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Land South of Arundel Road Fontwell

Reptile Mitigation Strategy

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1.0 INTRODUCTION

1.1 Background

The site known as land to the south of Arundel Road, Fontwell (hereafter referred to as 'the site') has been subject to a suite of ecological survey work in support of an application of 8 new detached dwellings. As part of this work, a reptile survey undertaken by the Ecology Co-op (2018) which identified a '**High**' population of Slow Worms (*Anguis fragilis*) on site. As reptiles are legally protected in the UK and their presence is a material consideration when assessing a planning application, it is necessary to ensure they are not harmed as a result of development-related activities. This mitigation strategy details the measures which will be undertaken to avoid harm to reptiles during the development and maintain their conservation status within the local area.

1.2 Site Description

The site (approximately 1.3 ha) comprises of a parcel of grassland, standard trees and managed woodland located to the south of Arundel Road, Fontwell, West Sussex, BN18 0QP (OS grid reference SU 960 067) (**Fig 1**). The north of the site is bounded by Arundel Road / A27 the south by West Walberton Lane and the west and east by mature gardens. The immediate surrounding environ is considered to be semi-rural with arable fields and woodland dominating.

Figure 1. Redline location plan of the site.



1.2 Brief Description of the Proposals

The proposals entail development of 8 new detached dwellings and associated landscaping with access via Arundel Road.

1.3 Relevant Legislation and Policy

1.3.1 Nature conservation legislation

All of Britain's reptile species are legally protected to some degree. The four "widespread" reptile species (Viviparous Lizard, Slow Worm, Grass Snake and Adder) are protected from killing, injury and sale (including offering/advertising/transporting for sale), including parts or derivatives under the Wildlife & Countryside Act 1981 (as amended). The Countryside and Rights of Way Act (CROW) 2000 strengthened the Wildlife and Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is a likelihood of a protected species being present.

1.3.2 Policy

Due to their legal protection, Planning Policy also seeks to ensure that reptiles are not harmed as a result of development. National government guidance is provided by National Planning Policy Framework (NPPF) which places an onus on development to conserve and enhance biodiversity with a requirement for positive biodiversity outcomes wherever possible from the overall development process.

The following policy is considered relevant to this document as provided within the Arun Local Plan 2011 – 2031 (Adopted July 2018);

Policy ENV DM5 Development and Biodiversity

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.

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.

2.0 METHODOLOGY

2.1 Survey Methodology

2.1.1 Desktop Survey

A data request submitted to the Sussex Biological Records Centre (SxBRC) by the Ecology Co-op as part of the work undertaken for their Preliminary Ecological Appraisal and Phase 1 Habitat Survey Report (The Ecology Co-op, 2018) using a 1km search radius.

2.1.2 Field Survey (development site)

Presence / likely absence survey was carried out by The Ecology Co-op between June and September 2018 due to suitability of the on-site habitat (**Fig 2**). This involved artificial refugia (a mix of bitumen felt and corrugated tin was used) being laid out across the site covering all suitable habitats with these allowed to 'bed in' for 1 week before checking. Seven separate survey visits were then conducted during optimal weather conditions with all field surveys undertaken by an experienced ecologist from The Ecology Co-op. The below information is reproduced from The Ecology Co-op report (2019) which provides additional information on the survey methods employed.

A total of 100 50cm x 50cm bitumen and corrugated metal sheets were used in this survey and placed along the site boundaries, around deadwood, scrub and throughout the grassland, in sunny locations around the site (see **Fig 3**). Much of the site provides suitable reptile habitat and therefore the mats covered the majority of the site

Figure 2. Grassland and scrubby habitats on site suitable for reptiles.



Figure 3. The location of reptile refugia across the site which were grouped (by colour coding) for the different habitat types present (The Ecology Co-op, 2019).



3.0 BASELINE CONDITIONS

3.1 Desktop Survey

The SxBRC data request identified total of 38 records of reptiles with 16 No Slow Worm, 6 No Grass Snake (*Natrix helvetica*) and 16 No Common Lizard (*Zootoca vivipara*).

3.2 Field Survey

The results of the reptile presence / likely absence survey carried out by the Ecology Co-op during 2018 are presented below in **Table 1**.

Table 1. Results of the reptile surveys undertaken by The Ecology Co-Op during June – September 2018. F = Adult Female, M = Adult Male, SA = Sub Adult, J = Juvenile and SW = Slow Worm (refer to **Fig 3** for colour coding of different areas referred to in table).

Date	Start Time	Air / Refugia Temperature (°C)	Weather Conditions (wind speed given in Beaufort scale)	Reptiles Recorded	Total No. of Reptiles Recorded
20/06/2018	08:30	16 / 19	Cloud cover 5%, wind speed 0 – 1	White – 5 F, 2 M, 1 J Yellow – 3 F, 6 J, 2 M Blue – 6 J, 4 SA, 7 F, 3 M Grey – 5 M, 4 F, 2 J Purple – 4 M, 5 F, 1 SA Green – 6 F, 3 M, 1 J, 2 SA Orange – 2 F, 1 M, 1 SA Red – 3 M, 1 SA	80 SW
29/06/2018	07:40	18/27	Cloud cover 0%, wind speed 1 - 2	White – 1 M, 1 F, 1 J Yellow – 4 J, 2 M, 3 F Grey – 1 F, Green 1 M, 1 J, 3 F Red 1 F Purple – 5 F, 1 M, 1 J Blue – 2 SA, 1 J, 3 F, 1 M	33 SW
05/07/2018	07:55	18/27	Cloud cover 5%, wind speed 1	White 2 F, 1 M Yellow – 1 M, 1 F, 1 J Purple – 1 M, 1 J, Grey – 2 F, Green – 1 SA Red – 2 SA, Blue 4 F, 1 SA	16 18 SW
12/07/2019	08:30	18/26	Cloud cover 0 %, wind speed 0	White – 1 M, 1 F, Yellow – 6 F, Green – 2 F, 1 J Red – 2 SA, Orange – 1F, Purple 2 SA, Blue 2 F	18 SW

01/08/2018	08:15	18/35	Cloud cover 0 %, wind speed 0 - 1	White, 2 F, 1 J, Yellow – 3 J, 1 F Green – 1 J, 1 F Orange – 1 J, 1 F Purple – 1 F Blue 3 F, 2 SA, 1 J	18 SW
21/09/2018	09:00	18/26	Cloud cover 50 %, wind speed 1	White – 1 M, 5 F, 6 J Yellow – 12 J, 2 M, 3 F Grey – 6 J Green – 4 F, 4 J Orange – 1 F Red 1 F, 1 J Purple – 5 F, 1 M, 1 J Blue – 7 F, 2 M, 9 J, 2 SA	73 SW
05/10/2012	10:24	17/24	Cloud cover 5%, wind speed 2	White – 4 J, 1 SA Yellow – 3 SA, 1 J Grey – 3 J, 1 SA Green – 2 SA, 1 M, 1 F Red 1 J Purple – 2 F Blue – 4 F, 7 J, 4 SA, 1 M	37 SW

3.2.1 Evaluation

Given the size of the site and suitability of the habitat and the maximum count of adults (which was 55 during the first check), an **'Exceptional'** population of Slow Worms (as defined by the Froglife guidance 1999) is present. Slow Worms are however relatively widespread in within Sussex and the local area (as indicated by SxBRC records) and as such the site it is considered to be **Local Value** for reptiles.

4.0 ASSESSMENT OF IMPACTS IN THE ABSENCE OF MITIGATION

4.1 Introduction

This chapter considers the likely ecological impacts (both positive and negative) of the proposals in the absence of mitigation. In many cases, whilst a potential negative impact is identified at this stage, mitigation can be implemented to ensure no residual negative impacts. Correctly identifying the impacts of the development will ensure appropriate and proportionate mitigation to be designed and implemented.

4.2 Site Preparation and Construction Activities

Based on the latest layout, the majority of the suitable reptile habitat on site cannot be retained and subsequent construction of the residential development would ensure this loss is permanent. Based on the numbers of Slow Worms recorded on site, this would almost certainly result in the death and/or injury of individuals. As all reptile species are protected, this would constitute an offence under the Wildlife & Countryside Act (1981). Given the size of the site, the numbers recorded during the survey and the status of Slow Worms in the local area, loss of habitat and individual animals of these species would be significant (in terms of their conservation status) within the *local* area.

4.3 Site Operation Activities

The development will result in an increased level of human activity within areas surrounding the site, which would also be used by reptiles. This is likely to result in increased disturbance of reptiles remaining within these areas and may reduce their ability to bask and forage. It may also increase their vulnerability to killing by humans and cats.

5.0 MITIGATION STRATEGY

5.1 Introduction

Due to the legal protection relating to reptiles, it is necessary to implement mitigation to ensure these animals are not harmed as a result of the impending construction works and to ensure that there is no net reduction in the conservation status of reptiles in the local area. Therefore, this mitigation strategy has been produced in accordance with best practice guidelines relating to reptiles and development, published by Gent & Gibson (1998) and the HGBI (1998).

The desirable approach is to avoid development within the areas used by reptiles. If this is not possible, reptiles should be moved to areas within the site that are to be retained, enhanced and managed to provide suitable habitat (relocation). The steps in the mitigation strategy for reptiles are as follows:

- Step 1:** Identification of suitable release area. If a separate site is to be used, it may be necessary to undertake a reptile survey of any potential receptor site to establish the status of existing reptile populations on the site;
- Step 2:** Production and agreement of mitigation strategy;
- Step 3:** Habitat creation, enhancement and/or management of receptor site area (if required);
- Step 4:** Set up of development site with appropriate numbers of artificial refugia and reptile exclusion fencing;
- Step 5:** Capture of reptiles on site and translocation/relocation. This stage must take place between March and September, in order to include the optimal period for reptile capture;
- Step 6:** Destructive search of suitable natural reptile refuges;
- Step 7:** Production of completion report;
- Step 8:** Monitoring success of mitigation.

5.2 Mitigation Strategy Overview

Following the above steps, given the number of units required on site and areas needed for compensational Dormouse planting, an *ex situ* relocation scheme will be required. The Herpetofauna Workers Manual (Gent and Gibson, 1998) states off site receptor areas should ideally benefit from the following:

- Be of a suitable size for the number of animals to be moved;
- Provide good quality habitat for according to the known ecological requirements of the translocated species;
- Be safe, at least in the foreseeable future, from land – use changes that would harm the population; and
- Preferably hold some form of protected status or be open land of low intensity use where survival is highly likely.

The below sections will outline how the proposed receptor will adhere to these four conditions.

5.3 Receptor Site

At this stage, we have yet to formally agree an off-site receptor area however we are in discussion with a local authority about using a site (which benefits from a statutory designation and is located within 3 km of the site). When this agreement has been finalised, this report will be updated providing additional information (such as location, habitat types and extant population size).

5.4 Pre-Release Receptor Enhancement

This section will be updated once the location of the receptor site has been finalized.

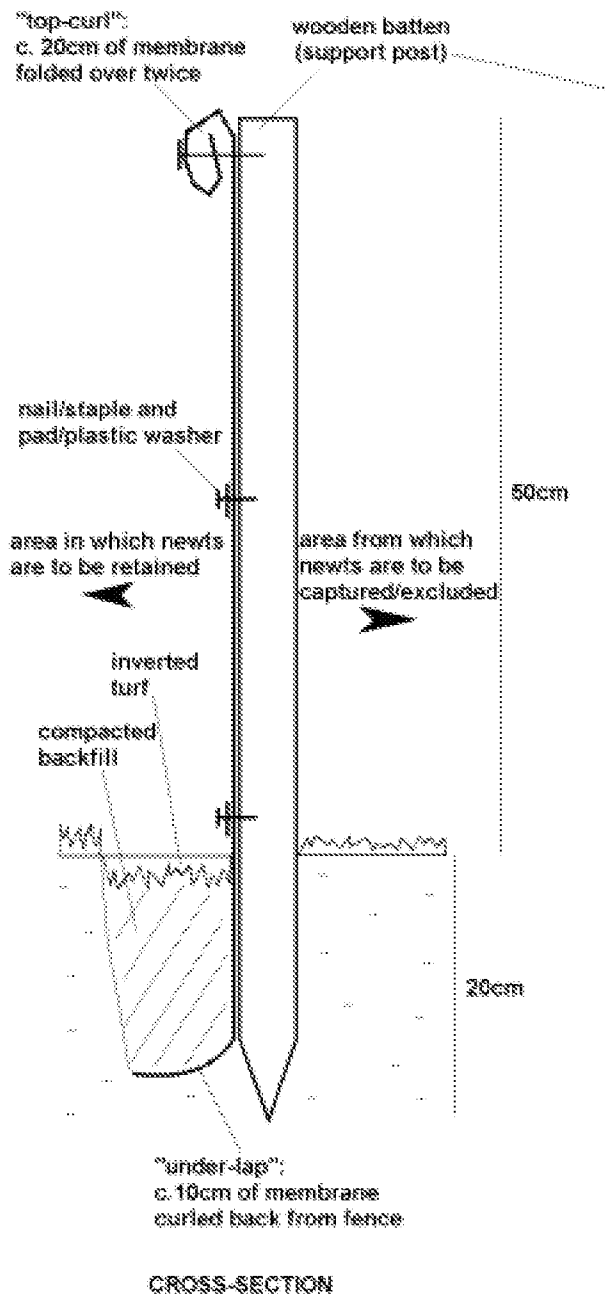
5.5 Capture and Exclusion

5.5.1 Capture and Translocation

Reptile relocation entails the capture of reptiles from the construction area (donor site) and release into the off-site receptor area. The relocation would be carried out in accordance with guidance published by the HGBI (1998). The methodology used for the capture of reptiles is the same as that used during survey. Artificial refugia made from materials such as roofing felt or corrugated metal allow reptiles to be detected and captured relatively easily. These artificial refugia warm up faster and retain heat for longer than the ground or surrounding vegetation, reptiles, being exothermic will shelter under the refuges in order for their bodies to reach the temperature required for activity. The reptiles can then be captured by experienced field ecologists who regularly visit each refuge during suitable weather conditions.

The construction area would be set up with reptile exclusion fencing where necessary (**Fig 4**) (anticipated to be required around the entirety of the construction area) to prevent the movement of reptiles from adjacent areas.

Figure 4. Indicative cross section of exclusion fencing specification (from English Nature, 2001).



In accordance with the HGBI guidelines (1998), artificial refugia should be distributed across the site at a minimum density of 100/ha, although given the population size of reptiles on site, a considerably higher density of refugia would be used in order to maximise the catching potential, particularly in areas where the density of reptiles recorded during the survey was found to be very high.

Captured Slow Worms would be transported to the receptor area in appropriate containers such as buckets.

5.5.2 Effort and Timing

The guidelines for carrying out reptile captures based on population class sizes are outlined within **Table 2** below adopted from HGBI (1998) where an '**Exceptional**' population using the Froglife guidance (1999) would correspond to a '**High**' population for capturing.

Table 2. The minimum capture effort for common reptile species based on HGBI (1998). The figures relevant to this scheme are emboldened and italicised.

Species	Population Size (adult density)	Refugia Density / ha	Minimum No of Trapping Days in Good Weather
Slow Worm	<i>High (> 100 / ha)</i>	<i>100</i>	<i>All suitable days between March and September (min 90 suitable days)</i>
	Medium (> 50 / ha)	100	All suitable days between march and September (min 70 suitable days)
	Low (< 50 / ha)	50	60 Suitable days

Capture visits will continue until 5 consecutive visits have been carried out in ideal weather conditions¹ where no reptiles are captured (or seen), it is considered that the relocation can come to an end. This approach is based on survey guidance (Highways Agency, 2005), which suggests that a minimum of five visits are required to establish whether reptiles are present or likely to be absent from a site, during a standard survey. Therefore, if no reptiles are recorded after five visits (in optimal survey conditions), it can be concluded that reptiles are likely to be absent from the site (or the capture works complete).

5.5.3 Habitat Manipulation

Once the capture operation is underway, the suitable grassland areas can be manipulated through strimming (to a height no lower than 15 cm) in order to increase reptile capture rates. Typically, this would involve the strimming of areas of suitable habitat to reduce natural cover for reptiles and increase their reliance on artificial refugia for cover. It will also concentrate reptiles into parts of the site where the density of artificial refugia can be increased (i.e. grassland cut in a mosaic pattern). Any habitat manipulation works will be carried out by or under the supervision of an SQE.

¹ Suitable weather conditions are generally considered to be between 10 and 18°C with intermittent sunshine and little or no wind and rain (see Froglife 1999).

5.5.3 Destructive Search

Following the conclusion of the relocation, a destructive search of the site may be necessary. The decision as to whether this would need to be more than a targeted destructive search of localised areas, such as brash piles, would depend on the number of reptiles captured during the relocation exercise in the wider site. Destructive search would entail the removal of any remaining natural reptile refugia within areas of the site where particularly high densities of reptiles were captured.

5.6 Protection of Receptor

This section will be updated once the location of the receptor site has been finalized.

5.7 Receptor Management

This section will be updated once the location of the receptor site has been finalized.

5.8 Long Term Management Responsibilities

This section will be updated once the location of the receptor site has been finalized.

5.9 Post-completion Monitoring

It will be necessary to monitor the receptor area post translocation to ensure the efficacy of the capture operation and that the population have successfully established. Monitoring works will involve undertaking population surveys following best practice guidelines (e.g. Froglife 1999). The time period over which the monitoring surveys will be undertaken will be decided following discussions with the body responsible for managing the proposed receptor (once a translocation agreement has been reached).

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