

# **XLINKS MOROCCO-UK POWER PROJECT**

## **Preliminary Environmental Information Report**

**Volume 2, Appendix 1.9: Reptile Survey**



FOR ISSUE  
April 2024

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## Glossary

Term	Meaning
Alverdiscott Substation site	The National Grid Electricity Transmission substation site within which the Alverdiscott Substation sits.
Applicant	Xlinks 1 Limited.
Baseline	The status of the environment without the Proposed Development in place.
Converter Site	The Converter Site is proposed to be located to the immediate west of the existing Alverdiscott Substation site in north Devon. The Converter Site would contain two converter stations (known as Bipole 1 and Bipole 2) and associated infrastructure, buildings and landscaping.
Onshore HVDC Cable Corridor	The proposed corridor within which the onshore High Voltage Direct Current cables would be located.
Onshore Infrastructure Area	The proposed infrastructure area within the Proposed Development Draft Order Limits landward of the transition joint bays, which contains the onshore HVDC Cables, Converter Site, the Alverdiscott Substation Connection Development, highway works, utility diversions and onshore HVAC Cables.
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project, and which helps to inform consultation responses.
Proposed Development	The element of the Xlinks Morocco-UK Power Project within the UK, which includes the offshore cables (from the UK Exclusive Economic Zone to landfall), landfall site, onshore Direct Current and Alternating Current cables, converter stations, road upgrade works and, based on current assumptions, the Alverdiscott Substation Connection Development.
Protected species	A species of animal or plant which it is forbidden by law to harm or destroy.
Study Area	This is an area which is defined for each environmental topic which includes the Proposed Development Draft Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors. The study area for each topic is intended to cover the area within which an impact can be reasonably expected.

## Acronyms

Term	Meaning
BAP	Biodiversity Action Plan
EIA	Environmental Impact Assessment
NPPF	National Planning Policy Framework
PEIR	Preliminary Environmental Information Report

## Units

Term	Meaning
m	Metre
ha	Hectare
°C	Degrees Celsius

# 1 REPTILE REPORT

## 1.1 Introduction

### Purpose and Scope of this Report

- 1.1.1 This document forms Volume 2, Appendix 1.9 of the Preliminary Environmental Information Report (PEIR) prepared for the UK elements of the Xlinks Morocco-UK Power Project (referred to hereafter as ‘the Proposed Development’). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the Proposed Development.
- 1.1.2 RPS was commissioned by Xlinks 1 Ltd (the ‘Applicant’) to undertake a series of surveys to provide an ecological baseline of habitats and species which could be affected by the proposed Onshore High Voltage Direct Current (HVDC) Cable Corridor and Converter Site, extending from Cornborough Range at the coast to the existing Alverdiscott Substation Site in north Devon.
- 1.1.3 As a part of this process, an initial assessment of the scope of ecological receptors which could be affected by the proposals were carried out, including a desk study (see Volume 2, Appendix 1.2: Ecological Desk Study), Phase 1 Habitat Survey (see Volume 2, Appendix 1.1: Phase 1 Habitat Survey), and a preliminary protected species assessment. Further, a series of species-specific surveys were undertaken to provide a detailed baseline of the potential ecological receptors which could be affected by the Proposed Development. This report forms a part of the species-specific surveys and relates to the potential presence of reptile species. This assessment is intended to feed information into Volume 2, Chapter 1: Ecology and Nature Conservation of the PEIR.
- 1.1.4 The survey aims to:
- undertake a field-based review of all accessible parts of the proposed cable route and converter station, with a nominal 100 m buffer strip on either side, to assess its potential to support reptile species;
  - carry out detailed survey of areas identified as of potential to support reptiles; and
  - record position, species, life-stage and sex (where possible) of any reptiles identified.
- 1.1.5 This report pertains to the reptile survey and its results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS. The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Appraisal Notes are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).
- 1.1.6 The design of the Proposed Development has changed since these surveys were undertaken. As such, updated surveys will be carried out, where required, prior to application to ensure that all elements of the revised Proposed Development site have been considered. The updated survey results will be reported as part of the Environmental Statement.

## Study Area and Zone of Influence

- 1.1.7 The onshore elements of the Proposed Development are located in north Devon. The Onshore HVDC Cable Corridor is approximately 14.5 km in length and the Converter Site is approximately 37 ha in area. The National Grid coordinates for either end of the Onshore Infrastructure Area are SS412278 and SS501251. The centre of the proposed Converter Site is at SS493238.
- 1.1.8 The Onshore HVDC Cable Corridor passes through a mixture of pastoral and arable farm land, with fields bounded by Devon hedgerows, and occasionally crossing small watercourses in wooded valleys. The Onshore HVDC Cable Corridor also crosses the River Torridge.
- 1.1.9 The location of the Proposed Development is shown on **Figure 1.1** to **Figure 1.12** of this report. Aerial imaging available via Google Earth Pro was also reviewed to assess the site in relation to its context in the wider landscape.
- 1.1.10 The term Zone of Influence is used to describe the geographic extent of potential impacts of a development. The Zone of Influence is determined by the nature of the development and also in relation to designated sites, habitats or species which might be affected by the proposals.
- 1.1.11 For this Proposed Development, in addition to the landscape-based appraisal discussed above, a buffer of 150 m to either side of the proposed Onshore HVDC Cable Corridor was surveyed in detail, the Zone of Influence is considered to be land within this corridor and linked to it through hedgerow networks or other linear features along with more distant sites which could be affected by disturbance or contamination issues during construction or operation.
- 1.1.12 It is important to note that the areas surveyed and reported in this document relate to the Proposed Development footprint understood at the time that the surveys were undertaken. This does not completely tie up with the footprint of the current (2024) Proposed Development. As such, figures have been developed to show both the current Proposed Development Draft Order Limits and the 'previous scheme design boundary' at the time of the surveys.

## The Proposed Development

- 1.1.13 The Proposed Development forms part of the wider Project proposed by the Applicant to develop a sub-sea electricity connection between the UK and Morocco.
- 1.1.14 The Proposed Development refers specifically to the UK elements of the Project and includes offshore cables, landfall at Cornborough Range, underground HVDC and HVAC cables, two converter stations and the Alverdiscott Substation Connection Development to enable a connection to the national grid. The onshore elements of the Proposed Development are proposed to be located within local authority areas of Torridge District Council and Devon County Council, in north Devon.
- 1.1.15 The proposed site location is provided in **Figure 1.1** to **Figure 1.12** of this report below.

## 1.2 Relevant Legislation

- 1.2.1 All common UK reptile species (Adder *Vipera berus*, Grass Snake *Natrix helvetica*, Common Lizard *Zootoca vivipara* and Slow Worm *Anguis fragilis*) are protected through part of Section 9 (1 and 5) of the Wildlife & Countryside Act 1981 (as amended). This prohibits:
- Intentional or reckless injuring or killing;
  - Selling, offering or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from, such an animal; or
  - Publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things.

## 1.3 Methods

### Assessment of Habitats with Potential to Support Reptiles

- 1.3.1 The initial ecological appraisal consisted of a walkover survey carried out by an experienced ecologist who regularly undertakes such assessments and is experienced in reptile survey and mitigation strategies, including experience of a large number of reptile capture and translocation exercises relating to all common British reptile species.
- 1.3.2 Habitats across the proposed Onshore HVDC Cable Corridor and Converter Site were initially assessed for their potential to support reptiles, considering both the habitat types present, and also the regular land use, such as levels of grazing or other agricultural activities.
- 1.3.3 Areas with suitable conditions for the presence of reptiles were focussed upon for detailed survey, although some other potentially suitable areas across the site which could be accessed without excessive trampling by cattle were also selected for detailed survey, to enable a clear understanding of potential reptile presence across the site.

### Survey Effort

- 1.3.4 Survey methods were based on those set out in the Herpetofauna Workers Manual (JNCC, 1998).
- 1.3.5 These used regular walked visual transects, along with artificial refugia, which comprised squares of roofing felt (used to attract reptiles in the area) placed at suitable densities within the survey area. Refugia were left in place for at least 2 weeks to “bed in” before surveys were undertaken. Refugia sheets were made from suitable bituminous roofing felt, cut to approximately 0.5 x 0.7m, and sequentially numbered.
- 1.3.6 A total of 180 sheets were put out in a total of six different locations. **Table 1.1** below sets out a brief description of habitats present at each of the locations. These locations are shown in **Figure 1.1** to **Figure 1.12** of this report below.

**Table 1.1: Reptile Refugia Location Descriptions.**

Location	Description	Number of Sheets
1	Field margins alongside a track and horse paddock with dense scrub. Adjacent field arable.	30
2	Field margin along woodland edge. Field currently grazed by sheep.	20
3	Field margin along hedgerows adjacent farm track and woodland edge.	30
4	Woodland edge locations on steep grazed fields overlooking Torridge Estuary.	40
5	Edge of field associated with a former lane with some scrub present. Field cattle-grazed.	20
6	Margins of cattle-grazed field adjacent woodland edge and pond habitats.	40

1.3.7 Survey visits were undertaken in September 2021, on days when weather conditions were favourable. September is one of the months identified as particularly suitable for reptile survey as conditions with slightly cooler days with some cloud cover are prevalent, rather than bright, hot days, which would reduce effectiveness of artificial refugia).

1.3.8 Where possible, species, life stage and sex of reptiles observed were recorded. The dates surveys were undertaken were as follows (weather conditions and temp in brackets):

- 06/09/2021 (20% cloud, 19°C);
- 13/09/2021, (60% cloud, 12°C);
- 16/09/2021, (20% cloud, 18°C);
- 19/09/2021 (60% cloud, 18°C);
- 20/09/2021 (5% cloud, 17°C);
- 22/09/2021 (40% cloud, 18°C); and
- 29/09/2021 (60% cloud, 14°C).

## Population Assessment

1.3.9 Froglife (1999) provides a basic index of relative abundance of reptiles based on peak survey counts (**Table 1.2** below). The figures in the table refer to the maximum number of adults seen by direct observation and/or on or under refuges by one person in one day. This index has been used to assess reptile population sizes within the study area.

**Table 1.2: Reptile Population Class Sizes**

Species	Low Population	Good Population	Exceptional Population
Adder	<5	5 – 10	>10
Grass Snake	<5	5 – 10	>10
Common Lizard	<5	5 – 20	>20
Slow Worm	<5	5 – 20	>20

## 1.4 Limitations

### Survey

- 1.4.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 1.4.2 The surveys were undertaken in appropriate weather conditions during a time of the year when reptiles would be expected to be active, by a suitably experienced surveyor.
- 1.4.3 In some areas, potentially suitable habitats appear to occur where no landowner access was available to undertake surveys. In these areas, the survey was limited to visual inspection from recognised public rights of way.
- 1.4.4 The presence of intermittent cattle grazing in all suitable habitat areas of the Proposed Development site meant that considerable disturbance to refugia sheets was encountered. In several cases, sheets were damaged beyond repair or completely lost. These were not replaced in cases where cattle remained in the fields.

### Accurate Lifespan of Ecological Data

- 1.4.5 The majority of ecological data remains valid for only short periods of time due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the site conditions.
- 1.4.6 Site specific surveys used to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the PEIR were undertaken between 2021 and 2024. CIEEMs Advice Note: On the lifespan of ecological reports and surveys (CIEEM, 2019) recommends that surveys exceeding three years in age are likely to require updating, whilst surveys undertaken between 18 months and three years prior to application may require site visits pre-construction to review the validity of survey findings. Therefore, in accordance with CIEEM guidance, site specific surveys undertaken over 18 months prior to the submission will be updated, where required (following a site review to confirm the validity of survey findings by a suitably qualified ecologist). Those surveys undertaken over three years will be supplemented by further surveys (if DCO is granted) to be completed pre-construction.

## 1.5 Results

### Background

- 1.5.1 Volume 2, Appendix 1.2: Ecological Desk Study identified single records of slow worm (*Anguis fragilis*), grass snake (*Natrix Helvetica*) and common lizard (*Zootoca vivipara*). These lie between 850 and 950 m from the proposed Onshore HVDC Cable Corridor.



## Habitat Assessment

- 1.5.2 Volume 2, Appendix 1.1: Phase 1 Habitat Survey identified that much of the habitat crossed by the proposed Onshore HVDC Cable Corridor and Converter Site consisted of improved grassland and arable land with Devon hedges. Arable land tends to be of very limited value for reptiles due to regular cultivation activities. Grassland habitats are more likely to be valuable, although this value can be somewhat reduced by the presence of intensive cattle grazing. Less disturbed habitats such as those on margins of scrub areas and where across all of these fields appeared to limit the potential.

## Survey Results

- 1.5.3 A summary of the results of the survey are detailed in **Table 1.3** below and presented on **Figure 1.1** to **Figure 1.12**.

**Table 1.3: Reptile Survey Results Summary**

Survey	Date	Weather conditions	Species Found	
			Location 1: Woodland glade leading to Jennets Reservoir (Grid reference: 50.99794, -4.22154)	Location 2: Roadside hedge bordering A39, top end of disused road (Grid reference: 51.008213, -4.25194)
1	06/09/2021	20% cloud, 19°C	None	None
2	13/09/2021	60% cloud, 12°C	None	None
3	16/09/2021	20% cloud, 15°C	None	None
4	19/09/2021	60% cloud, 18°C	<ul style="list-style-type: none"> <li>Two juvenile common toads</li> <li>One female smooth newt</li> <li>Common frogs</li> </ul>	None
5	20/09/2021	5% cloud, 17°C	<ul style="list-style-type: none"> <li>One male common toad</li> <li>Two juvenile commons toads</li> <li>Common frogs</li> </ul>	None
6	22/09/2021	40% cloud, 18°C	None	None
7	29/09/2021	60% cloud, 14°C	<ul style="list-style-type: none"> <li>Two juvenile common toads</li> <li>One adult male common toad</li> </ul>	<ul style="list-style-type: none"> <li>One adult female slow worm (<i>Anguis fragilis</i>)</li> </ul>

- 1.5.4 A peak count of 1 slow worm, was identified during a single site visit (see **Figure 1.3** below). Following the population class size assessment (see **Table 1.1**), the population of slow worm would be considered 'low'. The slow worm identified was found to the south of the A39 near the Abbottsham Cross roundabout in a location immediately to the east of the proposed access route to the southern crossing compound for the A39.
- 1.5.5 In addition to the reptiles identified in the formal survey effort provided above, a further incidental sighting (dated 28 July 2022) of an adult grass snake (see **Figure 1.12** below) was recorded in narrow field margin in maize crop (grid reference: 50.995014, -4.147488). This occurred in the area proposed for the Converter Site (pre – September 2022 location).

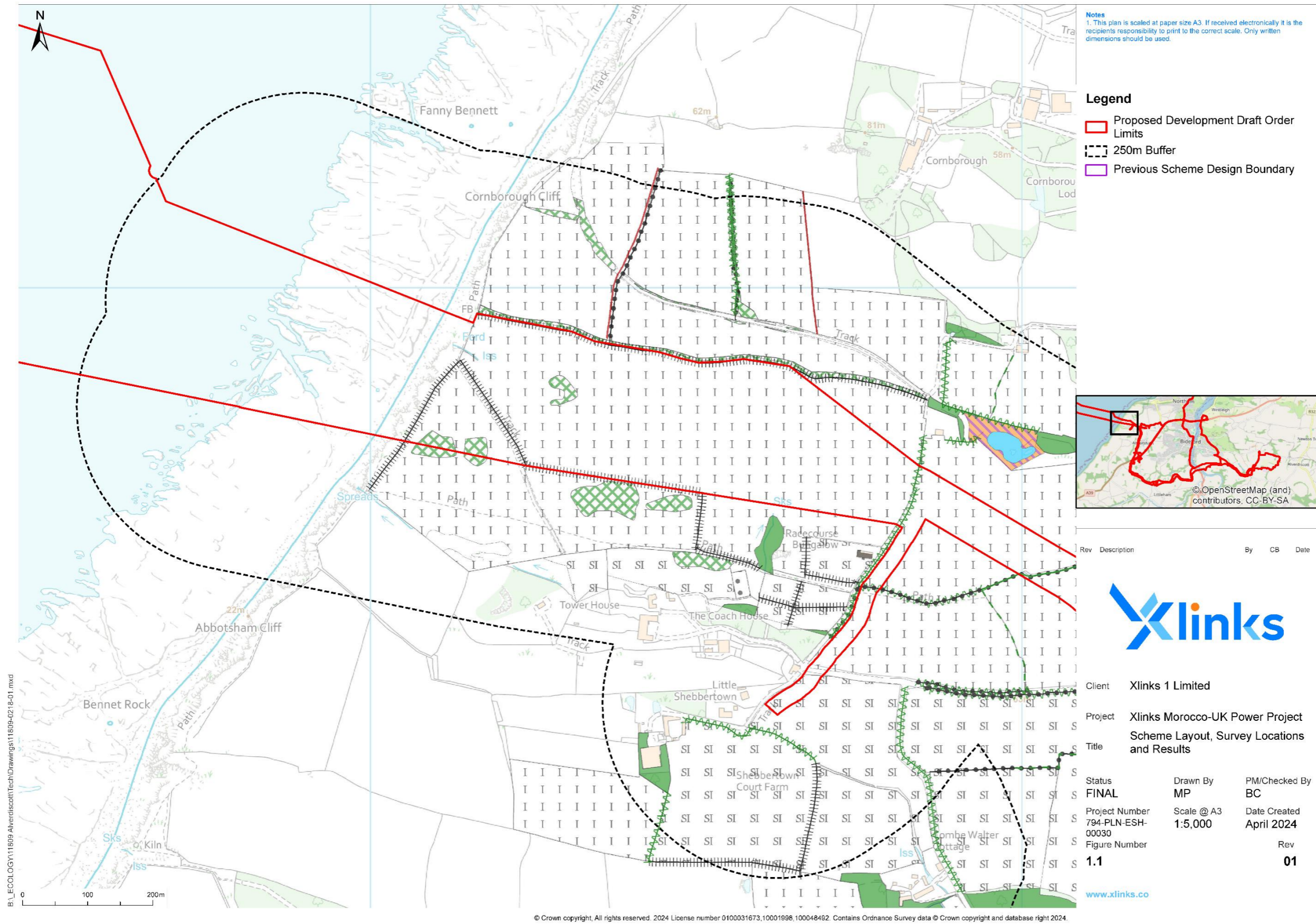
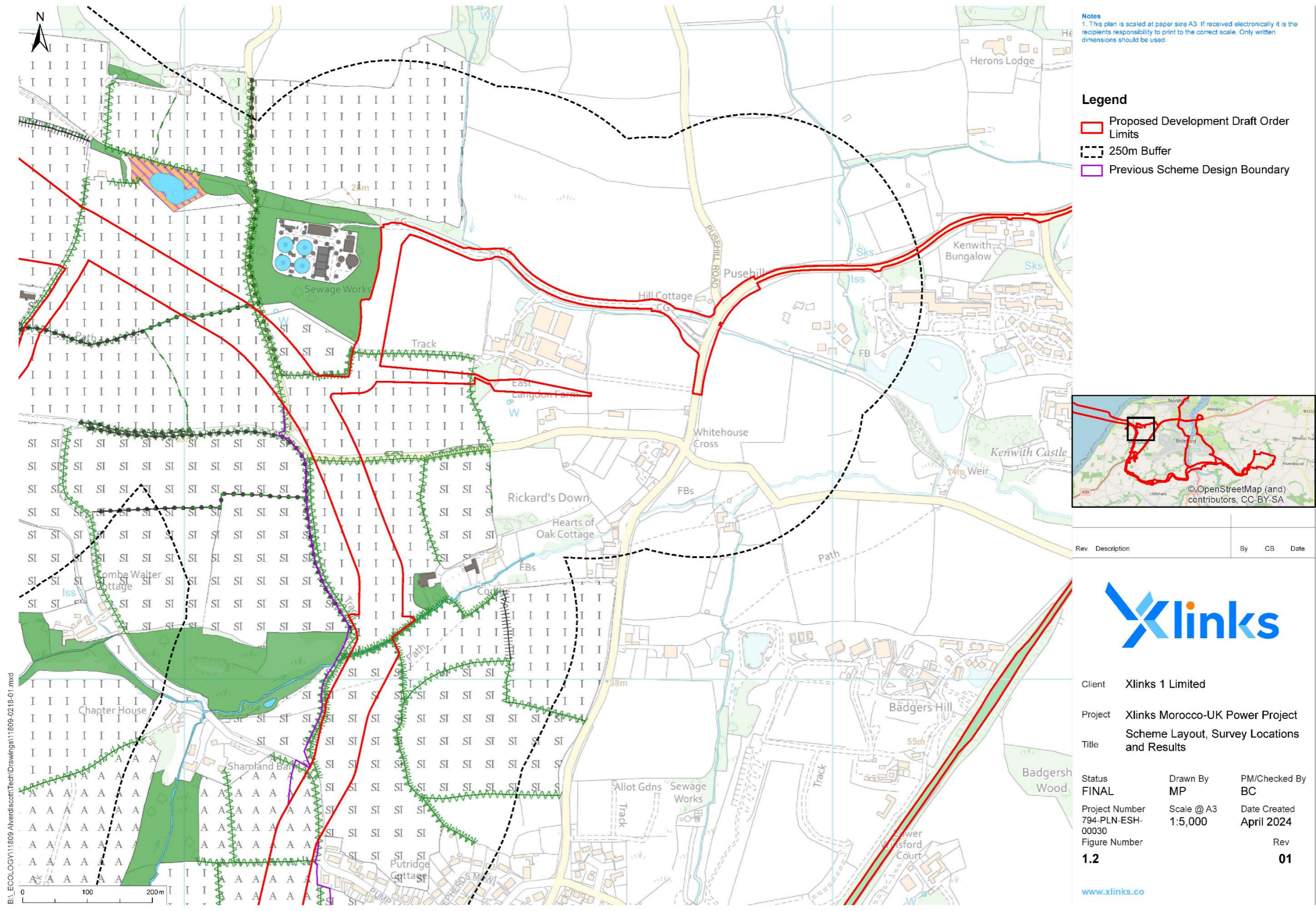


Figure 1.1: Results of the reptile surveys (sheet 1)



**Figure 1.2: Results of the reptile surveys (sheet 2)**

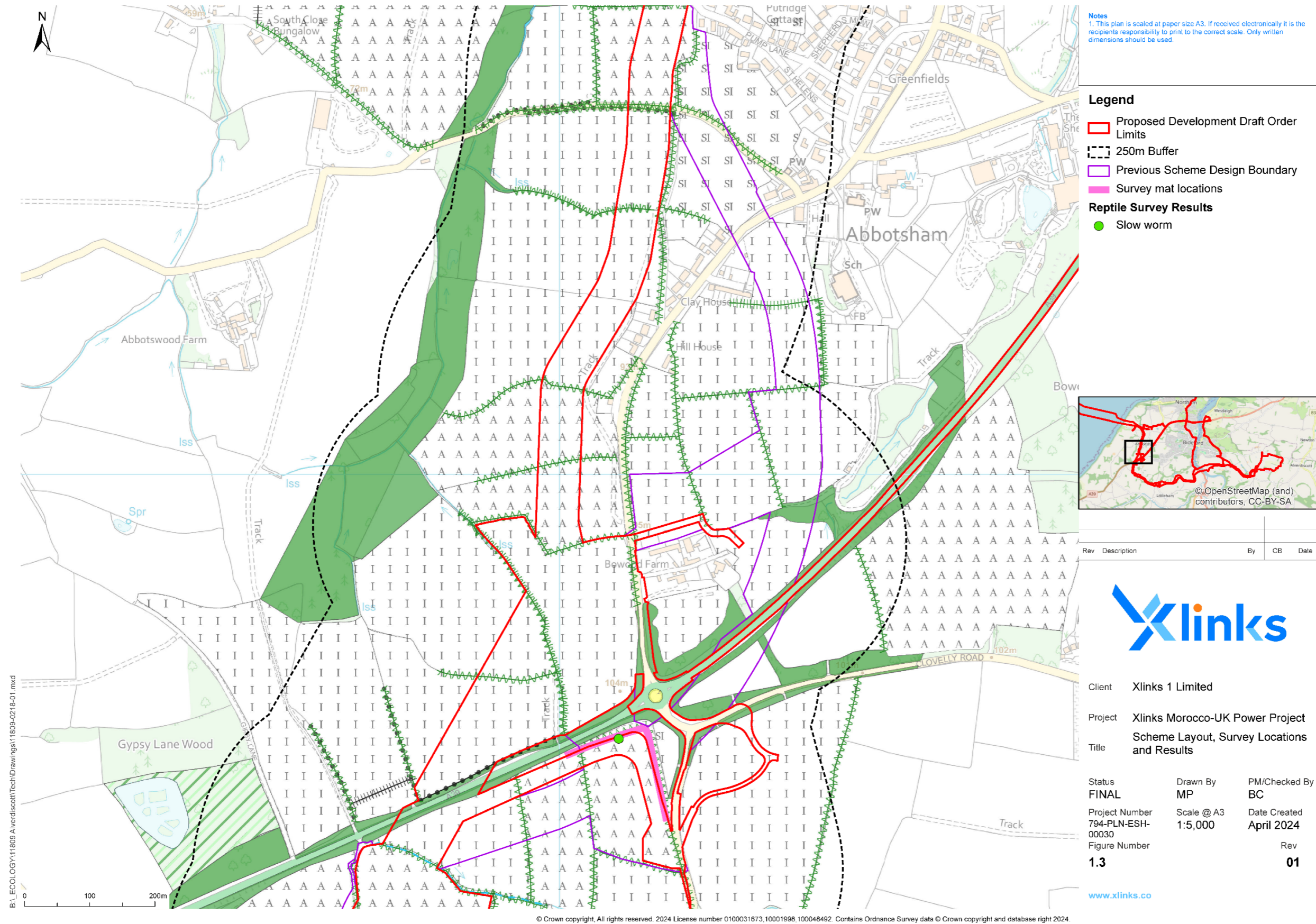


Figure 1.3: Results of the reptile surveys (sheet 3)

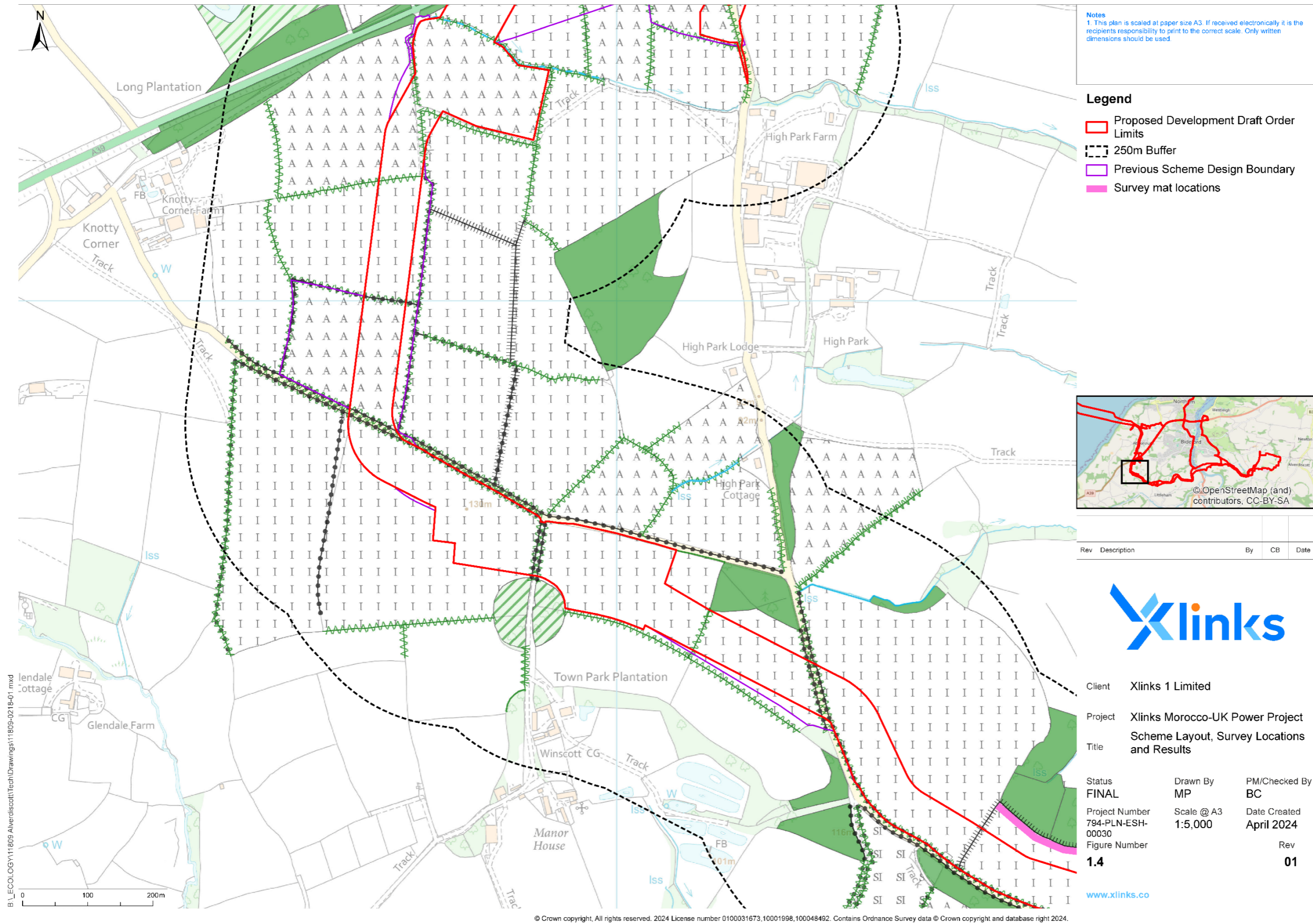


Figure 1.4: Results of the reptile surveys (sheet 4)

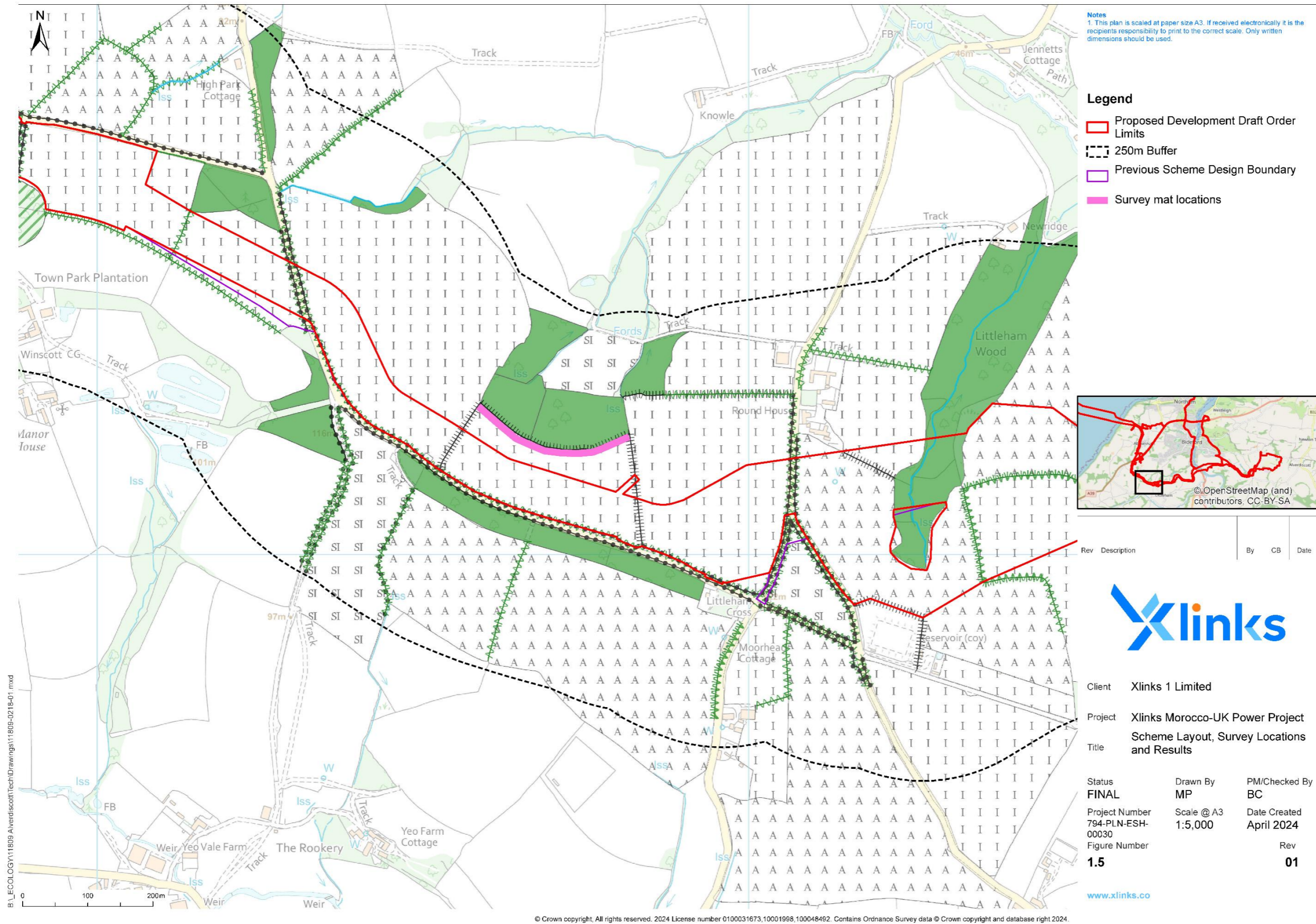


Figure 1.5: Results of the reptile surveys (sheet 5)

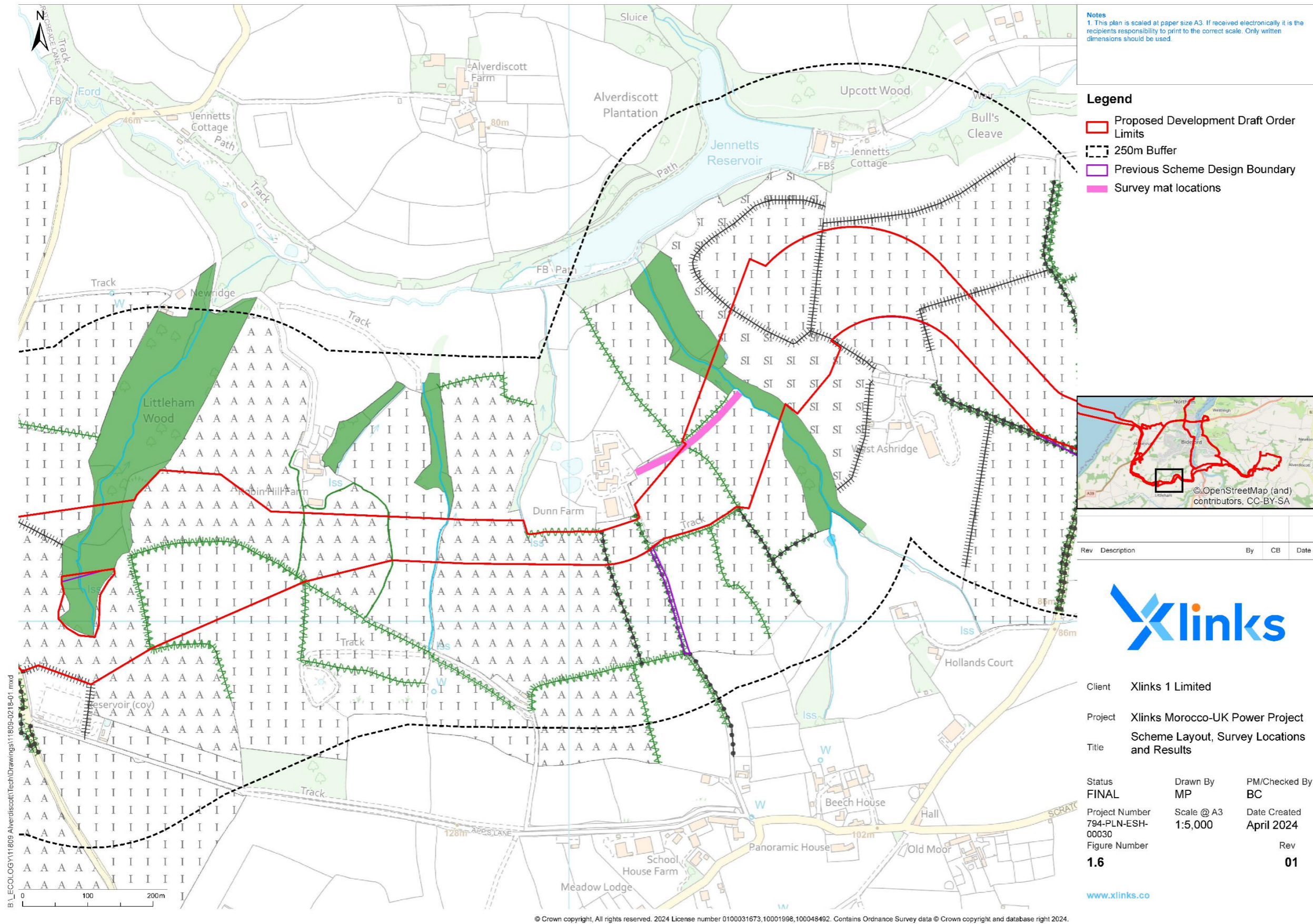


Figure 1.6: Results of the reptile surveys (sheet 6)

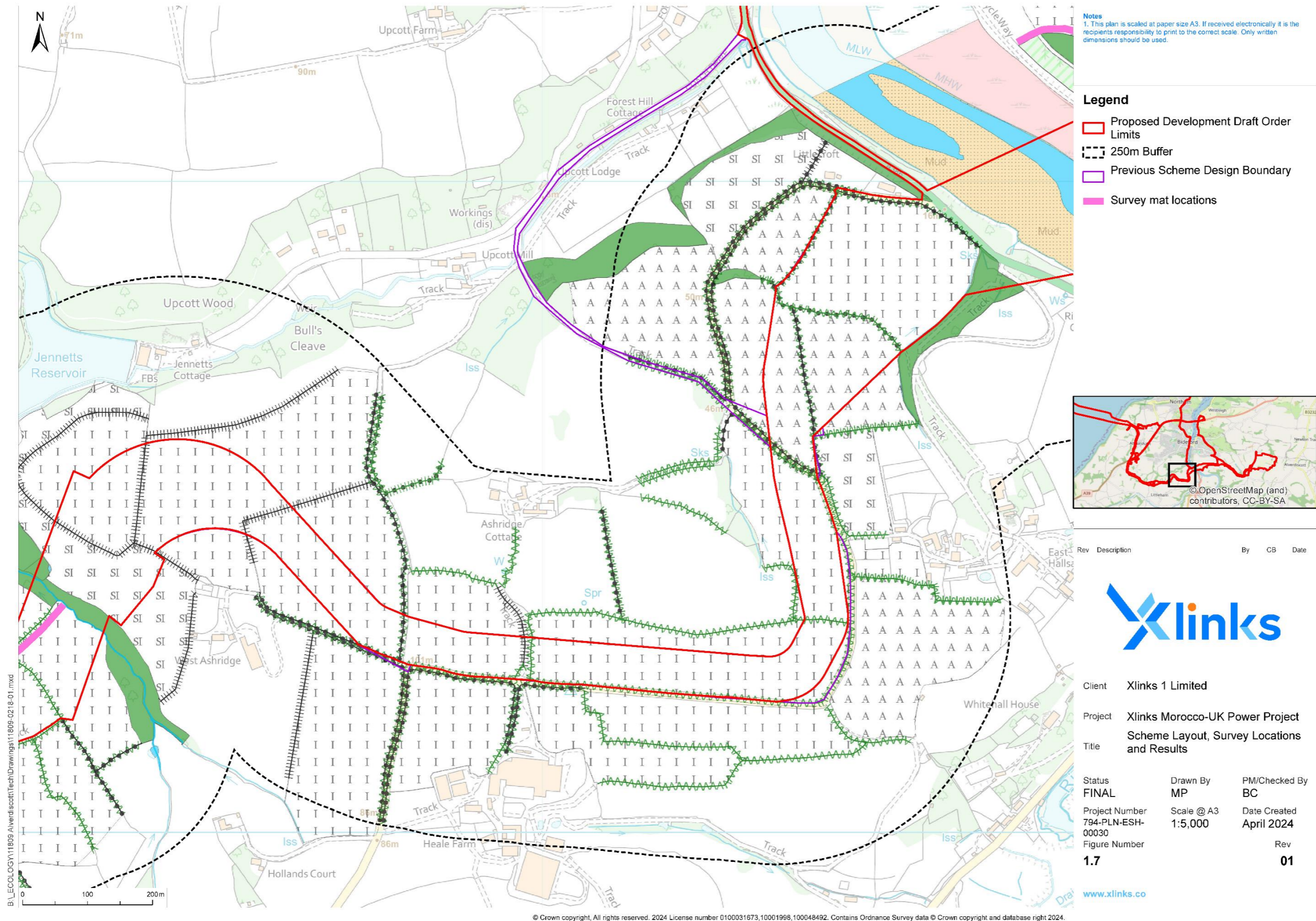


Figure 1.7: Results of the reptile surveys (sheet 7)



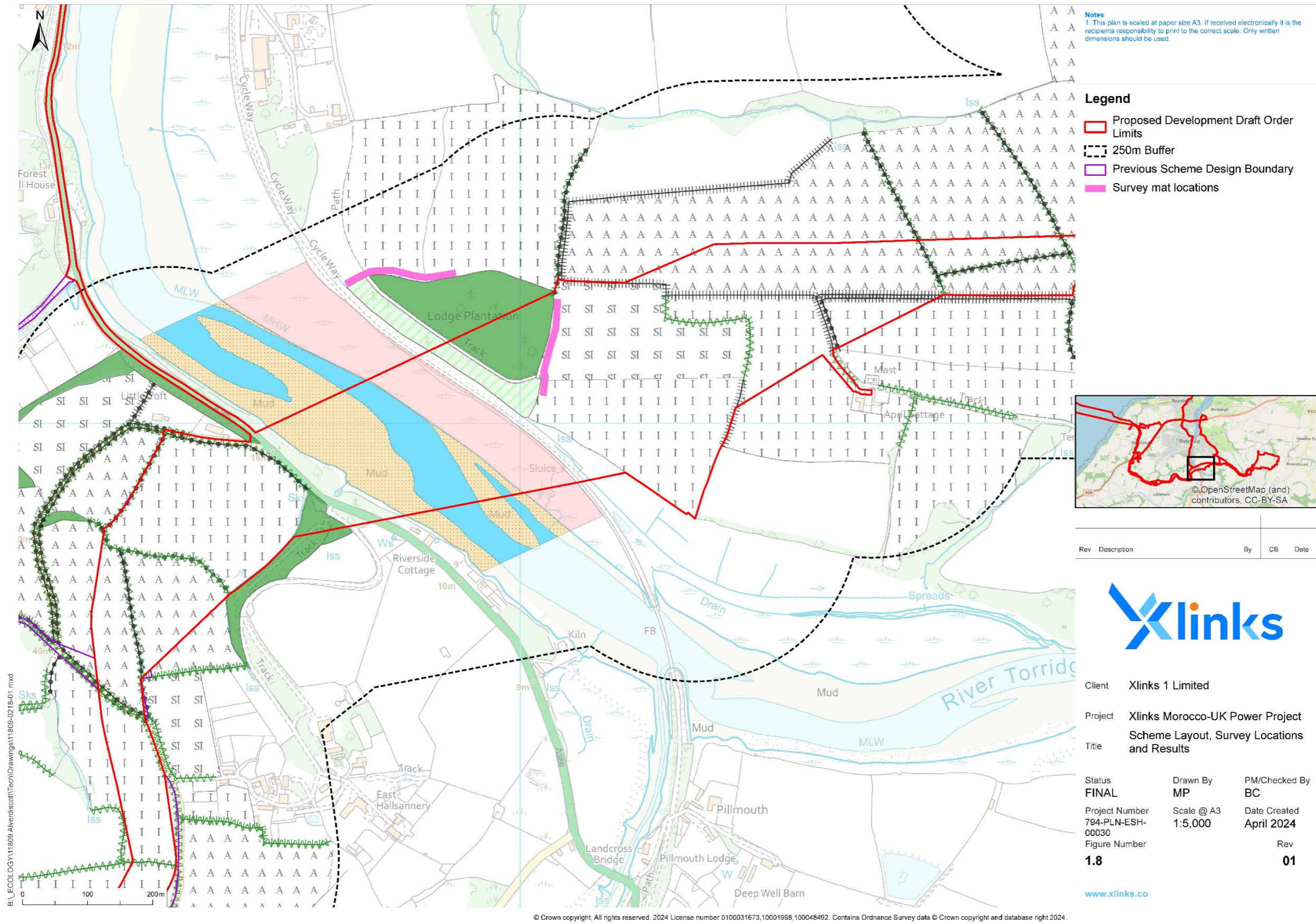


Figure 1.8: Results of the reptile surveys (sheet 8)

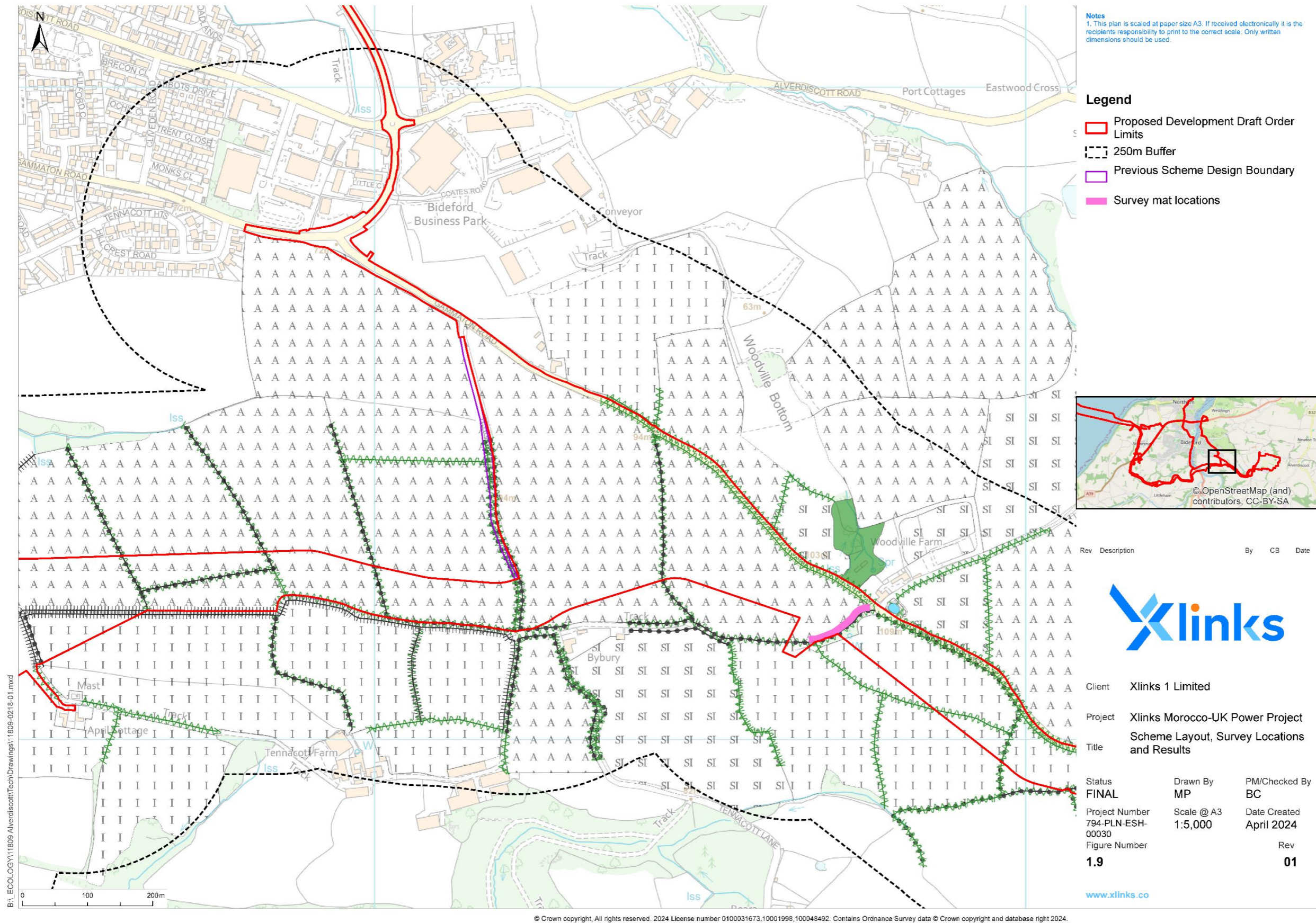


Figure 1.9: Results of the reptile surveys (sheet 9)

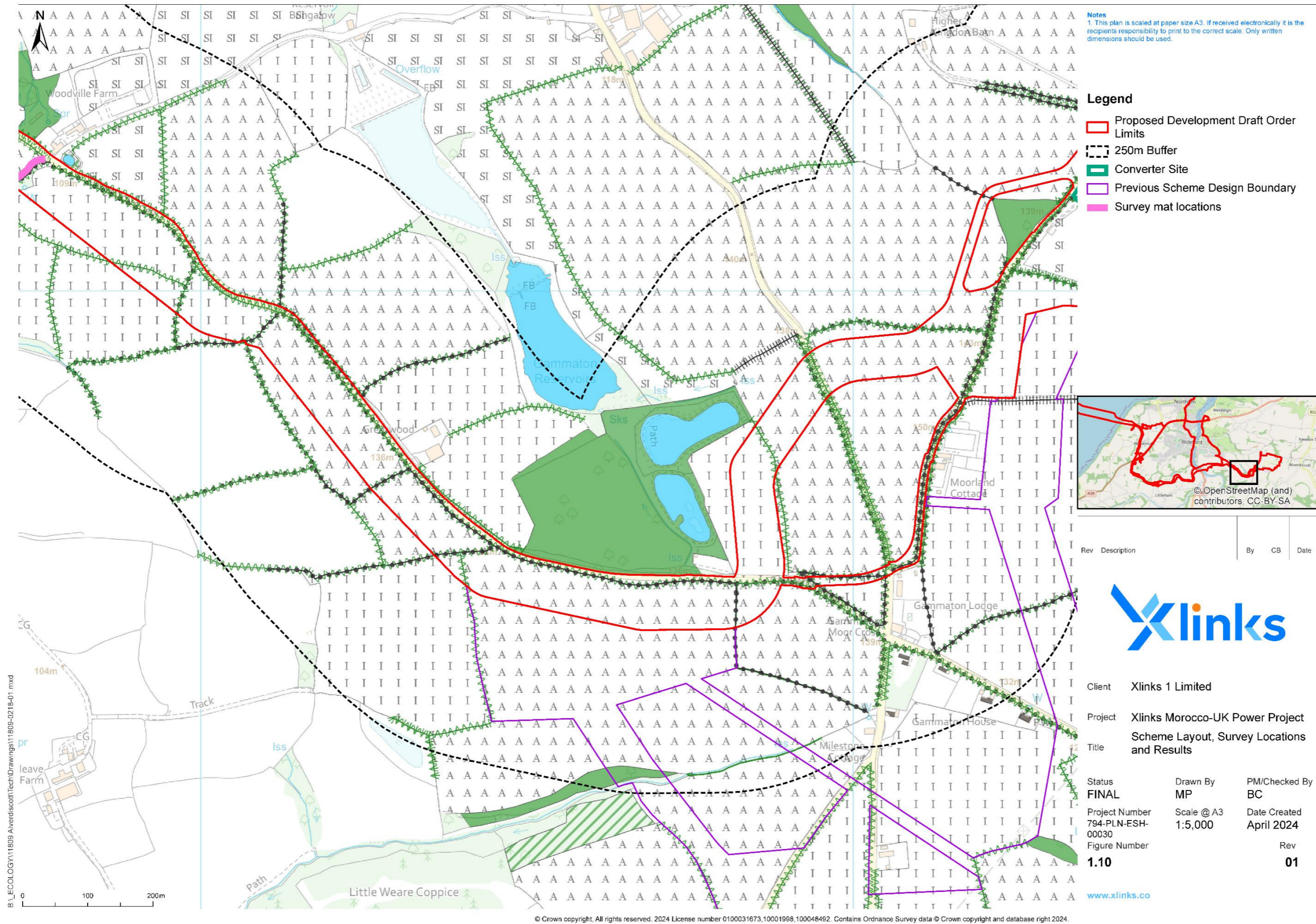


Figure 1.10: Results of the reptile surveys (sheet 10)

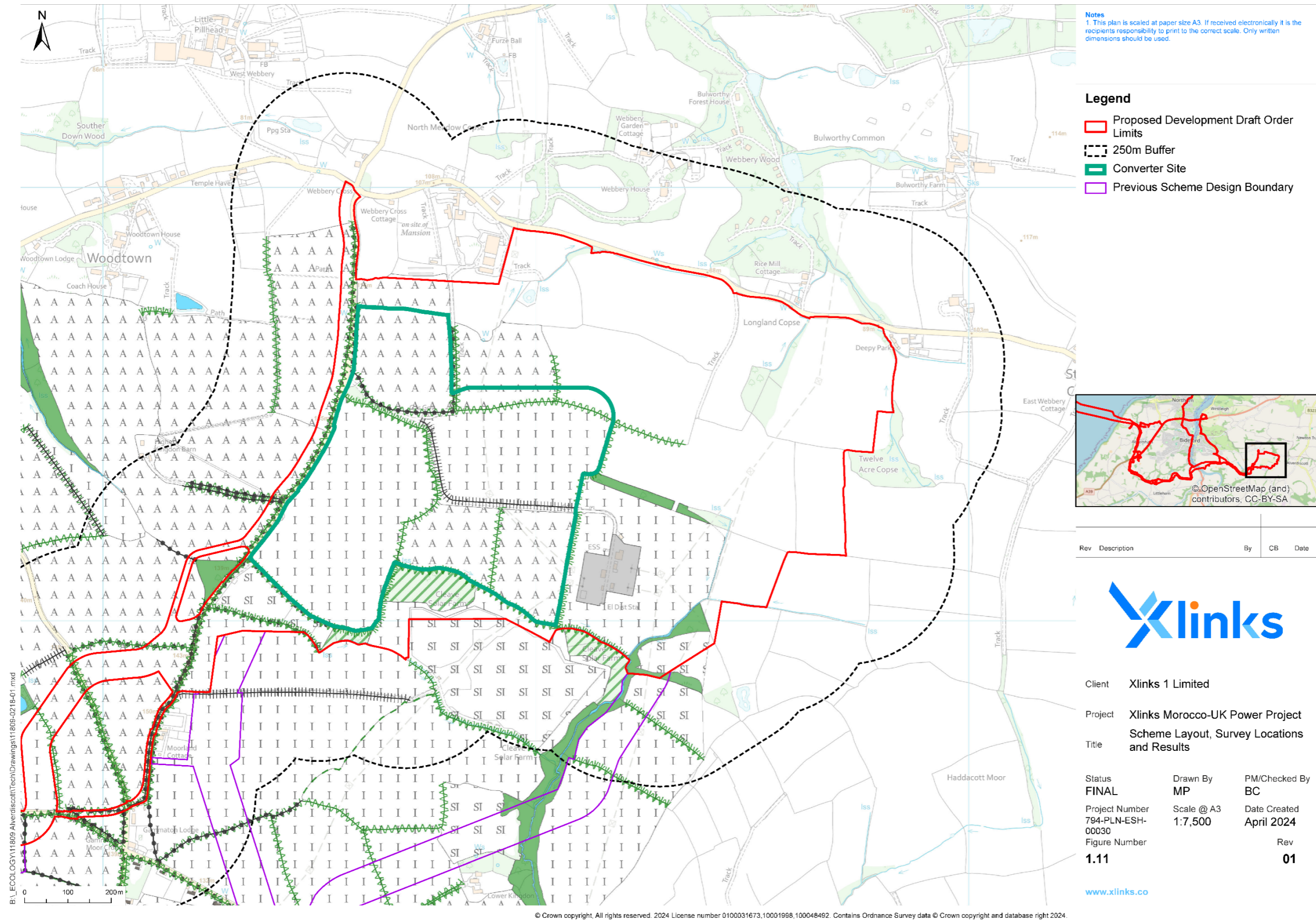


Figure 1.11: Results of the reptile surveys (sheet 11)

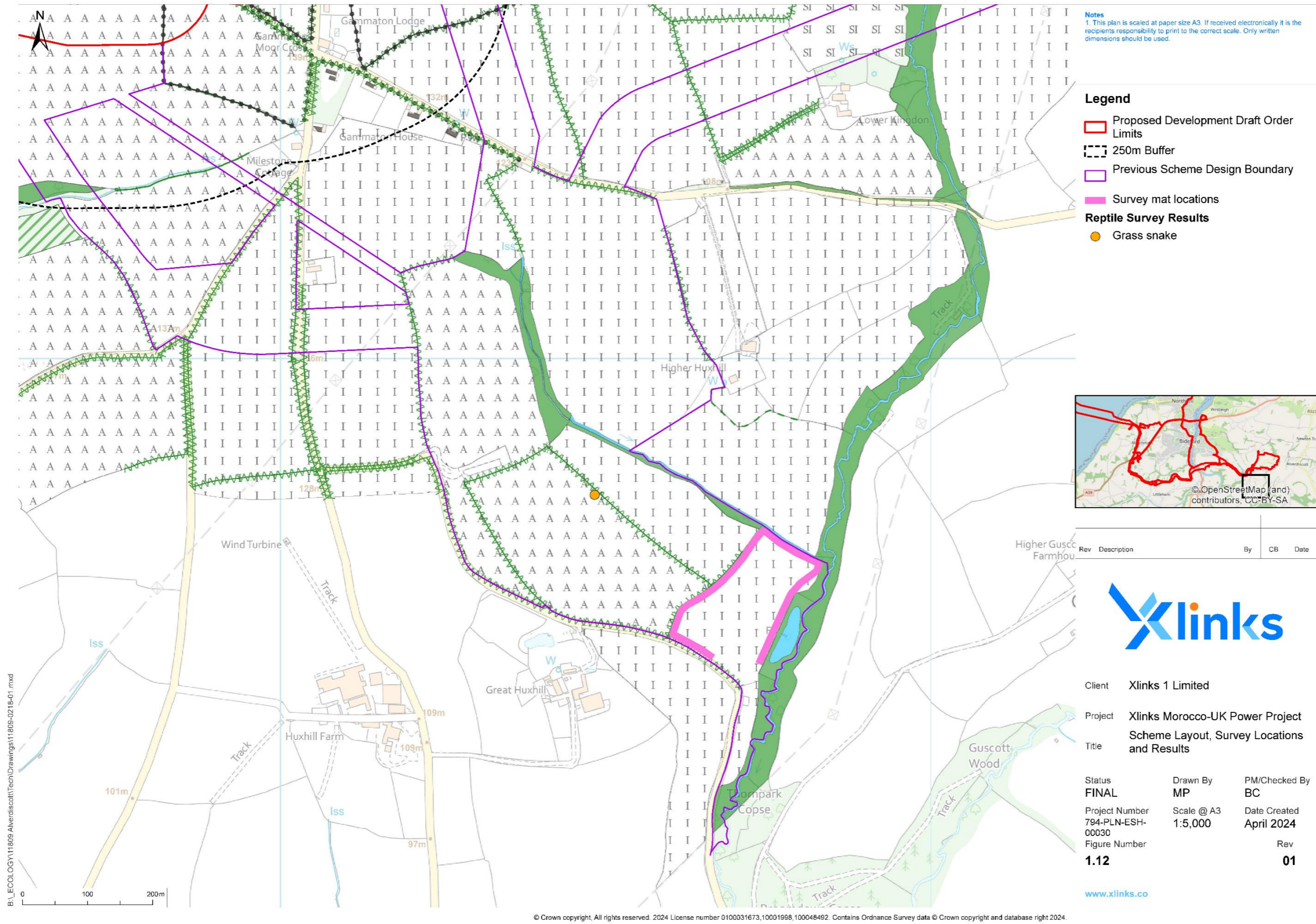


Figure 1.12: Results of the reptile surveys (sheet 12)

## 1.6 Conclusions

- 1.6.1 The survey identified the presence of a low population of Slow worm (*Anguis fragilis*), in the vicinity of the A39 at Abbottsham Cross roundabout.
- 1.6.2 The population estimates for these species are based on guidance from Froglife (1999) and this suggests that the populations of slow worm are low. However, given that numbers of refuge sheets were disturbed and moved by grazing cattle during the surveys, it is possible that populations are higher and may be present at other locations than can be assumed from the survey results.
- 1.6.3 What is clear is that the reptile population is limited in areas of suitable habitat associated with the proposed scheme route.
- 1.6.4 The reptile population currently identified is strongly associated with the area associated with Abbottsham Cross roundabout on the A39. Along much of the route, habitats are not conducive to the presence of reptiles and they are not present in those areas deemed to have some potential (which have been accessible for survey).
- 1.6.5 It is possible that further populations do occur in locations which have not yet been surveyed due to landowner access limitations. In particular areas around the landfall at Cornborough Range appear to have potential to support reptiles, and reptiles were found there previously during the Atlantic Array scheme.
- 1.6.6 The design of the Proposed Development retains or reinstates all of the features which currently support the reptile population. While there is a limited risk of injury to individuals as a result of construction activity this can be managed by careful habitat management to discourage reptiles from the areas affected. The Converter Site has not been surveyed for reptiles but does not appear to contain particularly useful habitats for reptiles. Should they be found to be present, the construction and operation of the converter station would result in some loss of habitat for reptiles.
- 1.6.7 Operation and maintenance of the Proposed Development is likely to significantly increase the opportunities for reptiles to expand their existing range into the field areas, due to the requirements to create suitable habitats as a result of requirements for Biodiversity Net Gain. This should be considered a positive impact upon the existing reptile populations utilising the margins of the site.

## 1.7 References

CIEEM (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2017). Guidelines for Preliminary Ecological Assessment. Chartered Institute of Ecology and Environmental Management, Winchester.

Froglife (1999). Froglife Advice Sheet 10 Reptile Survey. An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation. Froglife UK.

Froglife (2015) Surveying for Reptiles (Tips, Techniques and Skills to Help You Survey for Reptiles). Froglife UK.

Gent, A. H., & Gibson, S.D., eds. (1998) Herpetofauna Workers' Manual. (Revised 2003) JNCC, Peterborough.

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North Devon and Torrington District Council (2018). North Devon and Torrington Local Plan 2011-2031. Available at: <https://consult.torrington.gov.uk/kse/event/33615/section/> (Accessed: January 2024).