

Why are Riverfly hubs essential to the continued growth and sustainability of the Anglers' Riverfly Monitoring Initiative?

By Ben Fitch

The Riverfly Partnership is a network of organisations representing anglers, conservationists, entomologists, scientists, water course managers and statutory authorities, working together to protect the water quality of our rivers, further the understanding of riverfly populations, and actively conserve riverfly habitats. It coordinates the Anglers' Riverfly Monitoring Initiative (ARMI), a national citizen science programme in which trained volunteers regularly record macroinvertebrates to check for severe changes in water quality. In England, the Environment Agency funds the Riverfly Partnership to coordinate ARMI, which has developed strongly since its early days but long term sustainability and continued growth will only be achieved if effective support is available across the entire ARMI network. This article examines how a growing number of regional and catchment Riverfly hubs are providing that support.



Why Riverfly hubs? When the Anglers' Monitoring Initiative (AMI) was launched back in 2004 a few Riverfly Partnership tutors travelled far and wide delivering training to anglers, thus enabling angling clubs to regularly check for signs of acute pollution in rivers. Each AMI group was voluntarily coordinated by a club member who could draw upon investigative and enforcement support from the Environment Agency locally whenever a severe change in water quality was detected. Three years later, AMI launched nationally and as the initiative continued to grow monitoring groups hosted by conservation organisations, such as Rivers Trusts and Wildlife Trusts, established alongside those hosted by angling clubs. AMI was later renamed the Anglers' Riverfly Monitoring Initiative (ARMI) to reflect the wider diversity of participating organisations and volunteers. There has never been an issue with recruiting additional volunteers to ARMI but as the initiative grew limitations to the training model were exposed, relating in particular to the cost of training delivery and the low number of available tutors. In addition to the developing need for a localised, affordable training capacity, ARMI groups reported low volunteer retention rates providing further evidence that better support was required in order to sustain volunteer motivation and commitment. It became clear that an expanding network of (potentially) isolated ARMI groups could not be effectively coordinated from a national perspective alone, that another more localised level of support was required. Following consultation with existing ARMI groups, some of which had already evolved to support ARMI at a wider landscape scale, the Riverfly Partnership began to develop regional and catchment based Riverfly hubs, hosted locally by partner organisations and with the capacity to train and support ARMI groups according to demand.

The essence of a Riverfly hub A Riverfly hub can be hosted by a single organisation or by a local partnership and exists to support and develop a sustainable network of ARMI groups through local engagement, volunteer recruitment, training, fundraising, communications, coordination of regular meetings for ARMI volunteers, and by nurturing community ownership of water quality issues. Within a hub area, each ARMI group is aligned to a specific river or stream and has a volunteer coordinator who is responsible for ensuring that monitors regularly sample their allotted site(s) and report findings into the online ARMI database; or relevant statutory body where potential pollution issue is detected. Every hub is coordinated either by employees of the host organisation or by volunteers, often angling club or NGO local branch committee members, and includes at least one Riverfly Partnership certificated tutor.

Strategies for national and local development Nationally, the Riverfly Partnership is committed to establishing a complete hub network across England. Twenty five English hubs are currently active and additional hubs will soon be established in Cornwall and Kent. In addition, one active hub exists in each; Scotland, Northern Ireland and the Republic of Ireland. The online ARMI GIS mapping facility clearly shows how established the initiative is throughout the United Kingdom and coupled with existing Riverfly hub data the national ARMI Coordinator is able to work with existing ARMI groups, statutory body staff and partner organisations to develop the hub network. Locally, organisations which host Riverfly hubs vary from angling clubs and Rivers Trusts, to Wildlife Trusts and National Park authorities, and partnerships involving those and others, so the area which a hub covers tends to vary accordingly between sub-catchment, catchment, county and wider landscape area. Often an organisation's motivation to 1, engage with ARMI, and 2, host a Riverfly hub depend upon a wider commitment to freshwater conservation, such as delivering river restoration or urban pollution control projects. Increasingly, ARMI is just one element of a wider citizen science package, offered by a host organisation to its volunteers, as is the case with both Surrey Wildlife Trust's RiverSearch scheme and Essex Wildlife Trust's River Warden initiative.

Looking further forward As human pressure continues to be the main driver of water quality issues across the UK, and as funding for statutory body led regular monitoring and political will for those statutory bodies to carry out enforcement action both decline, the future of river water quality in the UK is becoming more reliant upon third sector organisations and citizen science, often in partnership with relevant statutory bodies, to help. In addition to the 1200+ regularly monitored ARMI sites across the UK, extended macroinvertebrate and water chemistry initiatives are developing, such as River Invertebrate Identification and Monitoring (RIIM) and Freshwater Watch (FWW) respectively, and Riverfly hubs are engaging their own volunteers to be able to highlight water quality issues in more detail so that sufficient effort and resource can be put into affecting positive ecological change. If you are interested in joining ARMI or hosting a Riverfly hub please get in touch with the Riverfly Partnership via the 'Contact Us' page of our website (www.riverflies.org).

Case study – West Yorkshire Riverfly hub

On 15th January 2015 the Environment Agency hosted a meeting at its York offices to develop a strategy for establishing Riverfly hubs across Yorkshire. The meeting, attended by representatives of the Environment Agency, Riverfly Partnership, West Yorkshire Branch of S&TC UK, existing ARMI groups across Yorkshire, and others, resulted in agreement that Riverfly hubs should be established to support ARMI in West Yorkshire, the East Yorkshire coast and the Yorkshire Dales. Subsequently the East Yorkshire coast area was divided into two with the Esk catchment hub, hosted by the Esk and Coastal Streams Catchment Partnership, and the South East Yorkshire hub hosted by East Yorkshire Rivers Trust, being established within the year. The West Yorkshire hub, also established in 2015, is hosted and funded by Calder and Colne Rivers Trust (CCRT) and the West Yorkshire Branch of the Salmon & Trout Conservation UK, and supports ARMI across the Wharfe, Aire, Calder and Colne catchments. Melvyn Wood is the current Riverfly Partnership certificated tutor for the hub with more being trained, along with new volunteer monitors, as the hub increases momentum.

Monitoring, training and development More than 60 trained volunteers regularly monitor river sites in the West Yorkshire Riverfly Hub area, a local initiative, in partnership with the Environment Agency, offers extended training to existing monitors who wish to develop further and the hub aims to provide ARMI support days to each trained monitor on an annual basis. The Leeds City Council ARMI group, part of the West Yorkshire hub, is the first and only local authority established and resourced ARMI group to date. Leeds City Council should be applauded for taking action to protect and conserve the local freshwater environment, a move which will hopefully be followed by other local councils around the country. As well as providing training to committed volunteers, in the form of one-day ARMI workshops.

Positive outcomes In July 2015 CCRT hosted an ARMI blitz; a one-day sampling event during which trained volunteer monitors collectively sampled a specific waterbody to build up a water quality snap shot. As a result of the blitz several potential pollution points were identified and new ARMI sites established so that regular checks could be carried out going forwards. Samples from two of those sites contained hundreds of Gammarus, but no other invertebrates, and showed high levels of nitrate. The Environment Agency followed up by making local farm visits, resulting in construction of a new slurry pit on one farm and fencing repairs, to prevent livestock poaching, on another. Subsequent sampling has confirmed increasing invertebrate diversity. One other site, where land soiling was known to be impacting water quality, showed a sudden improvement after regular monitoring was initiated, seeming to highlight one of the key added benefits of ARMI; a regular presence on the river can act as a deterrent to would-be polluters.

Riverfly Plus West Yorkshire Riverfly hub volunteers contribute to the improvement of their local environment by helping to deter illegal polluting and fishing, and by recording information related to positive fisheries management, such as invasive non-native species and nutrient enrichment, as the following examples demonstrate.

Citizen science water chemistry monitoring CCRT have funded simple phosphate and nitrate/PH testing kits, suitable for detecting high levels, so that Riverfly monitors can record and feedback valuable additional information whilst ARMI sampling.

Invasive Non Native Species (INNS) Yorkshire Wildlife Trust has funded professional training in the control of invasive non-native plant species which has enabled volunteers to become actively involved in management of Japanese Knotweed in the Colne catchment.