats	SAC	Designated for the presence of the following habitats and species: • Semi-natural grasslands and scrubland facies on calcareous substrates. • *Tilio-Acerion* forests of slopes, screes and ravines. • Caves not open to the public • Lesser horseshoe bat • Greater horseshoe bat	5.7km south-east
Mendip Limestone Grasslands	SAC	Designated for the presence of the following habitats and species: • Semi-natural grasslands and scrubland facies on calcareous substrates. • European dry heaths. • *Tilio-Acerion* forests of slopes, screes and ravines. • Caves not open to the public • Greater horseshoe bat	8.2km south-east



Enq 3821 Lynchmead Farm

Locations of RIGS & Avon Wildlife Trust Reserves

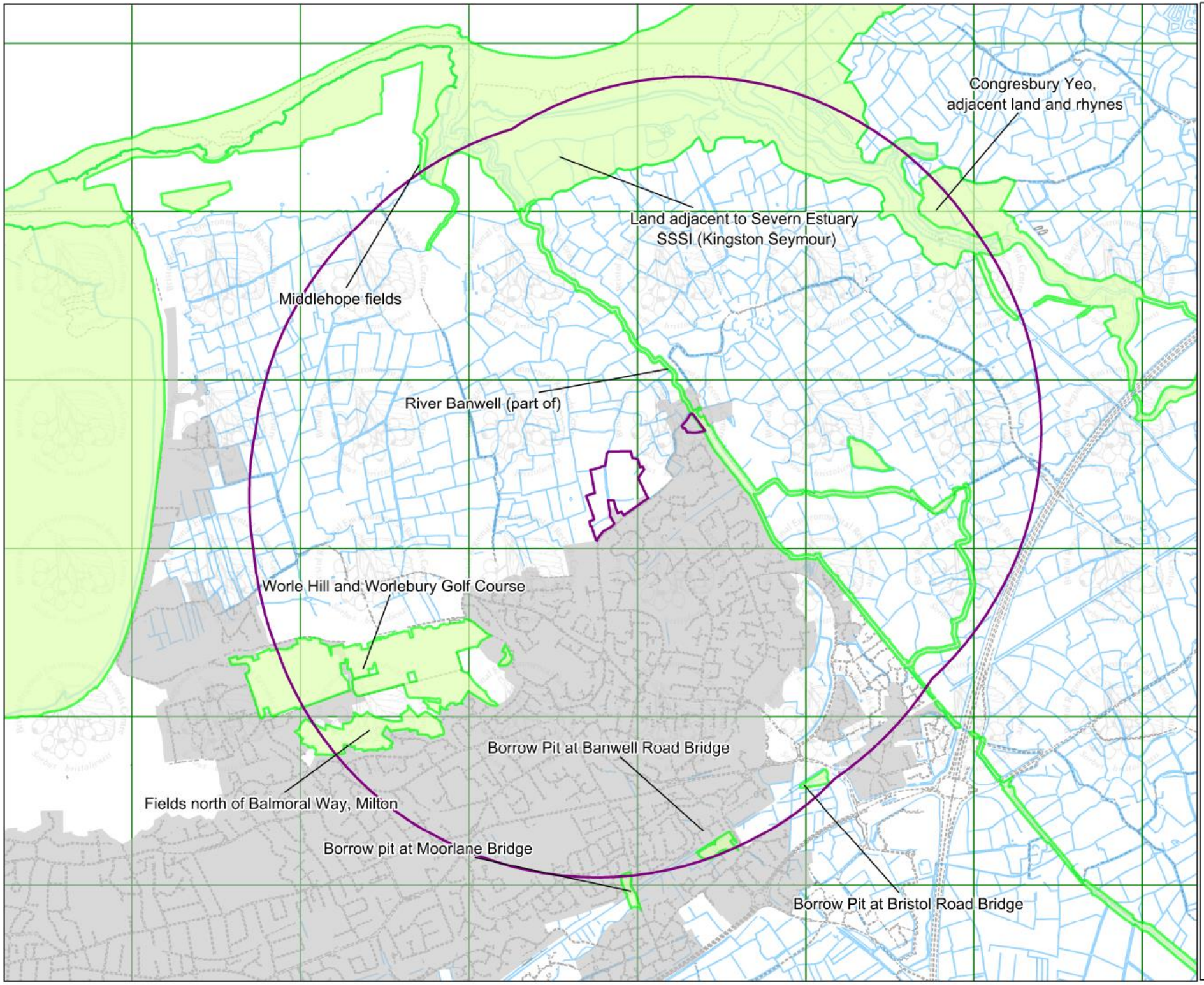
2km Buffer

N

Compiled by BRERC
on 12/04/2018

BRERC
St Nicholas Church
St Nicholas Street
Bristol, BS1 1UE

Bristol Regional Environmental Records Centre
Sorbus bristoliensis



Enq 3821 Lynchmead Farm

Locations of SNCIs

2km Buffer

Compiled by BRERC
on 12/04/2018

BRERC
St Nicholas Church
St Nicholas Street
Bristol, BS1 1UE

Bristol Regional Environmental Records Centre
Sorbus bristoliensis

Appendix 14: Natural England consultation

Date: 27 March 2019
Our ref: DAS/4313
Your ref: -

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

0300 060 3900

Ross Bower
EDA Ecology
3 Colleton Crescent
Exeter

BY EMAIL ONLY
rossb@eadecology.co.uk

Dear Mr Bower

Discretionary Advice Service (Charged Advice)
Contract Reference: 14025
Development proposal and location: Residential development, Land at Lynchmead Farm, Weston-super-Mare Ebdon Road, Weston-super-Mare, Somerset

Thank you for your consultation on the above dated 07 February 2019, which was received on the same date.

This advice is being provided as part of Natural England's Discretionary Advice Service. EDA Ecology has asked Natural England to provide advice upon the Severn Estuary European Site (s) in relation to:

- Potential recreational impacts
- Strategic mitigation requirements and project level mitigation measures
- Project level HRA screening requirements

This advice is provided in accordance with the Quotation and Agreement dated 04 March 2019 and is based upon the information within:

1. The DAS request form
2. Maps showing the boundary and location of two potential development sites
3. Emerging evidence regarding recreational effects on European sites

Protected sites
The two potential development sites are located on the eastern side of Weston-super-Mare, approximately 1.5km from the Severn Estuary SAC, SPA, Ramsar designated sites.

Based on the information provided, including the distance of the estuary from the development sites and the reported absence of SPA bird species recorded within close or close to these site during November and January 2019, it appears reasonable to conclude that direct impacts on the interests of the Severn Estuary European site are not likely to occur.

Aerial photography suggests that land between the estuary and development site is undeveloped farmland, drained by a network of rhynes. More information will be needed to understand any

potential hydrological links and to rule out a risk of water contamination during the construction and/or operational phases.

Notwithstanding the above, Natural England's main concern relates to the potential for an increase in recreational pressure on the Severn Estuary that could result from the proposed new housing, such as disturbance to SPA/Ramsar bird species and damage to SAC features.

The Joint Spatial Plan Habitats Regulations Assessment also concluded significant effects on European sites are likely to occur as a result of increased recreation and identified the need for a West of England Green Infrastructure Plan and suitable strategic mitigation measures to address this issue.

The preparation of the WoE GI plan is ongoing and further information is being gathered to inform the detailed mitigation measures that will be needed to protect designated sites whilst accommodating development requirements. Evidence will include a visitor survey to help determine a zone of influence for each N2K site in relation to new development, however it is likely that your development sites will fall within a ZoI for the Severn Estuary SAC, SPA, Ramsar site.

We recognise the number of houses being proposed for the two development sites (75 and 27 respectively) represent a relatively small proportion of all housing in Weston-super-Mare and we would not expect the number of visits to the Severn Estuary generated by new residents would be likely to be significant on its own; we are however concerned about cumulative increases. We also understand that little or no green space would be provided as part of these developments.

We note an Ecological Impact Assessment (EcIA) report will accompany future planning applications and will include consideration of potential effects on the Severn Estuary.

Ahead of the detailed strategic mitigation measures for European sites being in place, we would expect a proportionate 'off-site' contribution to the creation of green space/green infrastructure or to securing measurable enhancement of existing green space/infrastructure would be sufficient to mitigate the effects of any increase in recreation that could result from your developments. The Council may have some suggestions as to current or planned projects to which a contribution could be made, but we would advise that it is as close to your application sites as possible and, ideally, also close to the Estuary.

We also note and welcome the measures that will be included to minimise impacts on bats which should help to avoid impacts on horseshoe bats associated with the North Somerset & Mendip Bats SAC.

We cannot however confirm whether North Somerset Council, as the competent authority under the Habitat Regulations, will require a 'shadow' HRA to support a future planning application, but we would expect the measures set out above to be relevant to determining the likelihood of significant effects on European sites.

Biodiversity net gain

Natural England supports the use of the Defra biodiversity metric as a tool to be used in conjunction with ecological advice to quantify biodiversity net gain in the terrestrial environment. It calculates before and after habitat value in terms of 'biodiversity units'. Natural England encourages the incorporation of the 10 best practice principles developed by CIRIA/CIEEM/IEMA for those delivering biodiversity net gain.

Natural England is working to update the Defra biodiversity metric to take account of stakeholder feedback and we plan to release a new version (Defra Biodiversity Metric 2.0) in Spring 2019, accompanied by detailed guidance and a tool to apply the metric.

Other advice

There are also other possible impacts resulting from this proposal that you should consider when developing your planning application. These issues, together with where you may find further

guidance, are summarised below.

Local wildlife sites
Local wildlife or geological sites remain material considerations in the determination of planning applications. Further information may be available from North Somerset Council, Bristol Environmental Records Centre and Avon Wildlife Trust. A more comprehensive, but not exhaustive, list can be found at Wildlife and Countryside link.

Local landscape
The impact of this proposal on a local landscape character (if any) will be a material consideration when the authority determines your planning application. Further information on any local landscape character assessment may be available from North Somerset Council.

Protected species
Natural England has produced Standing Advice which is available on its website. Whilst this advice is primarily designed to assist local planning authorities better understand the information required when assessing the impact of developments upon protected species, it also contains a wealth of information to help applicants ensure that their applications comply with good practice guidelines and contribute to sustainable development. In particular I would draw your attention to the flow chart which gives guidance on the species that are likely to be present on the application site based upon readily identifiable habitat features. Please refer to this Standing Advice for further information on what information the authority may require in terms of survey and mitigation proposals.

Further information can also be obtained from The Institute of Ecology and Environmental Management, The Bat Conservation Trust and Biodiversity Planning Toolkit for more guidance.

For clarification of any points in this letter, please contact me on 07900 608311.

This letter concludes Natural England's Advice within the Quotation and Agreement dated 4th March 2019.

commercialservices@naturalengland.org.uk
As the Discretionary Advice Service is a new service, we would appreciate your feedback to help shape this service. We have attached a feedback form to this letter and would welcome any comments you might have about our service.

☒ The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely

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