

MONA OFFSHORE WIND PROJECT

Environmental Statement

Volume 7, Annex 3.7: Reptile survey technical report

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Image of an offshore wind farm

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Glossary

Term	Meaning
Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.

Acronyms

Acronym	Description
Defra	Department for the Environment, Food & Rural Affairs
EWG	Expert Working Group
GPS	Global Positioning System
JNCC	Joint Nature Conservation Committee
MAGIC	Multi-Agency Geographic Information for the Countryside
MLWS	Mean Low Water Springs

Units

Unit	Description
°C	Degree Celsius
ha	Hectare
mph	Miles per hour
km	Kilometre

1 Reptile survey technical report

1.1 Introduction

- 1.1.1.1 This document forms Volume 7, Annex 3.7: Reptile survey technical report of the Environmental Statement for the Mona Offshore Wind Project.
- 1.1.1.2 The purpose of this technical report is to present the results of the reptile surveys undertaken between August and October 2023 to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement.
- 1.1.1.3 Two separate areas have been defined for the purposes of this technical report. These include the 'study area', which describes the geographical extent subject to desk based research, and the 'survey area', which describes the area of land subject to site-specific surveys. The extent of the study area and the survey area were selected to ensure data was collected for the Mona Onshore Development Area and the surroundings that may support reptiles and may reasonably be affected by the Mona Offshore Wind Project. The extent of the study area and the survey area were discussed and agreed with the onshore ecology EWG.

1.2 Study area

- 1.2.1.1 The study area for reptiles comprises the Mona Onshore Development Area, landward of Mean Low Water Springs (MLWS) and a 2 km buffer ('the reptile study area').
- 1.2.1.2 The location and geographic extent of the reptile study area is presented in Figure 1.1 of this technical report.

1.3 Survey area

- 1.3.1.1 Following the commencement of reptile surveys, the Mona Onshore Development Area has been refined and now occupies a smaller geographical area. As such, the area of land subject to reptile surveys ('the reptile survey area') extends beyond the current iteration of the Mona Onshore Development Area. The results from surveys undertaken beyond the Mona Onshore Development Area (i.e. surveys undertaken based on an earlier design iterations) have been included in this technical report because they provide further context regarding the ecological sensitivity of the wider area and to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement (where relevant). All the ecological data collected as part of the Environmental Statement for the Mona Offshore Wind Project has been made publicly available through the relevant data records centre.
- 1.3.1.2 Adopting a survey area that is greater in extent than the Mona Onshore Development Area is in accordance with the precautionary approach. It ensures that the Environmental Statement is accurately informed with data from within the Mona Onshore Development Area (i.e. that may be subject to direct impacts) and data from outside the Mona Onshore Development Area (i.e. that may be subject to indirect impacts).
- 1.3.1.3 The location and geographic extent of the reptile survey area is presented in Figure 1.1 of this technical report.

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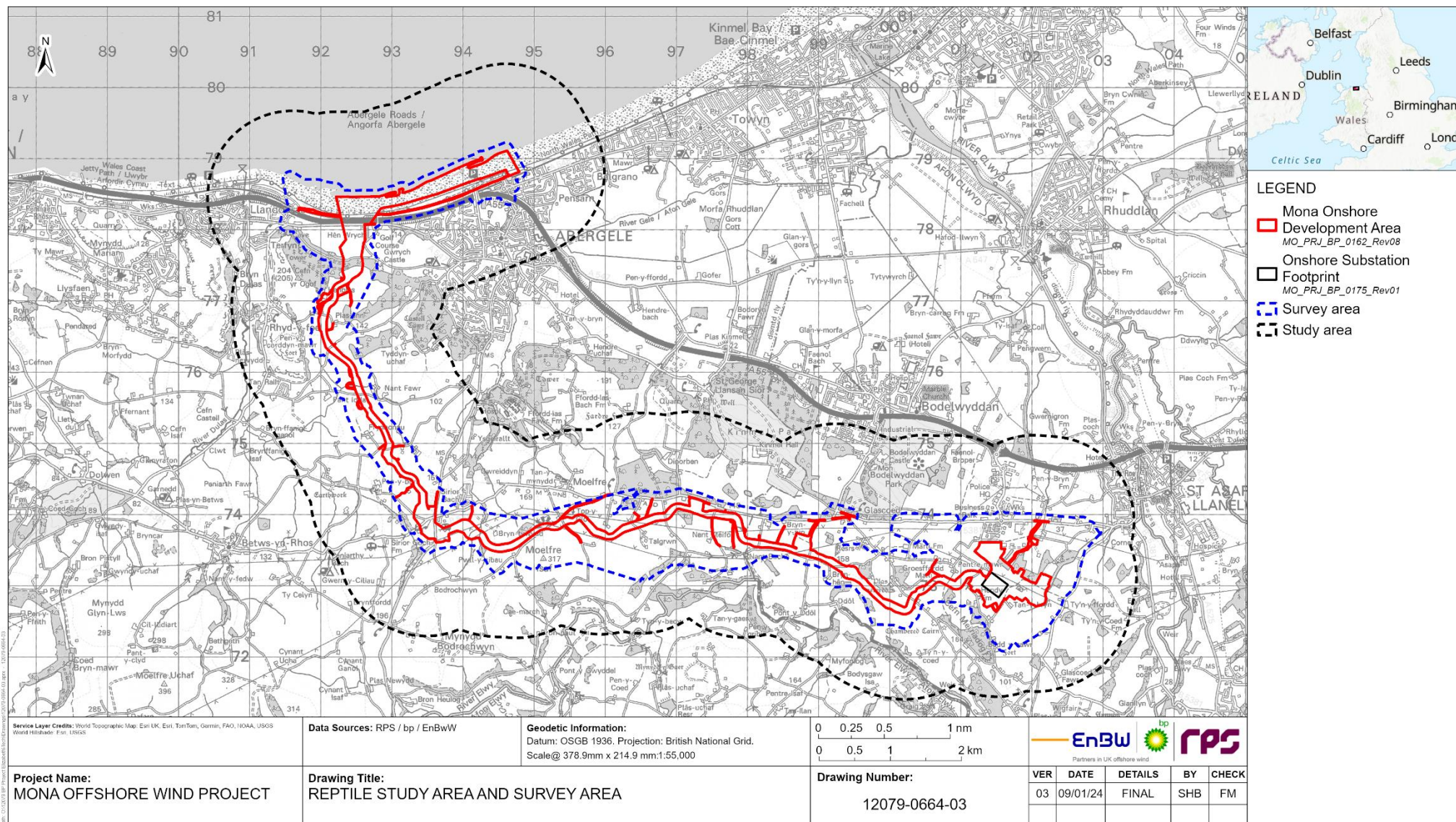


Figure 1.1: The reptile study area and survey area.

1.4 Relevant legislation

- 1.4.1.1 Two key pieces of legislation are relevant for common reptile species under Welsh and UK law: the Wildlife and Countryside Act 1981 (as amended), and the Environment (Wales) Act 2016.
- 1.4.1.2 All common UK reptile species, comprising adder *Vipera berus*, grass snake *Natrix Helvetica*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis* are protected under Sections 9(1) and 9(5) of the Wildlife and Countryside Act 1981 (as amended). Sections 9(1) and 9(5) of the Wildlife and Countryside Act 1981 (as amended) prohibit the following with respect to reptiles:
- Intentional or reckless injuring or killing
 - Selling, offering, or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from, such an animal
 - Publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things.
- 1.4.1.3 Slow worm, common lizard, grass snake and adder are also afforded due regard in the planning system in Wales by the Environment (Wales) Act 2016, Section 7. These species are listed as a Species of Principal Importance (SPI), giving public bodies and local planning authorities a legal duty to have regard for conserving a SPI when exercising their duties.

1.5 Consultation

- 1.5.1.1 The scope, methodology and findings of reptile surveys, including those undertaken beyond the current Mona Onshore Development Area, were discussed and agreed with stakeholders via regular Onshore Ecology Expert Working Group (EWG) meetings. Further detail regarding consultation undertaken with respect onshore ecology, including reptile surveys can be found in Volume 3, Chapter 3: Onshore ecology of the Environmental Statement and the Consultation Report (Document reference E.3).

1.6 Methodology

1.6.1 Overview

- 1.6.1.1 A combination of desk studies and site-specific surveys were undertaken to establish the likely presence or absence of reptiles within the reptile survey area.
- 1.6.1.2 The results of the onshore ecology desktop study are presented in Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement and summarised in section 1.7.1 below. The results of the reptile surveys are presented in section 1.7.2 below.

1.6.2 Desk study

- 1.6.2.1 Historical reptile data within the reptile study area was collected from existing studies and datasets. The sources of data are summarised in Table 1.1 below.

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Table 1.1: Summary of desktop study sources.

Title	Source	Year	Author
Historical biological records	Cofnod	2023	Cofnod
DataMapWales	Welsh Government	2023	Welsh Government
Multi-Agency Geographic Information for the Countryside (MAGIC)	Department for the Environment, Food & Rural Affairs (Defra)	2023	Defra
UK Protected Area Joint Nature Conservation Committee (JNCC)	JNCC website	2023	JNCC

1.6.3 Site-specific surveys

Extended phase 1 habitat surveys

- 1.6.3.1 Extended phase 1 habitat surveys were undertaken to identify habitats likely to support reptiles and therefore, which should be subject to further surveys (see Volume 7, Annex 3.2: Extended phase 1 habitat surveys technical report of the Environmental Statement).

1.6.4 Reptile surveys

- 1.6.4.1 All habitat suitable to support reptiles within the reptile survey area was scoped in for detailed presence or likely absence surveys. Habitat suitable to support reptiles includes grassland, heathland, sand dunes, open woodland, brownfield sites and private gardens. Suitable habitat is usually well connected to other suitable habitats, e.g. via hedgerows, and includes areas for shelter, e.g. log piles and areas for foraging. Habitats or groups or connected habitats that were identified as being suitable to support common reptiles are henceforth referred to as a 'site'.

Presence or likely absence surveys

- 1.6.4.2 Presence or likely absence surveys were undertaken in accordance with the guidelines set out in Reptile survey; an introduction to planning, conducting, and interpreting surveys for snake and lizard conservation (Froglife, 1999), and Herpetofauna Workers manual (Gent and Gibson, 2003). All field surveyors were suitably trained and experienced in undertaking the survey methodologies set out in the following sections of this report.
- 1.6.4.3 At each site scoped in for a reptile survey, a combination of corrugated iron and roofing felt refugia were placed in habitat identified as being suitable for reptiles. The roofing felt refugia measured a minimum of 0.5 m x 0.5 m and the corrugated metal refugia measured a minimum of 1 m x 1 m, as per the Froglife reptile survey guidelines. An example of the felt refugia used is presented in Figure 1.2. A ratio of 50% corrugated iron to 50% roofing felt was used at all surveyed sites. The larger metal refugia are more frequently used by grass snake for shelter and basking than the smaller felt refugia, which therefore increased the likelihood of detecting grass snake. Grass

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preferred habitat is open woodland or edge habitat e.g. field margins but they also frequent habitat close to wetlands or grassland with ponds.



Figure 1.2: Example of the reptile refugia used for the presence or likely absence surveys.

- 1.6.4.4 In non-linear habitats, such as grassland, artificial reptile refugia were placed at a density of at least 100 per hectare, where possible. Along linear habitats, such as hedgerows and road verges, refugia were placed at approximately 10 m intervals.
- 1.6.4.5 The exact location of reptile refugia was subject to the professional judgement of the surveyor. Optimum habitat was preferentially selected and areas of high disturbance, including areas with high livestock use were generally avoided, where practicable.
- 1.6.4.6 All artificial reptile refugia were numbered and their location was recorded using Global Positioning System (GPS). The artificial refugia were left to settle on site for at least 14 days prior to the first check taking place. This gave sufficient time for any non-natural smells on the refugia to dissipate and for the reptiles to find them.
- 1.6.4.7 Where access was possible, each artificial reptile refugia was checked for reptiles on seven occasions during September and October 2023. In addition, a minimum period of 48 hours was allowed to elapse before each artificial reptile refugia check was undertaken.

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- 1.6.4.8 Each refugia was checked by the surveyor between 7am and 6pm when the air temperature was between 10°C to 20°C, there was little or moderate wind (equivalent to the Beaufort scale 4; 13 to 17 mph) and when it was dry. Surveys between periods of heavy rain, when all other conditions were suitable, were considered acceptable as reptiles are known to be active between rain showers if conditions are sufficiently warm and not too wet or flooded.
- 1.6.4.9 During each survey the artificial reptile refugia were checked first from a distance to avoid disturbing any reptiles that may have been warming themselves on the refugia. Binoculars were used to aid this assessment, after which each refugia was slowly lifted to confirm the presence or absence of reptiles beneath it.
- 1.6.4.10 All reptiles observed were recorded, inclusive of their species, the number of individuals, their life stage (adult, subadult, juvenile), the sex (where possible), the site, and artificial reptile refugia number.
- 1.6.4.11 Any sightings or evidence of reptiles recorded during the other onshore ecology surveys used to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement were recorded as incidental records using GPS.

Limitations

- 1.6.4.12 One of the 15 sites suitable to support common reptile species, site 2, was not subject to the requisite seven survey visits because of the presence of livestock. Four sites, (sites 3, 5, 6 and 10) were not surveyed because of access restrictions. The reptile survey results, including the number of survey visits undertaken at each site are provided in Appendix A of this technical report.
- 1.6.4.13 Given the extent of the remaining survey coverage and the low numbers of common reptiles recorded at a small number of sites, it is very likely that only low numbers of common reptiles are present throughout the Mona Onshore Development area. As such, this assessment adopts the precautionary approach and assumes that low numbers of common reptiles' species are present throughout the Mona Onshore Development area and therefore the survey effort is considered suitable for assessment.

1.7 Results

1.7.1 Desk study results

- 1.7.1.1 All common reptiles are native to Wales and present throughout the country, including north Wales. Common species include common lizard, slow worm, grass snake and adder. Each species has however, suffered population declines, largely due to habitat loss and habitat fragmentation.
- 1.7.1.2 The desk study confirmed 30 records of reptiles within the reptile study area, i.e. within 2 km of the Mona Onshore Development Area. Three species of reptile had historically been recorded in the reptile study area between 2010 and 2013, grass snake, common lizard and slow worm. All 30 records were located outside of the Mona Onshore Development Area. Notably, a large population of grass snake and slow worm were present north and northeast of the Onshore Substation respectively. Records of common lizard were located near to the northeast and southwest boundary of the reptile study area but beyond the 2 km buffer. The records are summarised in Table 1.2 below and record locations are presented in Annex 3.1: Onshore ecology desk study.

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Table 1.2: Reptile records within 2 km of the Mona Onshore Development Area.

Taxon name	Common name	Date and number of records	Distance from the Mona Onshore Development Area
<i>Natrix helvetica</i>	Grass snake	7 records from 2011 to 2022	0 – 0.5 km
<i>Triturus cristatus</i>	Common lizard	6 records from 2011 to 2021	1 – 1.5 km
<i>Anguis fragilis</i>	Slow worm	17 records from 2010 to 2023	0.2 – 2 km

1.7.2 Site-specific surveys

Presence or likely absence surveys

- 1.7.2.1 A total of 15 sites within the reptile survey area were identified as being suitable to support reptiles and were subsequently surveyed, where access was available. Thirteen of the sites were within the Mona Onshore Development Area. Access was not granted for four of the sites (sites 3, 5, 6 and 10) and access was restricted at site 2 due to livestock.
- 1.7.2.2 At least five reptiles were recorded comprising two species during the multiple field surveys. Two grass snake were recorded at site 14, an adult and a hatchling. At least three slow worm were recorded at site 9 during multiple field surveys. Slow worm were recorded seven times at site 9 but four of the records were of an adult female with a missing tail during different field surveys, and was subsequently assumed to be the same individual. All of the records at site 9 were from two refugia. A summary of the results are presented in Table 1.3 and Figure 1.3 to Figure 1.6 below. The full results of reptile presence or likely absence surveys are provided in Appendix A of this technical report.
- 1.7.2.3 Due to the presence of juvenile slow worm at site 9 and hatching grass snake at site 14, breeding populations of both species have been confirmed.

Table 1.3: Summary of reptile presence or likely absence surveys.

Site No.	Date	Species	Number of individuals	Sex	Life stage
9	15/09/2023	Slow worm	2	Female Unknown	Adult Sub adult (juvenile)
9	22/09/2023	Slow worm	1	Female	Adult (missing tail)
9	25/09/2023	Slow worm	1	Female	Adult (missing tail)
9	27/09/2023	Slow worm	1	Female	Adult
9	29/09/2023	Slow worm	1	Female	Adult (missing tail)
9	03/10/2023	Slow worm	1	Female	Adult (missing tail)

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Site No.	Date	Species	Number of individuals	Sex	Life stage
14	20/09/2023	Grass snake	1	Unknown	Hatchling
14	27/09/2023	Grass snake	1	Male	Adult

- 1.7.2.4 Two common lizards were incidentally recorded at site 5 on 08 September 2023. The incidental recordings were made by project ecologists but not during the reptile surveys.

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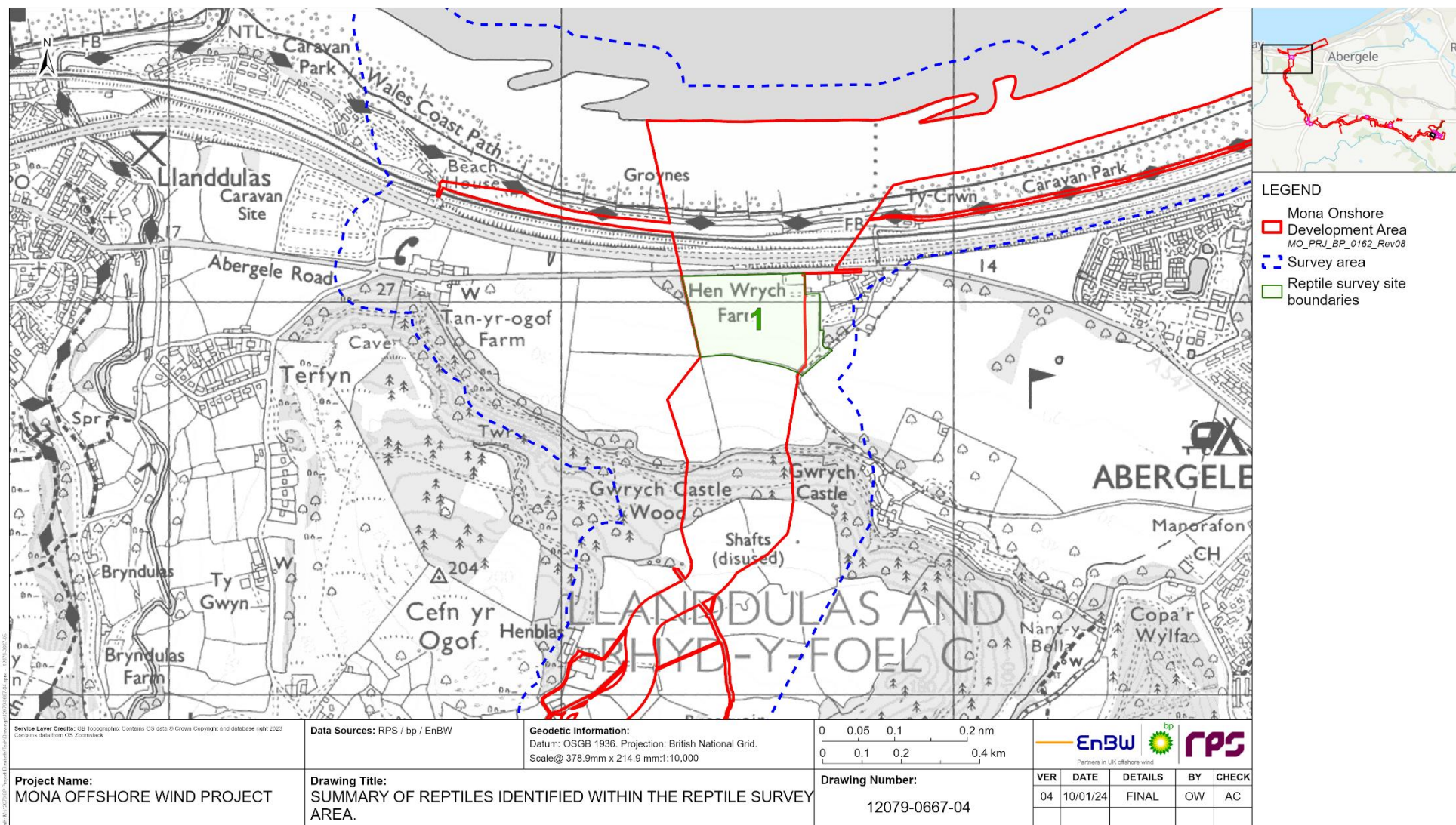


Figure 1.3: Results of the reptile presence or likely absence surveys undertaken in the reptile survey area.

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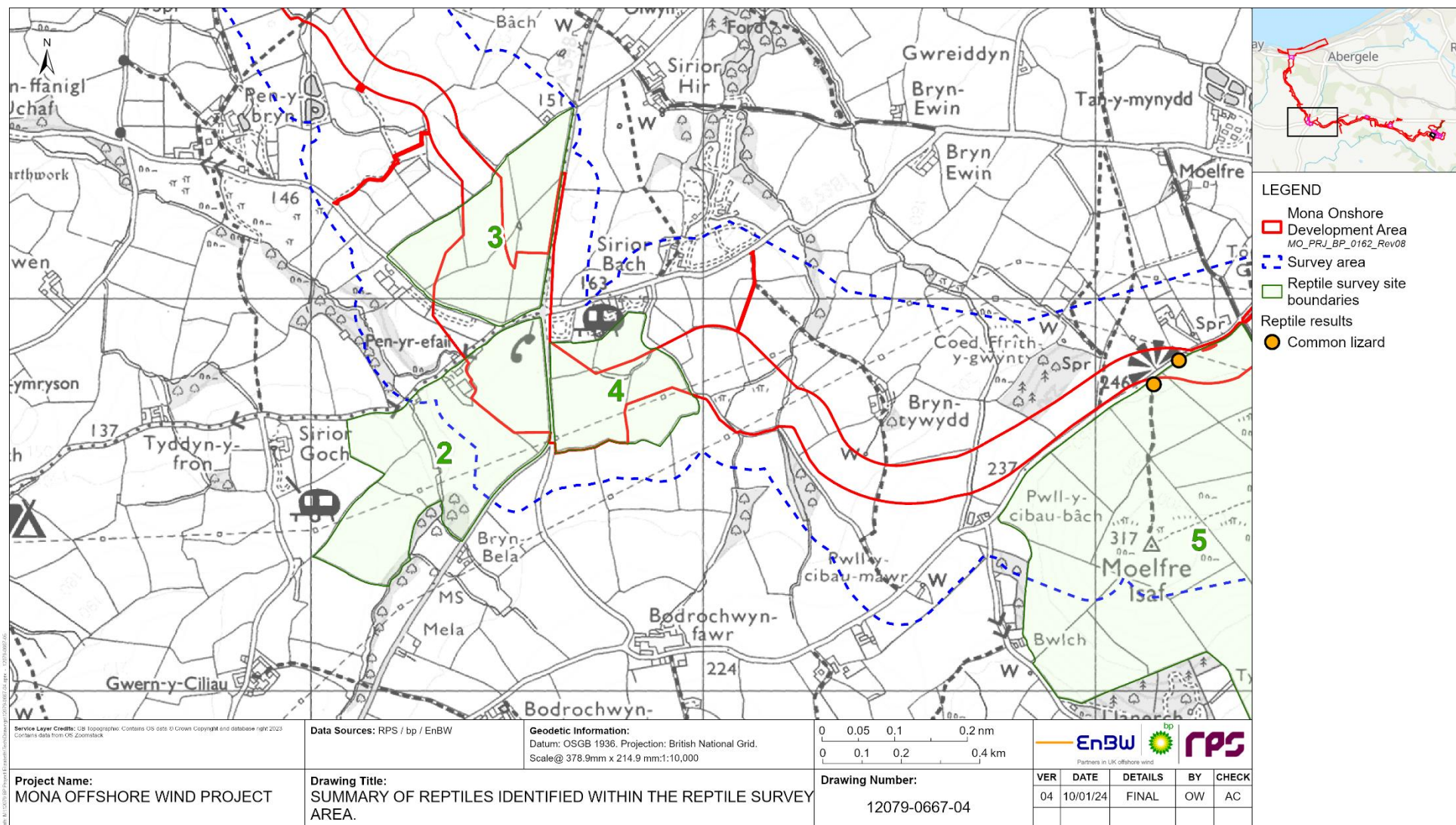


Figure 1.4: Results of the reptile presence or likely absence surveys undertaken in the reptile survey area.

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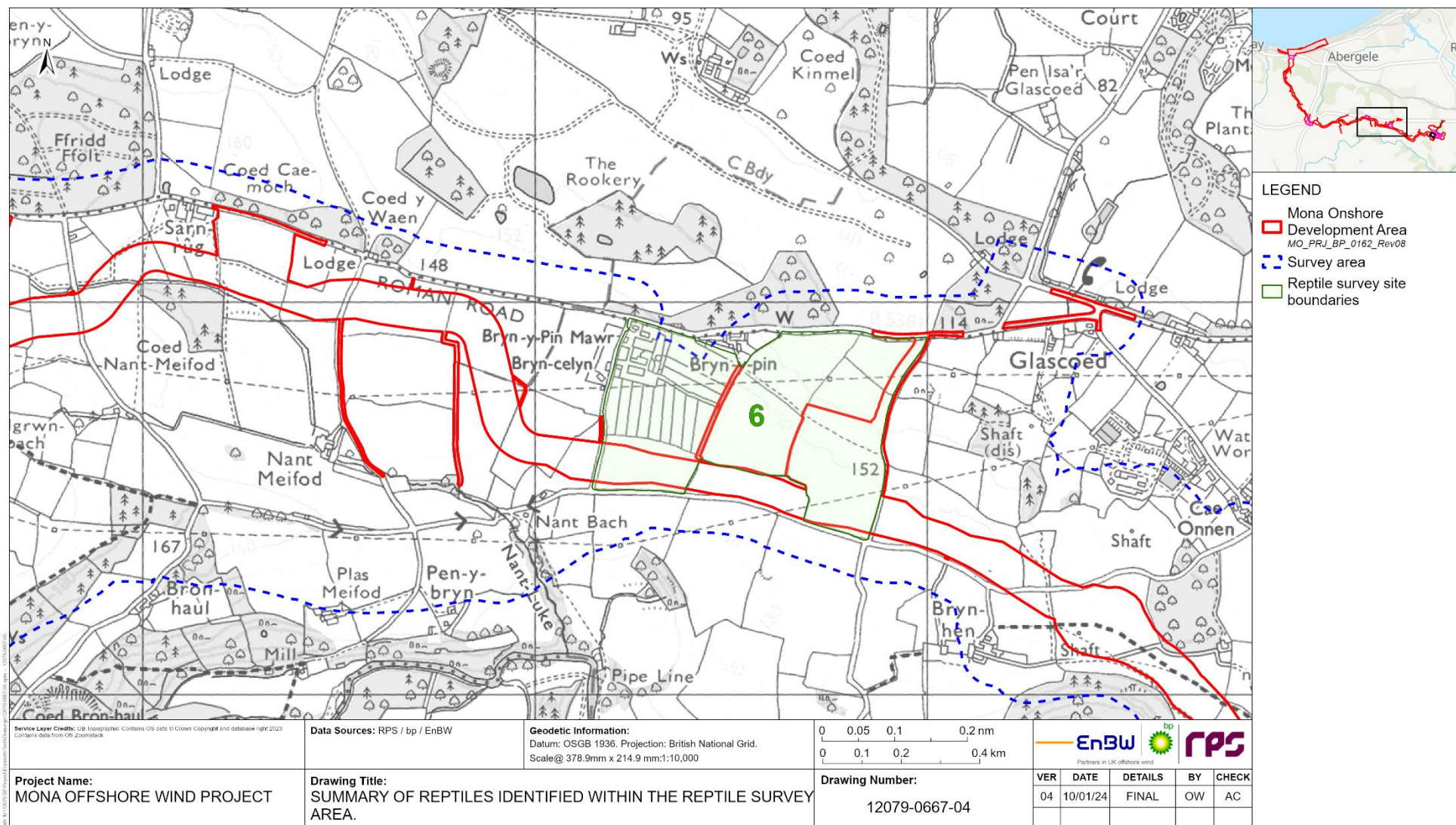


Figure 1.5: Results of the reptile presence or likely absence surveys undertaken in the reptile survey area.

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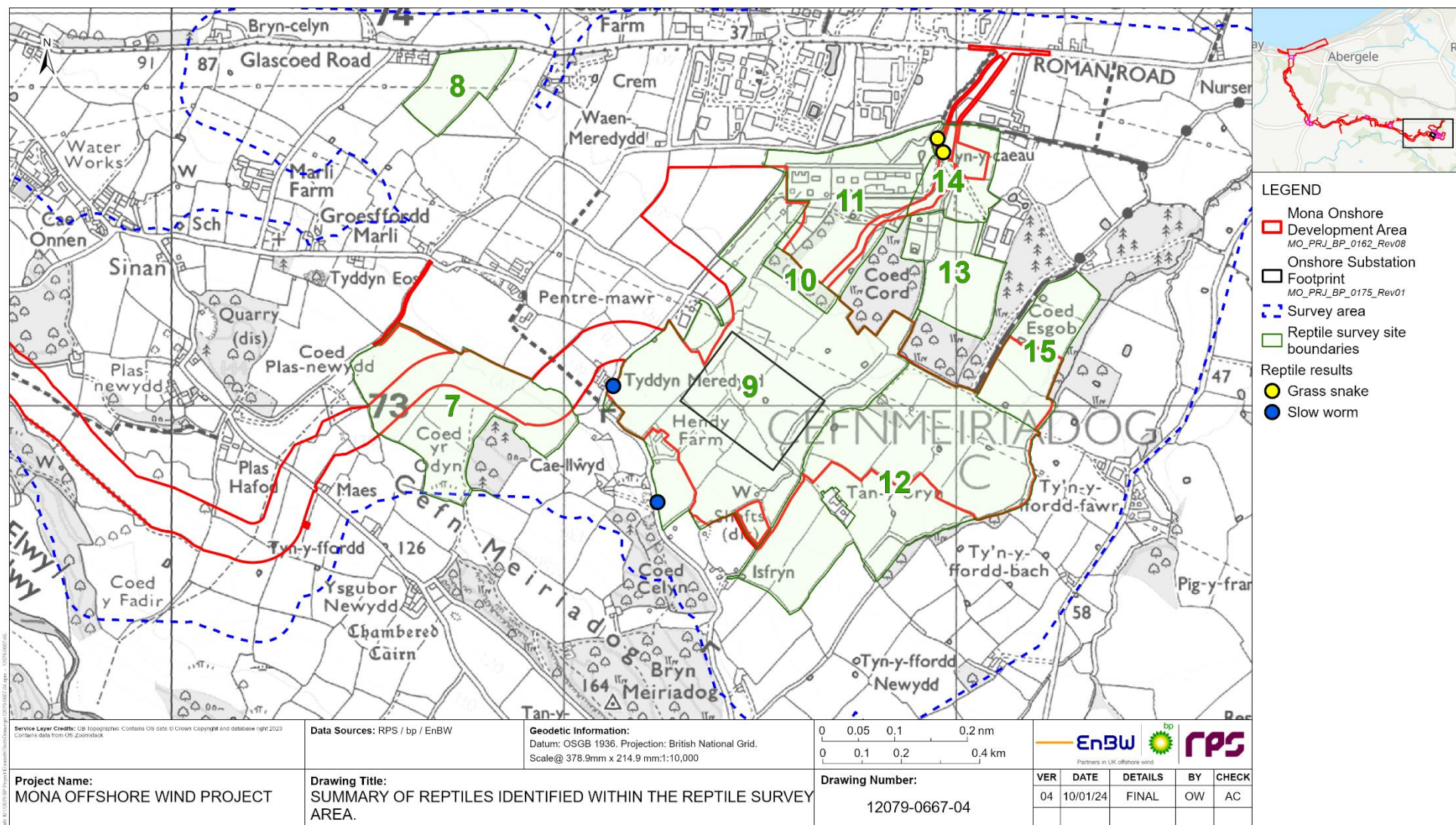


Figure 1.6: Results of the reptile presence or likely absence surveys undertaken in the reptile survey area.

1.8 Summary

- 1.8.1.1 This technical report presents the results of the reptile presence or likely absence surveys undertaken between September and October 2023 to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement.
- 1.8.1.2 Common reptile species are native and recorded throughout Wales, but populations of all common reptile species are in decline. The desk study returned 30 historic records of reptiles, comprising grass snake, common lizard and slow worm, within the reptile study area. Notably, a large population of grass snake and slow worm north and northeast of the Onshore Substation respectively. No records were from within the Mona Onshore Development Area.
- 1.8.1.3 Ten of the 15 sites suitable to support common reptile species were subject to the requisite seven survey visits. four sites were not surveyed at all and one site was subject to partial survey effort. The precautionary approach has been adopted, and low numbers of common reptiles' species are assumed to be present throughout the Mona Onshore Development Area.
- 1.8.1.4 Of the sites surveyed, reptiles were recorded at two sites, site 9 and site 14. The results comprised at least three slow worm at site 9 and two grass snake, one adult male and one juvenile at site 14. Two incidental records of common lizard were also recorded at site 5.
- 1.8.1.5 Overall, therefore three species of reptile were recorded within the reptile survey area; grass snake, slow worm and common lizard, comprising at least seven individuals. Reptiles were confirmed likely absent at the time of survey at all other sites.

1.9 References

- CIEEM (2017), Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management, Winchester
- Froglife (1995) Reptile survey; an introduction to planning, conducting, and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.
- Gent, T., and Gibson, S. 9eds) (2003) Herpetofauna Workers manual. JNCC, Peterborough.
- Herpetofauna Groups of Great Britain and Ireland (1998). Evaluating local mitigation/translocation programmes. Maintaining best practice and lawful standards. HGBI, Halesworth.

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Appendix A: Reptile survey results

Apx Table 1: Reptile survey results.

Site No.	Survey visits	Date	Number of refugia	Species	Number of individuals	Sex	Life stage	Notes
1	7	October 2023	68	None	None	None	None	Reptiles likely absent
2	2	September – October 2023	19	None	None	None	None	Survey incomplete
3	0	September – October 2023	69	None	None	None	None	No access
4	7	September – October 2023	60	None	None	None	None	Reptiles likely absent
5	0	September 2023	N/A	Common lizard	2	N/A	N/A	No access but common lizard confirmed from incidental records
6	0	None	62	None	None	None	None	No access
7	7	September – October 2023	7	None	None	None	None	Reptiles likely absent
8	7	September 2023	23	None	None	None	None	Reptiles likely absent
9	7	September – October 2023	68	Slow worm	3 (at least)	2 x female 2 x unknown	1 x adult 2 x sub-adult	Breeding slow worm confirmed present
10	0	September – October 2023	19	None	None	None	None	No access
11	7	September – October 2023	21	N/A	N/A	N/A	N/A	Reptiles likely absent
12	7	September – October 2023	65	None	None	None	None	Reptiles likely absent
13	7	September – October 2023	46	None	None	None	None	Reptiles likely absent

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Site No.	Survey visits	Date	Number of refugia	Species	Number of individuals	Sex	Life stage	Notes
14	7	September 2023	26	Grass snake	2	Male Unknown	Adult Hatchling	Breeding grass snake confirmed present
15	7	September – October 2023	15	None	None	None	None	Reptiles likely absent