



Port of Milford Haven

# Pembroke Dock Marine, Pembroke Dock

Reptile Survey Report

Project No. 856531

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**RSK**



## RSK GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

## EXECUTIVE SUMMARY

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1. This report presents the results of surveys to ascertain the presence or likely absence of reptiles at Pembroke Port, Pembroke Dock, Pembrokeshire S (centred at Ordnance Survey Grid Reference SM 959 037).
2. The surveys were carried out in June and September 2017 and involved standard methods based on the use of artificial refuges to survey for reptiles.
3. The site is an active industrial port and dockyard with frequent movements of machinery, heavy goods vehicles, and ferries. It is dominated by hard-standing, bare ground and buildings. Vegetation occurs mainly in the southern part of the site and habitat suitable for reptiles includes ruderal open grassland, a small area of unimproved grassland, scrub, and a small area of immature secondary broad-leaved woodland.
4. No reptiles were found during the seven survey visits. Suitable habitats are generally isolated from those off-site by hardstanding, operational areas of the port, and roads. Past and ongoing disturbance and the presence of a c. 3m high port wall around the site are likely to have contributed to this isolation. Reptiles can be considered to be absent or, if present, only present in very low numbers.
5. The current development plans (Pembroke Port Development Plan; Option 5 Layout and Demolition/Intervention Plan) are likely to involve the removal of at least some of the vegetation suitable for reptiles, but from these results, no reptile-specific mitigation is required.
6. It may be possible to encourage reptiles onto the site through appropriate habitat creation and management, but as the site is likely to remain isolated there are limited opportunities for natural dispersal from outside the site.

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# 1 INTRODUCTION

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## 1.1 Purpose of this Report

This report presents the results of reptile surveys in connection with proposed redevelopment of Pembroke Port, Pembroke Dock in Pembrokeshire (centred at Ordnance Survey Grid Reference SM 959 037). A site location plan is shown in *Figure 1*.

A preliminary ecological appraisal of the site in March 2017 noted habitats suitable for reptiles. Detailed surveys were recommended to establish whether reptiles are present or probably absent.

## 1.2 Ecological Context

Pembroke Port is an active industrial port and dockyard with frequent movements of machinery, heavy goods vehicles, and ferries. It is dominated by hard-standing, bare ground and industrial, commercial and office buildings associated with the port operations. A sand-storage depot is present in the east of the site. Vegetated areas are principally located in the southern part of the site include a small area of immature secondary broad-leaved woodland, scattered trees, ruderal open grassland, a small area of unimproved grassland and scrub. Elsewhere, vegetation is scattered across the site and includes ephemeral species, amenity grassland and introduced shrubs.

The waters of Milford Haven form the northern site boundary of Pembroke Port and Milford Haven and an industrial area forms the western site boundary. To the south the site is bounded by residential properties, the South Pembrokeshire Hospital, a golf course and farmland. The town of Pembroke lies east of the site and is dominated by residential and commercial buildings and transport infrastructure.

## 1.3 Structure of this Report

The remainder of the report is structured as follows:

- *Section 2* describes the survey methods;
- *Section 3* summarises the results;
- *Section 4* details the evaluations and conclusions; and
- *Section 5* lists the documents referenced in this report
- *Section 6* provides the Figures

*Appendix A* provides the relevant legislation.

## 2 METHODS

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### 2.1 Background Data Search

A search was made for data on reptiles, on and within 2 km of the proposed development area. The results of are presented in *Section 3.1*.

### 2.2 Habitat Assessment

An extended phase 1 habitat survey was undertaken by RSK Environment in March (RSK, 2017). The site was assessed for reptiles, with particular attention to features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).

The site was assessed for its suitability for each of the four common reptile species. Specific habitat requirements differ between species. Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland. Slow-worms (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land. Grass Snakes (*Natrix helvetica*) have broadly similar requirements to Common Lizards with a greater reliance on ponds and wetlands, where they prey on Common Frogs (*Rana temporaria*). Adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath (Beebee & Griffiths 2000).

### 2.3 Transect survey

Standing advice for reptile survey now includes a transect survey designed to incorporate the areas of habitat most suitable for reptiles. Surveyors search for basking animals on areas such as banks, hedgerow understory and scrub edges. RSK combined these searches with the artificial refuge surveys as explained below.

### 2.4 Refuge Surveys

The standard method for establishing reptile presence or likely absence is to use reptile 'tinning' surveys. Artificial refuges (roofing felt tiles called 'tins' c.0.25 m<sup>2</sup>) were placed in the areas that had been identified as suitable for reptiles during the habitat assessment. The felt tiles attract reptiles, which use them for shelter and temperature regulation, which allows surveyors to find reptiles that would otherwise be widely dispersed and well-hidden. So far as possible, refuges were placed on slightly uneven ground so as not to lie completely flat (which makes it difficult for reptiles to get underneath).

Surveys covered open ruderal grassland, scrub, and woodland edge habitats on the site and involved c.100 felt tiles that were checked between 22 June 2017 and 28 September 2017 when reptiles are active. All suitable areas had a higher number of

artificial refuges per hectare than the minimum recommended level of 10 per hectare (Froglife, 1999). The refuges were checked for reptiles on seven occasions during suitable weather as detailed in *Table 1* below. When checking tins, a general watch was kept for other signs of reptiles, e.g. Grass Snake eggs, excrement or sloughed skins (often found beneath refuges).

The tins were regularly checked on days with air temperatures between 9 and 15°C plus bright sunshine, which are generally accepted as suitable for reptile capture, or if there is hazy or intermittent sunshine and little wind (less than Beaufort Scale Force 3) then between 9 and 18°C (HGBI 1998). Days with rain are generally accepted as unsuitable, though sunny periods after rain may be ideal because reptiles emerge from cover to bask.

**Table 1: Weather conditions on survey dates**

Date	Time of check	Temperature (C <sup>0</sup> )	Wind speed (Beaufort 1-12)	Cloud cover (Octas)	General weather
22.06.17	09:05 – 10:15	16	2-3	8	Light overcast, occasional small break in cloud and dry. Mats mostly sheltered from the breeze.
12.09.17	12:45 – 14:00	17	1-3	3-7	Sunny spells light breeze occasionally strengthening and dry. Mats mostly sheltered from the breeze.
14.09.17	16:00-17:40	14	1-3	2-4	Sunny with cloudy spells, a light breeze and dry.
18.09.17	15:15-16:05	14	2	4	Sunny spells, dry and occasional strengthening of the breeze.
21.09.17	14:35-15:45	13	1-3	1	Sunny and dry with occasional stronger breeze. Mats mostly sheltered from the breeze.
26.09.17	10:00-11:00	14	0	7	Dry and mild with light, high cloud with occasional breaks. Felt humid and warm.
28.09.17	10:30-11:30	16	0-2	4-6	Occasional sunny spells, mild with little wind.

#### 2.4.1 Population Assessment

Due to their complex biology and ecology, reptile populations are notoriously difficult to estimate accurately. However, in order to ascertain the extent to which reptiles are present on the site, population scores are used (following Froglife, 1999). This involves taking the maximum number of adults seen by direct observation or under refuges by one person per day, when refuges are placed at a density of 10 per hectare. The refuges were placed at higher densities than the 10 per hectare given in Froglife (1999),

so this could have given an over-estimate of the population. In addition, these population scores are the criteria for assessing sites that qualify for the Key Reptile Site Register (Froglife, 1999) and provide a basic evaluation of the ecological value of the site for reptiles.

**Table 2: Reptile populations, following Froglife Advice Sheet 10**

	'Low' Population	'Good' Population	'Exceptional' Population
Adder	<5	5-10	>10
Grass Snake	<5	5-10	>10
Common Lizard	<5	5-20	>20
Slow-worm	<5	5-20	>20

### Validity of Data

Data collected for submissions to the Local Planning Authority are usually valid up to two years following the field survey. If the development falls outside this survey window repeat presence/absence surveys may be required.



### 3 RESULTS

#### 3.1 Background Data Search

The Background Data Search (RSK, 2017) identified records of Slow Worm within 1km Grass Snake within 2km of the site.

**Table 3: Protected Species Records within 2 km of the Site Boundary**

Latin Name	Common Name	Designation	Most Recent	No of Records	Within 100m	Within 1km	Within 2km
<b>Reptiles</b>							
<i>Anguis fragilis</i>	Slow-worm	WCA5	2011	2		P	<input checked="" type="checkbox"/>
<i>Natrix natrix</i>	Grass Snake	WCA5	1992	1			<input checked="" type="checkbox"/>

Note - P relates to records with 4 figure grid references that could potentially be anywhere within a 1 km square.

#### 3.2 Habitat Assessment

Woodland edge, scrub and areas of open ruderal grassland provide suitable basking and foraging environments for all four common reptile species. These habitats were identified in the southern part of the site, as illustrated in *Figure 2*.

#### 3.3 Reptile Survey

No reptiles were identified during any of the survey visits. The results of the surveys are presented in *Table 4*. Sufficient survey visits were conducted to make an estimate of the sizes of the populations using the site. Weather data and a full table of results are given in Appendix 1.

**Table 4 - Reptile Survey Results**

	Check 1	Check 2	Check 3	Check 4	Check 5	Check 6	Check 7
<b>Date</b>	22/06/17	12/09/17	14/09/17	18/09/17	21/09/17	26/09/17	28/09/17
<b>Reptiles found</b>	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## 4 EVALUATION

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Although some habitat on the site was suitable for reptiles none were found during the surveys undertaken in June and September 2017.

The site has been subject to past and ongoing disturbance and suitable habitats are generally isolated from those off-site by hardstanding, operational areas of the port and roads. Furthermore, the site is surrounded by a c. 3m high port wall, with few gaps, which is likely to have contributed to this isolation. Therefore reptiles can be considered likely absent or, if present, only present in very low numbers. The current development plans (Pembroke Port Development Plan; Option 5 Layout and Demolition/Intervention Plan) are likely to involve the removal of at least some of the vegetation suitable for reptiles and based on these results, no reptile-specific mitigation is required.

It may be possible to encourage reptiles onto the site through appropriate habitat creation and management, but as the site is likely to remain isolated there are limited opportunities for natural dispersal from outside the site.

## 5 REFERENCES

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Beebee, T.J.C. & Griffiths, R.A. (2000). *Amphibians and Reptiles*. HarperCollins, London.

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

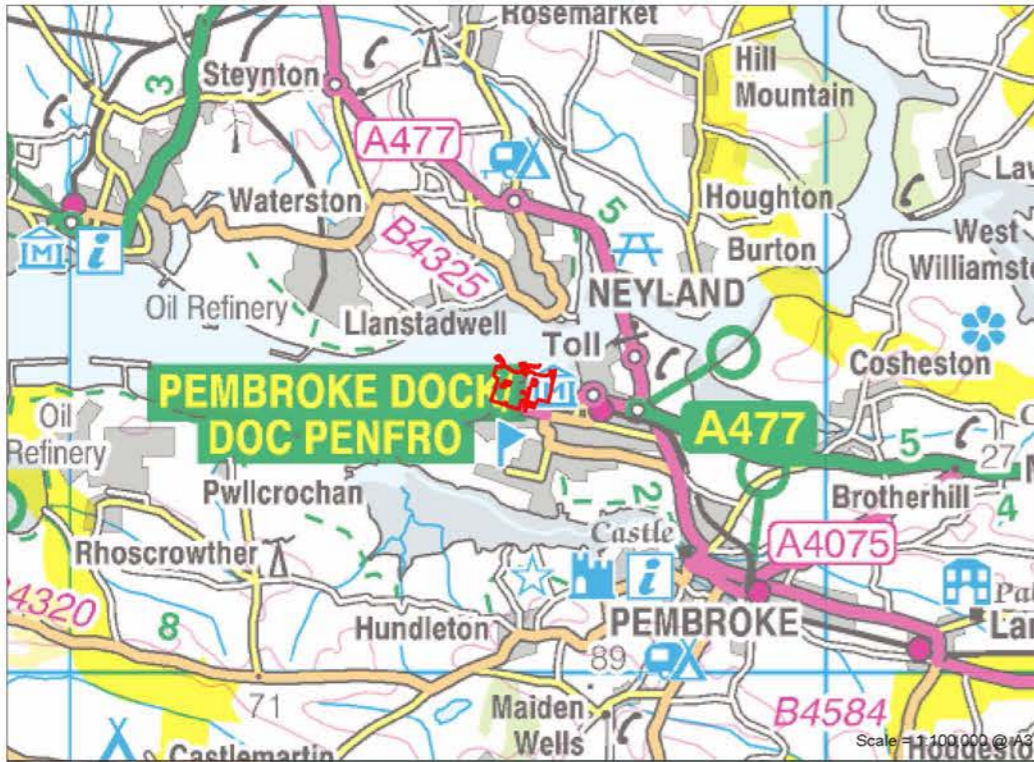
Herpetofauna Groups of Britain and Ireland (HGBI) (1998) *Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards*. HGBI advisory notes for amphibian and reptile groups (ARGs)

## 6 FIGURES

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- Figure 1 Site Location map
- Figure 2 Locations of Reptile Felt Transects





Site boundary

Rev	Date	Description	Drn	Chk	App
00	18.04.17	856531	RG	SP	PP

**Pembroke Docks**

Figure 1  
Site Location Plan

0 300 metres  
Scale = 1:10,000 @ A3

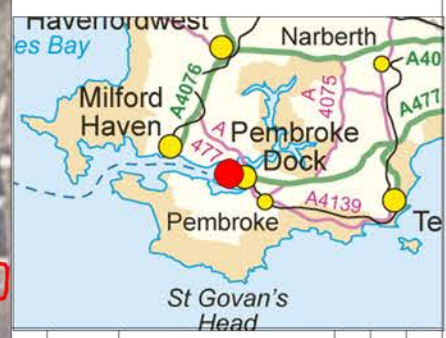
0 300 metres  
Scale = 1:10,000 @ A3

REV 00





- Site boundary
- Reptile area
- Line of felts
- Individual felt location

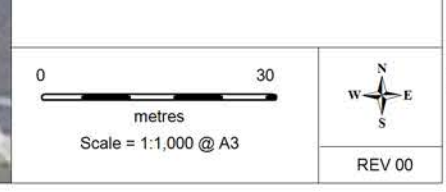


Rev	Date	Description	Drn	Chk	App
00	20.06.17	856531	SP	RG	PP

**Pembroke Docks**



Figure 1  
Reptile Felt Locations





## APPENDIX A – REPTILE LEGISLATION

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### Common Reptiles

*Lacerta vivipara* (Common Lizard), *Natrix natrix* (Grass Snake), *Anguis fragilis* (Slow-worm), and *Vipera berus* (Adder) are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the *Countryside and Rights of Way Act 2000* (the CRoW Act).

Under the above legislation it is an offence to: intentionally or deliberately kill or injure any individual of such a species; or sell or attempt to sell any part of the species alive or dead.