

Wiltshire Wildlife Trust's River Monitoring Scheme

By Martin de Retuerto

The joint Wiltshire Wildlife Trust (WWT) & Wiltshire & Swindon Biological Records Centre (BRC) Volunteer River Monitoring Scheme (RMS) has operated countywide since 1992. It was originally established during a period of great concern about falling water levels, particularly on the chalk streams of the River Avon System. These levels were caused largely by excessive abstraction at a time their effect on plant and animal communities was poorly understood. It was realised that the need to define ecologically acceptable low flow regimes was a priority.

Also, the information gathered by monitoring would be an important tool in influencing government policy on reducing abstraction levels and/or increasing compensatory flows.

Since then there have been many changes in water management and regulation, with improved legislation at European and national levels (eg. The Water Framework Directive). Both the EA and water companies now have stringent and rigorous monitoring programmes in place, particularly in accumulating inclusive hydrometric and environmental data. The River Monitoring Scheme can work in partnership with such organisations to help fill gaps in their monitoring networks.

To date the scheme has required volunteers to pay a monthly visit to a transect along their chosen river site, recording a series of hydrometric, environmental and biological variables. These include details on flow



'Kick' sampling (Photo by S Yarrow)

rates, as well as a specific aquatic invertebrate and vegetation species/groups. Over the years the scheme has provided an exceptional number of biological records for the BRC, including more than 900 fish records and over 2,500 invertebrate records.

As rivers and streams are one of the most under-recorded habitats in Wiltshire the monitors have helped to fill a very large gap. Monitoring also plays a crucial part in delivering targets under the Wiltshire BAP's Habitat Action Plan for Rivers and Streams.

Last year the scheme went through a comprehensive review to bring the methodology in line with the scheme's revised aims, to improve the robustness of the data, and to maximise its usefulness to the BRC and partner organisations.

Following consultation with ecologists from the EA and Wessex Water and after feedback from the volunteers, the methodology was rewritten to focus primarily on 'biodiversity indicators' (indicators of the health and conservation status of the river). The revised scheme was launched at the river monitors AGM in January 07 at Langford Lakes nature reserve, following an insightful presentation from Wessex Water ecologist Neil Punchard about 'The importance of invertebrate monitoring'. The proposed changes were given overwhelming support.

The core component of the revised methodology adopts that of the national Riverfly Partnership (see Newsletter No 13 Autumn 2006 and www.riverflies.org) and will enable river monitors to record the abundance and presence of key aquatic invertebrates. River monitors can use their data to observe water quality levels and, if a trigger level is breached, to call in the EA to investigate any suspected water pollution. The effectiveness of this system was demonstrated by Steve Stevenson and Tim Bale who operate along the River Nadder. They detected possible pollution and swiftly informed the EA - the event is currently under investigation.

The Natural History Museum provided four training workshops at Langford Lakes led by renowned entomologist Dr Cyril Bennett. We are extremely grateful to the Living River Project for funding the Riverfly training workshops and would also like to thank Bridget Peacock and Warren Gilchrist from the Riverfly Partnership and Stuart McTeare from the Piscatorial Society for their assistance with them.

In addition to the invertebrate methodology, the RMS has retained the walking transect approach to the volunteer's chosen site and encourages surveying for other riparian wildlife such as macrophytes, birds, water voles and invasive plants. This provides an opportunity for volunteers to focus on personal interest areas, and allows a broad support network of both WWT & BRC staff to assist volunteers with technical issues.

To keep going for 15 years is a significant achievement for a volunteer scheme and emphasises the level of interest within Wiltshire for our rivers and streams. Adoption of the Riverfly Partnership's protocol is a key step towards improving the value of data and working collaboratively with other groups, such as fisheries, to help increase the coverage of wider river monitoring throughout the county.

If you are interested in river monitoring or would like to discuss collaborative working with your fishing club or community group please contact Martin de Retuerto.



'Sweeping' for adult riverflies (Photo by S Yarrow)



Living River Project update

Crane Street Restoration

As part of Salisbury's Millennium celebrations a stretch of the River Avon in Salisbury was enhanced using soft-engineering techniques. For the first few years the scheme was highly successful in creating marginal habitat, narrowing the channel and improving the appearance of the area. However this approach has not proved to be sustainable in the long-term for several reasons:

1. The structure proved ideal for water voles to burrow, but this made the banks susceptible to flood water turbulence which caused rootstock and soil to wash out
2. Narrowing works provided perfect conditions for water crowfoot growth, but this caused displacement of flows to the outer edges of the channel
3. The upper layers of the structure have been exposed to constant wetting and drying from variable flows

The Living River project has been working with Cain Bio-Engineering to replace the original structure with a robust solution using its 'coirnet' system. This employs a three-ply retaining blanket. An outer netting retains a middle blanket of coir and a soil retention liner. The structure is planted with wetland plants, which binds the whole lot together.

It should be noted that water vole habitat is protected under the Wildlife and Countryside Act 1981 and that their presence is a material consideration for any works affecting the river, including habitat enhancements. In this case there appeared to be a conflict of interests, as their activity helped to cause erosion of the original structure.

Nevertheless, helping the species recover from a national catastrophic fall in population is still a priority and their presence along Crane Street should be deemed as an asset. Although the new restoration technique will not facilitate burrowing as easily, the eventual cover provided by marginal vegetation will offer refuge and improved feeding.

All this repair work has been done through volunteers. So far more than 70 people have helped and repaired 60 metres of the bank side structure. The aim is to finish off the work next year.

Avon Valley Local Nature Reserve Boardwalk

Another big volunteer contribution to the project is the re-building of sections of this boardwalk, much used by walkers and anglers (Salisbury and District Angling Club). Salisbury District Council has materials and tools but the labour provided has all been voluntary.

■ www.livingriver.org.uk