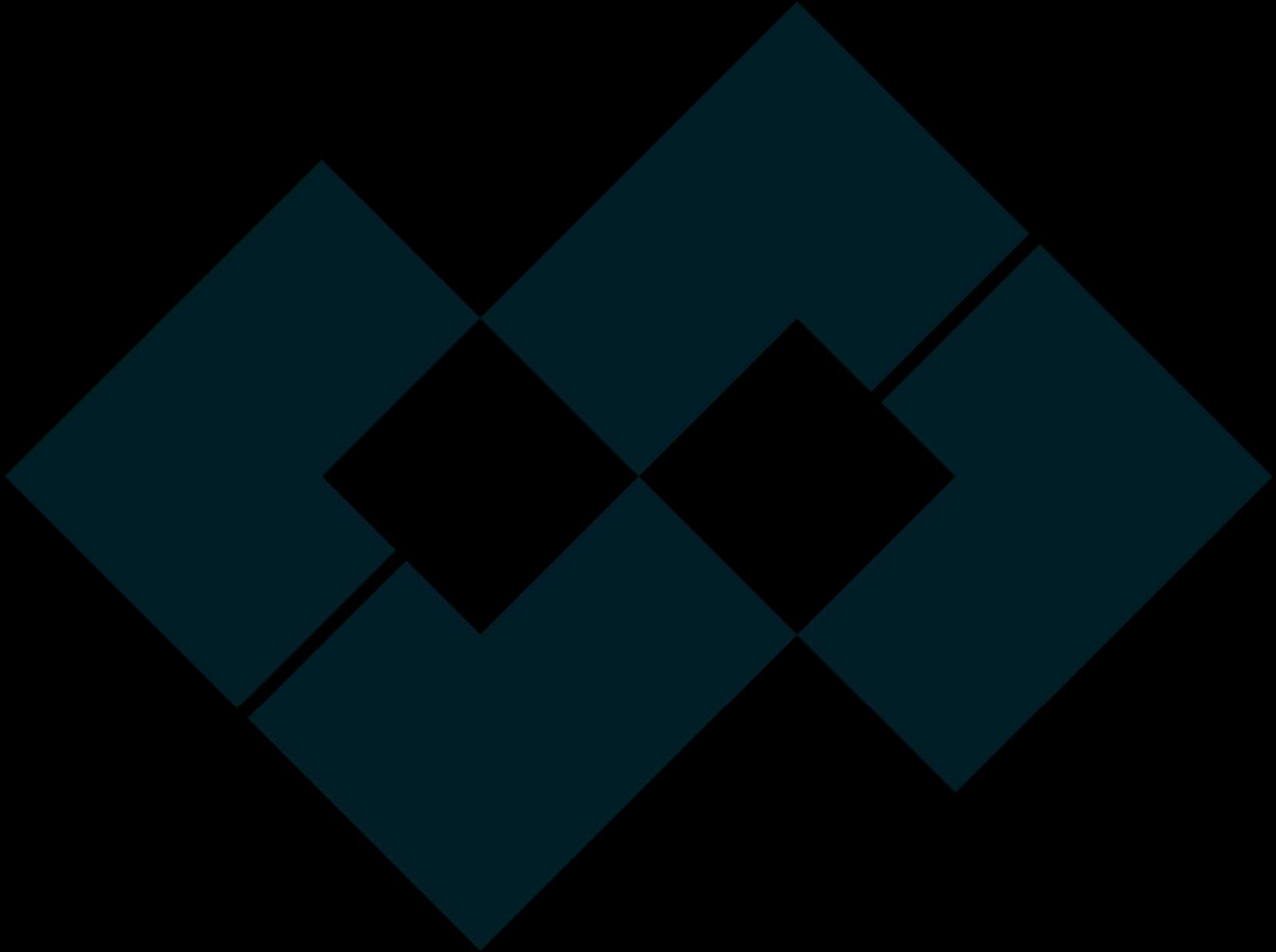




Appendix L6 - Great Crested Newt Survey Report

June 2021

Document Information

Document	Great Crested Newt Survey Report
Project	Langstone FCERM Scheme
Department	Coastal Partners

Document History

Date	Revision	Prepared	Checked
24/06/21	1.0 Draft	RC	ER
20/08/21	Final	RC	ER

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Summary

- A Great Crested Newt Habitat Suitability Index assessment was undertaken on 25th February 2021 for the Coastal Partners as part of the Langstone Flood and Coastal Erosion Risk Management Scheme.
- The Habitat Suitability Index survey results found that the Mill Pond is considered below average suitability for the Great Crested Newt.
- The salinity tests found that the Mill Pond contains freshwater.
- The terrestrial habitat adjacent to the Mill Pond is considered good for the Great Crested Newt, as well as habitat connectivity in the east.
- The survey could not conclude the likely absence of the Great Crested Newt within and adjacent to the Langstone site boundary.
- Further investigation is required for the Great Crested Newt.

1. Introduction

A series of ecology surveys were required for the Coastal Partners Langstone Flood and Coastal Erosion Risk Management (FCERM) Scheme (Figure 1.1). This report constitutes an assessment of the Great Crested Newt (GCN) interest within that suite of surveys.

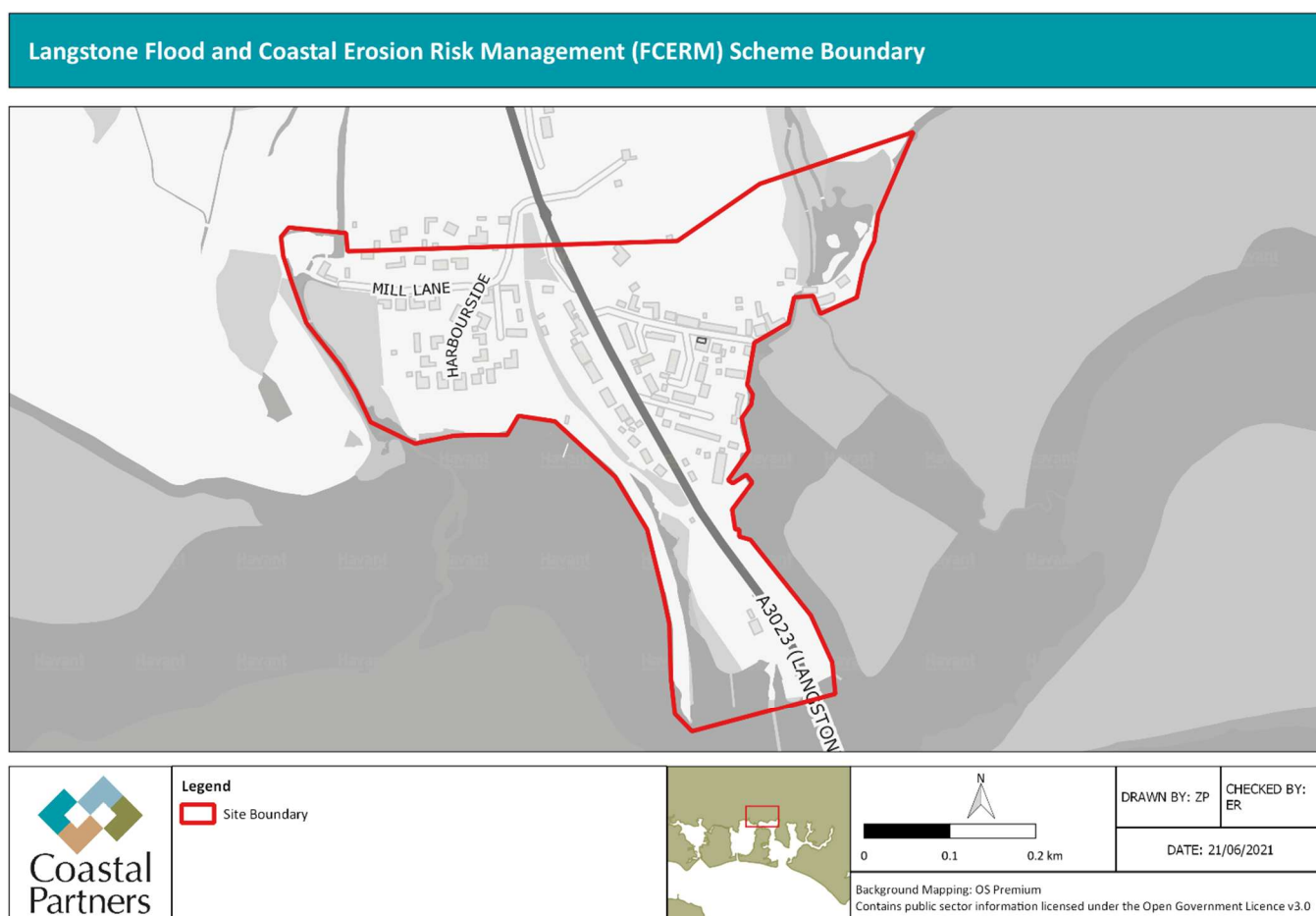


Figure 1.1 – Langstone FCERM Scheme Site Boundary.

2. Legislation

Great Crested Newts (*Triturus cristatus*) are listed on Appendix II of the Bern Convention and on Annexes II and IV of the EU Natural Habitats Directive. In England and Wales the Great Crested Newt (*Triturus cristatus*) is protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Offences can be committed through:

- Capturing, killing, disturbing or injuring great crested newts deliberately;
- Deliberately disturbing any great crested newt, which is likely to:
 - (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong
- Damaging or destroying a breeding or resting place;
- Intentionally or recklessly obstruct access to any place that a great crested newt uses for resting, shelter or protection;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place that it uses for resting, shelter or protection;
- Possessing, selling, controlling or transporting live or dead newts, or parts of them, or taking great crested newt eggs.

The Great Crested Newt is also listed as a species of principle importance under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, and local authorities and other public bodies have a legal duty to take their conservation into account.

3. Methodology

3.1 Background Data Search

A desktop assessment was undertaken assessing data from Hampshire Biodiversity Information Centre (HBIC), Natural England Open Data (Natural England, 2019), www.magic.gov.uk and aerial imagery.

3.2 Great Crested Newt Habitat Suitability Index Assessment Method

A Habitat Suitability Index (HSI) assessment was undertaken in accordance with Oldham et al. (2000), to assess the suitability of the ditches and ponds within 250m of the Langstone site boundary. Suitable terrestrial habitats that were separated from the site boundary by features that would provide a barrier to the movement of GCNs (such as major roads or rivers), were excluded from the survey area.

The HSI survey assessed features of the identified waterbodies and the surrounding terrestrial habitat in order to establish if it could be used by GCNs. Ten suitability indices based on factors that affect GCNs were assessed including:

- Geographic location;
- Waterbody area;
- Waterbody permanence;
- Water quality;
- Shading;
- Presence of waterfowl;
- Presence of fish;
- Waterbody density in the area;
- Terrestrial habitat quality;
- Macrophyte cover in the waterbody.

The HSI scoring system evaluates habitat quality and quantity by using a numerical index between 0 and 1; with a score of 0 indicating unsuitable habitat and a score of 1 indicating optimal habitat (Table 3.2.1).

Table 3.2.1 – Categorisation of HSI Scores.

HSI Score	Pond Suitability
< 0.50	Poor
0.50 - 0.59	Below average
0.60 - 0.69	Average
0.70 - 0.79	Good
> 0.80	Excellent

Source: ARG UK (2010).

Additional salinity readings were taken in each moat using an Automatic Temperature Compensation (ATC) portable salinity refractometer. 3 samples were taken per waterbody to test for variation. The GCN favours freshwater habitats and generally cannot tolerate salinity levels found in brackish and salt water (Table 3.2.2).

Table 3.2.2 – Salinity Level Ranges found in Fresh, Brackish and Salt Water.

Water Type	Salinity Level Range in Parts per Thousand (‰)
Freshwater	0 - 0.5‰
Brackish Water	0.5 - 30‰
Saltwater	30 - 35‰

The Mill Pond, which falls within the site boundary (Figure 3.2.1) was surveyed from the public realm on 25th February 2021 by Ed Rowsell and Zoe Palmer who are experienced and trained ecologists, supported by trainee ecologist Rachel Cook. The weather conditions during the survey were overcast with light showers, becoming drier toward the latter half of survey (Table 3.2.3). As the best time to survey macrophyte cover is considered to be between March and September, a return visit was made on the 16th April 2021 to assess this element.

Langstone - Waterbodies Assessed for the Great Crested Newt Habitat Suitability Index (25th February 2021)

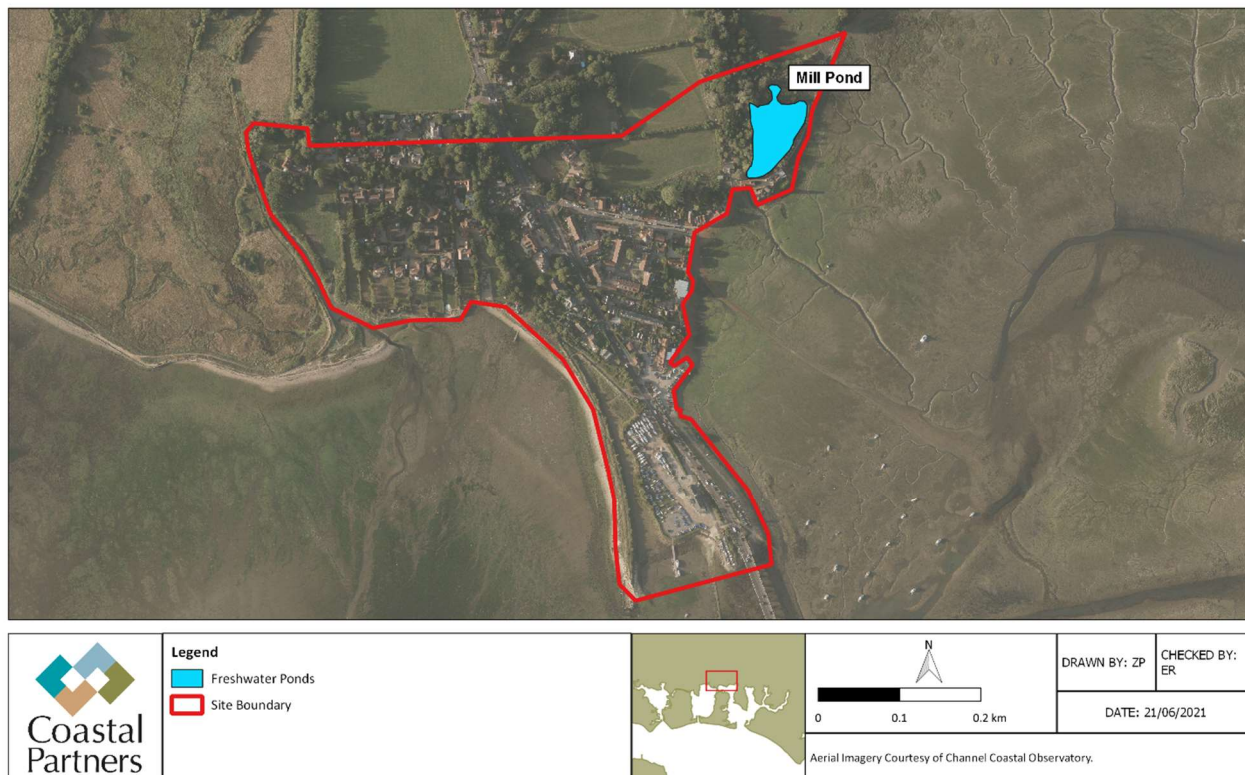


Figure 3.2.1 – Aquatic Habitats Surveyed for the Great Crested Newt Habitat Suitability Index at Langstone.

Table 3.2.3 - Meteorological Data for the Great Crested Newt Habitat Suitability Index Survey.

Date	Start Time	End Time	Temp. (°C)	Cloud Cover (%)	Wind Direction	Wind Strength (Kn)	Weather Comments
25.02.2021	09.00	12.30	9	90	West	6	Overcast, showers until 11.00, becoming drier.
16.04.2021	10.00	10.30	9	10	South south-east	6	Sunny

Limitations: The pond was surveyed from the public realm only. A survey of this type is by its nature a snapshot in time. Wildlife populations fluctuate over time and ranges can expand or contract, the results of this survey are considered to be valid for between 12 and 24 months, if works are delayed a new survey should be considered.

4. Results

4.1 Background Data Results

The Langstone Mill Pond is a designated Site of Importance for Nature Conservation (SINC). There are 24 SINC's within 2km of the site boundary, but only the Mill Pond within. There are areas of suitable aquatic habitat that could potentially support the GCN. The site is also within close proximity to Portsmouth Harbour Special Protection Area (SPA) and Ramsar, Chichester and Langstone Harbours SPA and Ramsar, Solent and Dorset SPA, the Solent Maritime Special Area of Conservation (SAC), Portsmouth Harbour Site of Special Scientific Interest (SSSI), Langstone Harbour SSSI, and Warblington Meadow SSSI.

The HBIC data search identified no records of the Great Crested Newt (*Triturus cristatus*) within the site boundary or within 2km of the site.

In 2019, Natural England surveyed a number of ponds within the area for presence of the GCN for District Level Licensing using the GCN HSI and GCN eDNA. The nearest ponds tested were located in Havant approximately 4km north of the Langstone site boundary, and Purbrook approximately 6km northwest of the Langstone site boundary. Both ponds confirmed GCN absence (Figure 4.1.1).

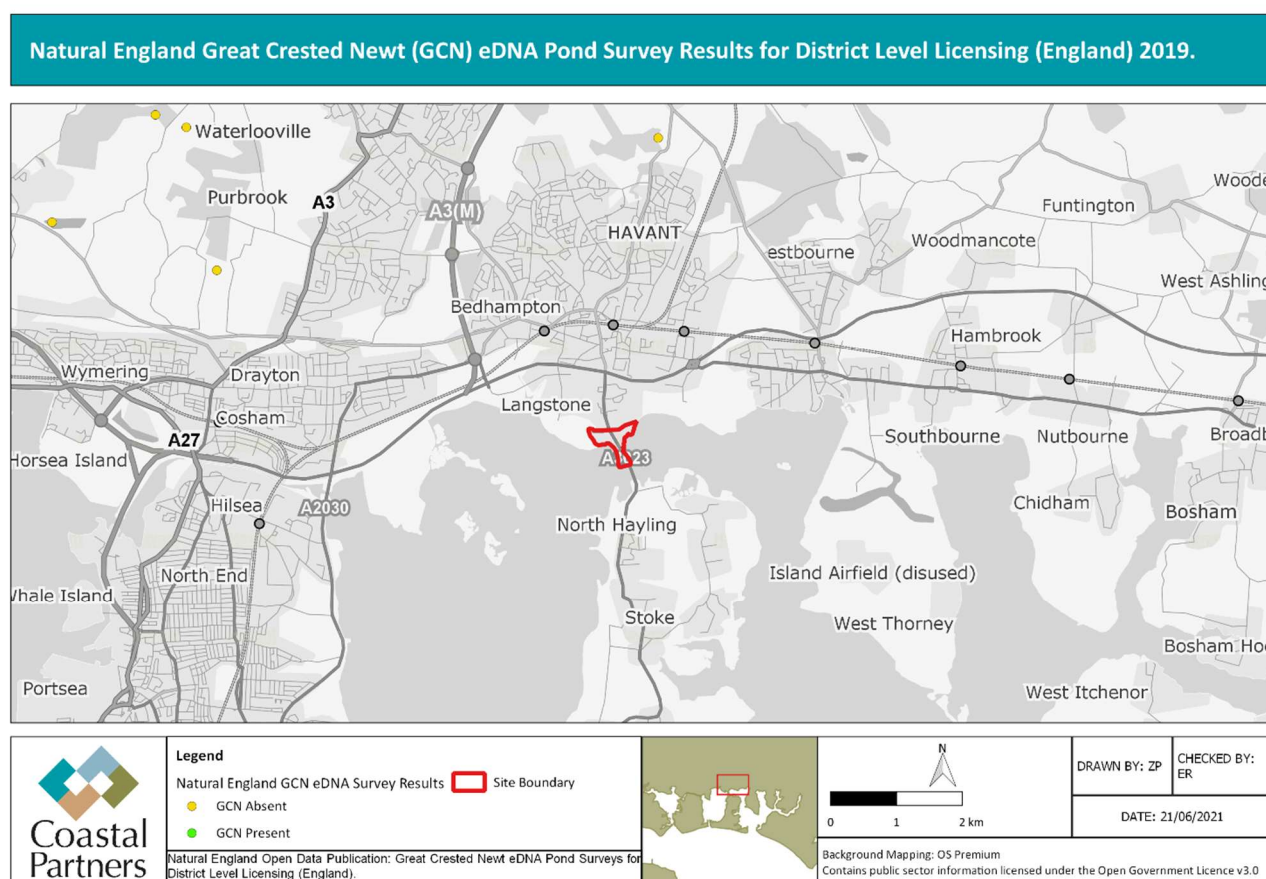


Figure 4.1.1 – Natural England GCN eDNA Pond Survey Results for District Level Licensing (England) 2019.

4.2 Survey Results

The habitat within and adjacent to the Langstone site boundary contains deciduous woodland, scrub, open grassland fields, meadows and tidal mudflats. The Mill Pond with patches of reedbed habitat lie at the eastern site boundary. The north western corner of Chichester Harbour, known as Sweare Deep lies at the south of the site boundary, as well as the north eastern corner of Langstone Harbour.

The HSI found that the Mill Pond has below average suitability for GCNs (Appendix A). An ATC portable refractometer was used to test the salinity. Three samples were taken from the Mill Pond to test for variation, but all readings were 0‰ (Table 4.2.1) indicating the Mill Pond contains fresh water.

Table 4.2.1 Langstone Mill Pond Salinity Test Results

Waterbody	Salinity Result (‰)	Water Type
Mill Pond – sample 1	0‰	Fresh
Mill Pond – sample 2	0‰	Fresh
Mill Pond – sample 3	0‰	Fresh

5. Discussion

The Mill Pond at Langstone is of poor suitability for the GCN. GCNs prefer small to medium breeding ponds between 50m²-250m² (Langton et al. 2001). The area of the Mill Pond is 4,807.7 m², and GCNs are less likely to use larger waterbodies such as this. The Mill Pond contained fresh water, which is considered suitable for GCNs. However, due to the pond's proximity to the estuary and a history of overtopping in this location, it is likely that the salinity of water will vary and will periodically be unsuitable for this species. Although there is no published research on the GCNs tolerance to salinity levels, GCNs are known as a freshwater species. In addition, links to GCN mortality and road salt (Duff et al. 2011) further suggests their low tolerance to salinity levels. The terrestrial habitat within and adjacent to the site boundary is considered good suitability for GCNs, particularly in the north. However, there are no GCN records within 2km of the Langstone FCERM scheme. The nearest GCN records lie over 5km from the site boundary, with the nearest GCN records located in Rowlands Castle (5.2km north of the site boundary), and in Purbrook (6.2km northwest of the site boundary). The Langstone site boundary has some major barriers to GCN dispersal such as roads, urban infrastructure, and railway lines nearby, predominantly to the west and northwest of the site. However, there is very good habitat connectivity to the east without any major obstacles as far as Fishbourne. The below average suitability of the Mill Pond, lack of GCN records in the area, and the likely variability of the Mill Pond's salinity, indicates that it is unlikely GCN are present within and adjacent to the Langstone site boundary. However, there is good terrestrial habitat adjacent to the Mill Pond and good habitat connectivity to the east. Therefore, further investigations into the likelihood of GCN present within the Mill Pond is recommended before it is scoped out of further surveys and mitigation measures are considered.

6. Recommendation

As discussed, it is not yet possible to confirm that GCNs will not be affected by the proposed Langstone FCERM scheme. Whilst the Mill Pond has a below average suitability, there are

favourable terrestrial conditions. It is recommended that further investigations are undertaken to confirm the likely absence of GCN within and adjacent to the scheme or identify appropriate mitigation should this not be possible. It is recommended that an eDNA test is considered in this location. Further details and guidance relating to GCNs can be found on Natural England's 'Great crested newts: advice for local planning authorities' webpage: <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

7. Conclusion

The Mill Pond is considered below average suitability for the GCN but there are favourable terrestrial conditions. It is recommended that further investigations are undertaken to confirm the likely absence of GCN within and adjacent to the scheme or identify appropriate mitigation should this not be possible. It is recommended that an eDNA test is considered in this location.

8. References

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Appendix A – Great Crested Newt Habitat Suitability Index Results

ARGUK GCN HSI Calculator		
	Pond Name	The Langstone Mill Pond
SI No	SI Description	SI Value
1	Geographic location	1
2	Pond area	
3	Pond permanence	0.9
4	Water quality	0.67
5	Shade	1
6	Waterfowl effect	0.01
7	Fish presence	0.67
8	Pond Density	0.55
9	Terrestrial habitat	1
10	Macrophyte cover	0.5
HSI Score		0.51
Pond Suitability Category		Below average

(Table Based on Oldham et al. 2000 and ARG UK, 2010).