

Appendix 6.3 Habitat Suitability Assessment

1.1 Introduction

1.1.1 Due to the recording of great crested newt from the National Biodiversity Network search with 2 – 5km of the proposed development site boundary, it was recommended in the *Ecological Constraints Report* (AECOM, September 2012) that a Habitat Suitability Index (HSI) assessment was conducted on a ditch within the Order Limits to assess its suitability to support great crested newts.

1.1.2 Please find below a summary of the Habitat Suitability Index conducted on 15th April 2013.

1.2 Methodology

1.2.1 A Habitat Suitability Index (HSI) assessment was undertaken on the ditch within the Order Limits on the 15th April 2013 by Ursula Jones MCIEEM and Lucy Rouse Grad CIEEM.

1.2.2 The Habitat Suitability Index (HSI) for the great crested newt was developed by Oldham et al. (2000). The HSI assessment was undertaken in line with the approach outlined in Amphibian and Reptile Group (ARG) UK Advice Note 5, 2010.

1.2.3 The HSI for great crested newts is a measure of habitat suitability. It is not a substitute for newt surveys. In general, water bodies with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular water body with a high score will support newts, or that any water body with a low score will not do so. However, when used in conjunction with information collected from the ecological desk study and local record centres HSI can provide a good picture of a pond's likelihood to support newts.

1.2.4 There is also a positive correlation between HSI scores and the numbers of great crested newts observed in water bodies. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts.

However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular water body.

1.2.5 HSI scoring can be useful in:

- Evaluating the general suitability of a sample of ponds for great crested newts;
- Comparing general suitability of ponds across different areas; and
- Evaluating the suitability of receptor ponds in a proposed mitigation scheme.

Categorisation of HSI Scores

1.2.6 ARG has developed a system for using HSI scores to define water body suitability for great crested newts on a categorical scale:

HSI Water Body Suitability

- <0.5 = poor
- 0.5 – 0.59 = below average
- 0.6 – 0.69 = average
- 0.7 – 0.79 = good
- > 0.8 = excellent

Limitations to HSI Assessment

1.2.7 April is an optimal time to conduct an HSI assessment. There are deemed to be no significant limitations to the HSI assessment described in this report.

1.3 Results

Baseline Conditions

1.3.1 The wet ditch is located between the embankment adjacent to the car park and the semi-improved grassland. It appears to originate from a pool of water generated by a steam outlet and is not connected to any other sources of water.

1.3.2 There are several major barriers (main roads, large areas of bare ground and built up areas) that will restrict movement of great crested newts within the

locality. There is a limited total area of terrestrial habitat suitable for supporting great crested newts (unimproved grassland, hedgerows, scrub and woodland) 500m or connected to the ditch. There are two additional ponds within 500m of the proposed development. However connectivity to these ponds from the ditch is restricted.

- 1.3.3 There is potential that the water quality of the ditch is poor due to the historic and current industrial land use.

HSI Assessment Results

- 1.3.4 The HSI score for the ditch and its suitability categorisation is given in Table 1.1.

Table 1.1: HSI Assessment Scores

Ditch Number	HSI Score	HSI Categorisation
1	0.44	Poor

- 1.3.5 The HSI assessment indicates the ditch has low suitability for supporting great crested newt.

1.4 Conclusion

- 1.4.1 Although a record of great crested newt was returned from NBN within 2 – 5 km of the site boundary, it is concluded that due to the potentially poor water quality, large number of barriers, limited area of connected suitable habitat and the ‘poor’ HSI there is negligible potential for the ponds to support great crested newts.

1.5 Further Surveys and Recommendations

- 1.5.1 No further surveys will be required for great crested newts
- 1.5.2 There are no recommendations or further works required in terms of mitigation for great crested newts.