

XLINKS' MOROCCO-UK POWER PROJECT

Environmental Statement

Volume 2, Appendix 1.9: Reptile Survey Part 1

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XLINKS' MOROCCO – UK POWER PROJECT

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Glossary

Term	Meaning		
Applicant	Xlinks 1 Limited.		
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.		
Converter station	Part of an electrical transmission and distribution system. Converter stations convert electricity from Direct Current to Alternating Current, or vice versa.		
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a Proposed Development. This requires consideration of the likely changes to the environment, where these arise as a consequence of a Proposed Development, through comparison with the existing and proposed projected future baseline conditions.		
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.		
Landfall	The proposed area in which the offshore cables make landfall in the United Kingdom (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Cornborough Range, Devon, between Mean Low Water Springs and the transition joint bays inclusive of all construction works, including the offshore and onshore cable routes, and landfall compound(s).		
Order Limits	The area within which all offshore and onshore components of the Proposed Development are proposed to be located, including areas required on a temporary basis during construction (such as construction compounds).		
Proposed Development	The element of Xlinks' Morocco-UK Power Project within the UK. The Proposed Development covers all works required to construct and operate the offshore cables (from the UK Exclusive Economic Zone to Landfall), Landfall, onshore Direct Current and Alternating Current cables, converter stations, and highways improvements.		
Study area	This is an area which is defined for each environmental topic which includes the 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.		
Survey area	The area within which each survey has been undertaken. This may differ from the study area as a survey area will be based on species or survey-specific guidance on the extent of survey required, which may be limited by, for example, habitat conditions, or be defined in terms of buffer areas around an area of potential impact.		
Xlinks' Morocco UK Power Project	The overall scheme from Morocco to the national grid, including all onshore and offshore elements of the transmission network and the generation site in Morocco (referred to as the 'Project').		

Acronyms

Acronym	Meaning	
EIA	Environmental Impact Assessment	
ES	Environmental Statement	
HVDC	High Voltage Direct Current	
JNCC	Joint Nature Conservation Committee	
LWS	Local Wildlife Sites	
NPPF	National Planning Policy Framework	
SSSI	Sites of Special Scientific Interest	

Units

Units	Meaning	
°C	Degrees Celsius	
ha	Hectare	
km	Kilometre	
m	Metre	
%	Percent	

1 REPTILE SURVEY

1.1 Introduction

- 1.1.1 This document forms Volume 2, Appendix 1.9: Reptile Survey of the Environmental Statement (ES) prepared for the United Kingdom (UK) elements of the Xlinks Morocco-UK Power Project (the 'Project'). For ease of reference, the UK elements of the Project are referred to as the 'Proposed Development', which is the focus of the ES. The ES presents the findings of the Environmental Impact Assessment (EIA) process for the Proposed Development.
- 1.1.2 This document presents the results of the reptile surveys undertaken to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES. Initial surveys were undertaken in September 2021. Updated reptile surveys have been undertaken in September 2024, which have been incorporated into this report.
- 1.1.3 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.
- 1.1.4 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).

Site Location

- 1.1.5 The Onshore Infrastructure Area is located in north Devon and includes the Landfall, Onshore HVDC Cable Corridor, HVAC Cable Corridors and Converter Site. The Onshore HVDC Cable Corridor is approximately 14.5 km in length and the Converter Site is approximately 39.5 ha. The HVAC Cable Corridors are situated within the boundaries of the Converter Site and Alverdiscott Substation Site.
- 1.1.6 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 route also crosses the tidal Torridge estuary.

1.2 Study Area

1.2.1 The onshore ecology and nature conservation study area is detailed within Volume 2, Chapter 1: Onshore Ecology and Nature Conservation. The study area includes the following.

- Locally designated sites, including Local Nature Reserves and Local Wildlife Sites (LWSs), and less mobile species located within 2 km of the Onshore Infrastructure Area.
- Nationally designated sites, including Sites of Special Scientific Interest (SSSIs) and National Nature Reserves, and records of particularly mobile protected or otherwise notable species (e.g. bats and otters) located within 5 km of the Onshore Infrastructure Area.
- Internationally designated sites located within 12 km of the Onshore Infrastructure Area.
- 1.2.2 The onshore ecology and nature conservation study area is presented in Volume 2, Figure 1.1 of the ES (see Volume 2, Figures).

1.3 Survey Area

- 1.3.1 The survey area is defined as the area within which each survey has been undertaken and is based on species or site-specific guidance on the extent of survey required. The area subject to reptile surveys is defined as the Onshore Infrastructure Area, as shown on **Figure 1.1** to **Figure 1.15**.
- 1.3.2 The reptile survey area extends to the Onshore Infrastructure Area only. The requirements to assess habitats beyond the Onshore Infrastructure Area is not required as reptiles breed in terrestrial habitat and any populations using the site would therefore be detected during the onsite survey.

Contextual Data

1.3.3 Owing to the iterative design process of the Proposed Development, some surveys were undertaken further than 100 m from the Onshore Infrastructure Area. These surveys may have been located within, or within the buffer of, previous iterations of the Onshore Infrastructure Area boundaries. Nevertheless, information from these surveys have been included in this technical report because they provide context regarding the ecological sensitivity of the wider area and to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (where relevant). Any contextual information (based on survey data collected from outside the survey area) is shown on **Figure 1.1** to **Figure 1.12**.

1.4 Legislation

- 1.4.1 Relevant legislation, policy guidance and both Local and National Biodiversity Action Plans are referred to throughout this report where appropriate. Their context and application is explained in the relevant sections of this report.
- 1.4.2 The relevant articles of legislation are:
 - The National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2023);
 - Office of the Deputy Prime Minister Circular 06/2005 (retained as Technical Guidance on NPPF 2017);
 - Local planning policies North Devon and Torridge Local Plan 2011-2031, Policy ST14 (Enhancing Environmental Assets);
 - The Conservation of Habitats and Species Regulations 2017;

- The Wildlife and Countryside Act 1981 (as amended);
- The Natural Environment and Rural Communities Act 2006; and
- National / Local Biodiversity Action Plan for Devon.
- 1.4.3 A summary of legislation relevant to protected or other species identified as potential constraints in this report is provided in **Annex A**.

1.5 Site-specific Surveys

Assessment of Habitats with Potential to Support Reptiles

- 1.5.1 The initial ecological appraisal consisted of a walk-over 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.
- 1.5.2 A similar approach was undertaken to identifying habitats which were likely to support reptiles within the Order Limits of the Proposed Development for both the 2021 and 2024 surveys. These were based on the considerations below, in addition to those areas to which access was available.
- 1.5.3 Habitats across the 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.
- 1.5.4 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 is generally reduced by the presence of intensive cattle grazing. Less disturbed habitats such as those on margins of scrubby areas and where grazing pressure appears less intensive were identified as locations for survey effort.
- 1.5.5 Areas with suitable conditions for the presence of reptiles were focussed upon for detailed survey, although some other potentially suitable areas across the Onshore Infrastructure Area 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.
- 1.5.6 Locations with potential for reptiles which were surveyed are shown in Figure 1.1 to Figure 1.15.

Survey Effort

- 1.5.7 Survey methods for both the 2021 and 2024 surveys were based on those set out in the Herpetofauna Workers Manual (Gent and Gibson, 2003).
- 1.5.8 These used regular walked visual transects, along with artificial refugia placed at suitable densities. Refugia were left in place for around two weeks to 'bed in' before surveys were undertaken. Refugia sheets were made from suitable bituminous roofing felt, cut to approximately 0.5 m x 0.7 m, and sequentially numbered.

- 1.5.9 A total of 300 sheets were put out in a total of 11 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** (2021) and **Figure 1.14** and **Figure 1.15** (2024).
- 1.5.10 A summary of the surveys undertaken to inform the Reptile Refugia Location Descriptions is outlined in **Table 1.1** below.

Table 1.1: Summary of Surveys Undertaken to Inform Reptile Refugia Location Descriptions

Location	Date Surveyed	Description	Number of Sheets
1	2021	Field margins alongside a track and horse paddock with dense scrub. Adjacent field arable.	30
2	2021	Field margin along woodland edge. Field currently grazed by sheep.	20
3	2021	Field margin along hedgerows adjacent farm track and woodland edge.	30
4	2021	Woodland edge locations on steep grazed fields overlooking Torridge Estuary.	40
5	2021	Edge of field associated with a former lane with some scrub present. Field cattlegrazed.	
6	2021	Margins of cattle-grazed field adjacent woodland edge and pond habitats.	40
7	2024	Northern and eastern edges of field containing Landfall site. Field grazed by sheep.	40
8	2024	Northern and eastern edges of field with thick Devon hedges. Field recently grazed by sheep.	
9	2024	Northern edge of field (road-side hedge).	5
10	2024	Western edge of sheep-grazed field associated with Kenwith Stream.	
11	2024	Northern and southern verges associated with the access track to existing Alverdiscott Substation.	

- 1.5.11 Survey visits were undertaken in September 2021 and September 2024 (continuing to 3 October in 2024), 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).
- 1.5.12 Where possible, species, life stage and sex of reptiles observed was recorded.
- 1.5.13 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);
- 29/09/2021 (60% cloud, 14°C);
- 20/09/2024 (50% cloud, 14°C)
- 24/09/2024 (80% cloud, 14°C)
- 26/09/2024 (60% cloud, 15°C)
- 27/09/2024 (60% cloud, 13°C)
- 30/09/2024 (100% cloud, 14°C)
- 02/10/2024 (80% cloud, 14°C)
- 03/10/2024 (0% Cloud, 14°C)

Population Assessment

1.5.14 Froglife (1999) provides a basic index of relative abundance of reptiles based on peak survey counts (see **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 survey area.

Table 1.2: Reptile Population Class Sizes

Species	Low Population	Good Population	Exceptional Population
Adder (Vipera berus)	<5	5 – 10	>10
Grass Snake (Natrix helvetica)	<5	5 – 10	>10
Common Lizard (Zootoca vivipara)	<5	5 – 20	>20
Slow Worm (Anguis fragilis)	<5	5 – 20	>20

Limitations

Survey

- 1.5.15 Initial survey effort carried out in September 2021 was constrained by access limitations and in addition, survey at that stage was focussed on a slightly earlier layout of the Proposed Development. Additional survey work carried out in September/early October 2024 focussed on areas where access was not previously available, or where changes in design had moved the footprint of the Proposed Development.
- 1.5.16 Due to the agricultural use of the Onshore Infrastructure Area, focus was again on those areas supporting features or habitats most likely to support reptiles, to which access was available. Areas relevant to the current layout of the Proposed

Development which were originally surveyed in 2021 were not re-surveyed, but the locations were reviewed in 2024 to ensure that they remained in a condition to continue to support reptiles. A general review of the layout of the Proposed Development did not identify any new locations likely to support reptiles along the previously-surveyed sections of the Proposed Development.

- 1.5.17 It should be noted that whilst every effort has been made to provide a comprehensive description of the Onshore Infrastructure Area, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 1.5.18 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.
- 1.5.19 In some areas, potentially suitable habitats appear to occur where no landowner access was available to undertake surveys. In these areas, survey was limited to visual inspection from recognised public rights of way.
- 1.5.20 The presence of intermittent cattle grazing in all suitable habitat areas of the Onshore Infrastructure Area meant that considerable disturbance to refugia sheets was encountered. In a number of 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

- 1.5.21 The majority of ecological data remain valid for only short periods 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.
- 1.5.22 Site specific surveys used to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES 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 preconstruction.

1.6 Results

Background

1.6.1 The updated desk study (see Volume 2, Appendix 1.2: Ecological Desk Study of the ES) identified single records of slow worm, grass snake and common lizard. These lie between 850 m and 950 m from the Onshore Infrastructure Area.

Habitat Assessment

1.6.2 A Phase 1 Habitat Survey (see Volume 2, Appendix 1.1: Phase 1 Habitat Survey) identified that much of the habitat within and adjacent to the Onshore Infrastructure Area consisted of improved grassland and arable land with Devon hedges.

Survey Results

2021 Survey

1.6.3 2021 survey visits were undertaken on the dates identified above. A summary of the results of the survey are detailed in **Table 1.3** below and shown on **Figure 1.1** to **Figure 1.12**. The full results are shown in **Annex B**, including sheet numbers.

Table 1.3: Reptile Survey Results Summary 2021

Survey	Date	Month Recorded	Species Found/Total Count
1	06/09/2021	20% cloud, 19°C	None
2	13/09/2021	60% cloud, 12°C	None
3	16/09/2021	20% cloud, 15°C	Common amphibians noted (common toad, common frog, smooth newt)
4	19/09/2021	60% cloud, 18°C	Common amphibians noted (common toad, common frog)
5	20/09/2021	5% cloud, 17°C	None
6	22/09/2021	40% cloud, 18°C	None
7	29/09/2021	60% cloud, 14°C	1 slow worm common amphibians (common toad)

- 1.6.4 A peak count of 1 slow worm, was identified during a single site visit. Following the population class size assessment (see **Table 1.2**), the population of slow worm would be considered 'low'.
- 1.6.5 The slow worm identified was found to the south of the A39 near the Abbotsham Cross roundabout in a location immediately to the east of the proposed access route to the southern crossing compound for the A39.
- 1.6.6 In addition to the reptiles identified in the formal survey effort provided above, a further incidental sighting of reptile was recorded as follows.
 - 50 50.995014, -4.147488 Adult grass snake encountered in narrow field margin in maize crop, 28/06/2022.
- 1.6.7 This occurred in an area outside of the Onshore Infrastructure Area, which relates to a previous iteration of the route design (see **Figure 1.12**).

2024 Survey

- 1.6.8 2024 survey visits were undertaken on dates identified above.
- 1.6.9 A summary of the results of the survey are detailed in **Table 1.4** below and shown on **Figure 1.14** and **Figure 1.15**.

Table 1.4: Reptile Survey Results Summary 2024

Survey	Date	Month Recorded	Species Found/Total Count
1	20/09/2024	Cloud 4/8, light breeze, dry and 14 °C	Western section – 1 juvenile slow worm
2	24/09/2024	Cloud 7/8, light breeze, dry and 14 °C	
3	26/09/2024	Cloud 6/8, gentle breeze, drizzle and 15 °C	
4	27/09/2024	Cloud 5/8, moderate breeze, dry and 13 °C	
5	30/09/2024	Cloud 8/8, fresh breeze, dry and 14 °C	
6	2/10/2024	Cloud 7/8, gentle breeze, dry and 14 °C	
7	3/10/2024	Cloud 0/8, gentle breeze, dry and 14 °C	Western section - 1 adult common lizard

- 1.6.10 A peak count of one common lizard and one juvenile slow worm were identified during single visits on the 2024 survey. Single individuals identified during the survey would suggest the populations were low. However, the presence of a juvenile slow worm indicates that a breeding population is present at that location.
- 1.6.11 The common lizard was found in the field containing the Landfall compound and the slow worm was found in the field adjacent to Rocky Lane, Abbotsham.



























