

Crayfish eDNA: FAQ's

How do I collect a sample?

For a detailed guide on sample collection see our detailed sample collection method for Crayfish on our website. This will also be included in the Crayfish kit along with a summary sample collection method. Samples can be taken from ponds, canals, streams or rivers

Who can sample?

Anyone can sample! A license is only required if you are conducting a white-clawed crayfish survey additionally to the eDNA survey. If you are just simply taking a water sample then you do not require a licence.

When is the best time to sample?

We recommend that samples should be collected between 1st April and 31st October to coincide with when crayfish are most active (and hence releasing most eDNA). Samples can be taken outside of this window but accuracy does drop. Further to this the sample should be collected when the pond/river/stream is relatively calm, with little turbidity. Try to avoid sample collection from murky rivers/ponds or at sites just after large rainfall as the filter will soon clog and you will be unable to pass a sufficient volume of water through for analysis.

What volume of water do I need to filter?

The filters are designed to process up to 1 litre of fluid. However, in the case of rivers and streams, due to turbidity and sediment load it may not always be possible to filter such a high volume. We recommend the filtration of at least 150mL, the higher the filtered volume the increased chance of obtaining eDNA within your sample (if it is present within the sample site) If you are unable to filter such high volumes – don't worry. Just make a note of the volume which was filtered on the sample collection form.

How many samples do I need to collect?

Usually one. One kit is adequate for a pond less than 1 hectare, any canal, or any stream/river approximately less than 10m wide. One kit will usually detect crayfish up to 1km upstream so as part of your strategy, you may decide to collect samples every 500m or 1km pinpoint the location with a network.

Can you analyse for all three species from one sample?

Yes. Each sample can be analysed for all eDNA target species currently offered by SureScreen. Once the DNA has been extracted from a sample it can then be analysed multiple times: i.e. for white-clawed crayfish, signal crayfish and the crayfish plague.



Is the test specific to the species?

The assays used in the laboratory for the detection of the crayfish species and crayfish plague have by design been developed as species specific. This means that they will only detect and amplify DNA of the target species, thorough testing has been conducted to ensure that this is the case and that each of our assays for *A. pallipes*, *P. leniusculus*, *A. astaci* and our other eDNA services do not cross-amplify any other species.

What about biosecurity?

With the crayfish plague being a large problem for white-clawed crayfish in the UK at the moment it is highly important that biosecurity measures are followed when collecting crayfish eDNA samples. We have tried to design a biosecurity friendly eDNA kit which includes single use components and therefore reduces the risk of transferring plague from site to site. However, it is also important that the end-user thoroughly cleans any additional equipment, wellies and clothes which they take to any site before moving onto a new site to reduce the risk of transferring any plague spores.

Are there any other laboratories that can analyse for the presence of White clawed crayfish?

At the time of writing (August 2018), no other eDNA laboratories offer species specific services for crayfish or crayfish plague.

What are the chances of detecting old/no longer present populations of crayfish?

We have been conducting experiments to determine the rate at which the DNA degrades from the environment once a crayfish population is no longer present. Result indicate that the DNA levels drop below detectable amounts after two weeks individuals have left the system. This means that there is minimal chance of detecting a population of crayfish which have been absent for several months.

For further advice or queries please email: edna@surescreen.com

