

Riverfly Monitoring along the River Wye and its tributaries

Riverfly is a collective name for mayfly (*Ephemeroptera*), caddis fly (*Trichoptera*) and stonefly (*Plecoptera*). The immature stages (nymphs) are important food for fish and excellent indicators of water and habitat quality, and flow. Consequently, they are a useful group of aquatic invertebrates for routine monitoring. Monthly counts at fixed river locations throughout the UK are done by volunteers for the 'Riverfly Partnership', comprising anglers, the **Freshwater Biological Association**, the **Environment Agency** and environmental groups like **Friends of the Wye**.

Sampling is by 'kick sampling'. The net is placed close to the riverbed just downstream from where the substrate is kicked for 3 minutes, as the monitor travels upstream. This dislodges riverfly that are washed into the net ready to be counted.

In addition, freshwater shrimps (*Gammarus*) are included in the counts because these are also good indicators of river quality. The numbers of the different groups are entered into an on-line database. If numbers fall below a predetermined low threshold (score), this is a cause for concern and a repeat sample is taken for confirmation before informing the Environment Agency.



Friends of the Wye currently have two teams of two volunteers monitoring five sites. We would like a total of four pairs of volunteers, each pair monitoring two sites (eight sites in total) to cover the Wye and Backstream. It would also be interesting to additionally sample Hughenden stream when flowing.

You can go online [here](#) and look at the results of sampling in the lower Thames catchment including the Wye. You will see that riverfly are separated into 7 easily recognisable groups:

- Six groups are shown below. Stonefly (*Plecoptera*) are not found in chalk streams, preferring lower pH water conditions.
- The last group counted, *Gammarus*, the freshwater shrimp an amphipod crustacean, is typically the most numerous of all.

Of course, there are many other freshwater invertebrates of great interest that do not contribute to the riverfly score for water quality monitoring.



CC - Cased caddis
(*Trichoptera*)



CLC - Caseless caddis
(*Trichoptera*)



MF – Mayfly
Ephemeroptera – Ephemeridae



BWO – Blue winged olive -
Ephemeroptera – Ephemerellidae



FBH – Flat bodied Heptageniidae
Ephemeroptera – Heptageniidae



O – Olive
Ephemeroptera – Baetidae

Photographs by Jane Beaton, Karina Oakes and Peter Edwards