Research and analysis: Effects of run-of-river hydroelectric power schemes on small in-stream animals

This project explored the effects of existing run-of-river hydroelectric power (HEP) schemes across England and Wales on communities of small freshwater animals (macroinvertebrates). The research found a very small but statistically significant reduction in the proportion of invertebrates of different families (called evenness) after the HEP schemes were built. It’s unclear whether a change in evenness is ecologically important or just a reflection of adaptation to changing conditions.

The aim of the study was to see whether macroinvertebrate communities associated with HEP schemes have changed in a different way from unaffected but similar sites over the same time period. The research highlighted the wide variability in invertebrate communities in streams and rivers at a given site over time and between sites at the same time. The study also demonstrated the value of looking at as many sites as possible to detect the presence or absence of effects from site-based interventions where other drivers of change may be present.