

Greencore Group Plc.

Fitzalan Link, North Littlehampton

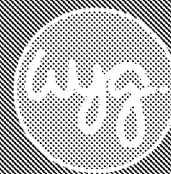
**Reptile Presence/Absence Survey
Report**

October 2011

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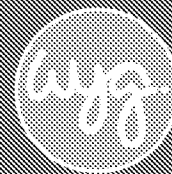
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1	07/10/2011	Issue
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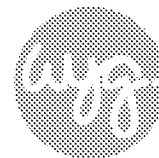
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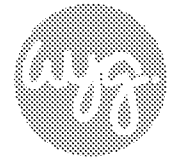
Appendix B – Desk Based Study Information

Appendix C – Plans

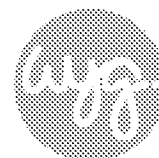


Executive Summary

Contents	Summary
Site location	The Fitzalan Link site lies in the centre of Littlehampton in West Sussex. The site is located between Worthing Road, Highdown Drive and East Street and is centred on Ordnance Survey Grid Reference TQ 031 029 (503125, 102901).
Previous reports/surveys	An Ecology Scoping/Phase 1 Habitat survey was undertaken by WYGE in December 2009. The survey identified the potential for reptiles to be present at the site.
WYG Survey	WYGE was commissioned in July 2011 by Greencore Group Plc. to undertake reptile presence / absence surveys. Reptile presence / absence surveys were completed at the Fitzalan Link site, Littlehampton, West Sussex between 3rd August 2011 and 12th September 2011.
Results	The presence/absence survey confirmed the presence of one species of reptile – slow worm (<i>Anguis fragilis</i>). A maximum count of 17 slow worms were found on any one day, 11 of which were adults.
Mitigation and Enhancement Recommendations	✧ To avoid breaching the Wildlife and Countryside Act, 1981 (as amended) by killing or injuring reptiles, it is recommended that reptiles are removed from the site prior to any works commencing by means of a translocation. This would involve the installation of reptile-proof fencing around the areas of reptile habitat, trapping any reptiles on the site and moving them to a safe receptor location as there is no space within the development site to move the reptiles to; ✧ It is understood that the proposed development footprint occupies the interior of the site and it is likely that much of the habitat suitable to support reptiles (semi-improved grassland) will be



	directly impacted through construction activities; » In order to assess the carrying capacity of the receptor site, a reptile survey is recommended to be completed at the proposed receptor site. This will identify species of reptile currently using the site and will help to target future habitat creation/management in order for the site to support the existing population and the translocated population of reptiles. » A detailed method statement will be required to outline the method of works, fencing design, timings for translocations, and habitat enhancements required prior to translocation.
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Fitzalan Link, North Littlehampton

1.0 Introduction

1.1 Background

WYG Environment (WYGE) was commissioned by Greencore Group Plc to undertake a reptile survey at Fitzalan Link, North Littlehampton (hereafter referred to as 'the site'), following the recommendations of the Ecological Scoping/Phase 1 Habitat Survey report undertaken by WYGE in December 2009, with the aim of identifying potential ecological constraints to development.

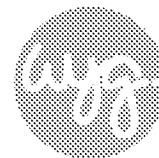
1.2 Site Location

The Fitzalan Link site lies in the centre of Littlehampton in West Sussex. The site is located between Worthing Road, Highdown Drive and East Street and is centred on Ordnance Survey Grid Reference TQ 031 029 (503125, 102901).

Much of the site is dominated by rough tussocky neutral grassland. The boundary of the grassland is dominated by a mosaic ruderal and bramble scrub, beyond which are boundary hedgerows, which are typically species poor and mature trees. The site is surrounded by residential properties, along the north eastern, eastern and western boundary. The majority of which have their rear gardens backing directly onto the site, with some access gates leading onto the site. To the north of the site lies Worthing Road. The southern boundary is shared with North Littlehampton College. Towards the southern boundary the land becomes increasingly narrow and ends by a small private drive leading out into further residential development.

1.3 Proposed Work

The proposed development is a bypass – Fitzalan Link, which will join East Street at the southern limit of the site to Worthing Road at the northern extent of the site. This development may involve the removal of trees, hedgerows or areas of dense scrub and the clearance of a central area of uncut semi-improved neutral grassland and tall herb vegetation, and the southern areas of grazed neutral grassland and amenity grassland.



1.4 Survey Objectives

The preliminary ecological appraisal carried out by WYG in December 2009 identified the potential for reptiles to occur on site. The aims of the survey work and the subsequent report presented herein were to:

- ✧ Determine the presence or likely absence of reptiles at the site;
- ✧ Determine the population size class of reptiles if confirmed to be present;
- ✧ Provide an appraisal of the implications created by the potential presence of reptiles at the site;
- ✧ Establish if any potential affects on reptiles resulting from the development are permissible;
- ✧ Ensure that the required level of survey work and information is present to inform a method statement, should one be necessary; and
- ✧ Provide preliminary advice on mitigation strategies against any adverse affects on local reptile population(s) which may arise as a result of the proposed development.

1.5 Legislation

All six species of reptiles native to the UK are protected under the Wildlife and Countryside Act 1981 (as amended) and benefit from various levels of protection. The adder (*Vipera berus*), grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) receive partial or full protection under Section 9 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to:

- ✧ Intentionally or recklessly kill or injure these animals; and
- ✧ Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell individual reptiles.

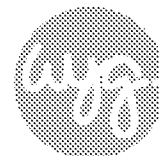
The smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are listed in Annex IVa of the EC Habitat and Species Directive and in Annex II of the Bern Convention. They are also listed in Schedule 5 of Section 9 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of the Conservation Regulations 2010. As a result it is an offence to:

- ✧ Intentionally or recklessly kill or injure these animals;

- 5

2.3 Limitations

All areas of the site were accessible, and all surveys were completed in suitable weather conditions. Therefore, there are considered to be no limitations to the reptile presence / absence survey at Fitzalan Link. However, following the initial survey set up, the grass was mown, causing a delay in the start of the surveys. The surveys were still completed within the optimal season although this does show that the habitat is naturally disturbed.



3.0 Results

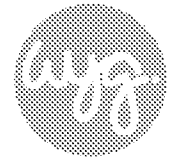
3.1 Desk Based Study

The data search from the NBN provided the following records for reptiles (see below).

Table 1: Reptile information from the desk based search

Date	Grid Ref	Reptile details
1964	TQ00	Adder (<i>Vipera berus</i>)
Before 1901	TQ00	Adder (<i>Vipera berus</i>)
1991	TQ0009	Adder (<i>Vipera berus</i>)
1989, 1990, 2006	TQ0201	Common lizard (<i>Zootoca vivipara</i>)
1974	TQ00	Common lizard (<i>Zootoca vivipara</i>)
1990	TQ0000	Common lizard (<i>Zootoca vivipara</i>)
1990	TQ009019	Common lizard (<i>Zootoca vivipara</i>)
1989	TQ0200	Common lizard (<i>Zootoca vivipara</i>)
1990	TQ0202	Common lizard (<i>Zootoca vivipara</i>)
1989	TQ022022	Common lizard (<i>Zootoca vivipara</i>)
1990	TQ017025	Common lizard (<i>Zootoca vivipara</i>)
1990	TQ0101	Common lizard (<i>Zootoca vivipara</i>)
Before 1901	TQ0107	Grass snake (<i>Natrix natrix</i>)
1991	TQ015082	Grass snake (<i>Natrix natrix</i>)
1990	TQ014083	Grass snake (<i>Natrix natrix</i>)
1990	TQ060060	Grass snake (<i>Natrix natrix</i>)
1991	TQ040088	Grass snake (<i>Natrix natrix</i>)
1990	TQ093043	Grass snake (<i>Natrix natrix</i>)
1966	TQ015096	Slow worm (<i>Anguis fragilis</i>)
1966	TQ025015	Slow worm (<i>Anguis fragilis</i>)
1991	TQ0903	Slow worm (<i>Anguis fragilis</i>)

The closest NBN record for slow worm (*Anguis fragilis*) is approximately 1.52km south west of the site, the closest record for grass snake (*Natrix natrix*) is approximately 4.24km north east and for common lizard (*Zootoca vivipara*) is approximately 1.14km south east of the site.



Consultation with SxBRC provided the following records for reptiles (see below).

Table 2: Reptile information from the consultation

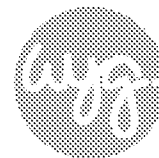
Date	Grid Ref	Distance (Km) and Direction from site	Reptile details
2003	TQ020027	1.12 W	Slow worm (<i>Anguis fragilis</i>)
1992	TQ0201		Slow worm (<i>Anguis fragilis</i>)
1991	TQ028038	0.95 NW	Grass snake (<i>Natrix natrix</i>)

3.2 Site Survey

3.2.1 Weather Conditions

Table 3: Survey Weather Conditions

Survey	Date	Time	Air Temperature (°C)	Rain
1	03/08/2011	07:45	19	No
2	08/08/2011	08:30	16.2	No
3	15/08/2011	08:30	17.3	No
4	24/08/2011	08:15	16.9	Very little at the beginning of the survey
5	31/08/2011	09:30	16.5	No
6	05/09/2011	09:15	17.3	No
7	12/09/2011	10:00	18.0	No



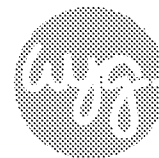
Survey Results

Table 4: Site Survey Results

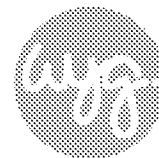
Visit Number	Location/Mat No.	Date	Species	No.	Stage ¹	Activity ²
1	29	03/07/2011	Slow worm	1	AM	RS
	30		Slow worm	1	AF	RS
	42		Slow worm	1	AF	RS
	54		Slow worm	1	JU	RS
	55		Slow worm	1	AM	RS
	66		Slow worm	1	AM	RS
	66		Slow worm	1	AM	RS
2	30	08/08/2011	Slow worm	1	AM	RS
	42		Slow worm	1	AF	RS
	63		Slow worm	1	JU	RS
	66		Slow worm	1	AM	RS
3	12	15/08/2011	Slow worm	1	AM	RS
	19		Slow worm	1	AM	RS
	30		Slow worm	1	AF	RS
	55		Slow worm	1	AF	RS
	57		Slow worm	1	AM	RS
	66		Slow worm	1	JU	RS
	66		Slow worm	1	AM	RS
4	12	24/08/2011	Slow worm	1	AM	RS
	19		Slow worm	1	AF	RS
	44		Slow worm	1	AF	RS
	64		Slow worm	1	JU	RS
	66		Slow worm	1	AM	RS
5	12	31/08/2011	Slow worm	1	AM	RS
	19		Slow worm	1	AM	RS
	19		Slow worm	1	AF	RS
	21		Slow worm	1	JU	RS
	29		Slow worm	1	AF	RS
	34		Slow worm	1	AF	RS
	42		Slow worm	1	JU	RS
	42		Slow worm	1	AF	RS
	45		Slow worm	1	JU	RS

¹ AF adult female; AU adult unsexed; IM immature male; L larvae; IF immature females; IU immature unsexed; JU Juvenile unsexed; ES eggs/spawn; - no data

² RS resting; B breeding behaviour; A active; H hibernating



Visit Number	Location/Mat No.	Date	Species	No.	Stage I	Activity*
	47		Slow worm	1	AF	RS
	57		Slow worm	1	AM	RS
	63		Slow worm	1	JU	RS
	64		Slow worm	2	JU	RS
6	12	05/09/2011	Slow worm	1	AF	RS
	24		Slow worm	1	AM	RS
	27		Slow worm	7	JU	RS
	35		Slow worm	1	AM	RS
	43		Slow worm	1	JU	RS
	49		Slow worm	1	AM	RS
	59		Slow worm	1	JU	RS
	7		19	12/09/2011	Slow worm	2
24		Slow worm	1		JU	RS
		Slow worm	1		Sub adult	RS
		Slow worm	2		AF	RS
28		Slow worm	1		AF	RS
30		Slow worm	1		AF	RS
35		Slow worm	1		AF	RS
44		Slow worm	1		JU	RS
50		Slow worm	1		AF	RS
53		Slow worm	1		AF	RS
		Slow worm	1		Sub adult	RS
		Slow worm	1		JU	RS
57		Slow worm	1		AF	RS
		Slow worm	1		JU	RS
66		Slow worm	1		AF	RS



4.0 Ecological Constraints, Impacts and Recommendations

4.1 Summary of Findings

One species of reptile - slow worm was recorded at the Fitzalan Link site. Both adult and juvenile slow worms were recorded during the reptile presence/absence survey and these were located across the whole of the site indicating a breeding population. Slow worms were recorded during every one of the seven presence/absence visits, with a maximum of eleven adult individuals being recorded on any one day.

Table 5: Calculating Populations (from Froglife 1999)

	Low population <i>Score 1</i>	Good population <i>Score 2</i>	Exceptional population <i>Score 3</i>
Adder	<5	5 - 10	>10
Grass snake	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Slow-worm	<5	5 - 20	>20

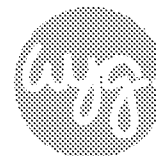
Figures in the table refer to maximum number of adults seen by observation and/or under tins (placed at a density of up to 10 per hectare), by one person in one day.

Froglife guidelines (1999) (Table 5 above) suggest that the population of slow worms present at the site is 'Good' based on the number of adults seen during the survey visit. During the presence/absence survey a total of 11 adult slow worms were recorded on a single visit. It may be possible that the LPA will require 20 survey visits in order to determine the population size, however in our experience working in the local area, it is thought that the seven visits will be sufficient. The survey provided important information as it confirmed that reptiles are present within the site boundary, and as such appropriate mitigation and enhancement will be required to ensure the maintenance of populations in the area in accordance with the *Wildlife and Countryside Act 1981* (as amended). Given the proposed works, this is likely to comprise the trapping and translocation of these reptiles to a suitable receptor site prior to works.

4.2 Reptile Receptor Site

A reptile receptor site will need to be identified prior to translocating the reptiles as the development site itself is very limited it will not be possible to move the reptiles within the development site boundary.

The receptor site will ideally have the following features:



- ❖ Be as close to the donor site as possible (within the same county/administrative area/geology and habitat type);
- ❖ Currently does not support a population of the species to be translocated, or holds a low population and/or has the capacity to support more reptiles because of the complexity of the habitat, and/or a suboptimal habitat that can be enhanced to increase its capacity to support a larger population, if necessary³;
- ❖ Not be subject to planning or other threats in the foreseeable future.

The receptor site will be subject to reptile presence/absence surveys to determine the population size of the reptiles present at the receptor site. The method used will follow guidelines set out by Natural England in their 'Reptile mitigation guidelines' (Technical Information Note TIN102, September 2011). The presence/absence survey for reptiles will include:

- ❖ Direct Observation – Whilst carrying out a walkover survey, locations of basking animals will be noted and mapped.
- ❖ Refugia Searches – Any suitable naturally occurring refugia will be mapped. In-situ refugia on site will be mapped if reptiles are found using them during the survey period.
- ❖ Mats – strips of roofing felt measuring approximately 0.5m x 0.5m will be laid throughout the site.

Following the JNCC (2003) guidelines, if the surveys confirm that the receptor site has not reached carrying capacity and that it will be able to support a good population of slow worms then the local council Ecologist will be sent a copy of the results of the survey and approval gained from the local planning authority prior to translocation. Habitat creation/management should be implemented in order for the site to support existing populations of reptiles and the translocated population of reptiles and to act as a focal release point for these animals.

³ The translocation should result in no net loss of sites. Exceptions to this may be made for single or very low numbers of animals unlikely to form a viable breeding population if introduced to an unoccupied site. In which case, it may be appropriate to select 'receptor sites' supporting small numbers of the species, but capable of supporting more given suitable remedial works.

A good population of slow worms are considered to be present from the survey data collected, as a maximum number of eleven was recorded on any one day. The guidelines set out by Natural England in their 'Reptile mitigation guidelines' (Technical Information Note TIN102, September 2011) advice for translocation and mitigation programmes recommends a minimum of 18 days of capturing, using artificial refugia at a density of 1000 refugia per hectare, at locations with a medium population of slow worms.

- ❖ The installation of reptile proof-fencing around suitable habitat within the site or habitat manipulation;
- ❖ Laying additional artificial refugia to a density of ~1000/ha in suitable depending on the suitability of the habitat;
- ❖ Translocating reptiles from within the affected area to a suitable receptor site. There will be no remaining space within the development site to translocate the reptiles to and therefore it is recommended that an off-site receptor site is identified as soon as possible. For a good population of slow worms, and in accordance with the Natural England Reptile mitigation guidelines it is suggested that a minimum of 18 visits in suitable weather conditions should be allowed for the translocation with at least five days with no captures and a review of capture rates before the translocation ceases.
- ❖ **Reptile trapping can only be undertaken during the animals' active period which runs from March until October.** Reptile capture may not take place between November and February, as reptiles are not active during this period. Reptile capture is only effective in the correct weather conditions, these conditions may be less likely to occur frequently in July to September. Therefore it is important that the reptile translocation programme commences with enough time before the habitat is due to be destroyed.

- #### 4.4 Habitat Enhancements

4.5 Method Statement

[illegible]

- ❖ Eds. Hill, D.A., Fasham, M., Tucker, G., Shewry, M. & Shaw, P. (2005) Handbook of Survey Methods: Survey, Evaluation and Monitoring. Cambridge University Press, UK.
- ❖ Froglife (1999) Advice Sheet 10: Reptile Survey
- ❖ Gent, T. & Gibson, S. (2003) Herpetofauna Workers' Manual. JNCC.
- ❖ Natural England (2011) Natural England Technical Information Note TIN102 Reptile Mitigation Guidelines
- ❖ WYG (2009) Fitzalan Link: Ecological Scoping/Phase 1 Habitat Survey report

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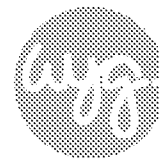
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Adder - *Vipera berus*

Grass snake - *Natrix natrix*

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Fitzalan Link - Reptile Report

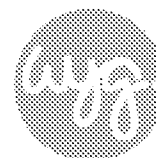


Common Lizard - *Zootoca vivipara*

Site name	Gridref	Date Recorded	Date Accuracy	Sensitive				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	28/5/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name protected	TQ0201	23/9/2006	Day	N				
Site name	Gridref	Date Recorded	Date Accuracy	Sensitive	Recorder	Determiner	SPECIES	VICECOUNTY
Arundel Park	TQ00	1974	Year	N	Haes, E.C.M.	Unknown	9503 304	West Sussex
LITTLEHAMPTON	TQ0000	25/8/1990	Day	N	Mary Swan's	Unknown	9503 304	West Sussex

Slow Worm - *Anguis fragilis*

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Fitzalan Link - Reptile Report

	6				J.R.			
Littlehampton Golf Course	TQ025015	8/4/1966	Day	N	Burrough, P.D.	Unknown	9503 101	West Sussex
3 CISSBURY ROAD, FERRING	TQ0903	1991	Year	N	Mary Swan's reptile records	Unknown	9503 101	West Sussex

SxBRC

Anguis fragilis

Slow-Worm

A legally protected legless lizard resembling a small snake. Slow-worms are widespread in southern England and found in open habitats such as rough grassland, heath and on road and railway embankments. They are often common in urban and suburban areas. Like most reptiles and amphibians they have declined considerably and need protection wherever they occur.

REPTILE

UK BAP Priority Species/WACA Sch 1 Sec 9.1 (killing/injuring)/Wildlife & Countryside Act 1981 Sch 1a/Wildlife & Countryside Act 1981 Sch 2 Sec 9.5b

Grid Reference	Recorder	Date	Locality
TQ028027	Barry Kemp	25/06/2003	Limeside Way Industrial Park, Littlehampton, Littlehampton CP
TQ02801	Dennis Day	06/10/1992	Littlehampton, West Sussex

Natrix natrix

Grass Snake

A widespread, but legally protected, snake with a normally olive body flecked with black and a distinctive yellow collar. Frequent in Sussex near places where its food, largely frogs, is readily available. Like most reptiles and amphibians, grass snakes have declined considerably and need protection wherever they occur.

REPTILE

UK BAP Priority Species

Grid Reference	Recorder	Date	Locality
TQ028038	Dennis Day	01/01/1991	Sandfield House, Lymington, West Sussex

Plan 1 - Refugia Mat Locations

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