



# The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4 Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

[REDACTED]

Date: 31/05/2019

**Ref – P2942, Yapton Road, Barnham.**

Dear Bassil Asslam,

This letter has been written to outline any ecological changes to Preliminary Ecological Appraisal (PEA) and Phase 1 survey findings conducted on the 18<sup>th</sup> of March 2015. This letter report follows on from a walkover survey undertaken by Sophie Bradfield BSc on 13/05/19. This updated PEA details the potential for protected/notable species and/or habitats to be present at the site and assesses any new constraints with respect to the implementation of a new residential development and associated landscaping, including removal of a section of hedge for access. Measures to avoid, mitigate and/or compensate for adverse impacts and effects are outlined. The survey was undertaken at the request of Orchestra Land.

## **Background**

The land north of Yapton road, Barnham (grid reference: SU 96661 04066) is situated in a semi-rural location with further unmanaged grassland immediately north, residential dwellings south, east and west and the wider landscape includes hedge-lined arable fields and small woodland blocks (see Figure 1). The proposed development area comprises a small one-hectare site of predominantly sheep-grazed pasture with fence-lined boundaries, which include a single south-facing hedgerow, and small areas of scattered trees.



Figure 1. An aerial image showing the location of the site. The approximate site boundary is outlined in red. Images produced courtesy of Google maps (Map data ©2019 Google).

## Policy and Legislation

This letter report provides guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (see Appendices 1 & 2).

## Methodology

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017)<sup>1</sup>, but also consider the Guidelines for Ecological Report Writing, Second Edition (CIEEM 2017)<sup>2</sup> and the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018)<sup>3</sup>.

## Desk Study

Whilst a full biodiversity record search was not considered appropriate for this update, records for relevant habitats and species have been obtained from an ecological report produced in 2018 by The Ecology Co-op for a property that lies 81 metres west of the survey area. The records are from the Sussex Biodiversity Record Centre (SxBC) within a radius of 1km of the site. This report is publicly available via the Arun Public Portal<sup>4</sup>.

To update previous records, a search of on-line mapping resources was undertaken to identify the location of any new features of potential ecological interest including ponds within 500m, watercourses and connectivity to woodland, scrub, and hedgerow networks in the wider landscape around the site. The connectivity of the site to these features is also relevant to protected/notable species.

The MAGIC website resource ([www.magic.gov.uk](http://www.magic.gov.uk)) was used to update records of designated sites for nature conservation and European Protected Species (EPS) licences granted in relation to the survey site.

<sup>1</sup> CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>2</sup> CIEEM (2017) *Guidelines for Ecological Report Writing, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>3</sup> CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>4</sup> The Ecology Co-op (2018). *Preliminary Ecological Appraisal – Land north of Sunnyside Cottages, Barnham*. The Ecology Co-op, Lodsworth, West Sussex

<sup>5</sup> The ecology co-op (2015) *Preliminary Ecological Appraisal and phase 1 Habitat Assessment*. The ecology co-op, Lodsworth, Midhurst.

### Phase 1 Habitat Survey

A site walkover survey was undertaken on 13/05/19, during which the habitats contained within the site were described and evaluated, and cross-referenced with findings of previous surveys (2015). All habitat types within the site, together with dominant species and indicator species of important habitat types were recorded. Site features were evaluated for their potential to support legally protected species and/or species of conservation interest.

### Baseline conditions

#### Designated sites

There are no designated sites within 1km of the site. A small area of ancient woodland exists at approximately 1km north of the site. There are no granted EPS licences for mitigation projects within 1km of the site boundaries.

#### Phase 1 Habitats

The original PEA and Phase 1 Habitat Survey conducted in 2015, mapped three habitat types: poor semi-improved grassland, species-poor intact hedge and coniferous scattered trees, with three hawthorns and a blackthorn target noted. The report highlighted the potential for nesting birds and foraging bats to be supported by the site, which was reflected in the mitigation and enhancements outlined in the report<sup>5</sup>.

Table 1 below lists the current Phase 1 Habitat categories found at the site, with target notes on specific features of interest and the general species composition. The Phase 1 Habitat Map for the site and key to the standard mapping symbols used are presented in Figures 2 and 3.

**Table 1.** The Phase 1 habitats contained within the site.

| Habitat type                | JNCC Code | Area(ha)/ length (m)                 | Target note including general species composition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|-----------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Improved grassland          | B4        | 1 ha                                 | Over 50% comprised of agricultural grasses including barren brome <i>Bromis sterilis</i> , perennial ryegrass <i>Lolium perenne</i> , Yorkshire fog <i>Holcus lanatus</i> , meadow sp. <i>Poa</i> , stands of creeping thistle <i>Cirsium arvense</i> and nettle <i>Urtica dioica</i> exist here indicating local improvement. Herbaceous species include vetch sp <i>Vicia</i> , forget-me-not <i>Myosotis</i> , cleavers <i>Galium aparine</i> , cranes bill sp <i>Geranium</i> , and common mouse-ear chickweed <i>Cerastium fontanum</i> . |
| Species-poor intact hedge   | J2.1.2    | 111m                                 | Below 5 no. woody species, categorising it as 'species-poor', these include: hazel <i>Corylus avellana</i> , elder <i>Sambucus nigra</i> , hawthorn <i>Crataegus monogyna</i> , blackthorn <i>Prunus spinosa</i> and non-woody species include bramble <i>Rubus fruticosus</i> . The understory is dominated by nettle and cleavers.                                                                                                                                                                                                           |
| Coniferous scattered trees  | A3.2      | 21m                                  | South-west edge: several mature conifer trees <i>Pinophyta</i> , one semi-mature elder, with an understory of nettles and bramble.                                                                                                                                                                                                                                                                                                                                                                                                             |
| Broadleaved scattered trees | A3.1      | N boundary: 0.5 m<br>E boundary: 15m | Northern edge: a single hawthorn bush.<br><br>East boundary: hawthorn, hazel coppice, white poplar <i>Populus alba</i> and rose species <i>Rosa</i> , all of which semi-mature.                                                                                                                                                                                                                                                                                                                                                                |
| Fence                       | J2.4      | 448m                                 | A wooden fence exists along north, east and southern boundaries. A wire-mesh fence lines the western boundary.                                                                                                                                                                                                                                                                                                                                                                                                                                 |



Figure 2. Phase 1 Habitat map of the site.

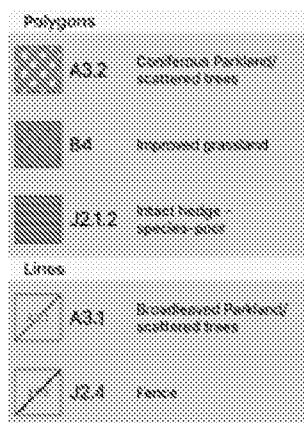


Figure 3. Key for Phase 1 Habitat map



Left to right: improved grassland, species-poor intact hedge, coniferous scattered trees.

### **Badgers**

No signs of any badger *Meles meles* activity was seen during the survey assessment, though there are habitats of value for this species within the site and surrounding landscape.

### **Bats**

Several tree species, which were not identified in the 2015 report, were identified in the updated PEA, suggesting recent planting. None of the trees or hedges identified were considered suitable to support potential roosting features, however, the trees and the hedges which exist on the site provide navigational and foraging habitat for bats.

SxBRC provided 17 bat records in the search area, comprising of 7 identified species. The species include: serotine *Eptesicus serotinus* – one record, common pipistrelle *Pipistrellus pipistrellus* – four records, soprano pipistrelle *Pipistrellus pygmaeus* – one record, brown long-eared bat *Plecotus auratus* – one record, long-eared bat *Plecotus* – two records, Nathesius pipistrelle *Pipistrellus nathusii* – one record, noctule *Nyctalus noctula* – one record, western barbastelle *Barbastella barbastellus* – five records, and one unspecified bat record. The closest record refers to a brown long-eared bat, dated 1/6/2017, located 180m south-west of the site, and a soprano pipistrelle bat dated 3/10/2015. The exact location of the Barbastelle records were not provided by the records centre but were situated within the parish of Barnham<sup>4</sup>.

### **Breeding birds**

All of the hedge and trees have potential to support nesting birds. A single pigeon *Columbidae* nest was identified in an elder tree within the hedgerow during the survey.

SxBRC provided numerous bird records for the search area concerning a total of 107 species. The majority of the records returned were waterfowl and are not relevant to the proposed development site. However, the following S41 species could potentially breed in the hedgerow: dunnoek *Prunella modularis* and song thrush *Turdus philomelo*<sup>5</sup>.

### **Dormice**

The site contains no woodland, scrub or hedgerows suitable for hazel dormice *Muscardinus avellanarius* and the species is highly unlikely to be present.

### **Great crested newts and other amphibians**

Although no ponds were identified in the 2015 report, the current assessment identified four ponds within 500m of the site, two of which (Ponds 1 and 2) exist in the garden immediately west of the site and were assessed for their suitability to support great crested newts *Triturus cristatus*. The third exists approximately 210m east of the site and a fourth pond was identified 113m south of the site, but neither could be accessed at the time (see figure 4). The report for land 81m west of the proposed development site includes a Habitat Suitability Index survey<sup>4</sup> for Pond 4 and the information has been reproduced here.

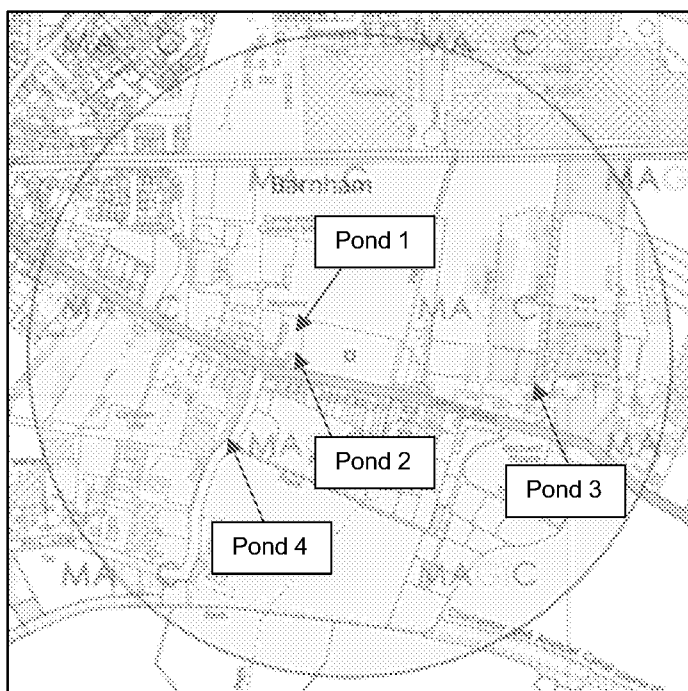


Figure 4. Map of pond locations.

Overall, Pond 1 had a HSI value of 0.59 and was rated as 'below average' suitability. Pond 2 had a HSI score of 0.30 and is considered to have 'poor suitability' – further surveys are not necessary. Pond 3 could not be assessed due to access limitations. Pond 4 has a HSI score of 0.55 with below average suitability<sup>7</sup>. (See Appendix 3 for detailed pond descriptions and HSI results.)

There is potential that newts are able to travel between Ponds 1 and 3, should Pond 3 have suitability for great crested newts. Any great crested newts which have potential to exist in Pond 4 are unlikely to travel to the survey site, due to the presence of a ditch and curbed main road representing a significant barrier to the site.

SxBRC provided 14 amphibian records in the search area. This included two records for great crested newt, two records for smooth newt *Lissotriton vulgaris*, six records for common frog *Rana temporaria* and four records for common toad *Bufo bufo*. The closest of these was a record for a great crested newt male 500m north from the boundary of the site, dated 14/05/2012<sup>7</sup>.

It is considered unlikely that great crested newts are utilizing the grazed grassland at the survey site due to the short and uneven length of the sward structure; however, they could be using the hedgerow and the taller vegetation at the north and east boundaries of the site to commute through, if Pond 3 has habitats of value for breeding newts.

## Reptiles

The grassland habitat along the edges of the site adjacent to the boundaries, provide suitable habitat for common reptile species, particularly common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*. The hedgerow along the southern boundary provides a hibernaculum and a commuting feature. Despite this, the majority of the site comprises of grazed grassland, with bare areas and a maximum height of 10cm, which is unlikely to support reptiles given the amount of suitable habitat existing north of the site.

The initial PEA and Phase 1 Habitat Survey confirmed suitability for reptiles<sup>5</sup>, therefore a presence/likely absence survey was conducted between April and May 2015. This confirmed a low population of slow worms at the site, with a peak count of one slow worm along the eastern boundary by the public

footpath, within the dense grass<sup>2</sup>.

Additionally, SxBRC provided 86 reptile records in the search area including records for slow worm, grass snake *Natrix natrix* and common lizard. The closest of these is 320m north-west from the boundary of the site and includes common lizard, grass snake and slow worm, dated April 2011<sup>7</sup>.

### **Invasive non-native species**

No evidence of invasive non-native species was found during the walkover survey.

### **Hedgehogs**

Although no background data exists to support the presence of European hedgehogs *Erinaceus europaeus* on this parcel of land, the grassland would provide suitable foraging habitat for hedgehogs, the hedgerows would provide suitable cover for hedgehogs, and the taller vegetation adjacent to the site would provide suitable cover for this species.

SxBRC provided multiple records of the European hedgehog with one 71m south-west of the site, dated 2003. A more recent record was returned 550m south-west of the site dated June 2017<sup>7</sup>.

### **Survey limitations**

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year.

Pond 3 could not be accessed, therefore it is difficult to make an accurate judgement of the presence of great crested newts. Additionally, ponds sometimes manifest themselves (or home owners create new ponds) after online mapping is updated and therefore not all ponds can be accounted for.

### **Impact appraisal**

#### **Habitats**

The majority of the site is comprised of improved grassland which is of low ecological value, with low diversity of herbaceous plants, dominated by agricultural species. The intact species-poor hedge and semi nature scattered trees is considered to be of moderate value. This hedge lies close to coniferous scattered coniferous trees. Whilst coniferous trees are of little value alone they provide connective habitat to the rest of the hedge.

The proposed development will result in the direct loss of improved grassland for landscaping and construction purposes which will cause a likely negative impact at site level. There will also be a direct loss in a section of hedge for access, resulting in a likely low negative impact at local level.

The loss of hedge must be replaced in a ratio of 3:1 with native species-rich hedge. The scattered trees should be retained.

#### **Bats**

The hedgerow and semi-mature trees are likely to be of value for foraging and commuting bats and the grassland holds some foraging interest for bats. These habitats form part of a wider resource across the landscape.

A small portion of the continuous species-poor hedge will be removed for access, and the grassland

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<sup>2</sup> The Ecology Co-op (2015). *Reptile Survey Report High Fields, Yapton Road, Barnham West Sussex*. The Ecology Co-op Lodsworth, West Sussex.

will likely be removed for landscaping purposes, potentially causing a direct negative impact at site level to foraging bats. Additionally, artificial lighting may disturb bats which may be present causing temporary displacement, therefore causing an indirect negative impact at site level to foraging bats.

In order to enhance the site, it is recommended that the soft landscaping plans include the seeding of a grassland and wildflower mix, which will support a variety of invertebrates. In addition, bats would benefit from re-enforcement of the hedgerow with native trees, closing existing gaps. Hedgerow planting along each boundary of the site would create new habitat corridors between the site and the wider landscape.

As the site may be used by foraging and commuting bats, it is important that the potential for disturbance from artificial lights is considered. The proposed development should include an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust, outlined in the initial PEA<sup>5</sup>.

### **Breeding birds**

The hedgerow and scattered trees contained in the site have a high potential to support a variety of common nesting birds. It will be essential for any future development to consider the nesting bird season and any vegetation removal and/or building demolition should be timed outside of the nesting bird season (typically 1st March to 31st August), unless features are first searched by a suitably qualified ecologist and no active nests are found.

As a small proportion of hedgerow will be removed to allow access, this has potential to cause a likely direct negative impact at the site level to breeding birds.

Reinforcement of the existing hedgerow with native species as specified for bats will serve to provide additional nesting and foraging habitat for birds, as well as mitigate losses, whilst additional hedge planting along the boundaries will create new nesting opportunities. Additionally, the enhancements of wildflower and grass seeding may improve the invertebrate diversity at the site, providing an additional food source for birds.

### **Great crested newts**

Great crested newts could potentially use the hedgerow along the southern boundary and/or the tall grassy verges at the northern and eastern boundaries of the site as suitable hibernacula's. Pond 1 is 'below average' in value for breeding newts and exists adjacent to the western boundary of the site. Newts are more likely to be present when there are multiple ponds of breeding value. A second pond exists 210m east of the site and therefore newts may be commuting between the two using the terrestrial values outlined although this is uncertain as the pond could not be assessed.

A small proportion of hedge will be removed for access, resulting in a likely direct adverse impact at site level to any potential terrestrial great crested newts. Additionally, losses to unmaintained grassland adjacent to the boundaries of the site will also result in a likely direct adverse impact at site level to great crested newts which may exist without the relevant mitigation.

Consequently, it is deemed appropriate to proceed under precautionary mitigation. A two-phase strim should be undertaken at temperatures between 9 and 18 degrees, initially to a height of 10cm and a second strim as low as possible. The grassland must then be maintained at this height until construction. Following the implementation of the strimming, reptile fencing should be installed at the edges of the grassland, providing a barrier to prevent any newts from commuting through the grassland. The hedge should be hand-searched for reptiles prior to removal.

Hedgerow planting and hedge reinforcement will mitigate for the small losses of suitable terrestrial great

crested newt habitat, create additional hibernacula, and commuting corridors between existing ponds. Planting a wildflower and grass mix will also provide additional foraging material for newts.

### **Reptiles**

The proposed development would result in the loss of a small proportion of rough grassland, which exists at the boundaries of the site. The survey findings conducted in 2015 suggest a low population (peak count: 1) existing at the the eastern boundary of the site<sup>8</sup> and therefore small proportions of reptiles are likely to be directly negatively impacted at site level.

Consequently, it is recommended that precautionary mitigation, involving a two-phase strim is implemented to prevent the loss of reptiles, alongside implementation of reptile fencing, in order to prevent individuals from repopulating the site, should it become more suitable through lack of grass management. The hedge should be hand-searched for reptiles prior to removal.

Following this, compensation should include hedgerow reinforcement, to replace habitat loss and create additional cover. Enhancements could include further hedge planting along each of the boundaries, grass and wildflower meadow seeding to form part of the landscaping plans.

### **Hedgehogs**

Removal of parts of the hedgerow for access will impact the amount of cover available for hedgehogs. Loss of the grassland may impact foraging opportunities for this species. Despite this, hedgehogs will prefer the hedge which will be largely retained. The likely impact of the removal of the small amount of hedgerow will result in a direct negative impact at site level to hedgehogs.

It is recommended that precautionary mitigation involves a hand search of the hedge for individuals by a suitably qualified ecologist prior to removal.

Compensatory hedgerow reinforcement and additional planting would benefit this species. Grass and wildflower mix seeding enhancements will encourage increased invertebrate diversity, benefiting the species further.

### **Opportunities for Enhancement**

The proposed development represents an opportunity for habitat enhancement to benefit a variety of wildlife. Any planting scheme could include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of the NPPF (See Appendix 1) and as such would be considered favourably when determining the planning application.

The hedge will need to be reinforced, by joining up any existing gaps that will not be used for access purposes at a ratio of 3:1. It is recommended that the following species are planted for their value to foraging bats and birds: beech *Fagus Sylvatica*, spindle *Euonymus europaea*, holly *Ilex aquifolium*, field maple *Acer campestre* and buckthorn *Rhamnus cathartica*. This will serve to mitigate losses associated with hedge removal impacting available habitat for reptiles, breeding birds, hedgehogs, potential great crested newts and foraging availability for bats. Additionally, the added variety of species used will encourage insect diversity and over time would add ecological value to the hedgerow, overall creating population gains over time. It is suggested the hedge is then maintained at a height of 2m and 2m in width, and cut in an 'A' frame – by doing so, there will be more opportunities for sunlight to access the ground and encourage natural generation of ground flora. In addition, it is strongly recommended that a hedgerow is planted alongside each of the other boundaries of the site using the same species composition and management techniques. This will maximize opportunities for the net gain to the species outlined, particularly for improving connectivity of ponds and prevention of habitat fragmentation. See figure 5.

The removal of grassland will comprise a permanent loss, which will reduce the availability of foraging material for the following species: reptiles, birds, bats, badgers hedgehogs and potential great crested newts. Consequently, it is recommended that new landscaping plans include reseeding communal green space/gardens with a wildflower and grass mix, such as EM1 basic general-purpose meadow mixture. With appropriate management, this mixture will encourage a variety of invertebrates including pollinators, therefore improving foraging opportunities and supporting insect diversity.



Figure 5. Diagram detailing hedgerow planting, with the reinforcement of the southern hedge.

## Conclusions

The land north of Yapton Road, Barnham is generally low in ecological value owing to improvement and grazing. Despite this, the site contains habitats which have potential to support a variety of species and the development proposal will result in the loss of a small portion of species-poor continuous hedge, and all of the grazed improved grassland representing a certain negative impact significant at local level.

Precautionary mitigation for nesting birds, reptiles, great crested newts and hedgehogs is required to ensure there is not a breach of the Wildlife and Countryside Act.

Hedgerow planting alongside the management guidance described in the above sections would connect fragmented habitats and the species diversification would add value to the hedge, which is currently mapped as 'species-poor'. The additional cover would create new features for hibernating reptiles, breeding birds, hedgehogs and commuting great crested newts. The implementation of the wildflower grassland would also create foraging opportunities for a variety of species and would act as an addition to the hedge enforcement. With the enhancement opportunities implemented in full, there is expected to be a little to no loss in biodiversity at the site.

Kind regards,

**Sophie Bradfield BSc**

**If any protected species are found during the proposed work, work should be stopped immediately, and an ecologist must be contacted for advice.**

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, [info@ecologyco-op.co.uk](mailto:info@ecologyco-op.co.uk), [www.ecologyco-op.co.uk](http://www.ecologyco-op.co.uk), Office: 01798 861800.

## **APPENDIX 1 –National Planning Policy & Local Plan**

### **National Planning Policy Framework**

The National Planning Policy Framework (NPPF 2019)<sup>3</sup> sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

Paragraph 174b, which states that council policies 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.*” The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005)<sup>4</sup>. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,
- establishing coherent ecological networks that are more resilient to current and future pressures.

### **UK Post-2010 Biodiversity Framework**

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade.

Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

### **Table 2. Arun District Council – Adoption Arun Local Plan 2011–2031 (July 2018)**

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<sup>3</sup> HM Government (2018). National Planning Policy Framework. Department for Communities and Local Government. Available online at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/728643/Revised\\_NPPF\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf).

<sup>4</sup> HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/7692/147570.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf).

| Policy Number/Title                              | Policy Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy C SP1<br>Countryside                      | <p>Outside the Built-Up Area Boundaries (as identified on the Policies Maps) land will be defined as countryside and will be recognised for its intrinsic character and beauty. Development will be permitted in the countryside where it is:</p> <p>a. for the operational needs of agriculture, horticulture, forestry, the extraction of minerals or the management of waste as part of a waste site allocation within the West Sussex Waste Local Plan; or</p> <p>b. for quiet, informal recreation; or c. for green infrastructure; or d. for the diversification of the rural economy; or e. for road and/or cycle schemes; or f. in accordance with other policies in the Plan which refer to a specific use or type of development.</p> <p>7 Settlement Structure &amp; Green Infrastructure</p> <p>The Council will take into account cumulative impact of development in the consideration of planning applications.</p> <p>To ensure better management of the rural-urban fringe in those areas where significant new development is proposed, early consideration will need to be given to landscape and biodiversity enhancement, woodland management, recreation provision and access routes.</p> |
| ENV SP1 (Natural Environment)                    | <p>Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.7 that are recognised for the species and habitats contained within them.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Policy ENV DM3<br>Biodiversity Opportunity Areas | <p>Development shall:</p> <p>a. Retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones b. Be designed in order to minimise disturbance to habitats</p> <p>Development proposals that do not reasonably address opportunities for enhancing these through their design, layout and landscaping or access/management shall not be permitted. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified on the Policies Maps or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence must be proposed within the planning permission.</p>                                                                                                                                                                                                                              |
| ENV DM4 (Protection of trees)                    | <p>Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development:</p> <p>a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or</p> <p>b. Would enhance the survival and growth prospects of other protected trees;</p> <p>c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.</p>                                                                                                                                                                                                                                                                     |

| Policy Number/Title                       | Policy Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                           | <p>Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme.</p> <p>Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given.</p> <p>Where there are existing trees on or adjacent to a development site, developers shall be required to provide:</p> <ul style="list-style-type: none"> <li>d. Land and tree surveys</li> <li>e. A tree constraints plan</li> <li>f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement</li> </ul> <p>These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees.</p> |
| ENV DM5<br>(Development and biodiversity) | <p>Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.</p> <p>Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.</p>                                                                                                                                                        |
| W SP1<br>(Water)                          | <p>Arun District Council will encourage water efficiency measures in order to protect the District's water resources and enhance the quality of the water environment which supports a range of habitats and ecosystems. Development will be encouraged to make active use of surface water as a design feature and permitted where it identifies measures to improve and enhance waterbodies, coastal habitats or provides additional flood relief.</p> <p>The Council will also support development that:</p> <ul style="list-style-type: none"> <li>a. is appropriately located, taking account of flood risk and promotes the incorporation of appropriate mitigation measures into new development, particularly Sustainable Drainage Systems that reduces the creation and flow of surface water and improves water quality;</li> </ul> <p>63 Water stressed areas - final classification (July 2013)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Policy Number/Title | Policy Summary                                                                                                                                                                                                                                    |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | b. reduces the risk to homes and places of work from flooding whilst increasing biodiversity; c. delivers a range of community benefits including enhancing the quality of life and providing greater resistance to the impact of climate change. |

## APPENDIX 3 Great Crested Newt Pond Descriptions and HSI results

Table 3. Pond Descriptions

| Pond | NGR            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HSI value | Interpretation              | Survey recommendations                                                                                                                          |
|------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | SU 96585 04112 | Pond 1 exists within tightly mown garden space adjacent to the western boundary of the site. The pond is small, and has isolated areas of good terrestrial habitat, with a hard standing lip around half of the pond. The pond has minimal shading, aquatic vegetation includes variegated grasses, water iris and oxygen weed. The terrestrial value of the vegetation is good, with large stones and bark substrate as well as ferns and rushes providing suitable hibernacular for amphibians. | 0.59.     | 'Below average' suitability | Precautionary mitigation                                                                                                                        |
| 2    | SU 96581 04068 | Pond 2 exists close to Pond 1, within tightly mown garden space, adjacent to the western boundary of the site. It is a small, artificial pond lined with plastic, and is stocked with fish. The shading is minimal, with limited aquatic vegetation suitable for egg laying activity, but includes oxygen weed and water lily. Terrestrial vegetation includes variegated grasses and ornamental plants, however these are sparse and do not provide much ground cover.                           | 0.30      | 'Poor' suitability          | No further action                                                                                                                               |
| 3    | SU 96949 04026 | Pond 3 lies 210m east of the site, but could not be accessed and appears to be within the ownership of Croftway Nurseries. Online mapping suggests this pond lies in close proximity to extensive woodland and therefore should there be potential for great crested newts it is unlikely they will travel from these features of high value to the survey site, however cannot be ruled out.                                                                                                     |           | Could not be assessed       | Precautionary mitigation                                                                                                                        |
| 4    | SU 96473 03957 | Pond 4 lies 114m south of the site and could not be accessed. The pond appears to be within the ownership of Fleurie Nurseries. A report produced in November 2018 on a site which lies 81m away west of the proposed development outlines the findings and has been reproduced for this                                                                                                                                                                                                          | 0.55      | 'Below average' suitability | The pond is considered unlikely to represent a constraint to development as it lies at the top of a slope, with two roads and a curb which acts |

| Pond | NGR | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HSI value | Interpretation | Survey recommendations                            |
|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|---------------------------------------------------|
|      |     | assessment. The marginal value of the pond is good, with bramble immediately surrounding the pond, and banks, which are vegetated with rosebay willowherb, nettle, and young ornamental trees. Aquatic vegetation includes mares-tail, the pond also contained rubbish and leaf litter and the water was of poor quality. The terrestrial value comprises suitable cover and foraging habitat for newts and includes rough grassland, hedgerow, scattered trees and scrub <sup>7</sup> . |           |                | as a significant barrier for great crested newts. |

## Pond 1

| Habitat Suitability Index                                                           |                      |                                            |          | SI value                         |
|-------------------------------------------------------------------------------------|----------------------|--------------------------------------------|----------|----------------------------------|
| S11                                                                                 | Map location         | A/B/C                                      | A        | 1.00                             |
| S12                                                                                 | Surface area         | rectangle/ellipse/regular                  | ellipse  |                                  |
|                                                                                     |                      | length (m)                                 | 3        |                                  |
|                                                                                     |                      | width (m)                                  | 3        |                                  |
|                                                                                     |                      | OR estimate (m <sup>2</sup> ) if irregular |          |                                  |
|                                                                                     |                      | area (m <sup>2</sup> ) =                   | 9        | 0.03                             |
| S13                                                                                 | Decalcification rate | never/rarely/sometimes/frequently          | never    | 0.80                             |
| S14                                                                                 | Water quality        | good/moderate/poor/bad                     | moderate | 0.87                             |
| S15                                                                                 | Shade                | % of margin shaded 1m from bank            | 0        | 1.00                             |
| S16                                                                                 | Waterfowl            | absent/minor/major                         | absent   | 1.00                             |
| S17                                                                                 | Fish population      | absent/possible/minor/major                | absent   | 1.00                             |
| S18                                                                                 | Pond density         | number of ponds within 1km                 | 11       | 1.00                             |
| S19                                                                                 | Terrestrial habitat  | good/moderate/poor/isolated                | moderate | 0.87                             |
| S110                                                                                | Macrophyte cover     | %                                          | 35       | 0.66                             |
| <b>Note:</b> Guidance in undertaking the HSI is available at <a href="#">Pond 1</a> |                      |                                            |          | HSI score = 0.55                 |
| HSI calculation formulae adapted from Rob Gidham                                    |                      |                                            |          | Pond suitability = below average |

## Pond 2

| Habitat Suitability Index                                                           |                      |                                            |          | SI value                |
|-------------------------------------------------------------------------------------|----------------------|--------------------------------------------|----------|-------------------------|
| S11                                                                                 | Map location         | A/B/C                                      | A        | 1.00                    |
| S12                                                                                 | Surface area         | rectangle/ellipse/regular                  | ellipse  |                         |
|                                                                                     |                      | length (m)                                 | 1.5      |                         |
|                                                                                     |                      | width (m)                                  | 1.5      |                         |
|                                                                                     |                      | OR estimate (m <sup>2</sup> ) if irregular |          |                         |
|                                                                                     |                      | area (m <sup>2</sup> ) =                   | 2.25     | 0.00                    |
| S13                                                                                 | Decalcification rate | never/rarely/sometimes/frequently          | never    | 0.80                    |
| S14                                                                                 | Water quality        | good/moderate/poor/bad                     | moderate | 0.87                    |
| S15                                                                                 | Shade                | % of margin shaded 1m from bank            | 0        | 1.00                    |
| S16                                                                                 | Waterfowl            | absent/minor/major                         | absent   | 1.00                    |
| S17                                                                                 | Fish population      | absent/possible/minor/major                | major    | 0.01                    |
| S18                                                                                 | Pond density         | number of ponds within 1km                 | 11       | 1.00                    |
| S19                                                                                 | Terrestrial habitat  | good/moderate/poor/isolated                | poor     | 0.33                    |
| S110                                                                                | Macrophyte cover     | %                                          | 25       | 0.56                    |
| <b>Note:</b> Guidance in undertaking the HSI is available at <a href="#">Pond 1</a> |                      |                                            |          | HSI score = 0.30        |
| HSI calculation formulae adapted from Rob Gidham                                    |                      |                                            |          | Pond suitability = poor |

#### Pond 4

|                     |                |                                 |
|---------------------|----------------|---------------------------------|
| Pond 1              |                |                                 |
| NGR                 | SU 96472 03954 |                                 |
| SI attribute        | SI value       | Notes                           |
| Location            | 1.00           | SE England                      |
| Pond area           | 0.16           | 354m <sup>2</sup>               |
| Pond drying         | 0.50           | Rarely                          |
| Water quality       | 0.33           | Poor                            |
| Shade cover         | 0.80           | 100                             |
| Water-flow          | 1.00           | Minor                           |
| Fish presence       | 1.00           | Absent                          |
| No. ponds           | 1.00           | 7                               |
| Terrestrial habitat | 0.67           | Good                            |
| Macrophytes         | 0.31           | 0%                              |
| H.S.I. value        | 8.55           | Below<br>Average<br>suitability |