

Acknowledgements

Volunteers The huge number of volunteers who put their time towards monitoring river health every year

Thanks to all past, current and in advance, future volunteers. We can do nothing without you

Matt Edworthy A huge thank you to Matt Edworthy who completed his role as the Taw and Torridge Riverfly Co-ordinator in August. Matt has worked since 2014 to set up Riverfly on the Torridge and unfortunately had to pass it on in 2017. In the four years since it started the project has come on leaps and bounds and there are now also active sites on the River Taw.

Michael Thomas For his continued support on setting up new sites and monitoring trigger level breaches

Ben Fitch For his national role as the Riverfly Co-ordinator and website manager

Contents

Background	2
Riverfly National Review - From the Anglers' Riverfly Monitoring Initiative (ARMI) Project Manager..	2
New Volunteers trained in 2016 and 2017 (Taw and Torridge)	3
River Torridge.....	3
2017 update	3
Results.....	3
River Torridge Results since 2014.....	4
River Taw.....	5
2017 update	5
Results.....	5
River Taw Results since 2016.....	5
Riverfly Schools Update	6
Professor Sir John Lawton.....	7
Freshwater Pearl Mussel Project Update 2017	8

Background

Riverfly in the Torridge catchment was established in 2014, through a partnership with the North Devon Biosphere and Devon Wildlife Trust. It has been running now for 4 years and is one of the larger Riverfly projects in the UK, with 25 active sites in 2017 and over 40 registered sites. Since 2016, Riverfly volunteers have also been trained to monitor parts of the Taw catchment with 11 volunteers trained and 6 active sites.

The programme is almost entirely volunteer led and consists of a combination of anglers, conservationists and local river enthusiasts. It is designed to help detect pollution incidents through the identification of river invertebrates and the abundance of each group. This gives a score for each site which, if falls below the trigger level set for the site by the Environment Agency, proceeds with further action in the form of a second survey by the Catchment Coordinator or involvement of statutory bodies such as the Environment Agency. As well as detecting pollution events, the surveys can also monitor long-term changes in overall river health and act as a deterrent to polluters.

Riverfly National Review - From the Anglers' Riverfly Monitoring Initiative (ARMI) Project Manager

Whilst 2017 has been exceptionally busy for the Riverfly Partnership (RP), with a change of host in April and a strategic refocus of Anglers Riverfly Monitoring Initiative (ARMI) deliverables for this year, the ARMI network also has been in full flow. During the year to date, 54 ARMI training workshops have been delivered to 597 ARMI volunteers and £308,250 of in-kind ARMI coordinator and volunteer time has been committed alongside the rod licence funding which RP receives from the Environment Agency.

ARMI volunteers regularly monitor 1955 sites UK wide and continue to detect pollution incidents, reporting vital information to local statutory body contacts. Across the UK, strongly established ARMI hubs and groups are providing the spine to support Riverfly Plus, and other citizen science, initiatives, such as Extended Riverfly (siltation & low flows) and Outfall Safari (developed and first run by the Citizen Crane project in the Crane Valley catchment).

As always, my continued and sincere thanks to every single ARMI volunteer, coordinator, tutor and partner for your ongoing commitment to protecting and conserving our rivers across the United Kingdom. Special thanks to all rod licence paying anglers and the Environment Agency for providing funding support to ARMI in England, to SEPA for providing strategic support to ARMI in Scotland, to RP host the Freshwater Biological Association and to RP Chair, Steve Brooks.

New Volunteers trained in 2016 and 2017 (Taw and Torridge)

In May 2016, nine new volunteers were trained at Hatherleigh Community Centre. For the first time, two volunteers who took part were the beginning of Riverfly in the Taw catchment. They purchased their own equipment and at the end of the season, one site was active (Nymet Rowland) and 3 samples were taken. During 2017, a second training event was held at the Fox and Hounds (Eggesford), with 11 volunteers trained including 9 new Taw volunteers as well as 3 new Torridge volunteers. There are now 6 active sites in the Taw catchment.

River Torridge

2017 update

The last Riverfly sampling for 2017 was done by the Torridge volunteers in October. Despite the difficulties accessing some stretches due to poor weather towards the end of the season, during the year, 103 samples were collected from 25 active sites. 3 new volunteers were trained up at the start of the season and 4 already registered sites were taken on by new volunteers, including Dymdale Wood Bridge, Sutcombe Mill and Hatherleigh CC. Since Matt's departure from the North Devon Biosphere in August, the Torridge Riverfly project has been taken on by Izzy Moser at Devon Wildlife Trust. Izzy can be contacted via email at imoser@devonwildlifetrust.org.

Results

The data, which in some catchments has been collected for 4 years now, really shows either declining or improving river water quality across the Torridge catchment. Overall, the results show that 7 rivers have strongly improved since the start of Riverfly and 3 rivers have clearly declining water quality. Some patterns from tributaries are less clear with variable water quality throughout the survey period.

3 samples on two different tributaries; the Dipple Water and the Pulworthy Brook, failed their trigger level. The trigger level breach on the Pulworthy Brook which was reported in August was given an Environment Agency reference number. The stream has been assessed in previous years and is known to suffer from chronic low flow stress. The river was otherwise reported as healthy by the volunteer and additional surveys were not required.

The trigger level breach which occurred in the Dipple Water has also been investigated by Michael Thomas following previous trigger level breaches and is under investigation from known upstream impacts by Andrew Fuller, the local Environment Officer. Andrew carried out a site check shortly after the trigger level breach and investigations upstream are being carried out. The stream also suffers from low flow stress. **For the full data, please see the separate PDF included with this document.**

River Torridge Results since 2014

Looking at the Riverfly programme as a whole since it began on the Torridge in 2014,

- 547 samples have been taken
- 50 sites have been sampled
- 17 samples have fallen below trigger levels
- 24 sites are inactive at the end of 2017. A few of these sites have been taken up by new volunteers, but if anyone wishes to get involved in Riverfly and possibly take up one of these sites, please contact Izzy Moser at Devon Wildlife Trust via imoser@devonwildlifetrust.org.
- 4923 volunteer hours assuming each sample requires 3 hours of time to take and enter into the database
- £98,500 is the calculated financial value of the Riverfly volunteer time (using the HLF “Skilled labour” rate for volunteering of £20/hr)

Table 1. Active sites during 2017

Site Name	Volunteer	Active Since
Quarry Bridge	Gordon Murray	2014
Bramble Wood	Geoff Pitt	2015
Stadson Bridge	Jan Malik	2014
Woolleigh Brook	Austin Philp	2014
Nethercleave	Jean and Mike Bowden	
South Heale Yeo	Robert Reed	2015
Waterland Bridge	Sarah Payne and Mick Jones	2016
Dymsdale Wood Bridge	Chris Baines	2017
Sutcombe Mill	Matt Holden	2017
West Hole Bank	Matt Holden	2017
Clifford Bridge	Plymouth University Students	2014
Woolfardisworthy	Julie Collingham	2014
Copse Bank	Steve Short	2015
Woods Bank	Steve Short	2015
Watergate Car park	Graham Nicol	2015
Hatherleigh CC	Elizabeth Durrant	2014
Merton Mill	Steve Martindale	2015
Hayes Barton	Mike Stamp	2014
The Mills - Monkokehampton	Kevin New	2014
Coombe Farm	Sally Vergette	2014
Coham Bridge	Jan Malik	2014
Ford Marsh Copse	Jonathon Hellyer	2014
Julians Farm	Plymouth University Students	2014
Kithill	Geoff Pitt and David Manifold	2015
Lower Hole Farm	Plymouth University Students	2014

Table 2. High Priority tributaries for Riverfly monitoring on the Torridge either through inactive sites or sites that have never been monitored

Priority tributaries or river sections for monitoring
Clifford Water
Lower Hole Farm
Dolton Streams
River Mere upper catchment
Torridge near Torrington
Mussel Brook
Little Mere
Duntz
Iddesleigh Streams

River Taw

2017 update

After the Riverfly training event on the 1st April, it was a little slow getting some sites registered and data collected, but by the end of the season, a total of 5 new sites were registered and 17 samples were collected. 5 sites are registered but currently inactive (table 4). Again, with the poor weather towards the end of the season, opportunities for collecting samples were limited. Since Matt's departure from the North Devon Biosphere in August, the Taw Riverfly project has been taken on by Olivia Cresswell at Westcountry Rivers Trust. Olivia can be contacted via email at olivia@wrt.org.uk.

Results

There are now a total of 6 sites registered in the Taw catchment. Thankfully, none of the surveys delivered in 2017 breached the trigger level set by the Environment Agency, although 4 samples were near the trigger level. Data trends for catchments with more samples collected are starting to show, although additional data is required to show any long term changes in improving or declining water quality. **For the full data, please see the separate PDF included with this document.**

River Taw Results since 2016

Looking at the Riverfly programme as a whole since it began on the Taw in 2016,

- 20 samples have been taken
- 6 sites have been sampled
- 0 samples have fallen below trigger levels
- 4 sites are registered but currently inactive at the end of 2017.

Table 3. Active sites on the Taw during 2017

Site	Volunteer	Active Since
Beginner's Pool	Peter Vanstone	2017
Bray Junction	Sophia Conningsby	2017
Dagger Pool	Sophia Conningsby	2017
Drayford	Peter Vanstone	2017
Nymet Rowland	Paul Haynes	2016
Loxhore Cottage	Wayne Thomas	2017

Table 4. Riverfly sites that are registered online but currently inactive

Site Name
Taw Bridge
Park Mill Bridge
Lapford
Sauls Brook
Bridge Pool

Riverfly Schools Update

Riverfly schools ran again in 2017, delivered by Izzy Moser at Devon Wildlife Trust. The event involved 31 children from Bradworthy Class 6 surveying to identify Riverfly invertebrates as a method of detecting river health. A thank you to Bob Shepard who volunteered to help during the day.



Since Riverfly schools started in 2015, a total of 83 children have engaged with the event which is held at Julian's Farm near Bradworthy. Unfortunately several events had to be postponed due to poor weather conditions.



Riverfly Events have also been held at Hatherleigh Primary School and at the annual Hatherleigh Fair, delivered by Elizabeth Durrant (River Lew Riverfly Volunteer).

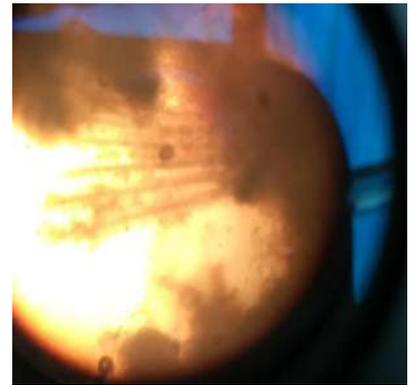
Professor Sir John Lawton Visit

In 2016 Professor Sir John Lawton, former head of the Natural Environment Research Council and President of the Institution of Environmental Sciences, visited the River Torridge Nature Improvement Area. As part of that he travelled to a Riverfly site, closely monitored by Gordon Murray during an invertebrate survey, to discuss the importance of Riverfly monitoring in the Torridge catchment. It was Sir Lawton's Report entitled 'Making Space for Nature' which led to the development of Nature Improvement Areas, of which the Torridge catchment was one of 12 in England.



Freshwater Pearl Mussel Project Update 2017

This summer, the project achieved an exciting milestone. Thanks to our expert advisors from Ireland, we were able to confirm live juveniles mussels for the first time in over 50 years. The juvenile mussels which had previously encysted on brown trout dropped off at our captive rearing facility in North Devon. This enabled us to collect and return them to the River Torridge in specially selected locations. The captive breeding programme is currently in its second year, and during October 2017, the project was able to confirm a second year of successful glochidia (larvae) attachment on host fish.



This programme of work is part of the national 'Restoring Freshwater Mussel Rivers in England' funded by Biffa Award and co-ordinated by the Freshwater Biological Association. It is the first to trial this short-term breeding method in England.

Along with the captive breeding programme, the project delivers an array of measures to improve local water quality including tree planting, riverbank erosion management, tree coppicing, watercourse fencing, forestry track improvements, farm yard improvements, farm advice and workshops.

