

Net Zero Teesside – Environmental Statement

Planning Inspectorate Reference: EN010103

Volume III – Appendices Appendix 12E: Reptile Survey Report

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)







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12E.Reptile Survey Report

12.1 Introduction

- 12.1.3 This report describes the approach and findings of reptile surveys undertaken in support of the ecological impact assessment (EcIA) of the Proposed Development. The terms of reference used to describe the Proposed Development in this report are consistent with those defined within the main chapters of the Environmental Statement (ES) (Volume I, Document Ref. 6.2). However, the Site boundary as referenced in this report denotes the Proposed Development as it was at the time of writing. The Site boundary has continued to be further refined as the design and assessment of the Proposed Development progressed, reducing the overall extent of the Site boundary. Figure 12E.2 illustrates the extent of the Site boundary as referred to in this report.
- 12.1.4 A reptile survey was undertaken in 2018 by Quants Environmental Ltd on behalf of AECOM, at the former Redcar Steelworks within (survey plots A and B, as explained later in this report) and adjacent to the land required for construction of the PCC Site (Figure 12E.1) for the Proposed Development.
- 12.1.5 In summer 2020, AECOM undertook a reptile survey within the Site boundary at Coatham Sands (Figure 12E.1), part of Teesmouth and Cleveland Coast Site of Special Scientific Interest (SSSI). Coatham Sands is known to support a population of common lizard (Lacerta vivipara), but no other species of reptile have been recorded previously.
- 12.1.6 The purpose of the above reptile surveys was therefore to provide data on the presence/absence of common lizard and, if present other reptile species, within the land required for the construction of permanent above ground infrastructure (the PCC Site) for the Proposed Development or otherwise where options were being considered (at the time of survey) that might have a substantive temporary impacts on habitats of potential importance for reptiles (Coatham Sands). In relation to the latter, the final design for the Proposed Development no longer includes an option for construction works within Coatham Sands. Instead, trenchless construction methods with be used to avoid the need for access to Coatham Sands.
- 12.1.7 The survey data is required to inform an assessment of the relative nature conservation value of the reptile populations present, including review against relevant criteria, and to inform any necessary requirements for impact avoidance, mitigation and/or habitat compensation to achieve legal compliance.

12.2 Wildlife Legislation and Planning Policy

12.2.3 There are four widespread species of British native reptile, and these are the only native species that occur in the Tees Valley. These species are adder (*Vipera berus*), grass snake (*Natrix helvetica*), common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*). Of these, only common lizard is





known to occur at Coatham Sands and in the vicinity of the PCC Site (see Section 12.4).

- 12.2.4 The following wildlife legislation, planning policy and guidance is specifically relevant to the identification and assessment of potential constraints posed by the presence of the named reptiles. At this stage of assessment, this legislation, policy and guidance is primarily listed to demonstrate that an appropriate level of survey and assessment has been undertaken to meet likely data requirements for future decision-making regarding these material considerations.
- 12.2.5 Wider relevant biodiversity legislation, policy and guidance is detailed in Appendix 12A Legislation and Policy (ES Volume III, Document Ref. 6.4).
- 12.2.6 The named reptile species are afforded legal protection through their inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence under this legislation to intentionally or recklessly kill or injure these species. However, as they are not European protected species their habitat does not receive legal protection under the Act.
- 12.2.7 The named reptile species are also listed as 'Species of Principal Importance for Nature Conservation in England' pursuant to Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act requires that local planning authorities have regard to the conservation of biodiversity in England, when carrying out their normal functions.
- 12.2.8 Government has published standing advice (Natural England and Department of Environment, Food and Rural Affairs (Defra), 2015) to guide decision-makers on the determination of proposals with potential to affect protected species such as reptiles. The guidance sets out responsibilities and minimum requirements for reptile survey and mitigation.
- 12.2.9 The Overarching National Policy Statement for Energy (EN-1) addresses protected species and species of principal importance, including reptiles, within Part 5.3. This requires that the applicant shows how the project has taken advantage of opportunities to conserve and enhance such species. This report supports this requirement by providing baseline information on reptiles within the Site boundary.





12.3 Methods

Desk Study

- 12.3.3 A desk study was carried out as part of the Preliminary Ecological Assessment (PEA) (Appendix 12C, ES Volume III, Document Ref. 6.4) that was completed in advance of the reptile surveys and informed the scoping of requirements for further surveys.
- 12.3.4 Desk study results of relevance to the assessment have been carried forward into this report, where appropriate this data is presented in more detail or re-interrogated for the needs of the current assessment.

Reptile Presence/ Absence Survey

12.3.5 The 2018 and 2020 reptile surveys were undertaken in accordance with good practice guidance as detailed in Froglife (1999), with reference to Gent and Gibson (1998). The methods employed comprised a combination of Artificial Refuge Survey (ARS) and Visual Encounter Surveys (VES).

2018 Reptile Presence/Absence Survey of the PCC Site

12.3.6 A total of seven survey visits were undertaken during suitable weather conditions to meet the minimum requirements for determining reptile presence, as detailed in Table 12E-1. Survey times reflect the temperature conditions on each visit.

Visit	Survey Date	Maximum Temperature (°C)	Wind Speed (Beaufort)	Cloud	Weather	Survey Times
1	21/08/18	18	1	8	Light drizzle	09:00 - 12:00
2	04/09/18	13	3	8	Dry	09:00 - 12:00
3	11/09/18	13	2	Patchy cloud	Dry	09:00 - 12:00
4	18/09/18	12	2-3	8	Dry	09:00 - 12:00
5	25/09/18	10	1	0	Dry	09:00 - 12:00
6	02/10/18	13	1	6-7	Dry	09:00 - 12:00
7	09/10/18	13	1	8	Dry	09:00 - 12:00

Table 12E-1: Dates and Weather Conditions for the Survey Visits in 2018

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = 8 completely covered (overcast).

12.3.7 The survey covered all areas required for the construction of the PCC Site and adjacent land (the boundary for the PCC Site was not fixed at the time





of survey) considered to offer potentially suitable habitat¹ for reptiles. For the purposes of the ARS,153 artificial refuges consisting of roofing felt 'tiles', each approximately 1 m² in size were placed throughout the suitable habitat on 8th August 2018. This total broke down as 38 refuges in Plot A and 25 in Plot B (located within or partially within the Site boundary respectively), and 50 in Plot C and 40 in Plot D (both of which are areas excluded from the final Site boundary). Figure 12E.1 shows the locations of the survey plots and the distribution of artificial refuges within these.

- 12.3.8 The artificial refuges were left to settle for a minimum period of two weeks before being checked for the first time. Each refuge was checked seven times during suitable weather conditions. On each survey occasion, each tile was inspected for the presence of live reptiles and signs of reptiles such as sloughed skin.
- 12.3.9 The VES involved surveyors slowly walking a route between the locations of the artificial refuges and scanning the vegetation present for reptiles. These walked routes included, as far as practicable, a range of suitable vegetation types, south facing banks and suitable natural and artificial refuges and basking areas. During this aspect of the survey, existing refuges already present on site (e.g. logs and discarded tyres) were also inspected for reptiles and signs of reptiles and any incidental observations of reptiles were recorded.

2020 Reptile Presence/Absence Survey of Coatham Sands

12.3.10 A total of seven survey visits were undertaken during suitable weather conditions to meet the minimum requirements for determining reptile presence, as detailed in Table 12E-2. Survey times reflect the temperature conditions on each visit. The survey was undertaken by two ecologists to ensure all relevant habitats were inspected on each visit while temperatures and weather conditions remained optimal for survey.

Visit	Survey Date	Maximum Temperature (°C)	Wind Speed (Beaufort)	Cloud Cover (Oktas)	Weather	Survey Times
1	02/06/20	19	1	2 to 6	Warm, patchy cloud, dry	09:15 – 11:30
2	09/06/20	14	1	2 to 4	Mild, fine, dry	09:00 – 11:05
3	18/06/20	14	1 to 2	8	Mild, overcast, dry	09:10 – 10:50
4	25/06/20	19	2	0	Warm, fine, dry	08:00 – 09:25
5	01/07/20	14	1	7	Mild, cloudy, dry	09:00 – 10:30
6	08/07/20	15	1 to 2	6	Mild, cloudy, dry	08:00 - 10:00

Table 12E-2: Dates and Weather Conditions for the Survey Visits in 2020

¹ Suitable Habitat for reptiles: south facing banks and hedgerows for hibernation and basking sites, piles of rock / debris for shelter and basking sites, permanent varied grassland structure and a healthy understorey to provide food and burrowing for lizards. (Gent & Gibson,1998).





Visit	Survey Date	Maximum Temperature (°C)	Wind Speed (Beaufort)	Cloud Cover (Oktas)	Weather	Survey Times
7	14/07/20	17	2	2 to 4	Warm, patchy cloud, dry	09:00 - 12:00

Beaufort wind force scale: 0 = no wind, 1 = light air smoke drifts, 2 = light breeze leaves rustle, 3 = gentle breeze small twigs move, 4 = moderate breeze small branches move, 5 = fresh breeze small trees sway, 6 = strong breeze large branches move, 7 = moderate gale whole trees in motion.

Oktas scale: 0 = complete absence of cloud (fine), 1 = cloud amount of 1 eighth or less, but not zero (fine), 2 = 2/8 of sky covered (fine), 3 = 3/8 of sky covered (partly cloudy), 4 = 4/8 of sky covered (partly cloudy), 5 = 5/8 of sky covered (partly cloudy), 6 = 6/8 of sky covered (cloudy), 7 = 7/8 of sky covered (cloudy), 8 = 8 completely covered (overcast).

- 12.3.11 For the purposes of the ARS, a total of 155 artificial reptile refuges (roofing felt tiles measuring approximately 0.5 m²) were placed in the most suitable reptile habitat across the Coatham Sands survey area, encompassing a variety of different vegetation types and ground conditions (approximately 30 ha in total). The locations of the artificial refuges are shown on Figure 12E.1.
- 12.3.12 The number of refuges placed within Coatham Sands complied with the published guidance which advises a minimum of five to 10 refuges per hectare of suitable reptile habitat. However, they were not distributed across all of the relevant area of Coatham Sands, as this was too large to survey in its entirety and much of the habitat present was assessed to be of suboptimal quality for reptiles. Instead, the distribution of the refuges was clustered within areas of habitat most suitable for reptiles and avoided suboptimal areas such as extensive bare compacted stony substrates, as well as areas of early succession sand dune habitat, very rank grassland and dry reedbed, and wet or inundated ground.
- 12.3.13 Refuges were positioned where they would receive direct sun in the morning to warm up. The refuges were set out on 20th May 2020 and left to bed in for a period of two weeks prior to the first reptile survey being undertaken.
- 12.3.14 The VES involved surveyors slowly walking a route between the locations of the artificial refuges and scanning the vegetation present for reptiles. These walked routes included, as far as practicable, a range of suitable vegetation types, south facing banks and suitable natural and artificial refuges and basking areas.

Nature Conservation Evaluation Approach

12.3.15 An essential prerequisite step to allow EcIA of the Proposed Development is an evaluation of the relative nature conservation value of the identified ecological features (encompassing nature conservation designations, ecosystems, habitat and species). This is necessary to set the terms of reference for ecological impact assessment. This first step is set out in this report. The formal impact assessment of the Proposed Development in relation to reptiles is provided in Chapter 12: Terrestrial Ecology and Nature Conservation, ES Volume I, Document Ref. 6.2.





- 12.3.16 The method of evaluation that has been utilised has been developed with reference to the Chartered Institute of Ecology and Environmental (CIEEM) *Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater and Coastal and Marine* Second Edition (CIEEM, 2019). These give advice on scoping and carrying out environmental assessments and place appraisal in the context of relevant policies. Data received through consultation, desk-based studies and field-based surveys are used to allow ecological features of nature conservation value or potential value to be identified, and the main factors contributing to their value described and related to available guidance. These data can also be used to identify other relevant values e.g. socio-economic or ecosystem services values, but this is beyond the remit of this report and requires the involvement of other relevant specialists.
- 12.3.17 The value of a faunal species, such as reptiles, may relate, for example, to geographic location (species may be rare and more valued towards the edge of their geographic range), the extent to which the species is threatened throughout its range, or to its rate of decline. Where confirmed as present, the value of the reptile population associated with the site has been defined with reference to the geographical level at which it is considered to matter. This assessment has been made with reference to published guidance and criteria where available e.g. criteria to assess relative value within the context of Tees Valley are given by Tees Valley Nature Partnership (2010).

Limitations

- 12.3.18 There are no limitations to the survey work undertaken. The surveys were completed in appropriate weather conditions and were completed in the appropriate survey seasons.
- 12.3.19 While a number of artificial refuges disappeared over the course of the 2020 survey (less than 5) the required minimum survey effort was met (i.e. five to 10 refuges per hectare of suitable habitat).





12.4 Results

Desk Study

- 12.4.3 The Environmental Records Information Centre North East held no records for Coatham Sands but returned several records of common lizard for land located close to Coatham Sands. This included a 2017 record from Coatham Green which is connected via suitable habitats to Coatham Sands.
- 12.4.4 Data provided by the Industry Nature Conservation Association (INCA) provided a 2019 record of common lizard from South Gare immediately adjacent to Coatham Sands. In addition, survey reports provided by INCA identify previous records of small numbers of common lizard in association with nearby land to the south of Coatham Sands, between the PCC Site and Warrenby.

2018 Survey of the PCC Site

12.4.5 A single juvenile common lizard was recorded from Plot C during the survey on the 2nd October 2018 (national grid reference NZ 5736 2452). This location is outside the Site boundary. No other reptiles were found during the survey.

2020 Survey of Coatham Sands

- 12.4.6 Common lizard was recorded during four of the seven survey visits as detailed in Table 12E-3. In addition, a single incidental sighting of a common lizard was made in the area of scrub and grassland between Cleveland Golf Links and the road located approximately at NZ 574 254 during a terrestrial invertebrate survey on 3rd June 2020. No other reptile species were recorded.
- 12.4.7 A peak count of two common lizards was recorded during any one survey visit. It is considered, after reviewing the locations of the records made and with the assumption that individual lizards remain reasonably faithful to specific locations, that up to six different common lizards were recorded over the course of the seven reptile survey visits.
- 12.4.8 The number of common lizards recorded is consistent with definitions of a 'good' population size class (survey counts of five to 20 common lizards, after Froglife, 1999), but confidence in this assessment is low as considered in more detail in Section 12.5 of this report.





Visit	Reptiles Seen (Y/N)	Species	Number of Individuals	Reptile Location (as shown on Figure 12E.1)
1	Ν	-	-	-
2	Y	common lizard	1	Under refuge 136
3	Y	common lizard	2	One under each of refuges 2 and 89
4	Ν	-	-	-
5	Y	common lizard	2	One under refuge 139, one on top of refuge 141
6	Ν	-	-	-
7	Y	common lizard	1	Under refuge 154

Table 12E-3: Results of the Reptile Presence/Absence Survey





12.5 Conclusions

- 12.5.3 The results of the 2018 reptile survey identified a low population size class of common lizard within land adjacent to but outside the Site boundary. This land is separated from the PCC Site (the main focus for the proposed construction activities) by the watercourse known as 'The Fleet'.
- 12.5.4 The results of the 2020 reptile survey confirmed the presence of a good population size class of common lizard within the Site boundary at Coatham Sands.
- 12.5.5 Regardless of the distribution of survey observations of common lizard, it should be assumed that common lizards could occur in all areas of favourable habitat within Coatham Sands. The extent of favourable habitats and the often complex (undulating broken ground with numerous inaccessible refuges) ground conditions at this location makes this species challenging to survey for. The species may be present elsewhere at levels below the limits of detection using the survey methods described. Given this, the survey results are not sufficient to conclude likely absence from suitable habitats where common lizard was not found.
- 12.5.6 The relative nature conservation value of the identified common lizard population associated with Coatham Sands also requires further assessment. There is no requirement to value the population recorded from land near the PCC Site given this population is not specifically relevant to the Proposed Development.
- 12.5.7 The common lizard population at Coatham Sands is located within the boundary of Teesmouth and Cleveland Coast SSSI, but the SSSI is not designated for common lizard. Following review of the relevant national guidance (Joint Nature Conservation Committee, 1989) it is confirmed that the common lizard population of Coatham Sands does not meet criteria for selection as a feature of interest of the SSSI. Therefore, the nature conservation value of the common lizard population at Coatham Sands is considered to be of less than national value.
- 12.5.8 Guidelines for the identification of Local Wildlife Sites (LWS) for reptiles, and therefore providing proxy guidance for the identification of sites of county value for reptiles, is provided in Tees Valley Nature Partnership (2010). This advises that any site located outside the North York Moors natural area (so relevant to Coatham Sands) which supports an established population of a native reptile is eligible for selection as an LWS. In this context, established means the existence of records that confirm the presence of reptiles for more than one year.
- 12.5.9 The combined desk study and reptile survey results demonstrate that common lizard is established at Coatham Sands. Therefore, given the availability of established guidelines and the data available, Coatham Sands must be considered to be of county value for common lizard.





12.6 References

Durkin, J. (2016) *Reptile Atlas of North-East England 2016*. Available from: <u>https://www.arguk.org/info-advice/survey-and-monitoring/250-reptile-atlas-of-north-east-england-2016</u> [accessed August 2020].

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

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Natural England and Defra (2015) *Reptiles: Survey and Mitigation for Development Projects*. Available from: <u>https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences</u> [accessed July 2020].

Tees Valley Nature Biodiversity Partnership (2010). *Guidelines for the Selection of Local Wildlife Sites in the Tees Valley.* Available from: <u>https://teesvalleynaturepartnership.org.uk/wp-</u>content/uploads/2012/11/LWS-Guidelines-V7.pdf [accessed July 2020].







Figure 12E-1: Survey Areas and Observations of Common Lizard









PROJECT

6

NET ZERO TEESSIDE

CLIENT

NZT POWER AND NZNS STORAGE

KEY

- Site Boundary
- Power, Capture and Compressor Site

Quants 2018 Survey

Reptile Survey Plot

Artificial Refuge Location

Artificial Refuge Location - Reptile Recorded •

AECOM 2020 - Survey

- Artificial Refuge Location
- Artificial Refuge Location Reptile Recorded

TITLE

FIGURE 12E-1 SURVEY AREA AND OBSERVATIONS OF COMMON LIZARD

REFERENCE NZT_201221_RR_12E-1_v3

SHEET NUMBER 1 of 1

DATE 21/12/2020

Warrenby