AEWC Ltd

Animal Ecology & Wildlife Consultants

23-246
25/11/2024

Ref: Land to the East of Tilletts Lane Great Crested Newt HSI and eDNA

To whom it may concern;

AEWC Ltd were commissioned by Batcheller Monkhouse on behalf of their client to undertake an HSI assessment and eDNA water sampling for one pond present within 250m of the main development area at Land to the east of Tilletts Lane, Warnham, Horsham, West Sussex in order to inform the proposed works at the site.

A total of eleven ponds were identified as part of the Preliminary Ecological Appraisal (PEA) within the accepted great crested newt (GCN) dispersal distance of 500m. These were numbered as ponds 1 - 11. See Figure 1.

The site was considered in two parts when assessing potential impacts on GCN. The site comprises the main development area, this being two fields across which housing and associated works are proposed. The red line boundary also encompasses footpaths and roads to the west, northwest, northeast, and southeast which are proposed for minor improvement works.

A Rapid Risk Assessment carried out as part of the PEA showed that, in the absence of mitigation, an offence was likely if GCN were present in ponds within 250m of the main development area, but not if they were present in ponds 250-500m from the main development area. A second Rapid Risk Assessment for the footpath and road parts of the site showed that an offence was highly unlikely even if the closest ponds to these parts of the site (100-250m) were GCN breeding ponds. This is due to the small area of potentially suitable vegetated habitat associated with these parts of the site.

Given the results of the Rapid Risk Assessment, small scale of the proposed works, and small area of potentially suitable habitat associated with the footpath and road improvement works, it was considered that a mitigation licence would not be required for these works, but they must be carried out under a precautionary method statement.

Given the results of the Rapid Risk Assessment and more significant scale of the proposed works in the main development area, it was recommended that any ponds within 250m of this area be subject to further GCN survey. A single pond was identified within 250m of the main development area, this being Pond 9 as per Figure 1.

Pond 9 was therefore subject to HSI assessment and eDNA survey. These were carried out on the 24th April 2024, by qualified ecologist Natalie Arscott.

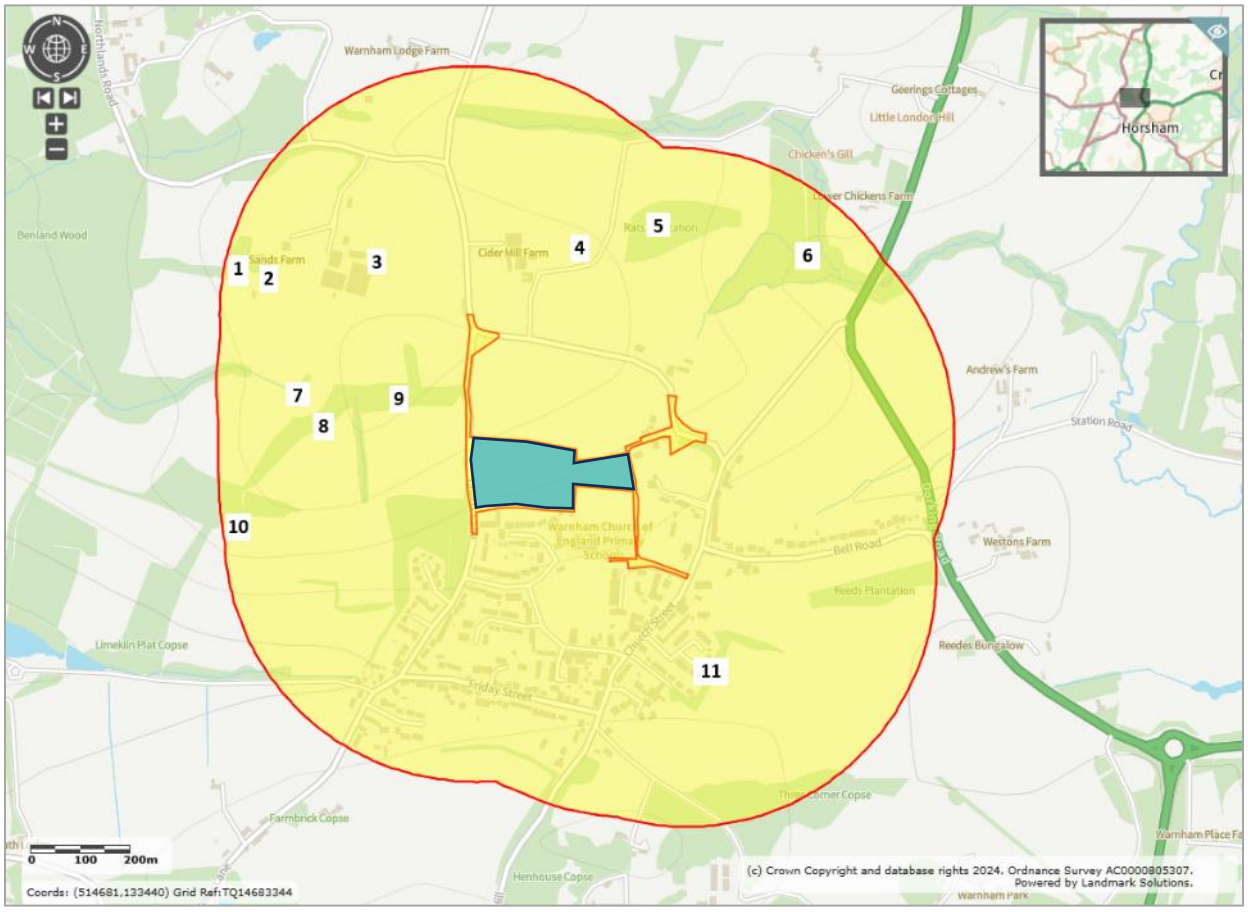

Figure 1: Ponds identified within 500m of the site. Main development area shown shaded blue.

HSI Assessment

Prior to eDNA sampling, an HSI was used to quantifiably assess whether the pond was suitable for GCN.

Pond 9 is situated within a belt of woodland, adjacent to Warnham butterfly fields, located 180m to the west of the main development area of the site. It is approximately 100m^2 in size and mostly shaded, with poor water quality and low macrophyte cover. The surrounding terrestrial habitat is good quality. An HSI score of 0.64 was calculated which equates to 'average' suitability for GCN.

The full HSI calculation for Pond 9 is provided in Table 1 and photographs are provided below.

Table 1 – HSI calculations

Pond ref	**Pond 9**
SI[1] - Location	1
SI[2] - Pond area	0.2
SI[3] - Pond drying	1
SI[4] - Water quality	0.33
SI[5] - Shade	0.5
SI[6] - Fowl	1
SI[7] - Fish	1
SI[8] - Ponds	1
SI[9] - Terrestrial habitat	1
SI[10] - Macrophytes	0.35
HSI Score	**0.64**
HSI Category	**Average**

Photograph 1 – Pond 9.

Photograph 2 – Pond 9.

Environmental DNA

Environmental DNA (eDNA) surveys can be used to find out if GCN are present and whether to conduct population size class surveys on ponds and other waterbodies.

The survey was undertaken on the 24th April 2024 to collect water samples from around the pond edge in line with the methodology outlined by Defra, during the period when newts are likely to be present (this depends on location and weather conditions). Natural England will only accept eDNA survey results from samples collected between 15 April and 30 June.

The water samples are then mixed, and standard samples are sent to a specialist approved laboratory for testing.

The results of the samples were received on the 3rd May 2024 confirming the samples from Pond 9 to have been **negative for the presence of GCN DNA**.

A negative result confirms that GCN eDNA was not detected or is below the threshold detection level. The test result should be considered as evidence of GCN absence; however, it does not exclude the potential for GCN presence below the limit of detection.

The findings of the survey are shown in Figure 2 below.

Figure 2: eDNA survey results

Conclusions and Recommendations

Based on the result of the eDNA testing, it is considered that there are unlikely to be GCN breeding ponds within 250m of the main development area. Therefore, no further surveys for GCN are required.

This result significantly reduces the likelihood that GCN use terrestrial habitats within the site, however their presence cannot be definitively ruled out since GCN can potentially disperse up to 500m from breeding ponds, and there are local records for GCN within 2km of the site (but not within 500m). The status of ponds in terms of GCN presence can also change at any time if the species is present in the local vicinity.

The site also offers suitable habitat for common amphibians such as smooth newt, palmate newt, common toad, and common frog.

Based on the extent of suitable terrestrial habitat on the site and the potential for amphibians being present, **it is recommended that a precautionary working method statement regarding amphibians is produced to cover the proposed works.** This should include precautionary working methods to safeguard amphibians, such as ecological supervision, controlled vegetation and topsoil clearance, and the careful dismantling of potential refugia. The method statement could be combined with the required reptile mitigation strategy and method statement, since reptile surveys undertaken by AEWC Ltd have confirmed the presence of slow worm and grass snake, as well as smooth newt, on-site (see Reptile Survey Report dated November 2024).

If you have any queries, please do not hesitate to contact us.

Best wishes,

Natalie Arscott
AEWC Ltd
Ecologist