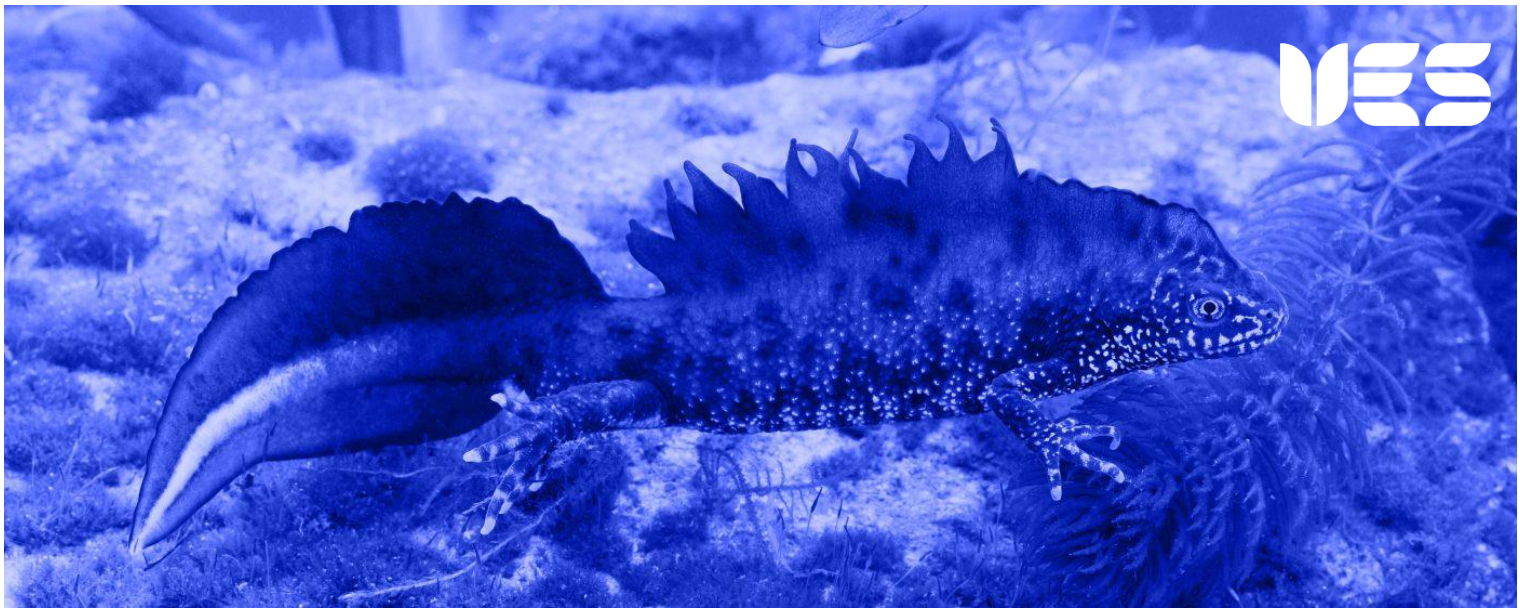


What type of survey do I need?

Great crested newt (GCN) scoping survey and impact assessment

At UES, we can carry out great crested newt scoping surveys and impact assessments all year round, assessing the suitability of the site and surrounding ponds to support great crested newts.

Our ecologists are experienced GCN surveyors who are licensed by Natural England, Natural Resources Wales and Scottish Natural Heritage. We're legally allowed to disturb and handle GCN when we're surveying them.

Our surveys are carried out in accordance with Natural England's GCN mitigation guidelines (2001). The terrestrial habitats, both within the site boundary and adjacent to it, are assessed for their suitability to be used by GCN. We assess ponds and aquatic features with 250m or 500m (depending on the size of your development) against the habitat suitability index (HSI), which gives us an indication as to whether a waterbody is likely to support great crested newts. The HSI for GCN incorporates ten suitability indices, all of which are factors known to affect this species:

1. Geographic location
2. Pond area
3. Permanence
4. Water quality
5. Shade
6. Presence of waterfowl
7. Presence of fish
8. Pond count with 1km
9. Terrestrial habitat
10. Presence of macrophytes

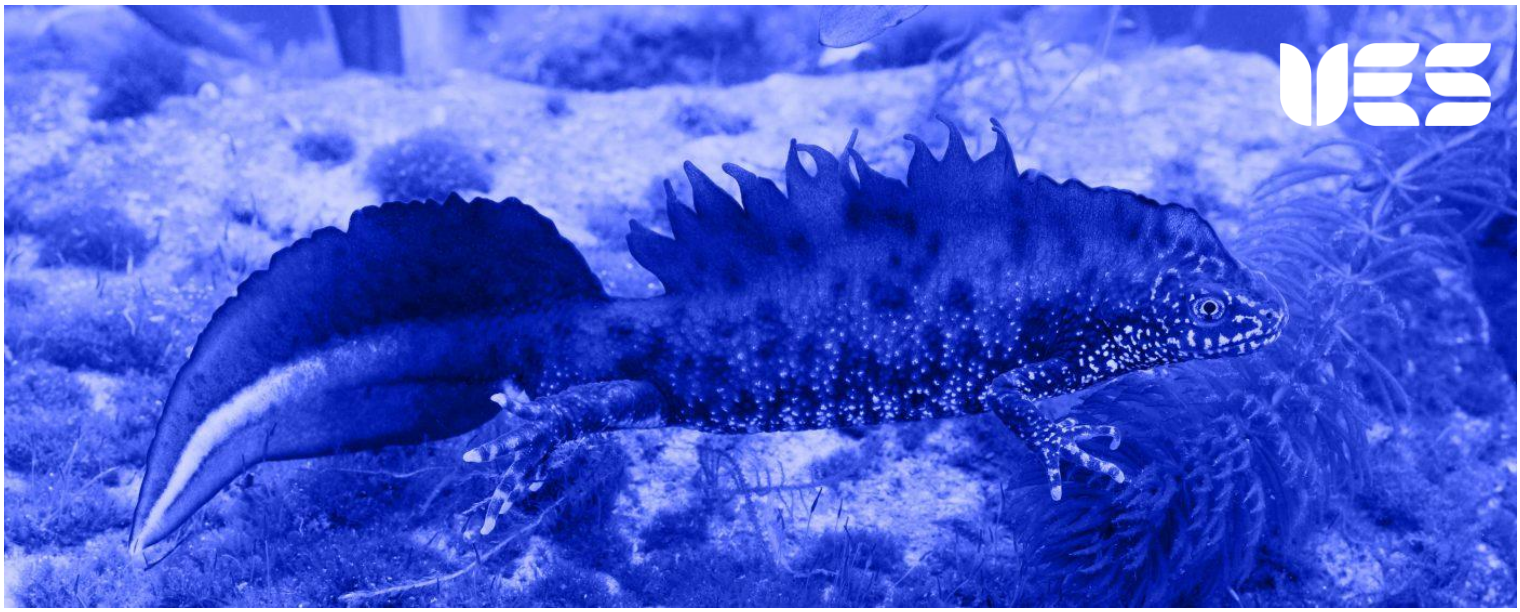
The information gathered during the survey is used to determine the likelihood of GCN being present in the area, both in aquatic and terrestrial habitats.

If there is limited suitable terrestrial habitat on site, no waterbodies are to be affected, and any potential GCN ponds are a sufficient distance from site, we can use Natural England's rapid risk assessment tool to demonstrate that a risk to GCN is unlikely, preventing the need for further survey or licensing work.

However, if the site does have the potential to support great crested newts, further, more detailed presence / absence surveys may be needed.

GCN presence / absence survey

If we've carried out a GCN scoping survey and impact assessment, and there is potential for GCN to be present on site, the next step is to complete a GCN presence / absence survey.



As per Natural England's GCN mitigation guidelines (2001), our licensed GCN surveyors can undertake these surveys from mid-March until mid-June. It is worth noting that two of the four surveys which form the presence / absence survey must be completed during the optimal breeding period of mid-April to mid-May.

We use a combination of at least three of the four survey methods (bottle trapping, netting, torching and egg search) recommended by Natural England.

- Bottle trapping involves setting bottle traps around the edges of the pond at 2m intervals at dusk. The newts swim into the trap but are unable to get back out. The traps are left in overnight and raised in the morning, the number of newts caught is recorded, belly pattern photographs are taken and the newts are released back into the pond. Bottle trapping is considered to be the most reliable method for detecting the presence of newts in a water body.

- Egg search involves searching the submerged aquatic vegetation in the pond for GCN eggs and egg folds. The female GCN lays her eggs singly and folds leaves around them with her back legs to protect them from predation. Egg searching is a good indicator of GCN presence and also that the pond is used for breeding. Egg searching can be difficult in ponds which have a large amount of vegetation and small populations of newts.

- Torch surveys involve shining a powerful torch into the pond at night and slowly walking the pond edge recording any amphibians seen. In clear ponds this can be a good method of detecting and counting newts. High wind and ponds with poor visibility due to water quality or the presence of pond weed can affect the results.

- Netting involves using a long handled net to sample the pond for newts. This can either be done in daylight or in the evening. Captured newts are counted and then released back in to the pond.

If we record GCN, a further two surveys are required to form a population size class assessment (six surveys in total). Three of the six surveys that form the population size class assessment must be completed during the optimal breeding period of mid-April to mid-May. We use the results from these surveys to design a suitable mitigation strategy.

Environmental DNA (eDNA)

UES also undertake eDNA surveys. The analysis of eDNA from water samples provides a quick and definitive tool to determine great crested newt presence or absence.

This technique is particularly useful for large scale developments as traditional pond surveys are still required if GCN are present: where the water samples return negative results, no further surveys are required. UES undertakes eDNA surveys from mid-April until the end of June, in accordance with Natural England's guidelines.