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14th June 2016

GCN eDNA Testing - Balancing pond adjacent to Water Lane, Angmering

Dear Jonathan,

Thank you for instructing The Ecology Partnership to carry eDNA testing survey at the above site to ascertain the presence or likely absence of Great Crested Newts (*Triturus cristatus*) within ponds around your application site. The results are as follows.

Background

No ponds were identified on site during the survey visits when undertaking the PEA. However, there were several ponds identified in the landscape which were considered for their potential to support GCNs. These are identified in figure 1 below. Waterbody 1 was considered to have some potential to support GCNs and as such eDNA was recommended.

The remaining waterbodies were considered to have poor suitability for GCNs. The fishing lake was considered to be suboptimal in terms of GCNs and waterbody 2 was assessed as having 'poor' suitability to support GCNs due to the presence of water fowl, lack of vegetation and the small nature of the ornamental pond. As such only eDNA for waterbody 1 was undertaken.

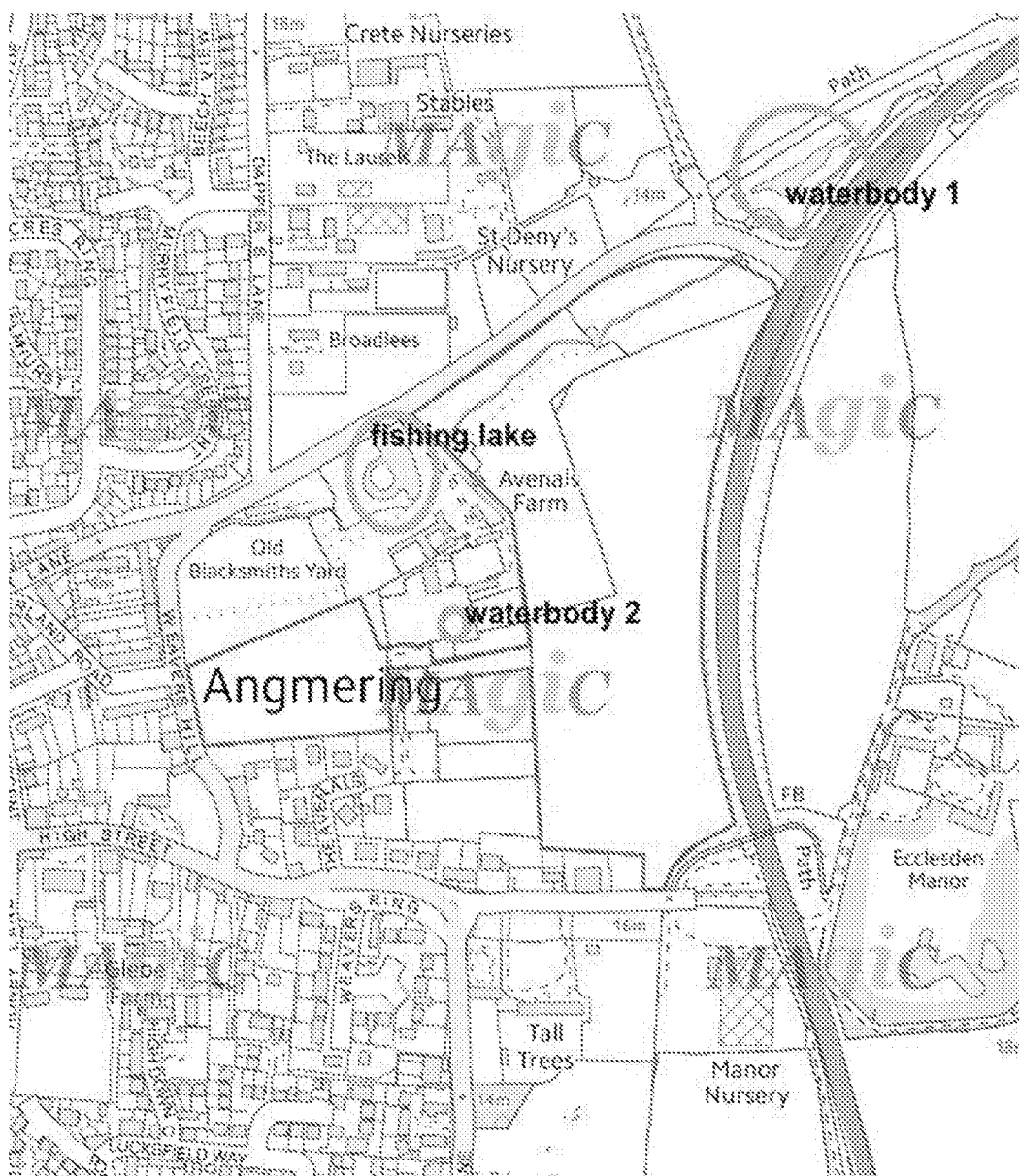


Figure 1. Location of waterbodies in relation to the redline boundary of the site

Waterbody 1 was considered to have some potential for GCNs and as such eDNA was recommended.

Methodology & Results

All water samples were taken by Emma Bagguley GCN Survey Level 1 license – REF: 2016 –23003 –CLS – CLS and George Rockell.

All water samples were analysed by NatureMetrics in accordance with the protocol set out in Appendix 5 of Biggs *et al.* (2014). Full details can be found within appendix 1 of this report.

Results from the samples taken from the pond to the north indicate **GCN absence** within the pond. All samples tested **negative** for any GCN DNA.

During the survey, evidence of water vole was found around the edges of waterbody 1.

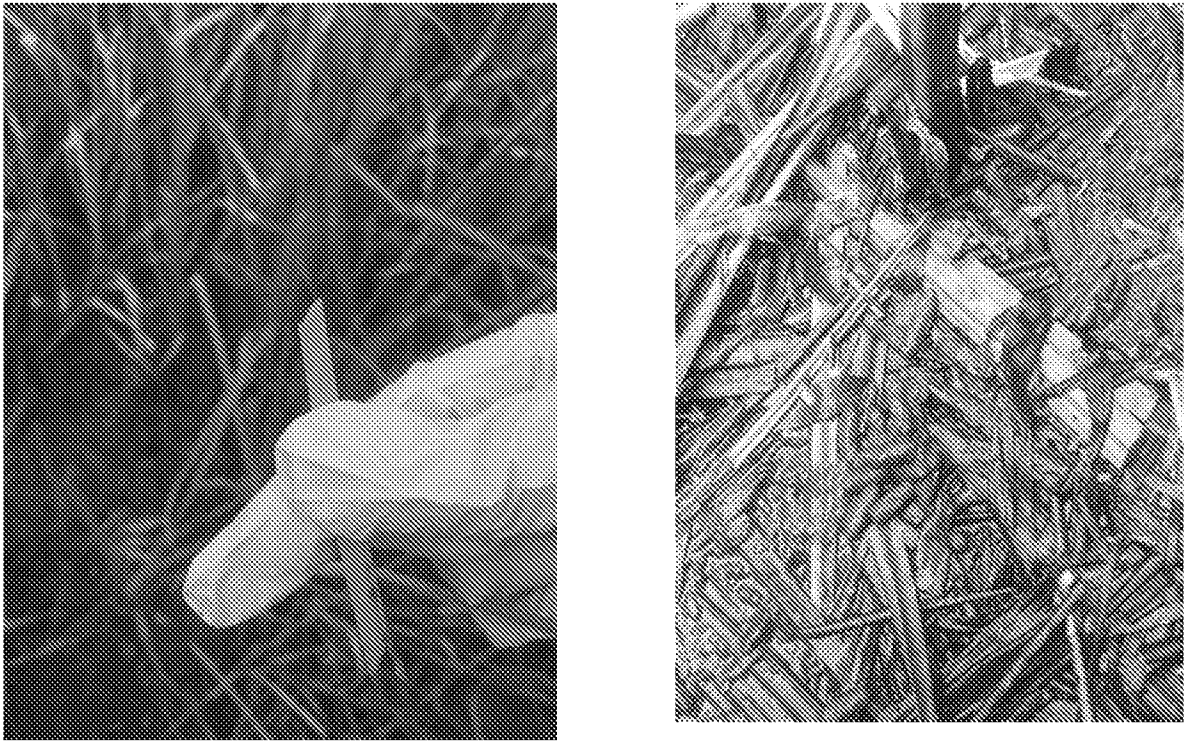


Figure 2: Evidence of water vole around the waterbody. The characteristic cut shape of the vegetation and the latrines are shown above.

The waterbody will not be impacted upon by the development of the land to the south of Water Lane. However, this water body is linked to the stream, by a culvert, to the land adjacent to Water Lane. This stream did not support any evidence of water vole use or activity during the survey visits, and the banks were not considered to be suitable to support their burrows. Whilst culverts are not considered a significant barrier to water vole dispersal, they can act as a deterrent to movement, with longer culverted sections less appealing to water vole dispersal. However, as water voles are present in the off site water body and this supports some connective habitats water voles should be considered as part of the scheme.

The water course present on the northern portion of the site is not considered to support water voles at this time. However, as this is connected, water voles would be able to move into the proposed development site. However, this field is not going to be developed and the water course is to be retained in situ. As such no suitable water vole habitat would be impacted upon by the proposals. Indeed it is recommended that the northern field is enhanced for water voles. This enhancement plan would include planting schemes and buffer areas across the edges of the water course.

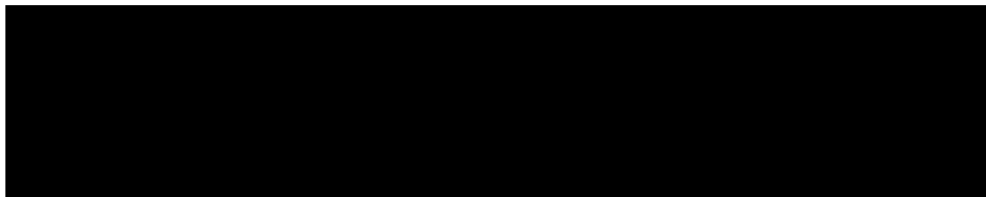
It is considered that if the water course is to be affected then further consideration for water voles should be made. Furthermore, it is recommended that a pollution prevention plan and construction environmental management plan be conditioned.

Conclusion

The results from the water sample analysis confirm likely GCN absence from the off-site pond to the north of the red line boundary. Due to the lack of other suitable water bodies within 250m of the site boundary it is considered unlikely that GCN would be present within the application boundary during their terrestrial phase. The site is not considered to be under any constraints from the presence of GCN.

Water voles have been found within waterbody 1. This water body will not be affected by the proposals and as such no specific mitigation plans for water voles will be required.

If you have any queries then please do not hesitate to contact me,



Alexia Tamblyn MA (Oxon) MSc CEnv MCIEEM FRGS

Principal Ecologist and Managing Director

Appendix 1: eDNA Results

Great Crested Newt eDNA Results

Company: The Ecology Partnership

Address: Dorset House, 297 Kingston Road, Leatherhead, Surrey, KT22 7PL

Contact: Emma Bagguley

Date of Report: 3rd June 2016

Number of samples: 10

Thank you for sending your samples for analysis by NatureMetrics. Your samples have been processed in accordance with the protocol set out in Appendix 5 of Biggs *et al.* (2014).

DNA was precipitated via centrifugation at 14,000g and then extracted using Qiagen Blood and Tissue extraction kits.

qPCR amplification was carried out in 12 replicates per sample using the primers and probe described by Biggs *et al.* (2014) in the presence of both positive and negative controls.

Results indicate GCN presence in one sample (GCN001288 – Barn Pond) and GCN absence in all other ponds. No DNA degradation or PCR inhibition was detected in any sample.

Note that a negative result does not preclude the presence of Great Crested Newts at a level below the limits of detection.

[illegible]