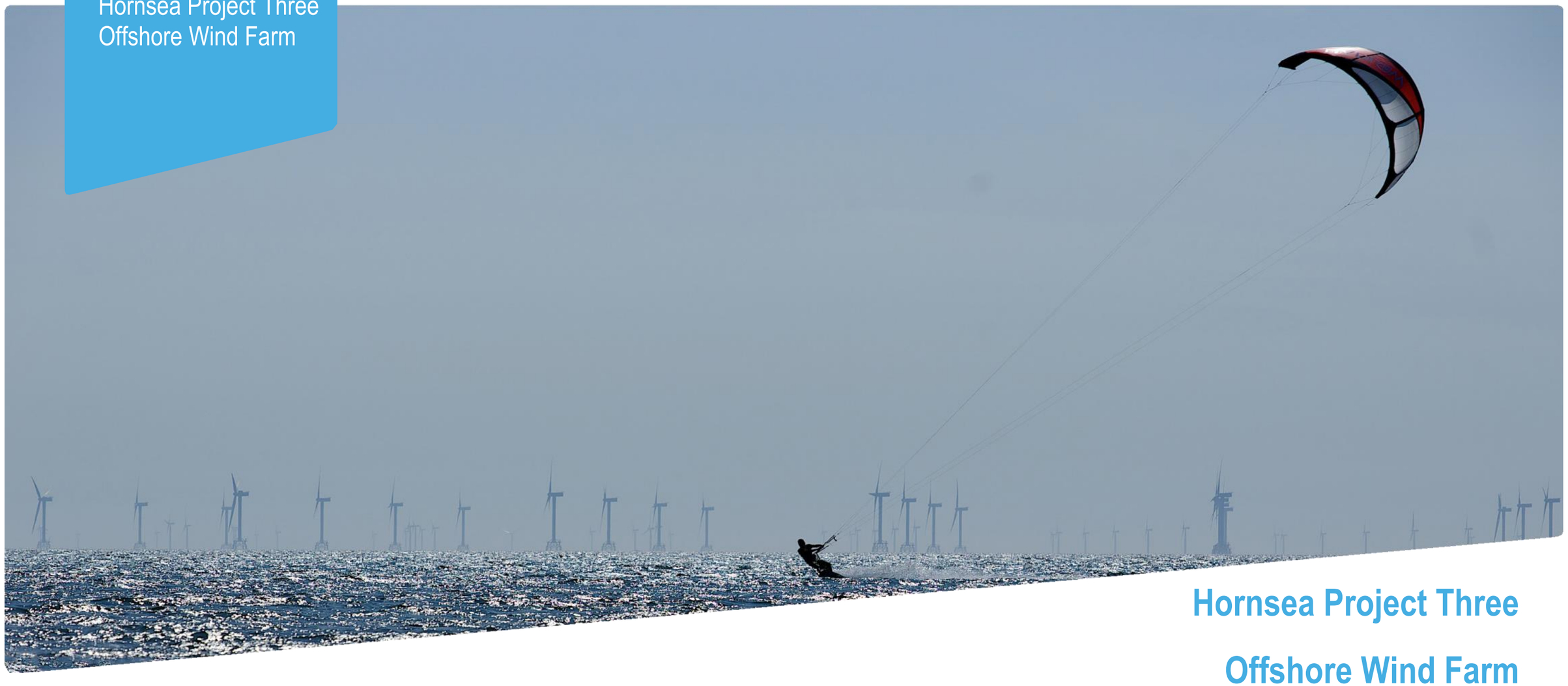
Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three

Offshore Wind Farm

Environmental Statement:
Volume 6, Annex 3.6 – Reptile Survey

PINS Document Reference: A6.6.3.6
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Date: May 2018

Hornsea 3
Offshore Wind Farm

Ørsted

Environmental Impact Assessment

Environmental Statement

Volume 6

Annex 3.6 – Reptile Survey

Liability

This report has been prepared by Thomson Ecology Ltd, with all reasonable skill, care and diligence within the terms of their contract with Orsted Power (UK) Ltd.

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Version: Final

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This report is also downloadable from the Hornsea Project Three offshore wind farm website at:
www.hornseaproject3.co.uk

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Front cover picture: Kite surfer near a UK offshore wind farm © Orsted Hornsea Project Three (UK) Ltd, 2018.

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Table of Contents

List of Tables

Glossary

Term	Definition
Habitats Directive	EU directive adopted in 1992 requiring Member States to take measures to maintain or restore natural habitats and wild species of European importance.
Preliminary Ecological Appraisal	The first stage in any site ecological assessment. It has two main elements; an ecological desk study and an extended Phase 1 habitat survey.
Refugia	A habitat feature under which a reptile can shelter or bask.
Site of Special Scientific Interest	A conservation designation for a site considered to be of special interest for fauna, flora, geological or geomorphological features; designated under the Wildlife and Countryside Act as amended 1985, and the CRoW Act 2000.
Survey Area	The survey area for the reptile survey comprised the PEIR onshore cable corridor search area and potential alternative routes (as shown in Appendix A, Figure 1.1).

Acronyms

Unit	Description
EIA	Environmental Impact Assessment
HSA	Habitat Suitability Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report
PSCA	Population Size Class Assessment
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest

Units

Unit	Description
GW	gigawatt (power)
ha	Hectare (area)
m	Metre (distance)
km	Kilometre (distance)

1. Introduction

1.1 Development background

1.1.1.1 Ørsted is promoting an application for a development consent order ('DCO') for the Hornsea Project Three Offshore Wind Farm (hereafter referred to as 'Hornsea Three') a proposed offshore wind farm located in the southern North Sea. This report focuses on the onshore components of Hornsea Three (as described in volume 1, chapter 3: Project Description).

1.1.1.2 At the time of ecological survey scoping in December 2016, a 200 m wide cable corridor search area had been identified by Ørsted. The 200 m wide search area included the locations of the proposed onshore cable corridor, HVAC booster station, HVDC converter/HVAC substation, Norwich main national grid substation and construction compounds and was the focus of the Preliminary Environmental Information Report (PEIR) submitted in July 2017. This search area is hereafter referred to as the 'PEIR onshore cable corridor search area'. Following this, some alternate route considerations were added. Ecological survey area boundaries were based on the PEIR onshore cable corridor search area and alternate routes considered, with an appropriate survey buffer added for some survey types where necessary. The survey area applicable to this report is shown in Appendix A, Figure 1.1.

1.1.1.3 Subsequently, a route refinement process has been undertaken to refine the Hornsea Three onshore cable corridor to an approximately 80 m wide corridor (referred to as the 'onshore cable corridor') as well as identify locations of compounds, access roads and storage areas. The location of permanent and temporary land take associated with the HVDC converter/HVAC substation and HVAC booster station has also been refined. This process is described in more detail in chapter 4: Site Selection and Alternatives of volume 1 of the Environmental Statement.

1.1.1.4 A full description of Hornsea Three is provided in volume 1, chapter 3: Project Description.

1.2 Ecology background

1.2.1.1 A Preliminary Ecological Appraisal (PEA) was undertaken in 2016 (RPS, 2016) and included a Phase 1 habitat survey of an area comprising a 500 m wide corridor (including the PEIR onshore cable corridor search area described above) and an ecological desk study, whereby protected species data was requested from the Norfolk Biodiversity Information Service (NBIS). Subsequently, an additional Phase 1 habitat survey was undertaken to cover 30 areas which were either not accessible during the PEA, or became relevant to Hornsea Three due to design refinements (see volume 6, annex 3.1: Desk Study and Phase 1 Habitat Report).

1.2.1.2 Records for reptiles included slow worm (*Anguis fragilis*) (19 records), grass snake (*Natrix natrix*) (20 records), adder (*Vipera berus*) (three records) and common lizard (*Zootoca vivipara*) (14 records), were returned as part of the desk study and the Phase 1 habitat surveys identified suitable habitat for reptiles, including grassland and woodland edge, including within the PEIR onshore cable corridor search area. Based on these findings, further survey for reptiles was recommended.

1.3 Legislative background

1.3.1.1 Adder, grass snake, common lizard and slow worm are protected from intentional killing or injuring under the Wildlife and Countryside Act 1981, as amended. These species are also all Species of Principal Importance as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. This places a duty on the Secretary of State and local authorities to have regard for these species when determining planning and other applications.

1.3.1.2 The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 states that the presence of protected species is a material consideration in the planning process and the National Planning Policy Framework (NPPF) 2012 states that *"planning policies should promote the protection of priority species populations linked to national and local targets"*.

1.3.1.3 Two species of reptile native to England, smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), are also protected under the Conservation of Habitats and Species Regulations 2017. However, the survey area for this study is outside of the geographical range for these species.

1.4 The brief and objectives

1.4.1.1 The brief of the reptile survey was to:

- Undertake a habitat suitability assessment (HSA) of habitats identified during the PEA and Phase 1 habitat surveys to determine whether they have a negligible, low, moderate or high suitability to support reptiles;
- Undertake a presence/likely absence survey of reptiles;
- Estimate population size class based on the results of the HSA and presence/likely absence survey;
- Record the survey results with GPS enabled digital mapping devices;
- Provide a combined report on the survey giving the methods and results of the survey, and recommendations for further survey; and
- Provide a digitised map of the survey results.

1.4.1.2 The objective of the survey was to identify the presence of reptile populations within the survey area (defined below), and more specifically the onshore cable corridor, to enable an assessment of the potential impacts of Hornsea Three on reptiles within volume 6, chapter 3: Ecology and Nature Conservation of the Environmental Statement.

2. Methodology

2.1 Survey area

2.1.1.1 A survey area was defined comprising the PEIR onshore cable corridor search area and potential alternative routes as shown on Appendix A, Figure 1.1. A total of 63 sites were identified from the PEA (RPS, 2016) and Phase 1 habitat surveys as having the potential to support reptiles.

2.1.1.2 Each site was allocated a unique identifying number; the location of sites (and their corresponding identification number), including any access restrictions, is shown on Appendix A, Figure 2.1 to 2.13. Given the proximity of some of the sites, these were combined into numbered groups; the groupings are provided in Appendix B.

2.1.1.3 The main construction compound to the east of the Hornsea Three onshore cable corridor is outside of the survey area for this study and comprises existing hard standing with negligible ecological importance. Therefore, a detailed survey of baseline conditions was not required.

2.1.1.4 Survey methodologies for all stages of assessment are provided below.

2.2 Habitat suitability assessment

2.2.1.1 The HSA of the 63 sites identified as having the potential to support reptiles was undertaken between 18 January 2017 and 9 February 2017.

2.2.1.2 Habitat requirements differ for each native species of reptile in the British Isles. Habitat suitability was therefore considered for each of the reptile species that has a native range concurrent with survey area. Suitable habitat was mapped and classified as low, moderate or high based on the following habitat characteristics and the surveyor's knowledge of reptile ecology:

- Habitat type and vegetation structure (using Phase 1 habitat survey classification) - where open habitat with abundant cover, such as heathland and coarse grassland, are considered to be of high suitability;
- Likely age of the habitat (less than 2 years or greater than 2 years) - where newly created habitats are less suitable because they have had limited time to be colonised by reptiles;
- Insolation (sun exposure) (low, medium or high) – habitats with high levels of insolation are more suitable for reptiles;
- Topography and slope aspect (flat, shallow slope, steep slope, varied + North, South, East and West facing) – south facing slopes have high suitability, north facing slopes are likely to be unsuitable;
- Surface geology (sand/gravel, clay, chalk, other) – soil type can be important for some species such as sand lizard;
- Connectivity to nearby suitable habitats (low, medium, high) – isolated habitat parcels are less suitable for reptiles than habitats which are well connected to neighbouring suitable habitats;
- Potential prey abundance (low, medium, high) – for lizard species which prey on invertebrates, diverse grassland and heathland habitats with abundant invertebrate fauna are of high suitability;
- Refuge opportunities (low, medium, high) – habitats of high suitability for reptiles provide abundant refuge opportunities;
- Hibernation site availability (low, medium, high) – reptiles require dry underground cavities or refuges to hibernate;
- Egg laying site availability (grass snake and sand lizard) (low, medium, high) – some species have specific requirements for egg laying; and
- Disturbance (low, medium, high) – highly disturbed sites are less suitable for reptiles.

2.3 Presence/likely absence survey

2.3.1 Visual search

2.3.1.1 Each survey site was visited on seven occasions, as recommended in best practice guidance (Froglife, 1999) to establish presence or likely absence of reptiles. Each survey site was walked around slowly looking for basking reptiles. Any reptiles seen were approached cautiously so as not to disturb them and to allow species identification. Where necessary, binoculars were used to aid identification. The number, species, life stage and location of any reptiles seen were recorded on a map of the survey area using a mobile mapper. Any evidence of reptiles such as sloughed skins was also recorded.

2.3.2 Refugia search

2.3.2.1 Refugia were deployed at a rate of 50 per hectare of suitable habitat that was accessible between 7 March 2017 and 19 April 2017. The artificial refugia were placed in suitable locations throughout each survey site distributed at approximately 2 m intervals; the number of reptile refugia in each survey site is presented in Appendix B.

2.3.2.2 The reptile refugia comprised 0.5 m x 0.5 m cuts of roofing felt and were positioned so that they were in contact with the ground, in areas of suitable habitat and exposed to sunlight. To prevent interference in the survey, the refugia were not placed in areas where there was a high level of public activity or grazing.

2.3.2.3 The reptile refugia were then left in place for a minimum of one week and a maximum of one month before the survey commenced. The presence/likely absence surveys were therefore undertaken between 4 April 2017 and 16 June 2017. Subsequently, on seven occasions all the refugia were cautiously checked for reptiles, both on top and underneath. If any reptiles were found, the refuge location, species, life stage and numbers of reptiles were recorded. Any evidence of reptiles such as sloughed skins was also recorded. Visual sightings of reptiles not under or near refugia were also recorded. The reptile refugia were collected up and removed from the site after the end of the survey.

2.3.2.4 On days forecast to be hot and sunny, the survey was conducted during the morning or late afternoon, when the temperature beneath the refugia was not too high. On days forecast to be cooler or cloudy, the survey was conducted in mid- to late morning or early to mid- afternoon. The air temperature in the shade was recorded on each survey visit. Details of the weather conditions for each survey are presented in Appendix C.

2.3.2.5 A photograph was taken of each survey site where reptiles were found to be present (see Appendix A).

2.4 Population size class estimate

2.4.1.1 A population size class assessment (PSCA) was made for each species of reptile recorded as present within the survey area. The size class is an estimate of reptile density i.e. a qualitative indication of the likely numbers of reptile per hectare. It is therefore a measure which is independent of the size of the development site.

2.4.1.2 Size class for each species was estimated as small, medium or large, based on the results of the presence/absence survey and the HSA. Where a species of reptile was recorded, it is estimated that the population will be small in low suitability habitat, medium in moderate suitability habitat and large in high suitability habitat. The size class is a relative estimate of population sizes likely to be present in different quality habitat areas. It is not possible to accurately estimate numbers of reptiles present in an area as the number of reptiles recorded by visual searches and refugia checks is considerably variable dependant on climatic conditions and represents an unknown proportion of the total number of reptiles present in the habitat being surveyed.

2.5 Surveyors

2.5.1.1 Surveys were undertaken by the following ecologists, employed and trained by Thomson Ecology: Adelle Pilfold BSc (Hons), Anna Clark BSc (Hons) MSc, Callum Parradine BSc (Hons), Charles Griffiths BA, Charlotte Hewitt BSc (Hons) MSc, Daniel Sidoli BSc (Hons) MSc GradCIEEM, Emily Bartlett BSc (Hons) MSc, Emily Power BSc (Hons) MSc GradCIEEM, Emily Wallace BSc (Hons) MSc GradCIEEM, Felicity Andruszko BSc (Hons) MSc GradCIEEM, Gabrielle Graham BSc (Hons) MSc MCIEEM, Gregory Surgenor Aldridge BSc (Hons) MSc GradCIEEM, Irfaan Junaideen BSc (Hons) MSc GradCIEEM, Ishbel Campbell BSc (Hons) MSc GradCIEEM, John Mason BA (Hons) PG Cert, Joseph Baker BSc (Hons), Justin Groves BSc (Hons) MSc GradCIEEM, Karen Akehurst BSc (Hons) MSc, Kate Philpot BSc (Hons) MSc GradCIEEM, Kathryn Jones BSc (Hons) MSc GradCIEEM, Lauren Hornsby BSc (Hons) MSc, Louise Bunn BSc (Hons) MSc ACIEEM, Matthew Brown BSc (Hons) MSc, Matthew Freeman BSc (Hons) MSc, Mercedes Malax-Echevarria BSc (Hons), Neil Whitehead BSc (Hons) MSc, Nia Bowen BSc (Hons) MSc GradCIEEM, Phil Joyce BSc (Hons) MSc GradCIEEM, Rhiannon Williams BSc (Hons) MSc GradCIEEM, Robert Allen BSc (Hons) MSc GradCIEEM, Robert Hutchinson BSc (Hons) MSc GradCIEEM, Sarah Hawes BSc (Hons) MSc GradCIEEM, Stephen Hewitt BSc (Hons) MSc GradCIEEM, Thomas Davey BSc (Hons).

2.6 Limitations

2.6.1.1 The survey area for this study was based on the PEIR onshore cable corridor search area and some alternative route options considered after issue of the PEIR. Following completion of the survey, the design refinement of the onshore cable corridor as well as the main and secondary construction compounds, access roads and storage areas were finalised. At some locations the finalised cable corridor and associated infrastructure fall outside of the survey area. As these areas were finalised outside of the survey season, it was not possible to undertake reptile surveys in these areas which amounts to 52.15 ha (9.80% of the onshore cable corridor and associated infrastructure area).

2.6.1.2 Furthermore, although the status of landowner permission to access survey areas was reviewed on a weekly basis during the survey season for reptiles, permission was not granted for seven of the 63 sites identified from the PEA and Phase 1 habitat surveys as requiring assessment. These sites are listed in Table 3.1 and shown as not accessible for survey on Figure 2.1 to 2.13 (relative to both the survey area and the onshore cable corridor).

2.6.1.3 At three sites (R1C4, R1C5 and R1D1) the presence/likely absence survey was started but could not be completed due to changing access permissions or the presence of cattle disturbing the survey refugia. This applied to the following sites:

- R1C4 (stopped after three visits – no reptiles recorded) (see Appendix A, Figure 2.4);
- R1C5 (stopped after two visits – common lizard recorded) (see Appendix A, Figure 2.4); and
- R1D1 (stopped after four visits – common lizard recorded) (see Appendix A, Figure 2.6).

2.6.1.4 Although it was not possible to survey the areas listed above in 2017, they were mostly covered by the PEA (RPS, 2016) providing ecological data on habitat types and species desk study records, which combined with the ability to characterise from the large volume of data collected in the remainder of the survey area, is considered sufficient to inform the impact assessment reported in volume 6, chapter 3: Ecology and Nature Conservation of the Environmental Statement. It is assumed that reptiles will be present where suitable habitat exists, where desk study records and/or survey information from other parts of the route indicate likely presence.

2.6.1.5 The areas where survey could not be completed, that will be impacted by the development will be checked during pre-construction surveys enabling amendment of mitigation or the application of further mitigation, to that specified in volume 6, chapter 3: Ecology and Nature Conservation of the Environmental Statement.

2.6.1.1 The main construction compound to the east of the Hornsea Three onshore cable corridor is outside of the survey area for this study and is not shown on Appendix A, Figure 2.1 to 2.13. However, given that this compound comprises existing hard standing with negligible ecological importance, it is considered that a detailed survey of baseline conditions was not required.

3. Results

3.1 Habitat suitability assessment

3.1.1.1 A total of 63 sites were identified from the PEA and Phase 1 habitat survey results as requiring an HSA for reptiles. Of the 56 sites that could be surveyed (see section 2.6), 12 sites were recorded as having high potential for reptiles, 28 sites with moderate potential and 16 sites with low potential. HSA results are summarised in Table 3.1 and are shown on Appendix A, Figures 2.1 to 2.13. Results are also listed in Appendix B.

3.1.1.2 Habitat types that were recorded during the Phase 1 habitat surveys and considered to be suitable for reptiles included:

- Hedgerow;
- Neutral grassland (unimproved and semi-improved);
- Tall ruderal;
- Scrub (dense and scattered);
- Heathland;
- Semi-natural broadleaved and mixed woodland;
- Plantation broadleaved woodland;
- Coarse grassland;
- Improved grassland;
- Marsh/marshy grassland; and
- Coniferous plantation.

Table 3.1: Habitat suitability assessment results.

Habitat Suitability	Survey sites	Number of survey sites
High	R1A3, R1A6, R1B8, R1D1, R1E1, R1E2, R1E3, R1F6, R1F13, R1F16, R1F22, R1F24,	12
Moderate	R1A1, R1A7, R1B1, R1B2, R1B4, R1C1, R1C4, R1C6, R1E4, R1E5, R1F5, R1F7, R1F8, R1F11, R1F12, R1F19, R1F20, R1F21, R1F23, R1G1, R1G4, R1G5, R1G6, R1G7, R1G10, R1G11, R1G14, R1G16	28
Low	R1B3, R1C7, R1C8, R1D2, R1E6, R1E7, R1F2, R1F4, R1F9, R1F10, R1F14. R1F15, R1G3, R1G9, R1G12, R1G13	16
Not Accessible	R1A1, R1A4, R1A5, R1E8, R1E9, R1F1, R1F18	7
Total		**63**

3.2 Presence/likely absence surveys

3.2.1.1 Presence/likely absence surveys were undertaken at the same 56 sites surveyed as part of the HSI. Of these, only a partial survey could be completed at three sites due to changes in landowner permission for access (see section 2.6). There continued to be no landowner permission for access to a further seven sites as shown on Table 3.1.

3.2.1.2 Reptiles were recorded at 23 (41%) of the sites surveyed. Adder was recorded at only one site (1.8% of sites surveyed), common lizard at five sites (8.9% of sites surveyed), grass snake at 11 sites (19.6% of sites surveyed) and slow worm at 12 sites (21.4% of sites surveyed). A large population of adder was recorded in one location, Kelling Heath Site of Special Scientific Interest (R1A6). This is the only location where adder was recorded and the site also supported large populations of common lizard, slow worm and grass snake.

3.2.1.3 A summary of the results is given in Table 3.2 and Appendix B. Results of the survey are shown on Appendix A, Figures 2.1 to 2.13. Weather conditions recorded during the survey are given in Appendix C. Photographs of the sites surveyed are included in Appendix D. A list of sites where no reptiles were recorded is given in Table 3.3.

3.2.1.4 The majority of the surveys were undertaken in optimal weather conditions; light rain showers were recorded on five occasions though this is not considered to have affected the results of the study.

3.3 Population size class assessment

3.3.1.1 The PSCA results are summarised in Table 3.2 and in Appendix D.

3.3.1.2 Of the 12 sites where slow worm were recorded the population size was estimated to be large at seven of the sites, medium at three of the sites and small at two of the sites. At all five sites where common lizard was recorded the population size class was estimated as large. Of the 11 sites where grass snake was recorded the population size was estimated to be large at six of the sites, medium at three of the sites and small at two of the sites. At the single site where added was recorded the population size class estimate was large.

Table 3.2: Summary of presence/likely absence surveys.

Species	Population Size	Survey sites
Slow worm (12 sites)	Small	R1E6, R1E7,
	Medium	R1A7, R1E4, R1E5,
	Large	R1A3, R1A6, R1B8, R1D1, R1E1, R1E2, R1E3,
Common lizard (5 sites)	Small	
	Medium	
	Large	R1A3, R1A6, R1E2, R1F22, R1G5,
Grass snake (11 sites)	Small	R1F2, R1F4
	Medium	R1F7, R1F8, R1F21,
	Large	R1A6, R1E2, R1F13, R1F22, R1F24, R1G6,
Adder (1 site)	Small	
	Medium	
	Large	R1A6

Table 3.3: List of sites where there were no reptiles found.

Habitat suitability	Sites with no reptiles found (33 survey sites)
High	R1F6, R1F16
Moderate	R1B1, R1B2, R1B4, R1C1, R1C4, R1C6, R1F5, R1F11, R1F12, R1F19, R1F20, R1F23, R1G1, R1G4, R1G7, R1G10, R1G11, R1G14, R1G16
Low	R1B3, R1C7, R1C8, R1D2, R1F9, R1F10, R1F14, R1F15, R1G3, R1G9, R1G12, R1G13

4. Conclusion

4.1.1.1 A total of 63 sites were identified from the PEA and Phase 1 habitat surveys as requiring an HSA for reptiles. Due to lack of landowner access permission at seven sites, the HSA and the presence/likely absence surveys were undertaken at 56 sites. The presence/likely absence surveys recorded reptiles at 23 sites, 13 of which were located within the onshore cable corridor (and recorded slow worm, grass snake and common lizard) plus one additional site located on the boundary of the onshore cable corridor (and recorded grass snake).

4.1.1.2 Slow worm was the most common reptile recorded (at 12 different survey sites), followed by grass snake (at 11 survey sites), and common lizard (five survey sites). A large population of adder was recorded in one survey site, Kelling Heath Site of Special Scientific Interest (R1A6), which is outside of the onshore cable corridor. This is the only site where adder was recorded.

4.1.1.3 Results of the survey have been used to inform the final location and design of the onshore components of Hornsea Three (see volume 1, chapter 4: Site Selection and Alternatives) and to enable the assessment of the impacts on ecology and nature conservation and association mitigation, reported in volume 6, chapter 3: Ecology and Nature Conservation of the Environmental Statement.

5. References

Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

RPS (2016) Hornsea Offshore Wind Farm, Preliminary Ecological Appraisal (on behalf of DONG Energy). RPS Group Plc, Saint-Yves.

Thomson Ecology (2017) Method Statements for PEIR, report prepared for Dong Energy, February 2017. Thomson Ecology, Guildford.

Appendix A Figures

A.1 Reptile survey area

It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project boundary. The relationship between the final project boundary and the survey area, as well as any implications for the baseline information as it relates to the EIA is discussed in the limitations section of this annex (see Section 2).

Reference System : OSGB36
Projection : BNG

Scale@A3:1:250,000
Vertical reference: Newlyn

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REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three
Figure 1.1: Reptile Survey Area

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Checked by: AS
Approved by:NS

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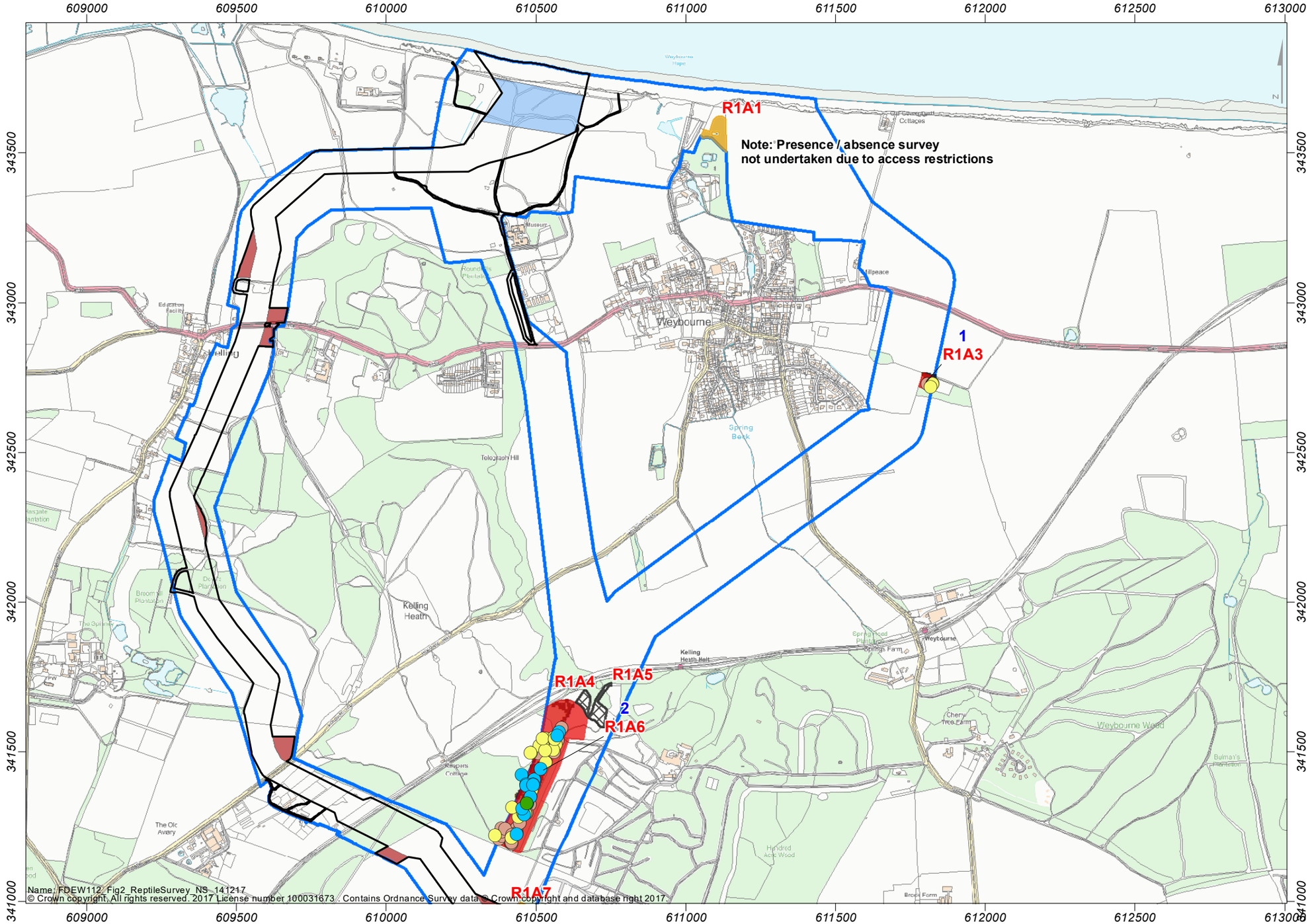
A.2 Reptile survey results



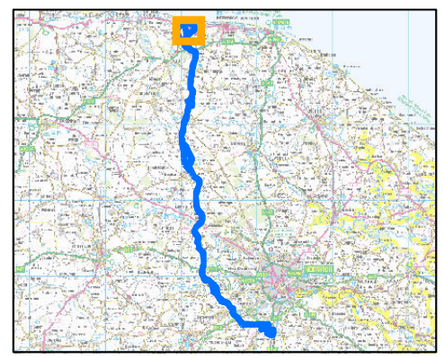
Reptile Species

- Adder
- Common Lizard
- Grass Snake
- Slow Worm
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Not Accessible for Survey
- Reptile Survey Area
- Landfall Construction Compound
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



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Hornsea Project Three

Figure: 2.1
Reptile Survey Results.

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Checked by: AS
Approved by:NS

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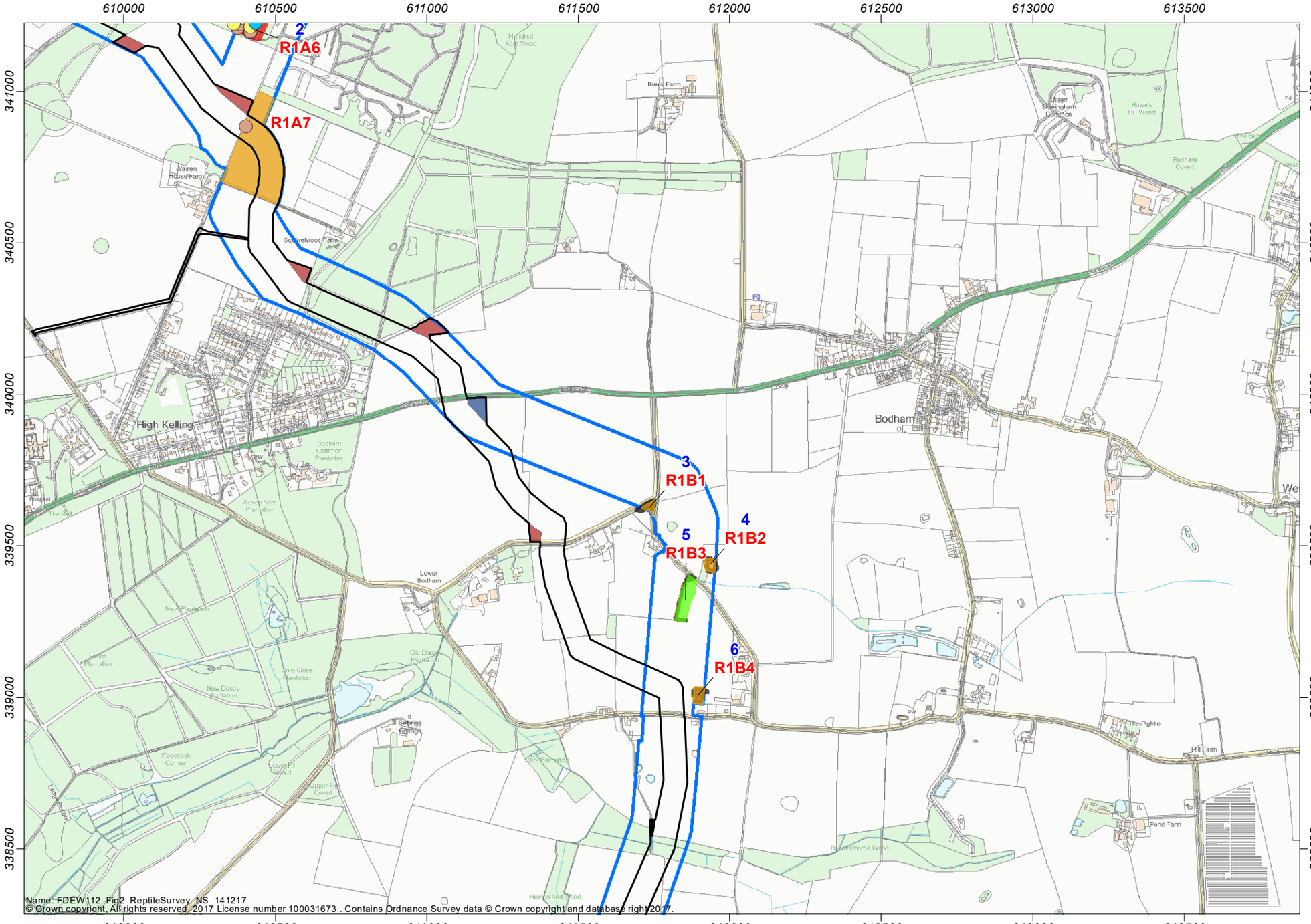


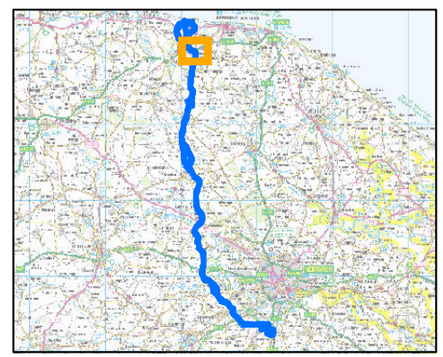
Reptile Species

- Adder
- Common Lizard
- Slow Worm
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Low
- Reptile Survey Area
- Storage Area
- Compound
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



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01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.2
Reptile Survey Results.

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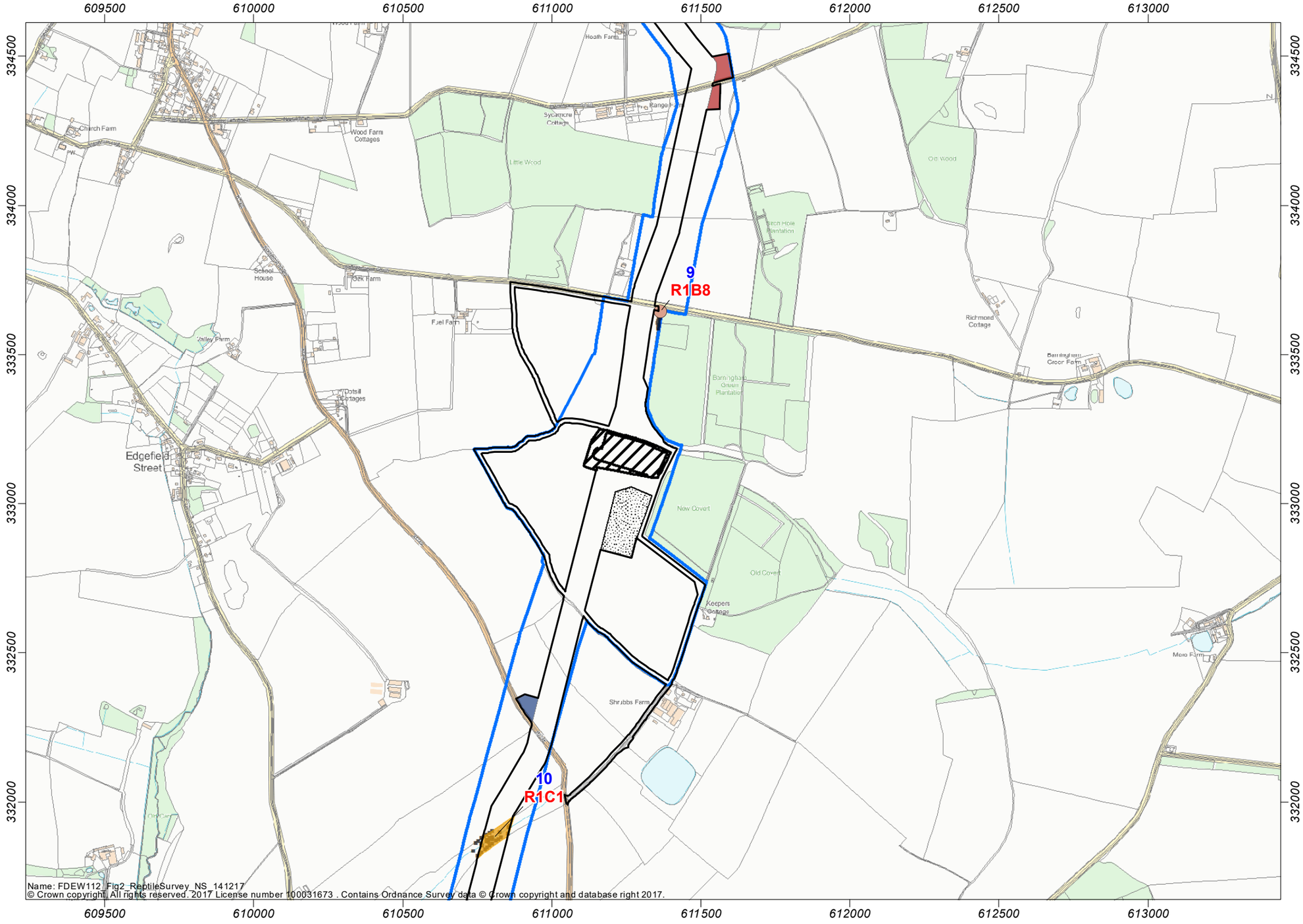
Approved by:NS

RPS Ørsted



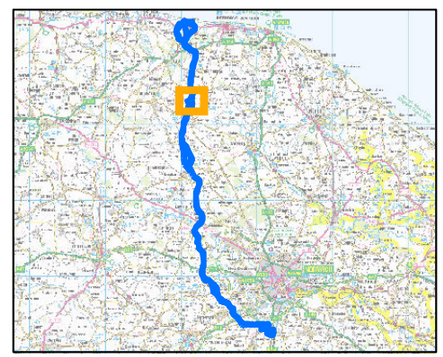
Reptile Species

- Slow Worm
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Reptile Survey Area
- Storage Area
- Compound
- Onshore HVAC booster station - Permanent
- Onshore HVAC booster station -
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

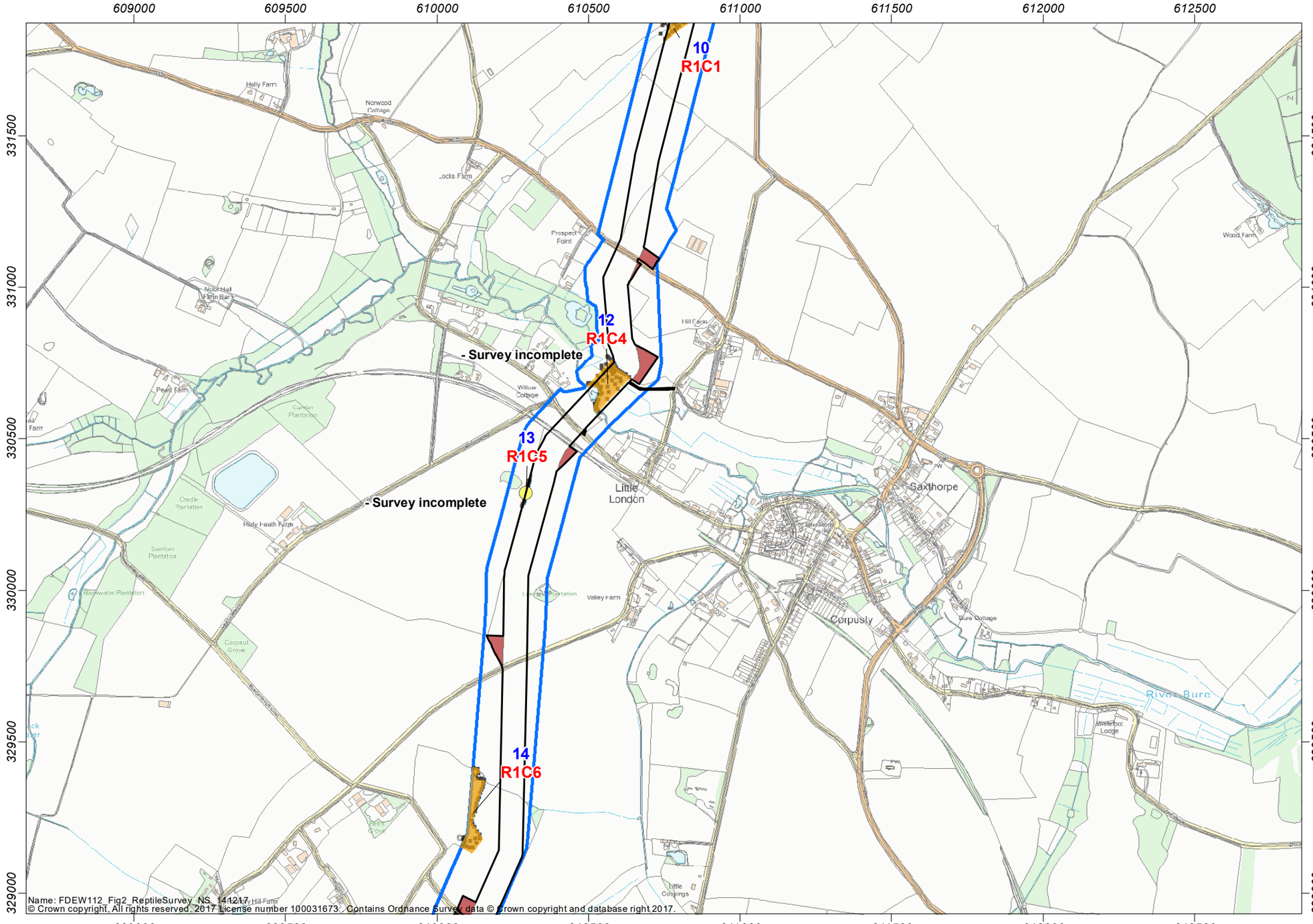
REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.3
Reptile Survey Results.

Doc no: FDEW112/23648/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



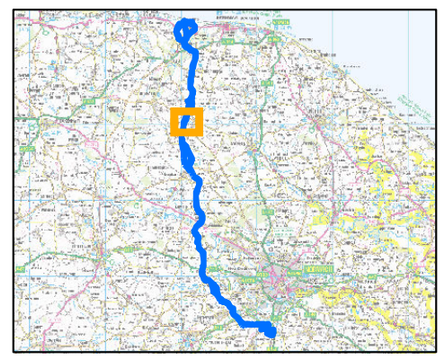
Reptile Species

- Common Lizard
- Reptile Refugia

Reptile Habitat Suitability

- Moderate
- Not Accessible for Survey
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.4
Reptile Survey Results.

Doc no: FDEW112/23649/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted

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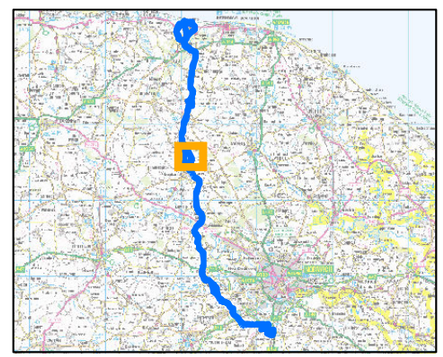
- Reptile Refugia

Reptile Habitat Suitability

- Low
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

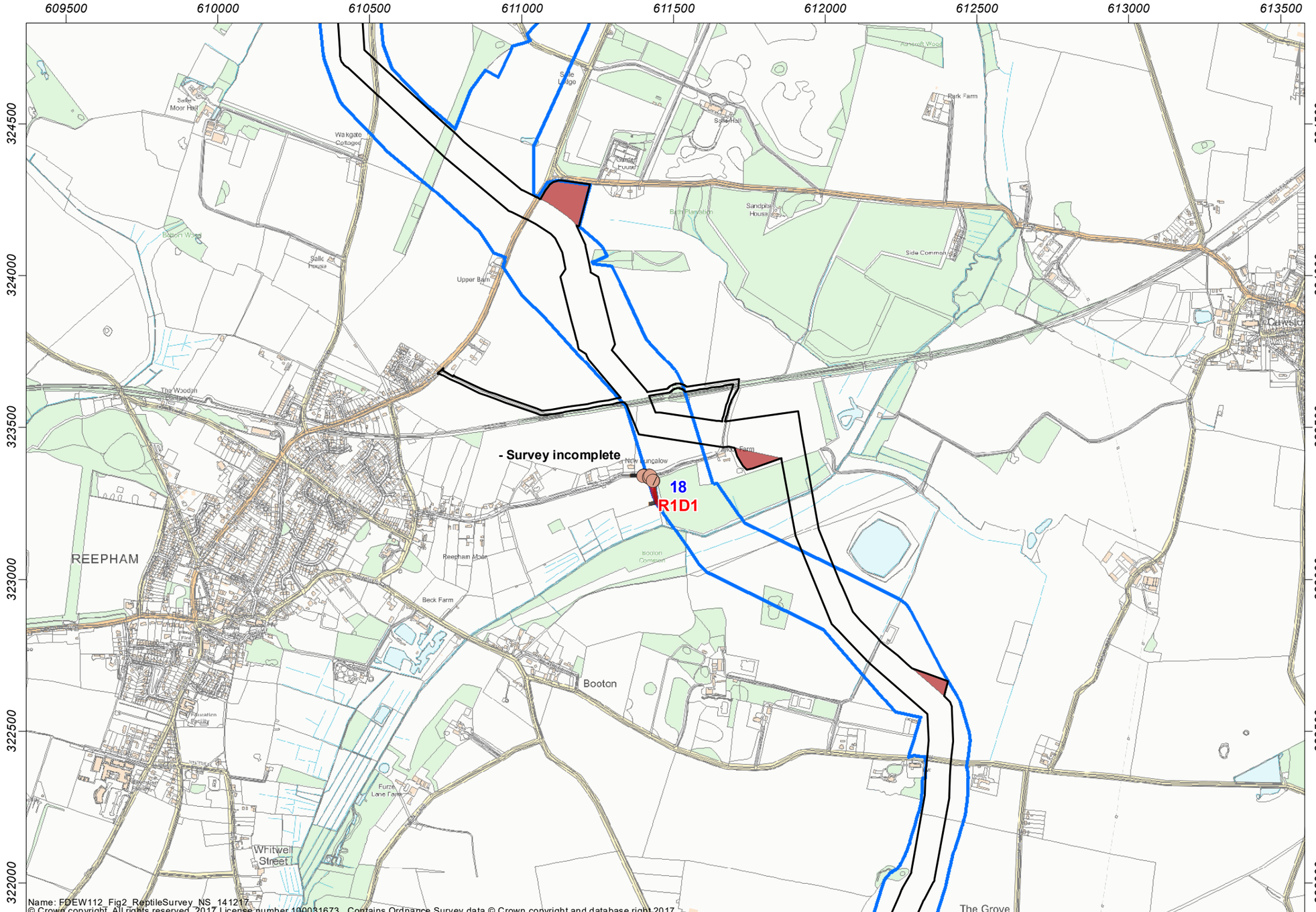
0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three
Figure: 2.5
Reptile Survey Results.

Doc no: FDEW112/23650/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



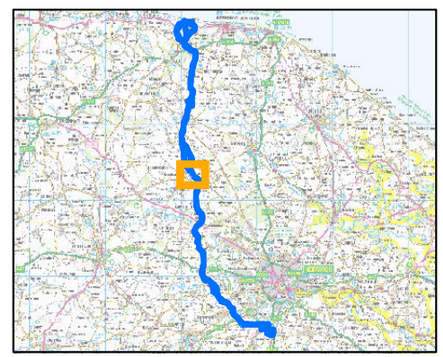
Reptile Species

- Slow Worm
- Reptile Refugia

Reptile Habitat Suitability

- High
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

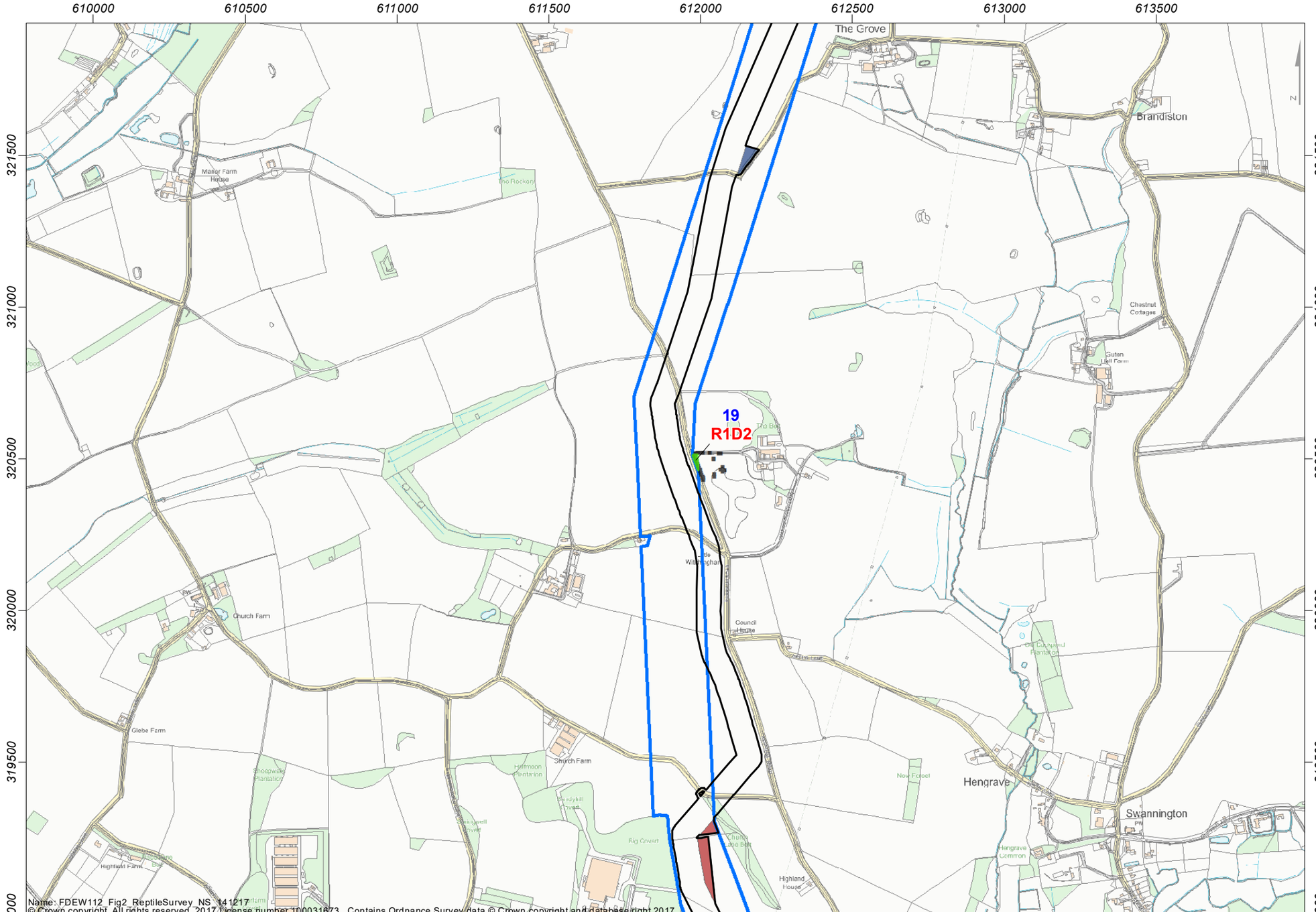
REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.6
Reptile Survey Results.

Doc no: FDEW112/23651/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



Name: FDEW112_Fig2_ReptileSurvey_NS_141217
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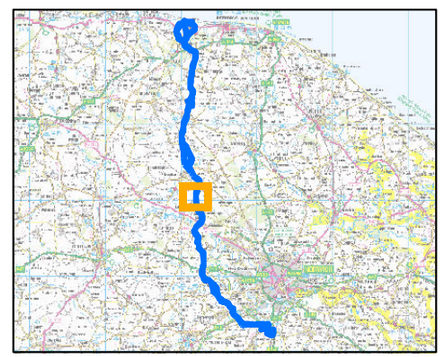
- Reptile Refugia

Reptile Habitat Suitability

- Low
- Reptile Survey Area
- Storage Area
- Compound
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

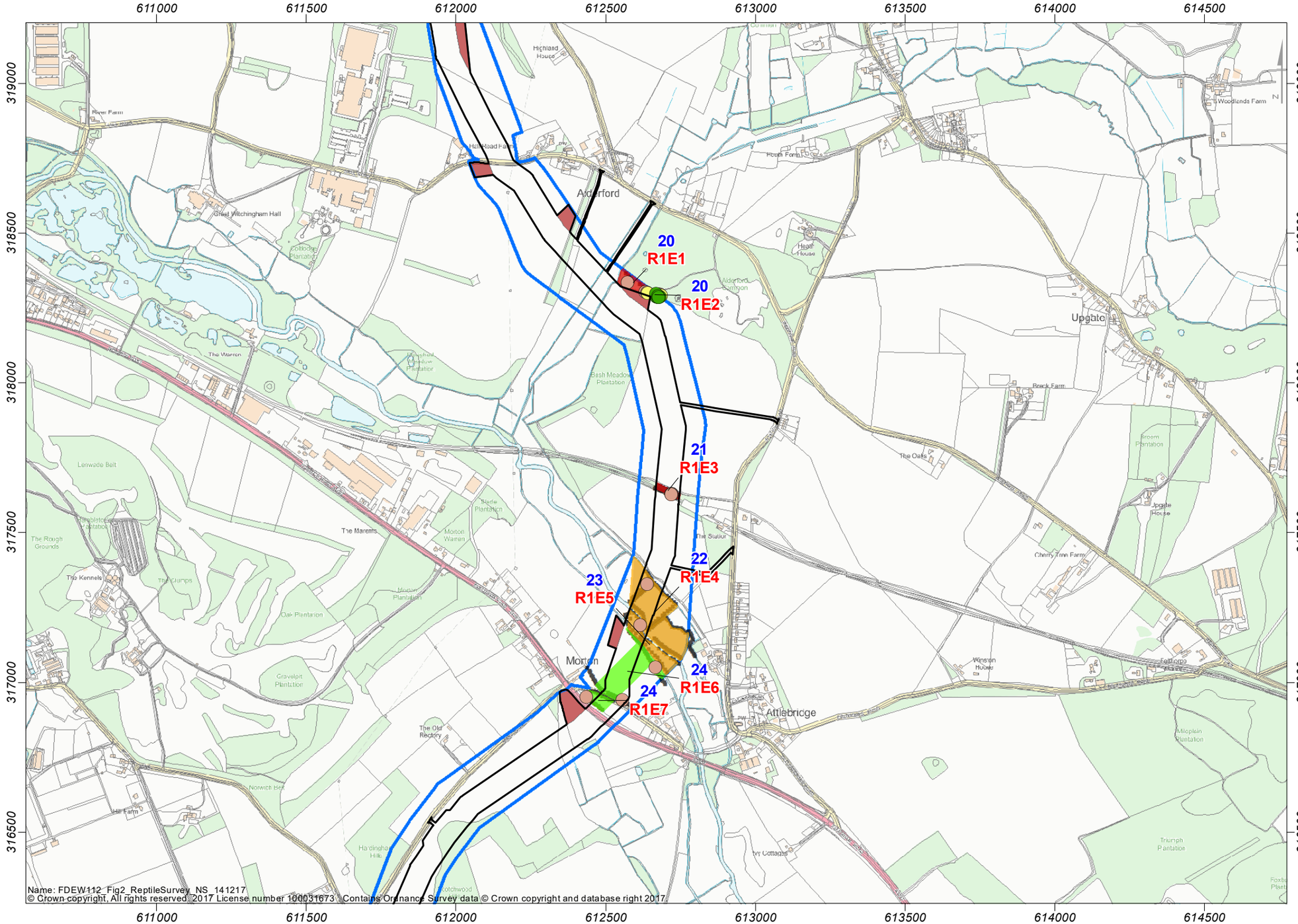
0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three
Figure: 2.7
Reptile Survey Results.

Doc no: FDEW112/23652/1
Created by: DJ
Checked by: AS
Approved by:NS

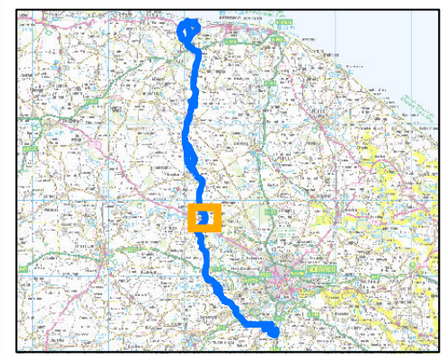
RPS Ørsted



Reptile Species
- Common Lizard
- Grass Snake
- Slow Worm
- Reptile Refugia

Reptile Habitat Suitability
- High
- Moderate
- Low
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three
Figure: 2.8
Reptile Survey Results.

Doc no: FDEW112/23653/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted

Name: FDEW112_Fig2_ReptileSurvey_NS_141217
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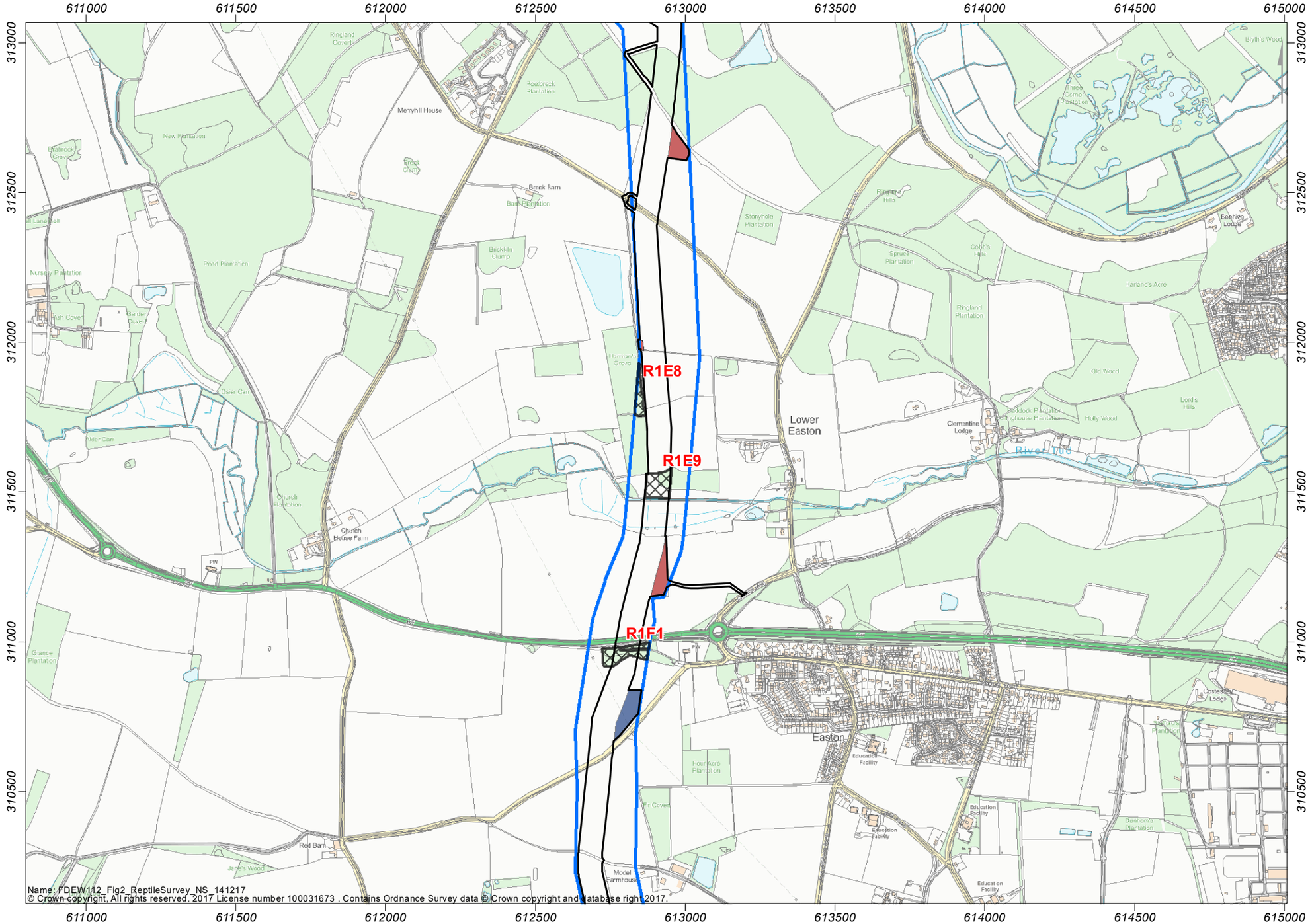
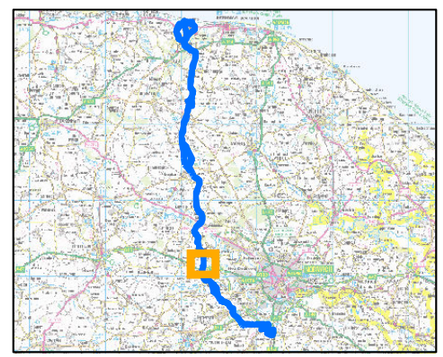


Reptile Habitat Suitability

- Not Accessible for Survey
- Reptile Survey Area
- Storage Area
- Compound
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.9
Reptile Survey Results.

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Created by: DJ
Checked by: AS
Approved by:NS

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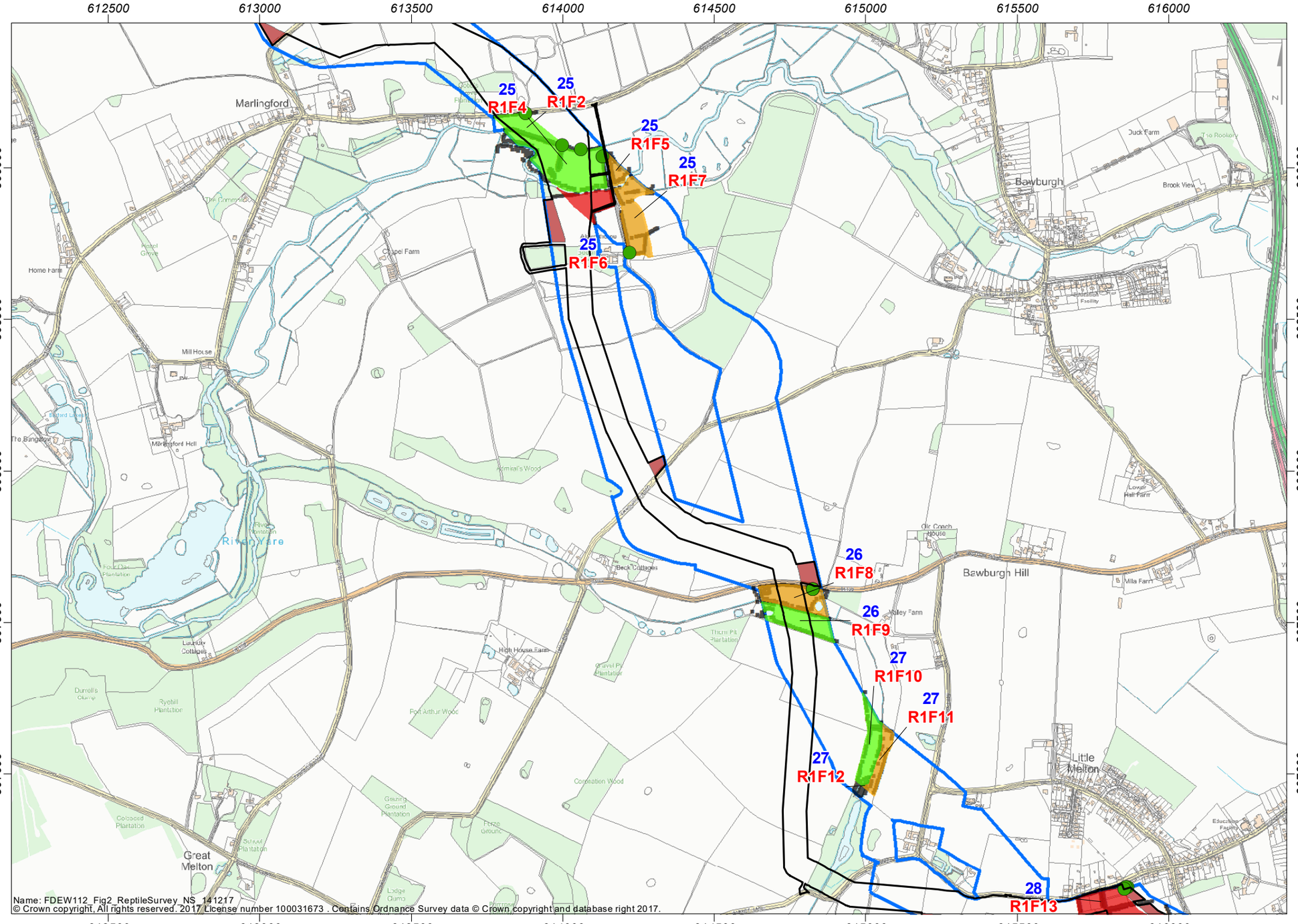


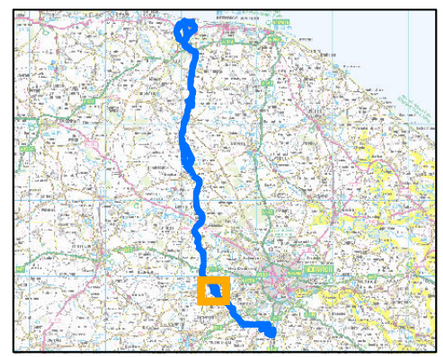
Reptile Species

- Grass Snake
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Low
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 — 790 Metres

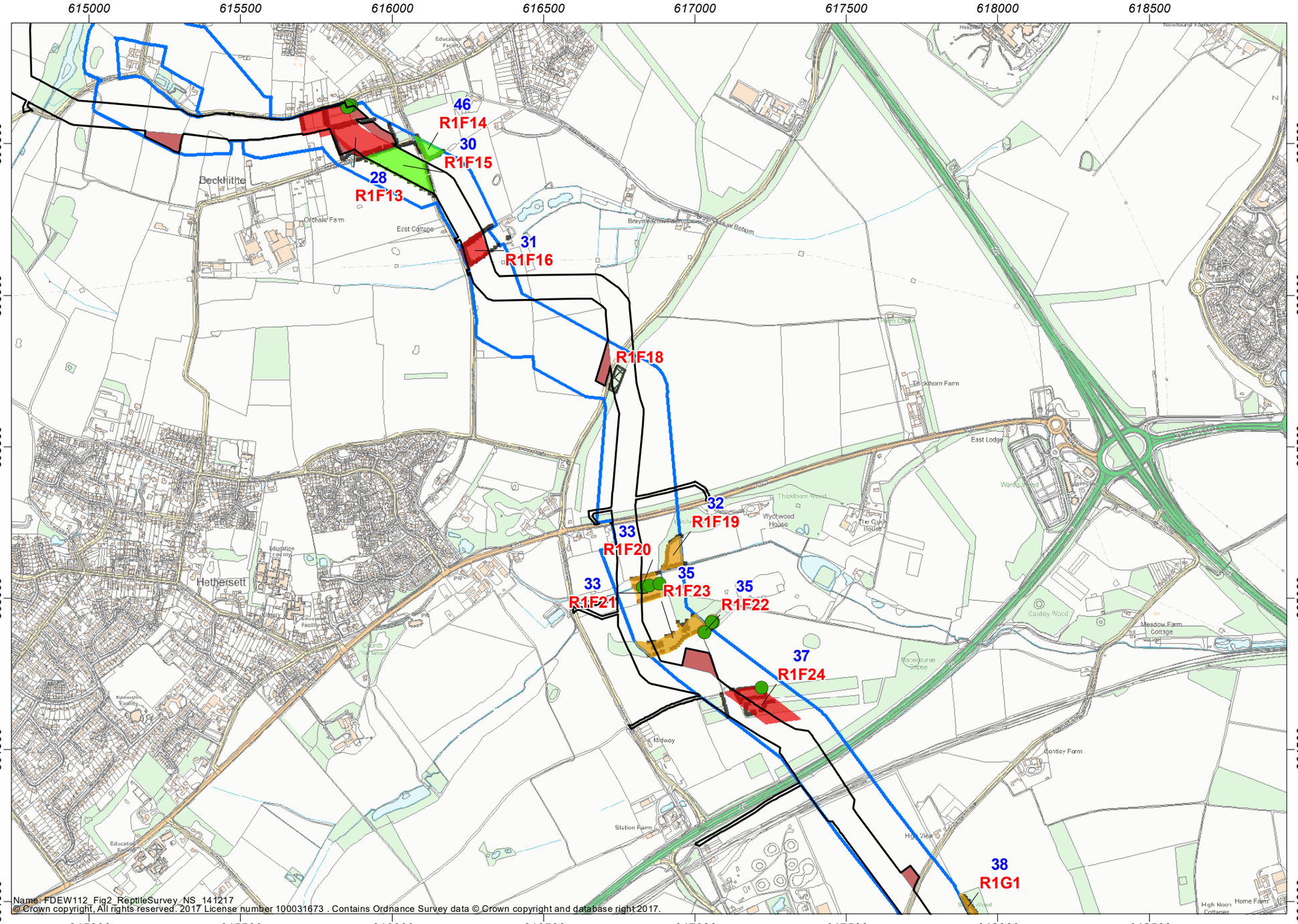
REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.10
Reptile Survey Results.

Doc no: FDEW112/23654/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



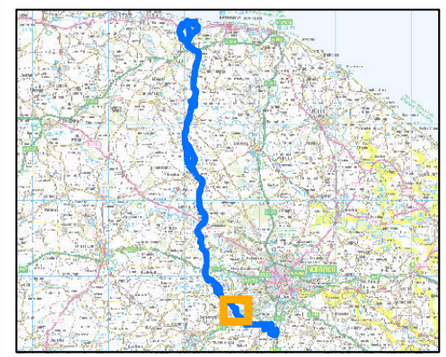
Reptile Species

- Common Lizard
- Grass Snake
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Low
- Not Accessible for Survey
- Reptile Survey Area
- Storage Area
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

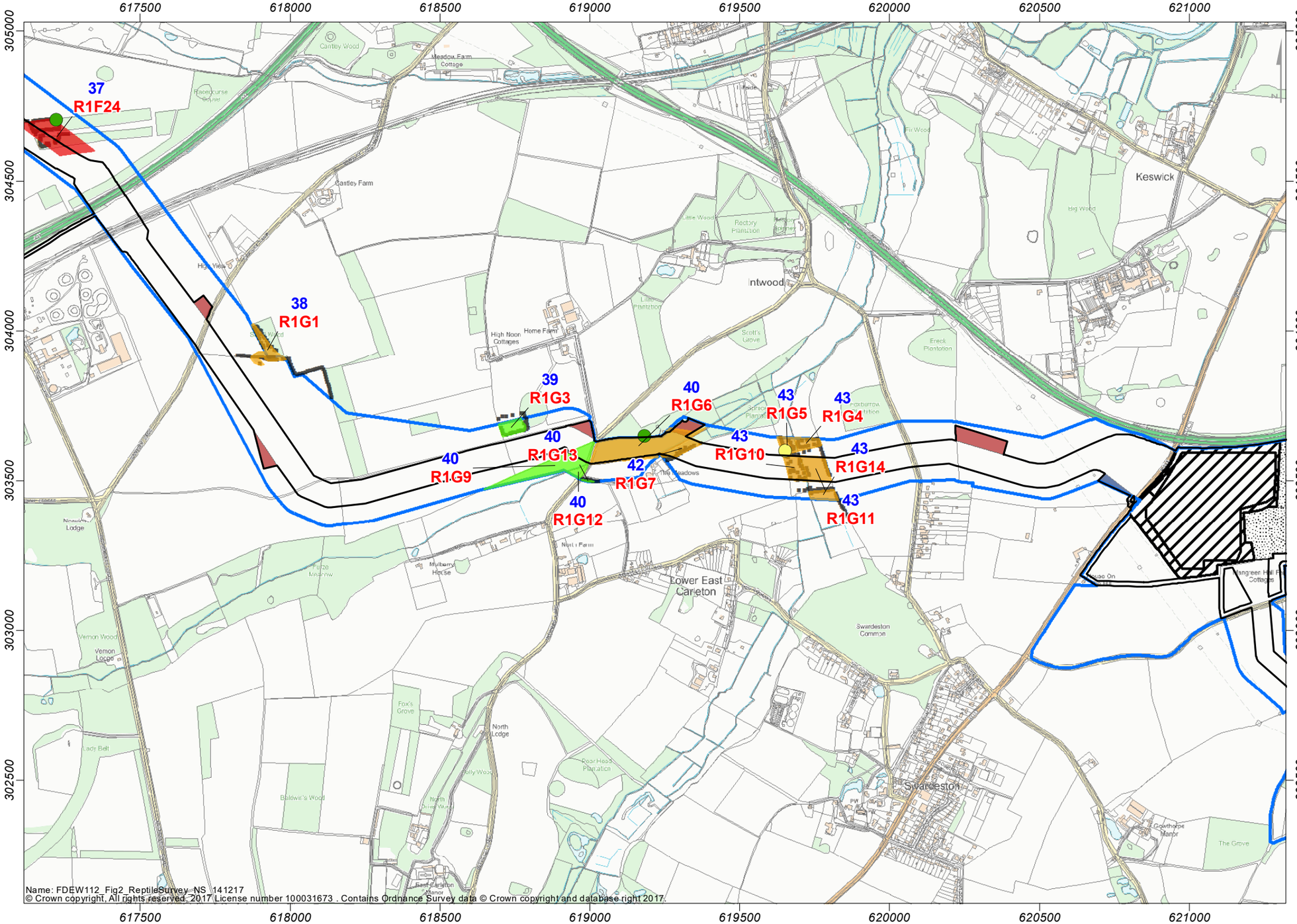
REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.11
Reptile Survey Results.

Doc no: FDEW112/24405/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



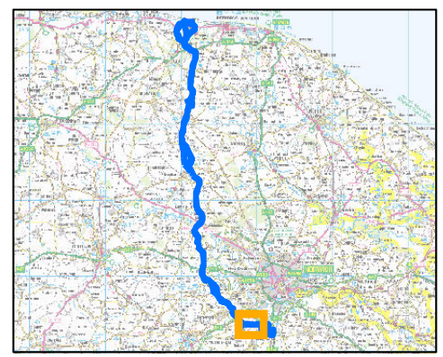
Reptile Species

- Common Lizard
- Grass Snake
- Reptile Refugia

Reptile Habitat Suitability

- High
- Moderate
- Low
- Reptile Survey Area
- Storage Area
- Compound
- Onshore HVDC converter/HVAC substation - Permanent
- Onshore HVDC converter/HVAC substation - Temporary
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

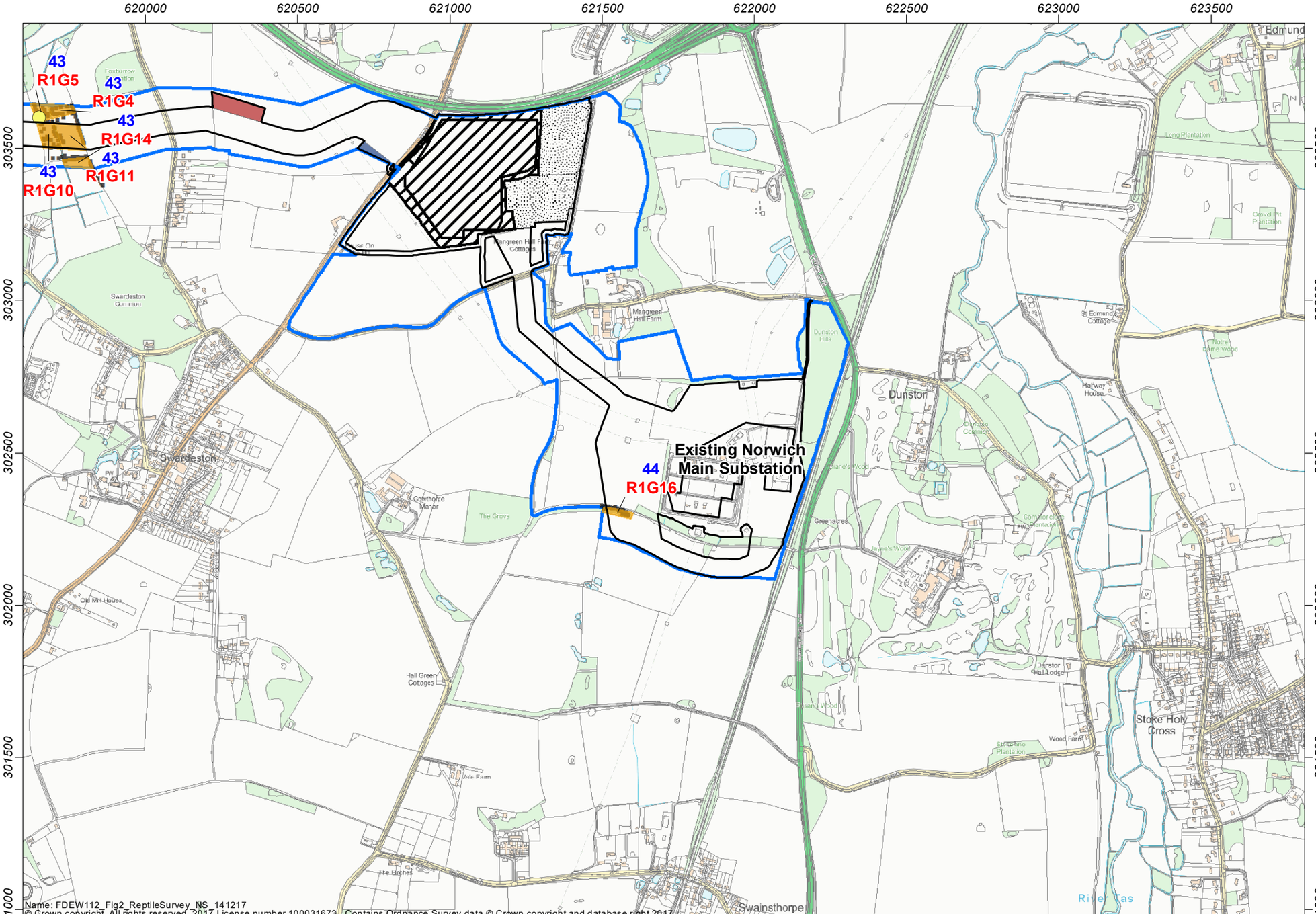
REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.12
Reptile Survey Results.

Doc no: FDEW112/24406/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted



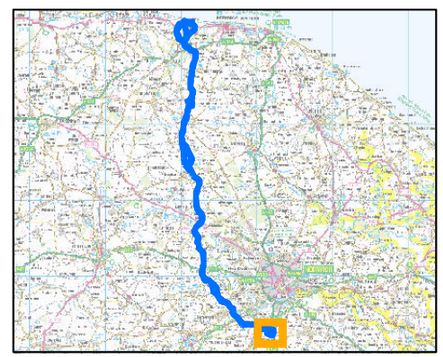
Reptile Species

- Common Lizard
- Reptile Refugia

Reptile Habitat Suitability

- Moderate
- Reptile Survey Area
- Storage Area
- Compound
- Onshore HVDC converter/HVAC substation - Permanent
- Onshore HVDC converter/HVAC substation - Temporary
- Hornsea Three onshore cable corridor

Note: Blue labelling denotes reptile survey group number and Red labelling denotes the habitat parcel identification number. Additionally, this set of figures does not include sections of the onshore cable corridor where no features were surveyed.It is drawn to the readers attention that the survey area depicted in this figure is not representative of the final project area.



Reference System : OSGB36
Projection : BNG

Scale@A3:1:15,000
Vertical reference: Newlyn

0 790 Metres

REV	REMARK	DATE
01	Initial Issue	22/08/2017

Hornsea Project Three

Figure: 2.13
Reptile Survey Results.

Doc no: FDEW112/24425/1
Created by: DJ
Checked by: AS
Approved by:NS

RPS Ørsted

Appendix B Summary of results for each survey site

Table B.1: Summary of results for each survey site.

Survey site	Group number	HSA result	Total number of refugia	Reptiles recorded[1]
R1A1	N/A	Moderate	No Access	No survey
R1A3	1	High	30	CL, SW
R1A4	2	No Access	No Access	No survey
R1A5		No Access	No Access	No survey
R1A6		High	266	A, CL, GS, SW
R1A7	0	Moderate	Visual only	SW
R1B1	3	Moderate	28	0
R1B2	4	Moderate	30	0
R1B3	5	Low	30	0
R1B4	6	Moderate	29	0
R1B8	9	High	30	SW
R1C1	10	Moderate	30	0
R1C4	12	Moderate	73	Survey Incomplete
R1C5	13	No Access	30	CL – Survey Incomplete
R1C6	14	Moderate	35	0
R1C7	16	Low	94	0
R1C8		Low		0
R1D1	18	High	30	SW – Survey Incomplete
R1D2	19	Low	30	0
R1E1	20	High	30	SW
R1E2		High		CL, GS, SW
R1E3	21	High	41	SW
R1E4	22	Moderate	144	SW
R1E5	23	Moderate	74	SW
R1E6	24	Low	61	SW

[1] A: adder; CL: common lizard; GS: grass snake; SW: slow worm.

Survey site	Group number	HSA result	Total number of refugia	Reptiles recorded[1]
R1E7		Low	30	SW
R1E8	N/A	No Access	No Access	No survey
R1E9	N/A	No Access	No Access	No survey
R1F1	N/A	No Access	No Access	No survey
R1F2	25	Low	416	GS
R1F4		Low		GS
R1F5		Moderate		0
R1F6		High		0
R1F7		Moderate		GS
R1F8	26	Moderate	137	GS
R1F9		Low		0
R1F10	27	Low	124	0
R1F11		Moderate		0
R1F12		Moderate		0
R1F13	28	High	113	GS
R1F14	46	Low	30	0
R1F15	30	Low	74	0
R1F16	31	High	119	0
R1F18	N/A	No Access	No Access	No survey
R1F19	32	Moderate	30	0
R1F20	33	Moderate	30	0
R1F21		Moderate		GS
R1F22	35	High	79	GS
R1F23		Moderate		0
R1F24	37	High	70	GS
R1G1	38	Moderate	88	0
R1G3	39	Low	29	0
R1G6	40	Moderate	91	GS
R1G9		Low		0
R1G12		Low		0

Survey site	Group number	HSA result	Total number of refugia	Reptiles recorded[1]
R1G13		Low		0
R1G7	42	Moderate	21	0
R1G4	43	Moderate	121	0
R1G5		Moderate		CL
R1G10		Moderate		0
R1G11		Moderate		0
R1G14		Moderate		0
R1G16	44	Moderate	33	0

Appendix C Presence/likely absence survey weather conditions

Table C.1: Presence/likely absence survey weather conditions.

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
1	R1A3	07/03/2017	Refugia deployment				
1	R1A3	04/04/2017	1	Sunny / Clear Sky	12	13	Optimal
1	R1A3	11/04/2017	2	Sunny / Clear Sky	14	14	Optimal
1	R1A3	25/04/2017	3	Patchy Cloud	9.4	10.4	Optimal
1	R1A3	10/05/2017	4	Sunny / Clear Sky	13	14	Optimal
1	R1A3	11/05/2017	5	Sunny / Clear Sky	16	16	Optimal
1	R1A3	12/05/2017	6	Patchy Cloud	17.4	17.4	Optimal
1	R1A3	30/05/2017	7	Patchy Cloud	17	23	Optimal
2	R1A6	07/03/2017	Refugia deployment				
2	R1A6	14/03/2017	Additional refugia deployment				
2	R1A6	04/04/2017	1	Sunny / Clear Sky	12	13	Optimal
2	R1A6	04/04/2017	Additional refugia deployment				
2	R1A6	10/04/2017	2	Sunny / Clear Sky	13	25	Optimal
2	R1A6	11/04/2017	Additional refugia deployment				
2	R1A6	25/04/2017	3	Patchy Cloud	8.4	15	Optimal
2	R1A6	10/05/2017	4	Sunny / Clear Sky	12	14	Optimal
2	R1A6	11/05/2017	5	Sunny / Clear Sky	13	14	Optimal
2	R1A6	30/05/2017	6	Patchy Cloud	18	23	Optimal
2	R1A6	02/06/2017	7	Patchy Cloud	10	13	Optimal
3	R1B1	14/03/2017	Refugia deployment				
3	R1B1	04/04/2017	1	Cloudy / Overcast	13	13	Optimal
3	R1B1	25/04/2017	2	Patchy Cloud	9	14	Optimal
3	R1B1	30/05/2017	3	Sunny / Clear Sky	19	21	Optimal
3	R1B1	31/05/2017	4	Sunny / Clear Sky	13	16	Optimal
3	R1B1	04/06/2017	5	Cloudy / Overcast	10	13	Optimal
3	R1B1	05/06/2017	6	Cloudy / Overcast	16	18	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
3	R1B1	12/06/2017	7	Patchy Cloud	17	19	Optimal
4	R1B2	07/03/2017	Refugia deployment				
4	R1B2	04/04/2017	1	Sunny / Clear Sky	12	12	Optimal
4	R1B2	11/04/2017	2	Sunny / Clear Sky	14	14	Optimal
4	R1B2	31/05/2017	3	Sunny / Clear Sky	17	23	Optimal
4	R1B2	05/06/2017	4	Cloudy / Overcast	18	19	Optimal
4	R1B2	09/06/2017	5	Sunny / Clear Sky	14	17	Optimal
4	R1B2	12/06/2017	6	Patchy Cloud	17	19	Optimal
4	R1B2	14/06/2017	7	Cloudy / Overcast	19	24	Optimal
5	R1B3	07/03/2017	Refugia deployment				
5	R1B3	04/04/2017	1	Cloudy / Overcast	12	12	Optimal
5	R1B3	11/04/2017	2	Sunny / Clear Sky	14	14	Optimal
5	R1B3	25/04/2017	3	Patchy Cloud	9	9	Optimal
5	R1B3	31/05/2017	4	Sunny / Clear Sky	15	20	Optimal
5	R1B3	04/06/2017	5	Patchy Cloud	10	13	Optimal
5	R1B3	05/06/2017	6	Cloudy / Overcast	17	19	Optimal
5	R1B3	12/06/2017	7	Patchy Cloud	17	19	Optimal
6	R1B4	07/03/2017	Refugia deployment				
6	R1B4	04/04/2017	1	Cloudy / Overcast	13	13	Optimal
6	R1B4	11/04/2017	2	Sunny / Clear Sky	14	14	Optimal
6	R1B4	25/04/2017	3	Patchy Cloud	10	10	Optimal
6	R1B4	10/05/2017	4	Cloudy / Overcast	13	13	Optimal
6	R1B4	12/05/2017	5	Cloudy / Overcast	12	12	Optimal
6	R1B4	31/05/2017	6	Sunny / Clear Sky	16	20	Optimal
6	R1B4	04/06/2017	7	Patchy Cloud	10	13	Optimal
9	R1B8	0/04/2017	1	Cloudy / Overcast	12	12	Optimal
9	R1B8	04/05/2017	2	Patchy Cloud	17.8	20.5	Optimal
9	R1B8	05/05/2017	3	Sunny / Clear Sky	11	11	Optimal
9	R1B8	10/05/2017	4	Patchy Cloud	15	15	Optimal
9	R1B8	11/05/2017	5	Patchy Cloud	13	14	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
9	R1B8	12/05/2017	6	Cloudy / Overcast	11	11	Optimal
9	R1B8	31/05/2017	7	Sunny / Clear Sky	15	17	Optimal
10	R1C1	07/03/2017	Refugia deployment				
10	R1C1	04/04/2017	1	Sunny / Clear Sky	12	13	Optimal
10	R1C1	11/04/2017	2	Sunny / Clear Sky	14	15	Optimal
10	R1C1	19/04/2017	3	Patchy Cloud	12	12	Optimal
10	R1C1	19/04/2017	Additional refugia deployment				
10	R1C1	09/05/2017	4	Cloudy / Overcast	10	10	Optimal
10	R1C1	10/05/2017	5	Patchy Cloud	16	16	Optimal
10	R1C1	11/05/2017	6	Sunny / Clear Sky	16	16	Optimal
12	R1C4	08/03/2017	Refugia deployment				
12	R1C4	04/04/2017	1	Sunny / Clear Sky	11	13	Optimal
12	R1C4	04/04/2017	Additional refugia deployment				
12	R1C4	18/04/2017	Additional refugia deployment				
12	R1C4	04/05/2017	2	Patchy Cloud	12	16	Optimal
12	R1C4	10/05/2017	3	Sunny / Clear Sky	15	17	Optimal
13	R1C5	14/03/2017	Refugia deployment				
13	R1C5	11/04/2017	1	Sunny / Clear Sky	14	15	Optimal
13	R1C5	19/04/2017	2	Patchy Cloud	11	11	Optimal
14	R1C6	08/03/2017	Refugia deployment				
14	R1C6	05/04/2017	1	Sunny / Clear Sky	12.7	13.2	Optimal
14	R1C6	11/04/2017	2	Sunny / Clear Sky	15	15	Optimal
14	R1C6	10/05/2017	3	Sunny / Clear Sky	13	13	Optimal
14	R1C6	11/05/2017	4	Sunny / Clear Sky	16	16	Optimal
14	R1C6	31/05/2017	5	Sunny / Clear Sky	17	19	Optimal
14	R1C6	01/06/2017	6	Patchy Cloud	10	12	Optimal
14	R1C6	09/06/2017	7	Patchy Cloud	18	20.3	Optimal
16	R1C8	08/03/2017	Refugia deployment				
16	R1C8	04/05/2017	1	Patchy Cloud	11	18.3	Optimal
16	R1C8	05/05/2017	2	Sunny / Clear Sky	14	14	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
16	R1C8	11/05/2017	3	Sunny / Clear Sky	12	13	Optimal
16	R1C8	11/05/2017	4	Sunny / Clear Sky	14	14	Optimal
16	R1C8	24/05/2017	5	Patchy Cloud	21.4	21.4	Optimal
16	R1C8	31/05/2017	6	Sunny / Clear Sky	17	18	Optimal
16	R1C8	05/06/2017	7	Patchy Cloud	16.5	18.9	Optimal
18	R1D1	08/03/2017	Refugia deployment				
18	R1D1	05/04/2017	1	Sunny / Clear Sky	11.4	18.1	Optimal
18	R1D1	11/04/2017	2	Sunny / Clear Sky	13.5	15	Optimal
18	R1D1	09/05/2017	3	Cloudy / Overcast	12	12	Optimal
18	R1D1	11/05/2017	4	Sunny / Clear Sky	16	16	Optimal
19	R1D2	08/03/2017	Refugia deployment				
19	R1D2	04/04/2017	1	Sunny / Clear Sky	13	15	Optimal
19	R1D2	13/04/2017	2	Cloudy / Overcast	9	9	Optimal
19	R1D2	13/06/2017	3	Patchy Cloud	17	19	Optimal
19	R1D2	14/06/2017	4	Sunny / Clear Sky	20	20	Optimal
19	R1D2	16/06/2017	5	Cloudy / Overcast	11	17	Optimal
20	R1E2	08/03/2017	Refugia deployment				
20	R1E2	04/04/2017	1	Cloudy / Overcast	15	18	Optimal
20	R1E2	11/04/2017	2	Sunny / Clear Sky	14	16	Optimal
20	R1E2	08/05/2017	3	Cloudy / Overcast	13	13	Optimal
20	R1E2	10/05/2017	4	Sunny / Clear Sky	14	20	Optimal
20	R1E2	11/05/2017	5	Sunny / Clear Sky	13.7	15.1	Optimal
20	R1E2	24/05/2017	6	Patchy Cloud	20.2	23	Optimal
20	R1E2	01/06/2017	7	Patchy Cloud	20	23	Optimal
21	R1E3	15/03/2017	Refugia deployment				
21	R1E3	04/05/2017	1	Patchy Cloud	11.8	13.8	Optimal
21	R1E3	08/05/2017	2	Sunny / Clear Sky	12	14	Optimal
21	R1E3	08/05/2017	3	Cloudy / Overcast	11	11	Optimal
21	R1E3	10/05/2017	4	Sunny / Clear Sky	12	16	Optimal
21	R1E3	24/05/2017	5	Cloudy / Overcast	19.2	21.9	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
21	R1E3	09/06/2017	6	Patchy Cloud	15.3	17	Optimal
21	R1E3	12/06/2017	7	Patchy Cloud	18	22	Optimal
22	R1E4	08/03/2017	Refugia deployment				
22	R1E4	05/04/2017	1	Cloudy / Overcast	15	20	Optimal
22	R1E4	11/04/2017	2	Sunny / Clear Sky	14	20	Optimal
22	R1E4	09/05/2017	3	Cloudy / Overcast	13	13	Optimal
22	R1E4	11/05/2017	4	Sunny / Clear Sky	14	17	Optimal
22	R1E4	24/05/2017	5	Patchy Cloud	20	21	Optimal
22	R1E4	02/06/2017	6	Patchy Cloud	15	15	Optimal
22	R1E4	12/06/2017	7	Patchy Cloud	17	21	Optimal
23	R1E5	08/03/2017	Refugia deployment				
23	R1E5	05/04/2017	1	Cloudy / Overcast	13	15	Optimal
23	R1E5	11/04/2017	2	Sunny / Clear Sky	12	16	Optimal
23	R1E5	09/05/2017	3	Cloudy / Overcast	11	11	Optimal
23	R1E5	11/05/2017	4	Sunny / Clear Sky	14	16	Optimal
23	R1E5	24/05/2017	5	Sunny / Clear Sky	19.9	24	Optimal
23	R1E5	02/06/2017	6	Patchy Cloud	15	15	Optimal
24	R1E6	08/03/2017	Refugia deployment				
24	R1E6	05/04/2017	1	Cloudy / Overcast	13	15	Optimal
24	R1E6	11/04/2017	2	Sunny / Clear Sky	12	16	Optimal
24	R1E6	11/04/2017	Additional refugia deployment				
24	R1E6	05/05/2017	3	Sunny / Clear Sky	8	14	Optimal
24	R1E6	09/05/2017	4	Cloudy / Overcast	12	12	Optimal
24	R1E6	10/05/2017	5	Sunny / Clear Sky	17.4	19.3	Optimal
24	R1E6	24/05/2017	6	Sunny / Clear Sky	22.3	25.7	Optimal
24	R1E6	01/06/2017	7	Patchy Cloud	20	24	Optimal
25	R1F5	09/03/2017	Refugia deployment				
25	R1F5	04/04/2017	1	Cloudy / Overcast	14	21	Optimal
25	R1F5	12/04/2017	2	Patchy Cloud	12	14	Optimal
25	R1F5	20/04/2017	3	Cloudy / Overcast	12	15	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
25	R1F5	09/05/2017	4	Cloudy / Overcast	12	14	Optimal
25	R1F5	23/05/2017	5	Sunny / Clear Sky	19.8	21.8	Optimal
25	R1F5	01/06/2017	6	Patchy Cloud	11	14	Optimal
25	R1F5	05/06/2017	7	Cloudy / Overcast	9	13	Optimal
26	R1F8 and R1F9	09/03/2017	Refugia deployment				
26	R1F8 and R1F9	06/04/2017	1	Sunny / Clear Sky	15	16	Optimal
26	R1F8 and R1F9	12/04/2017	2	Cloudy / Overcast	11	13	Optimal
26	R1F8 and R1F9	20/04/2017	3	Cloudy / Overcast	12	15	Sub-optimal
26	R1F8 and R1F9	02/05/2017	4	Cloudy / Overcast	11	13	Optimal
26	R1F8 and R1F9	09/05/2017	5	Cloudy / Overcast	12	12	Optimal
26	R1F8 and R1F9	23/05/2017	6	Patchy Cloud	19	23.2	Optimal
26	R1F8 and R1F9	01/06/2017	7	Patchy Cloud	17	20	Optimal
27	R1F10 and R1F11	09/03/2017	Refugia deployment				
27	R1F10 and R1F11	06/04/2017	1	Sunny / Clear Sky	15	16	Optimal
27	R1F10 and R1F11	12/04/2017	2	Patchy Cloud	13	12	Optimal
27	R1F10 and R1F11	20/04/2017	3	Cloudy / Overcast	13	15	Sub-optimal
27	R1F10 and R1F11	09/05/2017	4	Patchy Cloud	11	12	Optimal
27	R1F10 and R1F11	23/05/2017	5	Patchy Cloud	19.7	24.4	Optimal
27	R1F10 and R1F11	01/06/2017	6	Patchy Cloud	17	20	Optimal
27	R1F10 and R1F11	15/06/2017	7	Sunny / Clear Sky	20	22	Optimal
28	R1F13	10/03/2017	Refugia deployment				
28	R1F13	06/04/2017	1	Sunny / Clear Sky	15.9	21.7	Optimal
28	R1F13	13/04/2017	2	Cloudy / Overcast	9	10	Sub-optimal
28	R1F13	20/04/2017	3	Cloudy / Overcast	12	15	Optimal
28	R1F13	25/04/2017	4	Patchy Cloud	9	10	Optimal
28	R1F13	11/05/2017	5	Sunny / Clear Sky	18.2	19.7	Optimal
28	R1F13	01/06/2017	6	Patchy Cloud	17	20	Optimal
28	R1F13	12/06/2017	7	Cloudy / Overcast	14	16	Optimal
30	R1F15	14/03/2017	Refugia deployment				
30	R1F15	06/04/2017	1	Sunny / Clear Sky	15.9	21.7	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
30	R1F15	13/04/2017	2	Patchy Cloud	10	11	Optimal
30	R1F15	20/04/2017	3	Cloudy / Overcast	13	15	Optimal
30	R1F15	25/04/2017	4	Patchy Cloud	9	11	Optimal
30	R1F15	01/06/2017	5	Patchy Cloud	19	21	Optimal
30	R1F15	10/06/2017	6	Sunny / Clear Sky	17.3	18.7	Optimal
30	R1F15	12/06/2017	7	Cloudy / Overcast	14	16	Optimal
31	R1F16	23/03/2017	Refugia deployment				
31	R1F16	06/04/2017	1	Sunny / Clear Sky	18.7	22	Optimal
31	R1F16	12/04/2017	Additional refugia deployment				
31	R1F16	13/04/2017	2	Patchy Cloud	11	11	Optimal
31	R1F16	11/05/2017	3	Sunny / Clear Sky	18	22.4	Optimal
31	R1F16	01/06/2017	4	Patchy Cloud	19	23	Optimal
31	R1F16	12/06/2017	5	Patchy Cloud	17.2	19.5	Optimal
31	R1F16	31/08/2017	6	Patchy Cloud	17	22	Optimal
31	R1F16	07/09/2017	7	Cloudy / Overcast	18	19	Optimal
32	R1F19	12/04/2017	Refugia deployment				
32	R1F19	04/05/2017	1	Patchy Cloud	12	14.6	Optimal
32	R1F19	05/05/2017	2	Sunny / Clear Sky	19.4	19.5	Optimal
32	R1F19	10/05/2017	3	Sunny / Clear Sky	12	14	Optimal
32	R1F19	02/06/2017	4	Patchy Cloud	19	22	Optimal
32	R1F19	10/06/2017	5	Sunny / Clear Sky	17.4	22.6	Optimal
32	R1F19	12/06/2017	6	Patchy Cloud	18	21	Optimal
32	R1F19	15/06/2017	7	Sunny / Clear Sky	24	26	Optimal
33	R1F21	12/04/2017	Refugia deployment				
33	R1F21	04/05/2017	1	Patchy Cloud	12	14.6	Optimal
33	R1F21	05/05/2017	2	Sunny / Clear Sky	15	17.4	Optimal
33	R1F21	10/05/2017	3	Sunny / Clear Sky	12	14	Optimal
33	R1F21	02/06/2017	4	Patchy Cloud	19	22	Optimal
33	R1F21	10/06/2017	5	Sunny / Clear Sky	17.4	22.6	Optimal
33	R1F21	12/06/2017	6	Cloudy / Overcast	17.4	22.6	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
33	R1F21	15/06/2017	7	Sunny / Clear Sky	24	26	Optimal
35	R1F23, R1F22	21/03/2017	Refugia deployment				
35	R1F23, R1F22	05/04/2017	1	Patchy Cloud	13.3	18.6	Optimal
35	R1F23, R1F22	12/04/2017	2	Light Rain	12	12	Sub-optimal
35	R1F23, R1F22	04/05/2017	3	Patchy Cloud	17	18.1	Optimal
35	R1F23, R1F22	05/05/2017	4	Patchy Cloud	18.3	20.7	Optimal
35	R1F23, R1F22	10/05/2017	5	Sunny / Clear Sky	9	14	Optimal
35	R1F23, R1F22	02/06/2017	6	Patchy Cloud	19	22	Optimal
35	R1F23, R1F22	10/06/2017	7	Sunny / Clear Sky	17.4	22.6	Optimal
37	R1F24	21/03/2017	Refugia deployment				
37	R1F24	05/04/2017	1	Patchy Cloud	13.3	18.6	Optimal
37	R1F24	13/04/2017	2	Cloudy / Overcast	11	11	Optimal
37	R1F24	03/05/2017	3	Patchy Cloud	14.8	25.8	Optimal
37	R1F24	04/05/2017	4	Patchy Cloud	13	14	Optimal
37	R1F24	10/05/2017	5	Sunny / Clear Sky	12	16	Optimal
37	R1F24	13/06/2017	6	Patchy Cloud	18	22	Optimal
37	R1F24	15/06/2017	7	Sunny / Clear Sky	20	24	Optimal
38	R1G1	05/04/2017	1	Sunny / Clear Sky	16	19	Optimal
38	R1G1	12/04/2017	2	Patchy Cloud	13	13	Optimal
38	R1G1	25/04/2017	3	Cloudy / Overcast	6.5	10.5	
38	R1G1	10/05/2017	4	Sunny / Clear Sky	13	20	Optimal
38	R1G1	11/05/2017	5	Sunny / Clear Sky	16	17	Optimal
39	R1G3	15/03/2017	Refugia deployment				
39	R1G3	06/04/2017	1	Sunny / Clear Sky	13.3	14.8	Optimal
39	R1G3	12/04/2017	2	Patchy Cloud	13	13	Optimal
39	R1G3	20/04/2017	3	Cloudy / Overcast	9	11	Optimal
39	R1G3	25/04/2017	4	Patchy Cloud	10	10	Optimal
39	R1G3	10/05/2017	5	Sunny / Clear Sky	17	21	Optimal
39	R1G3	23/05/2017	6	Sunny / Clear Sky	19.4	24	Optimal
39	R1G3	14/06/2017	7	Sunny / Clear Sky	20	26	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
40	R1G6, R1G9	21/03/2017	Refugia deployment				
40	R1G6, R1G9	06/04/2017	1	Sunny / Clear Sky	12.4	16.1	Optimal
40	R1G6, R1G9	06/04/2017	Additional refugia deployment				
40	R1G6, R1G9	12/04/2017	1	Showers	11.5	12	Optimal
40	R1G6, R1G9	12/04/2017	Additional refugia deployment				
40	R1G6, R1G9	25/04/2017	2	Patchy Cloud	11	12	Optimal
40	R1G6, R1G9	10/05/2017	3	Sunny / Clear Sky	16	19	Optimal
40	R1G6, R1G9	23/05/2017	4	Patchy Cloud	20.8	23.2	Optimal
40	R1G6, R1G9	02/06/2017	5	Patchy Cloud	19	22	Optimal
40	R1G6, R1G9	07/06/2017	6	Cloudy / Overcast	10	11	Optimal
40	R1G6, R1G9	12/06/2017	7	Patchy Cloud	16	19	Optimal
42	R1G7	21/03/2017	Refugia deployment				
42	R1G7	06/04/2017	1	Sunny / Clear Sky	12.4	16.1	Optimal
42	R1G7	12/04/2017	2	Patchy Cloud	12	12	Optimal
42	R1G7	20/04/2017	3	Cloudy / Overcast	11	11	Optimal
42	R1G7	10/05/2017	4	Sunny / Clear Sky	20.9	22.5	Optimal
42	R1G7	23/05/2017	5	Patchy Cloud	19	23.2	Optimal
42	R1G7	14/06/2017	6	Sunny / Clear Sky	18	25	Optimal
42	R1G7	15/06/2017	7	Sunny / Clear Sky	17	26	Optimal
43	R1G10, R1G11, R1G5,R1G14	15/03/2017	Refugia deployment				
43	R1G10, R1G11, R1G5, R1G14	22/03/2017	Additional refugia deployment				
43	R1G10, R1G11, R1G5, R1G14	05/04/2017	1	Sunny / Clear Sky	14.1	19.6	Optimal
43	R1G10, R1G11, R1G5, R1G14	12/04/2017	2	Patchy Cloud	12	12	Optimal
43	R1G10, R1G11, R1G5, R1G14	20/04/2017	3	Cloudy / Overcast	11	11	Sub-optimal
43	R1G10, R1G11, R1G5, R1G14	25/04/2017	4	Patchy Cloud	11	12.5	Optimal
43	R1G10, R1G11, R1G5, R1G14	10/05/2017	5	Sunny / Clear Sky	16	20	Optimal
43	R1G10, R1G11, R1G5, R1G14	23/05/2017	6	Sunny / Clear Sky	20	24	Optimal
43	R1G10, R1G11, R1G5, R1G14	14/06/2017	7	Sunny / Clear Sky	20	22	Optimal
44	R1G16	28/03/2017	Refugia deployment				
44	R1G16	25/04/2017	1	Patchy Cloud	10	11	Optimal

Survey Group	Survey Site	Survey Date	Visit Number	Weather	Minimum Air Temperature (°C)	Maximum Air Temperature (°C)	Optimal/sub-optimal weather conditions
44	R1G16	04/05/2017	2	Patchy Cloud	12.4	14	Optimal
46	R1F14	29/03/2017	Refugia deployment				
46	R1F14	25/04/2017	1	Patchy Cloud	9	11	Optimal

Appendix D Site photographs, descriptions and survey summary results

Table C.1: Site photographs, descriptions and survey summary results.

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
1 (R1A3)	Survey site is dominated by semi-improved neutral grassland with scattered tall ruderal and scrub. The vegetation structure is moderate with a medium insolation and southerly aspect. The survey site sits on a shallow slope and has medium connectivity to areas of suitable habitat. The availability of refugia and hibernation sites is medium; disturbance is low. The habitat was assessed as being of **high** suitability.		1	2	0	0	Large	Large	None	None
2 (R1A6)	Heathland habitat on Kelling Heath. The habitat was assessed as being of **high** suitability.		32	24	2	17	Large	Large	Large	Large

[2] Highest number of reptiles recorded on a single survey.

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
3 (R1B1)	Semi-improved neutral grassland bordered by mature and semi-mature hedgerows. Scrub was also recorded. The habitat structure was recorded as being simple with medium insolation. The habitat faced north and was located on a flat topography. Connectivity to other areas of suitable habitat was medium, as was the availability of suitable refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
4 (R1B2)	Habitat dominated by improved grassland surrounded by a tree line. The habitat structure was recorded as complex with a high insolation. The topography varied, and was south-facing. Connectivity to other areas of suitable habitat was high. The availability of suitable hibernacula was high and refugia was medium. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							

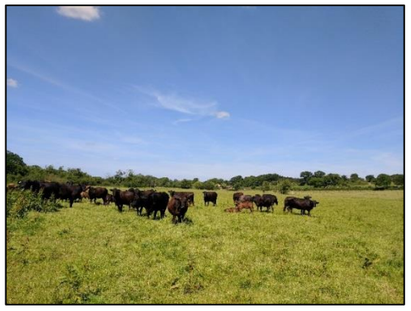
Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
5 (R1B3)	Survey site located within an arable field with coarse grassland within the field margins and hedgerows along the borders. The habitat structure is simple with a medium insolation. The survey site is north-facing on a flat topography. Connectivity to other areas of suitable habitat is low, as is the availability of suitable refugia and hibernacula. The habitat was assessed as being of **low** suitability.		No reptiles recorded.							
6 (R1B4)	Survey site is dominated by coarse grassland with tall ruderal. The habitat structure is complex and insolation is high on a varied, south-facing, topography. Connectivity to other areas of suitable habitat is high, as is the availability of suitable hibernacula and refugia. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
9 (R1B8)	Track running along woodland edge with embankment down to arable field facing west. The habitat was assessed as being of **moderate** suitability.		Not accessible for presence/likely absence surveys							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
10 (R1C1)	Survey site comprises an improved grassland with a hedgerow bordering the parcel. The habitat structure is simple with a medium insolation. The habitat is located on a south-facing, flat, topography with a medium connectivity to areas of suitable habitat. The availability of refugia and hibernacula is low. The habitat was assessed as being of **moderate** suitability.		No reptile recorded.							
12 (R1C4)	Survey site comprised an improved grassland field with a coarse grassland field margin, bordered by hedgerow with mature trees. The habitat structure was recorded as being moderate with a low to high insolation. Most of the habitat was situated on an east-facing shallow slope, with some areas on a flat topography that faced west. The survey site was found to have a medium connectivity to other areas of suitable habitat and within the field margins and hedgerow, the availability of suitable refugia and hibernacula was high. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
13(R1C5) (Survey incomplete)	Coarse grassland arable field margin. The habitat was assessed as being of **moderate** suitability.			1				Medium		
14 (R1C6)	Survey site comprised an arable field and the bordering hedgerow. The habitat structure was assessed as being moderate with a medium insolation. The habitat was east-facing on a flat topography. Connectivity to suitable habitat was medium, as was the availability of suitable refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
16 (R1C7 and R1C8)	Habitat dominated by improved grassland that was grazed at the time of survey. A small managed waterway runs through the survey site and some tussocks were recorded. The survey site was bordered by hedgerow. The survey site was recorded as having a simple structure with high insolation on a shallow, south-facing slope. Connectivity to other areas of suitable habitat was low. The availability of refugia was low and hibernacula was medium. The habitat was assessed as being of **low** suitability.		Not accessible for presence/likely absence surveys							
18 (R1D1)	Survey site is dominated by improved grassland that was grazed at the time of the survey. It is bordered by a hedgerow supporting hawthorn, holly and oak. The habitat structure is simple with high insolation. The habitat is located on a shallow, south-facing, slope. Connectivity to other areas of suitable habitat is high and the availability of suitable refugia and hibernacula is high. The habitat was assessed as being of **high** suitability.		8	0	0	0	Large	None	None	None
20 (R1E1 and R1E2)	Survey site located in a semi-natural broadleaved woodland with a bracken understorey. The habitat structure was complex. Insolation was medium. Aspect was south-facing on a flat topography. Connectivity to other areas of suitable habitat was high, with a medium availability of suitable refugia and hibernacula. The habitat was assessed as being of **high** suitability.		2	2	2	0	Large	Large	Large	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
21 (R1E3)	Survey site is dominated by a semi-natural broadleaved woodland adjacent to a footpath. The habitat structure is high with a medium insolation on a south-facing, shallow slope. Connectivity to other areas of suitable habitat is high with a medium availability of suitable refugia and hibernacula. The habitat was assessed as being of **high** suitability.		3	0	0	0	Large	None	None	None
22 (R1E4)	Marsh/marshy grassland bordered by a stream. The survey site was recorded as having a moderate vegetation structure with high insolation and a south-facing, flat topography. Connectivity to other areas of suitable habitat was medium and the availability of refugia was medium; and low for hibernacula. The habitat was assessed as being of **moderate** suitability.		1	0	0	0	Small	None	None	None
23 (R1E5)	Marsh/marshy grassland dominates this survey site that is bordered by a strip of semi-natural broadleaved woodland. The habitat structure is complex with a high insolation. The survey site is south-facing on a flat topography. Connectivity to other areas of suitable habitat is low, as is the availability of suitable refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		1	0	0	0	Medium	None	None	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
24 (R1E6, R1E7, R1F5)	Survey site was dominated by improved grassland grazed by sheep. It was bordered by a hedgerow, a ditch and a road. The habitat structure was identified as being simple on a south-facing, flat topography. Connectivity to other areas of suitable habitat was low, as was the availability of suitable refugia and hibernacula. The habitat was assessed as being of **low** suitability.		1	0	0	0	Small	None	None	None
25 (R1F2)	Semi-improved neutral grassland field that was grazed at the time of the survey. The survey site is bordered by scrub and hedgerow. The habitat structure is simple with a high insolation is located on a south-facing slope. Connectivity to other areas of suitable habitat is medium. The availability of suitable refugia and hibernacula is low. The habitat was assessed as being of **low** suitability.		0	0	1	0	None	None	Small	None
25 (R1F4)	Semi-improved neutral grassland that was grazed at the time of the survey. Hedgerow borders the survey site. The habitat structure is simple with a high insolation on a northerly aspect on a flat topography. Connectivity to other areas of suitable habitat is medium. Low availability of refugia and hibernacula. The habitat was assessed as being of **low** suitability.		1	0	1	0	Small	None	Small	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
25 (R1F6)	Grazed semi-improved neutral grassland field bordered by hedgerows. A river is located north of the survey site. Areas of grassland receive little management, providing good habitat for reptiles. The habitat structure is complex with high insolation and northern aspect on a flat topography. Connectivity to other areas of suitable habitat is high with a medium availability of hibernacula and refugia. The habitat was assessed as being of **high** suitability.		No reptiles recorded.							
25 (R1F7, R1F5)	Survey site dominated by improved grassland which was grazed at the time of the survey. Some areas were dominated by bracken and scrub. Habitat had a complex structure with high insolation. The survey site is located on a shallow north-facing slope. Connectivity to other areas of suitable habitat is high, as is the availability of hibernacula and refugia. The habitat was assessed as being of **moderate** suitability.		0	0	1	0	None	None	Small	None
26 (R1F8)	Semi-improved neutral grassland field bordered by hedgerow, a stream and semi-natural broadleaved woodland. Habitat has a moderate structure and high insolation. The aspect is southerly on a flat topography. Connectivity to areas of suitable habitat is medium, as is the availability of refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		0	0	1	0	None	None	Small	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
26 (R1F9)	Survey site comprises coarse grassland between an arable field and a hedgerow. A stream is also located in close proximity. The habitat structure is simple with a high insolation on a southerly aspect and flat topography. Connectivity to other areas of suitable habitat is medium and the availability of refugia is low, whilst the hibernation potential is low. The habitat was assessed as being of **low** suitability.		No reptiles recorded.							
27 (R1F10)	Survey site comprised improved grassland grazed by sheep at the time of the survey. The habitat was recorded as having a simple structure and was bordered by mature trees and hedgerow. Insolation was high on an east-facing shallow slope. The availability of suitable refugia and hibernacula is low. The habitat was assessed as being of **low** suitability.		No reptiles recorded.							
27 (R1F11)	Survey site comprised improved grassland grazed by sheep at the time of the survey. The survey site was bordered by a mature hedgerow. The habitat structure was recorded as being simple with a high insolation. The habitat was east-facing on a shallow slope. Connectivity to other areas of suitable habitat was medium, with a low availability of refugia and medium availability of hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
27 (R1F12)	Survey site comprised improved grassland grazed by sheep at the time of the survey. The survey site was bordered by a woodland belt. The habitat structure was recorded as being simple with a high insolation. The habitat was south-facing on a flat topography. Connectivity to other areas of suitable habitat was medium, with a medium availability of refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
28 (R1F13)	Survey site had a complex structure dominated by improved grassland grazed by sheep at the time of the survey. Areas of tall ruderal were recorded. The survey site was bordered by hedgerow supporting some mature trees. Insolation varied from medium to high on a flat, south-facing topography. Connectivity to areas of suitable habitat varied between medium and high. In areas of tall ruderal, the availability of refugia was high and medium elsewhere. Hibernation potential was assessed as being medium throughout the habitat. The habitat was assessed as being of **high** suitability.		0	0	1	0	None	None	Medium	None
30 (R1F15)	Improved grassland field bordered by bramble and oak hedgerows. The habitat had a simple structure with high insolation. The survey site was located on a flat topography that was west-facing. Connectivity to other areas of suitable habitat was medium. The availability of refugia was medium and hibernation potential was low. The habitat was assessed as being of **low** suitability.		No reptiles recorded.							
31 (R1F16)	The survey site comprised a hedgerow with a track to the east and arable fields in other directions. The habitat structure was moderate with medium insolation on a flat, south-facing topography. Connectivity to other areas of suitable habitat was medium. The availability of refugia was high and hibernacula medium. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
32 (R1F19)	Semi-improved neutral grassland field bordered by hedgerow with some mature trees. The survey site was grazed at the time of the survey. The habitat structure was assessed as being low with a high insolation on a south-facing shallow slope. Connectivity to other areas of suitable habitat was medium, as was the availability of suitable refugia and hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
33 (R1F20 and R1F21)	Semi-improved neutral grassland adjacent to a stream. The grassland was grazed at the time of survey and short tussocks were recorded. Patches of bramble and scrub was recorded in the field margins. The habitat structure is moderate and insolation was high. The survey site was located on a flat topography with a west aspect. Connectivity to other areas of suitable habitat was high and the availability of hibernacula refugia was medium. The habitat was assessed as being of **moderate** suitability.		0	0	3	0	None	None	Medium	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
34 (R1F22)	Stand of broadleaved plantation with a tall ruderal understory. The survey site is located adjacent to a semi-natural broadleaved woodland and grazed coarse grassland to the south. Habitat structure is moderate with a medium insolation. Aspect is northerly with a flat topography. Connectivity to areas of suitable habitat is high and the availability of hibernacula and refugia is medium. The habitat was assessed as being of **high** suitability.		0	1	4	0	None	Medium	Large	None
35 (R1F23)	Mixed plantation woodland with bramble dominating the ground flora. The woodland is surrounded by arable and improved grassland used for grazing. The habitat has a moderate structure with a medium insolation and is located on a north-facing shallow slope. Connectivity to other areas of suitable habitat is medium and availability of refugia and hibernacula is high. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
37 (R1F24)	Young silver birch plantation with scrub and coarse grassland. Bramble is also present within the ground flora. The survey site is bordered by semi-improved neutral grassland which was used for grazing at the time of the survey. The habitat structure is moderate with medium insolation. Southerly facing on a flat topography. Connectivity to other areas of suitable habitat is medium with a high availability of refugia and hibernacula. The habitat was assessed as being of **high** suitability.		0	0	1	0	None	None	Medium	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
38 (R1G1)	Survey site is dominated by semi-natural broadleaved woodland with a complex habitat structure. Insolation is high with an easterly aspect and flat topography. Connectivity to other areas of suitable habitat is medium. The availability of suitable refugia is medium and low for hibernacula. The habitat was assessed as being of **moderate** suitability.		No reptiles reocrded.							
39 (R1G3)	Main habitat is improved grassland heavily managed, however areas of tall ruderal occur. The survey site is very open with a hedgerow bordering the field. Structure is simple with a high insolation and is east facing. Survey site is located on small slope and connectivity to other areas of suitable habitat is medium. Low potential for hibernation and availability of refugia is low. The habitat was assessed as being of **low** suitability.		No reptiles recorded.							
40 (R1G9 and R1G12)	Grazed field with a stream running through the centre and a hedgerow bordering the field. The field comprises short grass and a simple structure. Insolation is high with a north aspect and flat topography. A medium connectivity was observed, with a low refugia and hibernation potential. Habitat disturbance is low. The habitat was assessed as being of **low** suitability.		No reptiles reocrded							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
40 (R1G6)	Semi-improved neutral grassland with a simple habitat structure. Evidence of grazing was observed. The grassland is bordered by woodland and scrub and a log pile, which can be used as a refugia, was recorded. Insolation is high and aspect is northern. The survey site has a flat topography and a medium connectivity to other areas of suitable habitat. The potential for hibernation sites and refugia is medium. Disturbance is low. The habitat was assessed as being of **moderate** suitability.		0	0	1	0	None	None	Medium	None
42 (R1G7, R1G8)	Coniferous plantation with a moderate vegetation structure and northern aspect. Insolation is low on a flat topography. Connectivity to other suitable habitat is medium. The potential for refugia and hibernation sites is high. Disturbance is low. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
43 (R1G10)	Marsh/marshy grassland grazed by cattle. Survey site is surrounded by a hedgerow. Habitat structure is moderate with a medium insolation. Aspect is southerly on a shallow slope. Habitat was very wet in areas at the time of the survey. Connectivity to other areas of suitable habitat is medium and the availability of refugia is medium, with a low hibernation potential. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded.							
43 (R1G4 and R1G5)	Survey site comprises marsh/marshy grassland in close proximity to a tree line and running water. Vegetation structure is moderate with high insulation. Aspect is easterly on a shallow slope. Connectivity to other areas of suitably habitat is medium. Hibernation potential is low, and refugia potential is medium. Disturbance is low. The habitat was assessed as being of **moderate** suitability.		0	1	0	0	None	Medium	None	None

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
43 (R1G11 and R1G14)	Semi-improved neutral grassland that was grazed at the time of the survey. Survey site is located adjacent to a stream. The habitat structure is simple with high insolation and is north facing. The topography is flat. Connectivity to other areas of suitable habitat is medium. The availability of refugia and hibernacula is low. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded							
44 (R1G16)	Survey site located within a strip of broadleaved woodland with dense scrub, adjacent to a semi-improved neutral grassland field. Habitat structure is moderate with a medium insolation. The survey site has a southerly aspect and flat topography. Connectivity to other areas of suitable habitat is medium and the availability of hibernacula and refugia is medium. The habitat was assessed as being of **moderate** suitability.		No reptiles recorded							
46 (R1F14)	Improved grassland field bordered by bramble and oak hedgerows. The habitat had a simple structure with high insolation. The survey site was located on a flat topography that was east-facing. Connectivity to other areas of suitable habitat was medium. The availability of refugia was medium and hibernation potential was low. The habitat was assessed as being of **low** suitability.		Not accessible for further surveys							

Survey group number (site number)	Habitat Description	Photograph	Peak[2] number of reptiles recorded				Population size class estimate			
			Slow worm	Common lizard	Grass snake	Adder	Slow worm	Common lizard	Grass snake	Adder
(No Grouped) R1A7	Habitat comprised a hedgerow and bank with a moderate structure. Insolation was medium with an easterly aspect and varied topography. Connectivity to other areas of suitable habitat was medium with the availability of refugia and reptile habitat high. The habitat was assessed as being of **moderate** suitability.		Only visual survey undertaken which recorded one slow worm.				Not applicable			
(Not Grouped) R1A1	Mixed unimproved neutral grassland with scattered waterbodies. Survey site surrounded by hedgerow and woodland with a mixed age and canopy height. The woodland is set back from a shingle beach and is less than 50 m from a large reed bed. A number of small slopes provide suitable basking habitat. Refugia available in the form of wood, grass and rock piles. The habitat structure is therefore moderate with an easterly aspect and medium insolation. Connectivity to other areas of suitable habitat is medium. Disturbance is low. The habitat was assessed as being of **moderate** suitability.		Not accessible for further survey							