

Reptile Survey

Land at Water's Edge, High Road, Kells, Whitehaven, Cumbria, CA28 9PE

2021

Report commissioned by:

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Contents

1.	Introd	3			
	1.1.	Background	3		
	1.2.	Full Details of Proposed Works on Site	3		
2.	Legisl	4			
	2.1.	General	4		
	2.2.	National Planning Policy Framework (NPPF) 2019	4		
	2.2.	Reptiles	6		
3.	Metho	9			
	3.1.	Habitat Suitability Assessment	9		
	3.2.	Presence / Likely Absence and Population Size Class Survey	9		
	3.3.	Timing	10		
	3.4.	Weather conditions	10		
	3.5.	Personnel	11		
4.	Resul	ts	12		
	4.1.	Site Description	12		
	4.2.	Pre-Existing Records	13		
	4.3.	Habitat Suitability	13		
	4.4.	Survey Results	15		
5.	Photo	16			
6.	Impact assessment		19		
	6.1.	Predicted impacts	19		
7.	Mitigation and Recommendations		20		
	7.1.	Reptiles	20		
8.	Sumn	23			
	8.1.	Summary of development and mitigation	23		
10.	10. References/Bibliography				

1. Introduction

1.1. BACKGROUND

This report details a Reptile Survey conducted on Land at Water's Edge, High Road, Kells, Whitehaven, Cumbria, CA28 9PE (National Grid Ref. NX 96666 16299 - Approx. centre of site. See Figure 1).

Plans 'as existing' and 'as proposed' have been provided (See Figures 1 & 2) and it is thereby understood that a proposal exists for a housing development consisting of 40no. Units on an area of the former Machon chemical plant to the south of Water's Edge Close.

The proposal has been informed by a report entitled 'Land at Water's Edge, High Road, Whitehaven Proposed housing development: Preliminary Ecological Appraisal' dated 19 December 2019 by Rigby Jerram Ecological Consultants. This report recommended that;

"[...] a reptile survey is carried out to establish whether slow-worm or common lizard are present on the site."

Section 6, Pg. 6

Hesketh Ecology were subsequently commissioned by Mr Simon Blacker of SRE Associates (Cumbria) Ltd., on behalf of Gleeson homes, in February 2021 to complete a full reptile survey of the site so as to inform an impact assessment and mitigation strategy (as appropriate).

1.2. FULL DETAILS OF PROPOSED WORKS ON SITE

See Figure 2. It is understood that the proposal is for a residential development consisting of 40no. units. Of these, 12 will be semi-detached and the remainder will be detached. Site access will be via the existing access off High Road on the eastern boundary of the site. All properties will have a private enclosed garden and off road parking. A small area on the western boundary of the site will not be developed.

2. Legislation

2.1. GENERAL

The laws protecting wildlife exist regardless of the requirements of any planning consent.

The legal protection of animals and plants in the United Kingdom is mainly provided for by:

The Wildlife & Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000.

The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats & Species Regulations 2017, as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

The level of protection for each species varies according to the conservation status of the species.

The Countryside and Rights of Way Act 2000 supplemented existing legislation for wildlife protection by prohibiting reckless acts that result in the killing or injuring of protected species.

The Natural Environment and Rural Communities Act 2006 requires that every public authority in exercising its functions must have regard as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Section 41 of this Act requires the Secretary of State to have prepared lists of species and habitats which are considered to be of principal importance for the purpose of conserving biodiversity [The UK Biological Action Plan (BAP) species].

The Cumbria Biodiversity Action Plan (CBAP) was designed to implement national biodiversity targets set out in the UK BAP at a local level, with an emphasis on local priorities. At its inception the CBAP included 40 species / species groups, 21 of which had dedicated action plans with a further 19 without action plans. The original CBAP list was updated in 2010 to include all UK BAP species which occur in Cumbria.

2.2. NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2019

The National Planning Policy Framework (NPPF) was originally published by the Department of Communities and Local Government in 2012, consolidating over two dozen previously issued documents called Planning Policy Statements (PPS) and Planning Policy Guidance Notes (PPG) for use in England. A revised NPPF was published by the UK Government's Ministry of Housing, Communities and Local Government in 2018 and then again in 2019. The revised National Planning Policy Framework sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in 2012, and revised in 2018.

Chapter 15 of the NPPF, Conserving and Enhancing the Natural Environment, states (NB the following is a summary only, selecting points which relate to biodiversity and species

only, for the full text see National Planning Policy Framework; February 2019, Ministry of Housing, Communities and Local Government;

Planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;'

Paragraph 170, Pg. 49.

- To protect and enhance biodiversity and geodiversity, plans should:
- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- 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 174, Pg. 50.

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

- 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;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

Paragraph 175, Pg. 50.

2.2. REPTILES

Common reptiles, including adder (*Vipera berus*), common lizards (*Zootoca vivipara*), slow worms (*Anguise fragilis*) and grass snake (*Natrix natrix*), are protected under the Wildlife & Countryside Act 1981. It is illegal to: Injure, capture, kill, keep, transport or sell a reptile (Sub-Sections 9 (1) and 9 (5)). These species are listed in Schedule 5.

Common reptiles are also a UK Biodiversity Action Plan Priority Species and Species of Principal Importance in England. Furthermore, all species of reptiles in Cumbria are Cumbria Biodiversity Action Plan species (from 2010) for which a species statement has been prepared by Cumbria Biological Data Network.





3. Methodology

No universally adopted guidance on reptile survey effort is currently available. The survey methodology used here was designed by Sam Griffin ACIEEM who has 15+ years experience surveying for reptiles within similar habitats throughout the West coast of Cumbria, with reference to the Design Manual for Roads and Bridges (Highways England, 2019), Herpetofauna Workers' Manual (Gent & Gibson, 2003), Froglife's Reptile Survey Advice Sheet 10 (Froglife, 1999) and Natural England Technical Information Note TIN102: Reptile mitigation guidelines' [WITHDRAWN].

3.1. HABITAT SUITABILITY ASSESSMENT

A daytime inspection of the site was conducted during which all areas of the site were inspected in detail during a walk over survey. Areas immediately adjacent the development sites were inspected in detail where possible and from public rights of way using binoculars and an AG80 20x- 60x spotting scope where access was not possible.

The following list gives characters that influence reptile habitat suitability;

- Location in relation to species range
- Vegetation structure
- Isolation
- Aspect
- Topography
- Surface geology
- Connectivity to nearby good quality habitat
- Prey abundance
- Refuge opportunity
- Hibernation habitat potential
- Disturbance regime

The site was inspected with a view to assessing each of the above habitat characters. The assessment of reptile habitat suitability is subjective and based on a personal experience of the surveyor, but considers all the above characters. The habitat suitability assessment was conducted prior to commencing the presence / likely absence survey and was used to help inform the placement of artificial refugia.

3.2. PRESENCE / LIKELY ABSENCE AND POPULATION SIZE CLASS SURVEY

Artificial Cover Objects (ACOs) cut from bituminous roofing felt measuring approximately 50cm² were placed on site in all poor, good and exceptional habitat. In total 25 artificial refugia were laid. Numerous existing 'natural' refugia (for the purposes of this survey report 'natural' refugia refers to any refugia already present on site; i.e. wood, plastic, metal, rubble etc.) were also noted. Where artificial refugia were deemed to be at risk of blowing away stones were placed on the refgia so as to weigh them down, but not prevent reptiles from getting underneath. Refugia were positioned around features deemed to offer potential for reptiles (i.e. south facing slopes, near to cover etc.). All refugia were allowed to 'bed-in' for 42 days prior to survey commencing. All refugia were checked 14 times, during suitable

weather conditions to ascertain presence / likely absence and a population size class. This follows the suggested methodology in *Natural England (2010) Reptile Mitigation Guidance – CONSULTATION DRAFT* and is considered to be suitable to identify the presence / likely absence of all species of reptile currently known to occur in Cumbria.

Checking of refugia involved quietly approaching each felt, observing from a distance to check for reptiles basking on top (with binocular if deemed necessary), before lifting each felt from the edge, away from the sun so as to avoid shadow. The vegetation beneath the refugia was searched by hand to identify any reptile sheltering beneath vegetation.

To compliment this technique, Visual Encounter Survey (VES) techniques were employed. This involves observing all habitat whilst slowly and quietly walking around the site. The noise of reptiles moving through the habitat was listened for and evidence of reptiles was also searched for (i.e. sloughed skins, droppings etc.).

3.3. TIMING

The survey visits were conducted between 17 February and 1 June 2021.

3.4. WEATHER CONDITIONS

Date	Activity	Weather conditions			
		Temp (°C)	Wind (Beaufort scale)	Cloud (%)	Precipitation
17/02/2021	Laying Artificial Refugia	-	-	-	-
06/04/2021	Survey Visit 1	12	1	10	None
20/04/2021	Survey Visit 2	10	2	50	None
22/04/2021	Survey Visit 3	10	1	20	None
27/04/2021	Survey Visit 4	11	1	50	None
30/04/2021	Survey Visit 5	12	2	50	None
03/05/2021	Survey Visit 6	9	3	100	Light
10/05/2021	Survey Visit 7	12	2	50	None
12/05/2021	Survey Visit 8	11	1	40	None
14/05/2021	Survey Visit 9	12	0	90	None
19/05/2021	Survey Visit 10	14	0	0	None
24/05/2021	Survey Visit 11	15	1	10	None
26/05/2021	Survey Visit 12	12	1	60	None
28/05/2021	Survey Visit 13	13	0	100	Light showers
01/06/2021	Survey Visit 14	16	0	10	None

Table 1: Weather conditions.

3.5. PERSONNEL

The survey was conducted by Sam Griffin BSc ACIEEM who has 15+ years experience surveying for reptiles within similar habitats throughout the West coast of Cumbria.



Figure 3: ACO Location Plan.

4. Results

4.1. SITE DESCRIPTION

The Site is described in '*Land at Water's Edge, High Road, Whitehaven Proposed housing development: Preliminary Ecological Appraisal*' dated 19 December 2019 by Rigby Jerram Ecological Consultants as follows;

'The site is part of the former Marchon chemical plant which was demolished in the mid 2000s. The eastern part of the site is largely bare ground with a thin scattering of ephemeral and colonising plants such as white clover Trifolium repens, Yorkshire fog Holcus lanatus, groundsel Senecio vulgaris, colt's-foot Tussilago farfara, annual meadow-grass Poa annua and dandelion Taraxacum officinale. Vegetation cover ranges from 5 to 60% but is mostly at the lower end of this range. The western and central part of the site is dominated by soil storage mounds which have become vegetated with a species- poor coarse neutral grassland composed of red fescue Festuca rubra and Yorkshire fog Holcus lanatus with frequent common bent Agrostis capillaris, creeping thistle Cirsium arvense, broadleaved dock Rumex obtusifolius and locally frequent nettles Urtica dioica. Between these mounds there are areas of damp species-poor grassland dominated by creeping bent Agrostis stolonifera, with frequent Yorkshire fog Holcus lanatus and occasional tufted hair-grass Deschampsia cespitosa and creeping buttercup Ranunculus repens. A row of young ornamental trees has been planted along the northern boundary of the site. Species include sycamore, Scot's pine, rowan and alder. The trees range from 1.5 to 2m in height.

The grassland is of no more than local ecological interest as it is species-poor and of recent origin.'

Section 3.2, Pg 5.

In considering the habitats present on site, alongside existing biological records in the wider area, the PEA report goes on to state;

'There is a small possibility that reptiles such as slow-worm and common lizard may have colonised the grassland from their established sites to the south-west.'

Section 4, Pg. 5.

From a review of historic aerial photography (Google Earth and Google Street View), it is apparent that the former Marchon chemical works still occupied the Site until 2009 (at least). At this time the northeastern section of the Site (totalling more than 1/2 of the area now being considered) consists entirely of hardstanding, concrete tracks and buildings (these being vacant and dilapidated), the remainder being seemingly well established grassland which is continuous with similar grassland to the west and south west on the coastal cliffs and notably within Saltom Quarry which lies approximately 0.5km to the south east. Between 2009 and 2016, all buildings on Site are demolished, and a housing estate - Waters Edge Close - is constructed on land to the north. At this time the aerial photography shows the Site broadly in its current configuration with engineered soil storage mounds measuring approximately 1.5 - 2m in height, with a compacted batter forming north, south, east and west facing slopes around a flat topped storage pile. At this time the site is sparsely vegetated, but vegetation increases steadily and apparently without interruption towards the present day.

The site is currently disused and broadly undisturbed however unauthorised public access does occur via gaps in the perimeter fence. This is generally minor and does not appear to

be having any impact on the site. Other than this, the site was not routinely accessed or used in any way throughout the survey period and disturbance was not a constraint to this survey nor is it felt to have affected the findings.

4.2. PRE-EXISTING RECORDS

Records were obtained from Cumbria Biodiversity Data Centre by Rigby Jerram to inform the PEA. These include 46 records of reptiles occurring within 2km of the site. The species previously recorded in the area are slow worm (*Anguise fragilis*) and common lizard (*Zootoca vivipara*). Slow worm have been previously recorded within 0.62km of the site boundary and common lizards within 1.33km.

Many of the historic records of reptiles within this search area were collected by Sam Griffin (the author). Slow worms and common lizards are known to occur widely in coastal and neutral grasslands on the coastal cliffs, railway embankments (current and disused) and former industrial sites in the area.

In 2017 a full reptile survey of the Former Coal Depot, Solway Road was completed by Hesketh Ecology (See '*Reptile Survey; Former Coal Depot, Solway Road, Whitehaven, Cumbria, CA28 9AN: 2017*', Ref. No. CCP17REP007.1). The Former Coal Depot lies 0.9km to the north of the site and is directly connected by suitable reptile habitat. This survey found that '*both common lizards and slow worm were identified on site*' at maximum counts of 1.7.4 (M:F:Juv) and 2.2.9 respectively and concluded;

'The number of slow worms and common lizards recorded on site, considered both individually and as a species assemblage, qualify this site for the 'Key Reptile Site Register' described in 'Froglife Advice Sheet 10; REPTILE SURVEY: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation'. This makes the site of moderate significance at a county level. Although this survey was not extended far beyond the site boundary it is considered safe to assume that all suitable habitat between Whitehaven Harbour and St. Bees village will also be used by reptiles and may qualify as a Key Reptile Site.'

Section 4.4, Pg. 12.

The Site being considered here lies adjacent an area of coastal grassland which is directly connected to known occupied habitat, but the site is of relatively recent origin and no preexisting records of reptiles occurring on-site have been identified.

4.3. HABITAT SUITABILITY

The following list gives characters that influence reptile habitat suitability;

- · Location in relation to species range
- Vegetation structure
- Isolation
- Aspect
- Topography
- Surface geology
- Connectivity to nearby good quality habitat
- Prey abundance
- Refuge opportunity

- · Hibernation habitat potential
- Disturbance regime

A detailed inspection of the Site as regards its suitability to support reptiles specifically was conducted during the placement of Artificial Cover Objects (ACOs) (so as to inform placement of ACOs) and throughout the survey period (to verify the findings of the initial assessment). The site was inspected with a view to assessing each of the above habitat characters. The assessment of reptile habitat suitability is subjective and based on a personal experience of the surveyor, but considers all the above characters.

The site is located in an area known to be occupied by both common lizard and slow worm. The soil storage mounds on site, particularly at the western end, offer suitable vegetation structure with abundant refuge opportunities and features offering hibernation potential. These features are primarily associated with cavities within the batter created by the erosion of fine material from beneath and around larger aggregates, dumped materials and in the denser tussocks of grass species such as Deschampsia cespitosa. Prey abundance is good, with black garden ants (Lasius niger) and pill woodlice (Armadillidium vulgare) both being abundant beneath ACOs on site. The site is bounded by high quality habitat to the west and moderate quality habitat to the south; the embankment and former railway which runs along the western boundary forms a continuous strip of high quality reptile habitat to the north and south of the Site and directly connects the site to known populations of slow worms and common lizards, the former Marchon chemical works site to the south provides a mosaic of vegetated and un-vegetated ground which although somewhat fragmented, does offer suitable habitat. Residential housing estates to the north and east are broadly unsuitable for reptiles. The site is not substantially overshadowed and the soil storage mounds offer a range of aspects - including extensive south and east facing slopes - which are highly suitable for basking. Disturbance on site is generally minimal; dog walking and pedestrian access does occur but this is limited and is unlikely to affect the potential for reptiles. It is considered that the soil storage mounds, particularly at the western end of the site, represent 'good' quality reptile habitat. Elsewhere, specifically the areas of ephemeral grassland and bare ground, the habitat does not offer suitable vegetation structure nor refuge opportunities and is deemed to offer no more than 'negligible' habitat suitability.

4.4. SURVEY RESULTS

Survey Visit	Date	Common Lizard		Slow worm	
		Adult	Juvenile		
1	06/04/2021	-	-	-	-
2	20/04/2021	-	-	-	-
3	22/04/2021	-	-	-	-
4	27/04/2021	1	2	-	-
5	30/04/2021	1	-	-	-
6	03/05/2021	-	-	-	-
7	10/05/2021	-	1	-	-
8	12/05/2021	1	1	-	-
9	14/05/2021	-	1	-	-
10	19/05/2021	2	-	-	-
11	24/05/2021	1	-	-	-
12	26/05/2021	1	1	-	-
13	28/05/2021	4	1	-	-
14	01/06/2021	1	-	1	-

Table 2: Reptile Survey Results.

Both slow worms and common lizards were confirmed as being present on site. The maximum count of common lizards - four adults and a single juvenile - was recorded on the 13th visit (28/05/2021). The maximum count of slow worm - one adult - was recorded on the final survey visit (01/06/2021).

Using the scoring system outlined in Froglife's Reptile Survey Advice Sheet 10 (Froglife, 1999) which is based on the number of adult animals of each species found in one day by one person, these maximum counts both translate to 'low populations' which achieve scores of a single point each. This in turn achieves a Site score of 2, which is below the 4 point threshold for 'The Key Reptile Site Register'.

All reptile observations made during this survey were made on the two soil storage mounds in the south western end of the site. No reptiles were observed on the soil storage mounds in the north east end of the site. This - along with the history of the site - suggests that the populations identified on site are colonising from suitable and occupied habitat beyond the site boundary to the west. The low numbers of animals recorded within the site boundary are highly unlikely to represent a viable breeding population in their own right and have seemingly occupied the site since c.2009-2016.

5. Photographs



Figure 4: Showing the south facing batter of the soil storage mounds in the south western corner of the site (looking east) with piles of dumped material and tussock forming grasses (17/02/2021).



Figure 5: Showing the hardstanding ephemeral grassland and bare ground at the eastern end of the site (looking north) (17/02/2021).



Figure 6: Showing ACO placement on the south facing batter of soil storage mounds at the south western end of the site (20/04/2021).



Figure 7: Showing juvenile common lizard observed basking on top of ACO (27/04/2021).



Figure 8: Showing adult common lizard observed beneath ACO (29/05/2021).



Figure 9: Showing adult slow worm observed beneath ACO (01/06/2021).

6. Impact assessment

6.1. PREDICTED IMPACTS

This survey has identified 'low population' size classes of both slow worm and common lizards on site. The site itself is not considered to within the core range of the population which occurs within natural and semi-natural grasslands to the west, but rather is used by animals dispersing from the core habitat and colonising the site following the creation of suitable habitat between 2009 and 2016. Low numbers of individuals have been found to occur on the soil storage mounds in the south west section of the site.

In the absence of mitigation, the predicted impacts are considered to be the killing and / or injuring of slow worms and common lizards during the development phase, which would be an offence under the Wildlife & Countryside Act 1981.

In the absence of any mitigation, the potential impacts to slow worm and common lizards during the development phase would be as follows;

- Any mechanical disturbance of the soil storage mounds in the south west section of the site would risk killing and / or injuring slow worms and common lizards. This would be a risk regardless of the time of year at which this operation took place.
- Movement of loose, dumped materials from around the site during the winter brumation period (November - March) via mechanical means or by hand would risk exposing brumating (hibernating) slow worms / common lizards which would risk killing / injuring. Movement of loose materials by hand during the active season (April - October) could occur with only a negligible risk to reptiles, but should be conducted with extreme vigilance in anticipation that common lizards may be sheltering beneath loose materials.
- Any plant / vehicular movements over vegetated ground would risk killing / injuring reptiles.

Following the development phase it is understood the gardens of the new residential units will be landscaped and planted and will be unsuitable for reptiles. The proposed development will therefore result in the loss of an area of suitable reptile habitat, but as this is a relatively small area, of recent origin, which appears to be in the process of being colonised from adjacent habitats, the loss of this area of suitable habitat is unlikely to affect the viability of the meta-population as a whole.

7. Mitigation and Recommendations

7.1. REPTILES

There is an identified risk that individual slow worms and common lizards will be killed and / or injured during the development phase. The mitigation strategy presented below seeks to ensure that all reptiles are removed from the development footprint prior to any works commencing and are excluded from the works area during the development phase.

The following mitigation strategy should be adopted to avoid killing and / or injuring reptiles;

- Prior to any work on site, a temporary reptile exclusion fence will be erected along the western and southern boundaries of the development footprint. This fencing can be installed at any time of year but should be conducted under an Ecological Watching Brief. The proposed location of the fence is shown in Figure 10 and the detailed design of the fence is shown in Figure 11.
- Once the reptile exclusion fence is erected, artificial refugia will be laid at a high density throughout the entire enclosed area. These will be allowed to 'bed-in' for a period of 1 week (minimum) prior to the commencement of reptile translocation.
- Once reptile refugia have 'bedded-in', and only during the reptile active season (April -September), a translocation will commence. This will consist of 20no. capture days followed by 7 days of no capture / sighting. Capture days will be days with suitable weather conditions during the active season. Should individuals still be being discovered after 20 capture days, the translocation will continue until 7 days of no capture / sightings are achieved. All individuals caught on site will be moved to the area adjacent the western boundary (i.e. within the site boundary, but without the development footprint - See Figure 10).
- Once the translocation period is complete and the site declared free of reptiles, the development may commence. The reptile exclusion fence must remain in place and intact throughout the duration of the development and will only be removed upon completion of all work on site.





Figure 11: Design of Temporary Reptile Proof Fencing taken from DESIGN MANUAL FOR ROADS AND BRIDGES; VOLUME 10 SECTION 4 PART 7 HA 116/05.

8. Summary

8.1. SUMMARY OF DEVELOPMENT AND MITIGATION

This report details a Reptile Survey conducted on Land at Water's Edge, High Road, Kells, Whitehaven, Cumbria, CA28 9PE (National Grid Ref. NX 96666 16299 - Approx. centre of site. See Figure 1).

Plans 'as existing' and 'as proposed' have been provided (See Figures 1 & 2) and it is thereby understood that a proposal exists for a housing development consisting of 40no. Units on an area of the former Machon chemical plant to the south of Water's Edge Close.

This survey has identified 'low population' size classes of both slow worm and common lizards on site. The site itself is not considered to within the core range of the population which occurs within natural and semi-natural grasslands to the west, but rather is used by animals dispersing from the core habitat and colonising the site following the creation of suitable habitat between 2009 and 2016. Low numbers of individuals have been found to occur on the soil storage mounds in the south west section of the site.

In the absence of mitigation, the predicted impacts are considered to be the killing and / or injuring of slow worms and common lizards during the development phase, which would be an offence under the Wildlife & Countryside Act 1981.

The mitigation strategy presented in Section 7 seeks to ensure that all reptiles are removed from the development footprint prior to any works commencing and are excluded from the works area during the development phase.

Provided that the mitigation strategy outlined in this report is strictly adhered to, the risk of killing / injuring common reptiles will be minimised. Loss of a small area of 'good' quality reptile habitat on site will not have a significant, negative impact on the meta-population occupying suitable habitat in the wider area.

10. References/Bibliography

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