



Riverfly Surveys  
River Exe System  
2022 Annual Report



Final Ver.B January 2023



# Riverfly Surveys 2022

## River Exe System

### Introduction

The value of Riverfly has never been greater than now. 2022 was a year when the effects of climate change were clear and we learnt that South West Water had been making widespread illegal discharges of sewage into our rivers and the sea. Our surveys provide the objective evidence to monitor the impacts of these and other threats to the health of our rivers.

The lasting effects of COVID are still affecting our monitoring, although hopefully the worst is over. We undertook almost 70% of the possible surveys which compares with the low under 50% in 2020 but not yet back to the pre-pandemic level of almost 90%. The main reasons for the shortfall were the weather (mainly low flows) and the need to recruit and train new volunteers to fill vacancies that have arisen since 2020.

The recommended 'windows' for survey were 7-22 May (Spring), 2-17 July (Summer) and 10-25 September (Autumn). We try to undertake all our surveys at around the same times so that comparisons can be made.

### Weather

Yet again, high temperatures and low summer rainfall were features of 2022 weather, as illustrated below.

	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
Temperature	0.2	1.9	1.1	0.3	1.0	0.2	1.2	2.2	0.3	2.0	1.6	-1.4
Rainfall	43%	132%	68%	46%	75%	85%	36%	34%	116%	104%	148%	101%
River Level	1.48	1.64	1.36	1.01	0.96	0.90	0.87	0.87	0.91	1.02	1.75	1.46

The data for the first two rows is taken from the Met. Office Regional Data Series for South West England and South Wales.

- The first row shows the difference in mean temperature deg C. from the 30-year average 1991 to 2020. It can be seen that all months were above average except December.
- The second row shows the monthly rainfall as a % of the 30-yr. average. All months from March to September were below average (parts of Devon had up to ten months below average, from November 2021 to August 2022).
- The third row shows the average monthly river level on the Exe at Stoodleigh. From the start of April to the end of October the level barely exceeded 1.0m (high 1.35. on 7 April, low 0.82m on 14 August). It should be noted that flows at Stoodleigh are supported by discharges from Wimbleball reservoir, so conditions would have been even worse elsewhere.

High water temperature is known to stress invertebrates and fish. Since this is often linked to low rainfall, and hence low river levels, there is also increased impact from point discharges (outfalls). The prolonged period of these conditions led many anglers to avoid further stress (to the river and themselves!) by not fishing, and prevented some Riverfly surveys, particularly on the spate streams which can almost dry out.

## Coverage

The number of sites within the overall Exe catchment network remains at 53, although some of these are vacant and seven sites had no survey at all. Without the recruitment of some new volunteers this number would have been higher.

The river conditions were such that the number of surveys reduced from 81% of sites in spring to 70% in summer and only 57% in the autumn. Nevertheless, a total of 110 surveys were undertaken, and 87% of the sites were visited at least once.

Good coverage is important. If a poor result is returned then the first course of action (after repeating and reporting it if serious) is to look at other results. If a neighbouring or subsequent survey is missing then we cannot know how local or temporary the issue is.

## Summary Scores

With eight groups of invertebrates being counted, the 110 surveys comprise 880 separate scores. Detailed information on the Riverfly method and scoring system was included in the 2021 Annual Report. Summary scores are the totals from the eight groups for each site. Hence for all the groups to be present there needs to be a score of at least 8; a score of 5 means that at least 3 groups are not present. Many sites do not support all eight groups but can still achieve high scores if there are large numbers of some.

<b>Summary Results 2022</b>	<b>Spring</b>	<b>Summer</b>	<b>Autumn</b>
% of scores at or above the seasonal site average <sup>1</sup>	50% (42%)	41% (41%)	26% (29%)
No. of scores at or above the seasonal site average	21 (16)	15 (16)	8 (12)
% of scores above the EA trigger threshold	98% (100%)	81% (83%)	60% (74%)
% of scores at the EA trigger threshold	0% (0%)	8% (10%)	20% (5%)
No. of sites at or below the EA trigger threshold	1 (0)	7 (7)	12 (11)

### Notes:

1. The average record length is now over seven years (maximum 11) but, for the purpose of comparison, the averages exclude the 2022 results.
2. Some comparisons with 2021 are missing the corresponding surveys were not undertaken.

It can be seen that 50% of the spring scores were at or above average but that, like last year, this proportion fell, so that by autumn 74% of results were below their seasonal average. This could be because both years had periods of high temperature that followed spring.

The number and percentage of sites exceeding the Environment Agency (EA) threshold scores also fell significantly during the year, from 98% in spring to 60% in the autumn. It is normal for Riverfly scores to be lower in autumn than spring but we have not previously seen 40% of sites (12) at or below their threshold for reporting.

The full results, are included at the end of the report.

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<sup>1</sup> Bury Bridge does not yet have a spring average from previous surveys.

## Trigger Level Failures

The main purpose of trigger levels is to provide a threshold score below which the Environment Agency (EA) should be alerted. Volunteers are asked to contact the EA as soon as possible if a repeat survey also fails, particularly if there are other indications of an acute problem.

Only one spring summary scores was below its trigger-level. The was the site at **Morrisons** on the River Exe, which only achieved a score of 5. This has happened before, and the score either side were comfortably above their trigger levels so no further action was taken.

Four summer survey summary scores were below trigger level:

- The **Iron Mill Stream** summer score was 5, two below its trigger level.
- The Exe at **Cove** score was 5, one below its trigger. Unfortunately, there was no survey from Exebridge but the site below at Hatswell achieved a score of 10.
- The Culm at **Rewe** and **downstream of Ellerhayes Bridge** were both 4, one below their trigger levels. These sites had been vacant since 2018, so no recent comparisons are possible, but the quality appears to have declined since then. The survey results are similar to those experienced on the Spratford Stream upstream at Cullompton.

A further three summer surveys were at trigger level:

- The Dart at **Templeton Bridge** and at **Riverside**. The condition of the Dart was a concern in 2021 and was investigated by the Environment Agency.
- The **Spratford Stream** at Cullompton. This has also been an issue for some time.

Six autumn survey summary scores were below their site thresholds:

- The Exe at **Cove** had another low score of 3, which is three below threshold and unfortunately there were no nearby surveys to compare with. However, Exebridge above and Black Bridge (Bickleigh) below also only just met their trigger levels.
- The Culm at **Rewe** and **downstream of Ellerhayes Bridge** were both again below the trigger level, with Rewe only achieving a score of 2.
- The Culm at **Ford Farm** (below Uffculme) only achieved 5, two below its trigger level.
- The Dart at **Templeton Bridge** was below trigger level this time with a score of 6.
- The Yeo at **Salmonhutch** had a score of 6, one below its threshold.

A further six sites only just met their trigger levels:

- The River Exe at **Exebridge, Black Bridge** and **UpExe Mill**
- The River Lowman at **Collipriest**
- The River Dart at **Riverside**
- The River Culm at **Culmstock**

These results are worrying. There are no signs of improvement on the River Dart and scores on the River Culm deteriorate from the best (16) to the worst (2) as it progresses downstream. The middle Exe started the year well but by the Autumn it also had poor results, with the four surveyed sites between Exebridge and UpExe Mill at or below their trigger levels (regrettably, there were no results from the other four sites in this reach). It would seem that climate change may be having a significant new detrimental impact.

## Notes and Other Activity

### Riverfly Training

With the support of RETA and the 'Connecting the Culm' project we were able to hold a training day for six new volunteers at Hemyock on 28<sup>th</sup> May. As now with the driving test, qualification involved a theory test that had been completed beforehand, leaving more time for a practical session on the river. This has enabled us to fill three vacant Riverfly sites and we are hopeful of new sites in the Exeter area.

### Water Company Illegal Spills

In late 20221/early 2022, the performance of water companies with respect to sewage discharges was made public through the work of Peter Hammond and the Windrush Against Sewage Pollution (WASP) group. Water companies are allowed to discharge untreated or partially treated sewage during periods of high rainfall. However, if there is no rainfall or if they fail to meet their obligatory minimum treatment rates, then such spills are unpermitted and illegal.

WASP found that there were 95 'unpermitted spills' by South West Water on the River Culm alone in 2020. It also found that several sewage treatment works have been running at full capacity for many years.

These findings and the apparent failing to regulate them, raise questions about the performance of South West Water and the Environment Agency which have yet to be answered,

### Gammarus, too much of a good thing?

Ecology Notes on all eight Riverfly groups were included in the 2021 Annual Report. This year the focus is on just one, *Gammarus*. It is the odd one out of the eight Riverfly groups, being the only crustacea whilst the others are the larvae or nymphs of flying insects.

*Gammarus*, or freshwater shrimp, are crustaceans with a three-stage life cycle: egg, larvae, adult. They live in moderate to fast-flowing water. They shred plant matter and can be extremely abundant amongst leaf litter and woody debris. They are moderately sensitive to pollution but are very intolerant of pesticides. *Gammarus* have medium tolerance to nutrient enrichment but don't like sedimentation or acidification. *Gammarus* tend to increase when organic matter increases.

*Gammarus* with an internal yellow or orange mass can indicate the presence of the parasites *Polymorphus* or *Pomphorhyncus*. These parasites spend part of their life-cycle in *Gammarus* and part in fish. It has been suggested that the colour has evolved to make the shrimp more attractive to fish predators and hence help this transfer. Some anglers believe that by introducing some colour into their 'red-spot shrimp' fly patterns they can also improve the chance of being taken by fish!



A highly invasive species of freshwater shrimp is present in some British waters. *Dikerogammarus villosus*, known as the killer shrimp, is a voracious predator, killing invertebrates and small fish. It quickly dominates the habitats it invades and can significantly alter their ecology. It is larger than our native *Gammarus pulex*. Fortunately, it is known in only a few locations but any sightings, or suspected sightings, should be reported. To reduce the risk of it spreading requires good kit hygiene, particularly when moving between sites.

So, what do shrimp mean for us?

*Gammarus pulex* can be a good sign. When present with other insect groups, they indicate low levels of pesticide pollution and acidification. We might typically get a few, or tens, at a good site. However, *Gammarus* at the expense of other groups is not a good thing, particularly if they dominate the habitat.

The three surveys below are from the River Culm results summer 2022, so taken within days of each other in July. It can be seen that the first survey indicates a healthy river, with some of every group and shrimp 'in balance'. By Culmstock, about 4km. downstream, some groups are missing and *Gammarus* and the largest group. Below Cullompton, near Killerton, the river is devoid of insects and only supports very large numbers of *Gammarus*. This suggests increasing nutrient and organic matter levels down the river.

Summer 2022 Counts	River Culm u/s Hemyock	River Culm Culmstock	River Culm d/s Cullompton
Cased Caddis	2	10	0
Caseless Caddis	25	10	0
Mayfly	1	0	0
BWO	5	0	0
Flat Bodied	40	10	0
Olives	25	50	0
Stoneflies	200	0	0
Shrimp	9	100	1500

### Riverfly Newsletter

The Riverfly Partnership (<https://www.riverflies.org>) regularly produces newsletters. The latest copy, December 2022, is appended.

### Acknowledgements

This Report is only possible because of the data that has been collected. Those who use the data are thankful for the efforts by the volunteers who provide it year after year, rain or shine. It is valuable locally, regionally and nationally.

Our network relies upon support from the River Exe and Tributaries Association (RETA) which has provided funding to cover essential costs.

### Richard Horrocks

Lower Exe, Culm and Creedy Coordinator

[richard.horrocks1@btinternet.com](mailto:richard.horrocks1@btinternet.com)

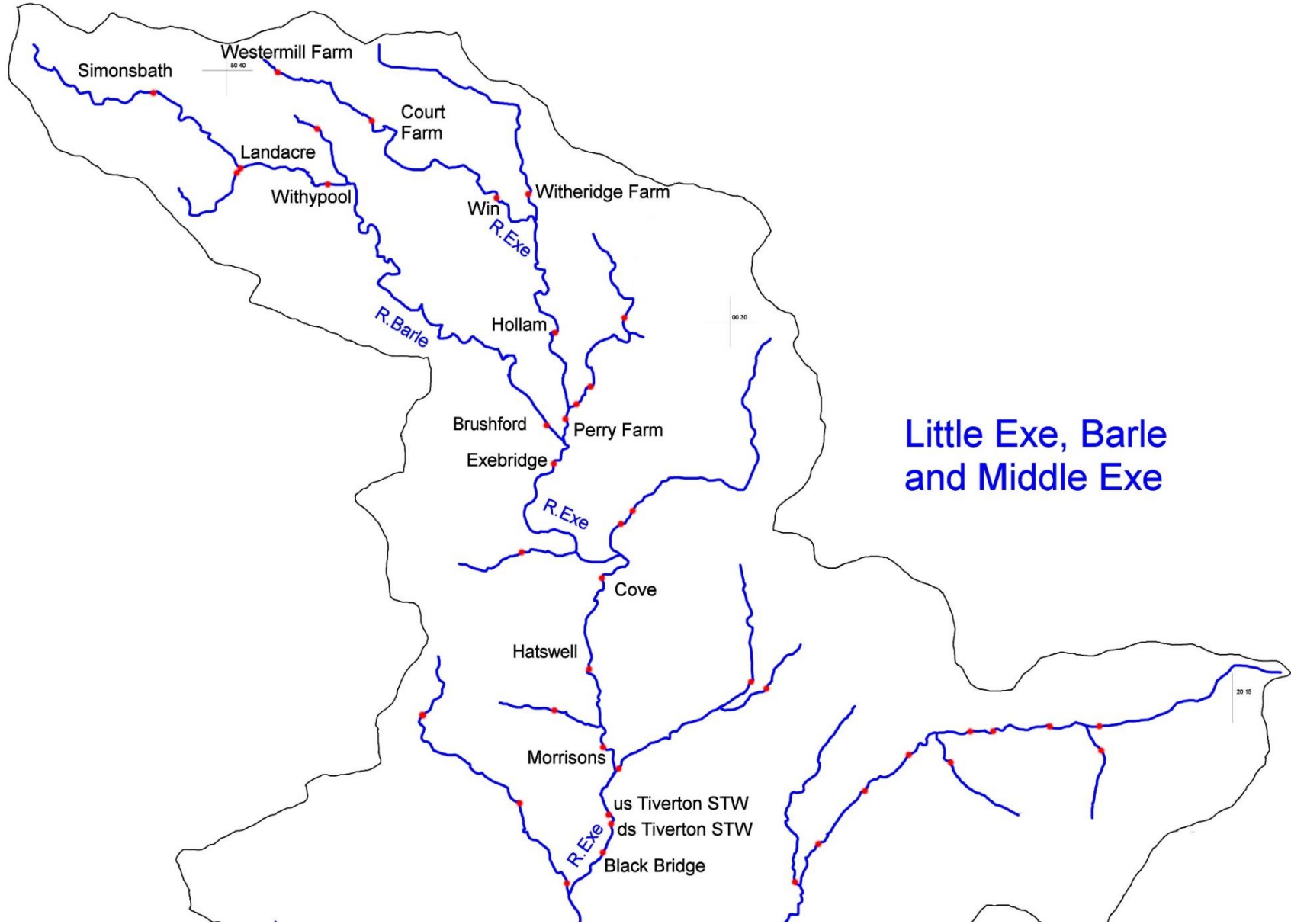
### Fred Leach

Overall Coordinator

Barle, Upper Exe and Middle Exe Coordinator

[fredleach@bampton.eclipse.co.uk](mailto:fredleach@bampton.eclipse.co.uk)

P.S. we are always happy to receive comments, corrections or suggestions and to be approached by potential new volunteers.



**Little Exe, Barle  
and Middle Exe**



### Summary Little Exe, Barle and Middle Exe

				2022			2022-Average			2022 - 2021			2022-Trigger		
				Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut
Little Exe & Barle	L. Exe	Westermill Fm	6	8	8	8	-2.3	1.5	-1.8				2	2	2
	L. Exe	Court Fm	6	8			-6.0	####	####				2	####	####
	L. Exe	Winsford	6				####	####	####				####	####	####
	L. Exe	Hollam	7	13	11	10	1.0	0.3	0.7	2	0	3	6	4	3
	L. Exe	Perry Farm	6	13	11		-0.3	-0.6	####	0	0		7	5	####
	Barle	Simonsbath	5				####	####	####				####	####	####
	Barle	Withypool	5				####	####	####				####	####	####
	Barle	Landacre	5	9	7		0.5	-2.1	####	1			4	2	####
	Barle	Brushford	6	13	8		0.4	-3.8	####	2	-2		7	2	####
Middle Exe	Exe	Exebridge	6	13		6	0.1	####	-4.1	2		-2	7	####	0
	Exe	Cove Bridge	6	11	5	3	0.2	-5.1	-5.3	2	-3	-5	5	-1	-3
	Exe	Hatswell	6	9	10		-0.2	1.7	####	-1	2		3	4	####
	Exe	Tiverton Morrisons	6	5			-3.4	####	####	-5			-1	####	####
	Exe	us Tiverton STW	6	11			3.1	####	####	4			5	####	####
	Exe	ds Tiverton STW	6	15			5.7	####	####	5			9	####	####
	Exe	Black Bridge	6	13	12	6	-1.3	0.1	-4.1	2	1	-1	7	6	0

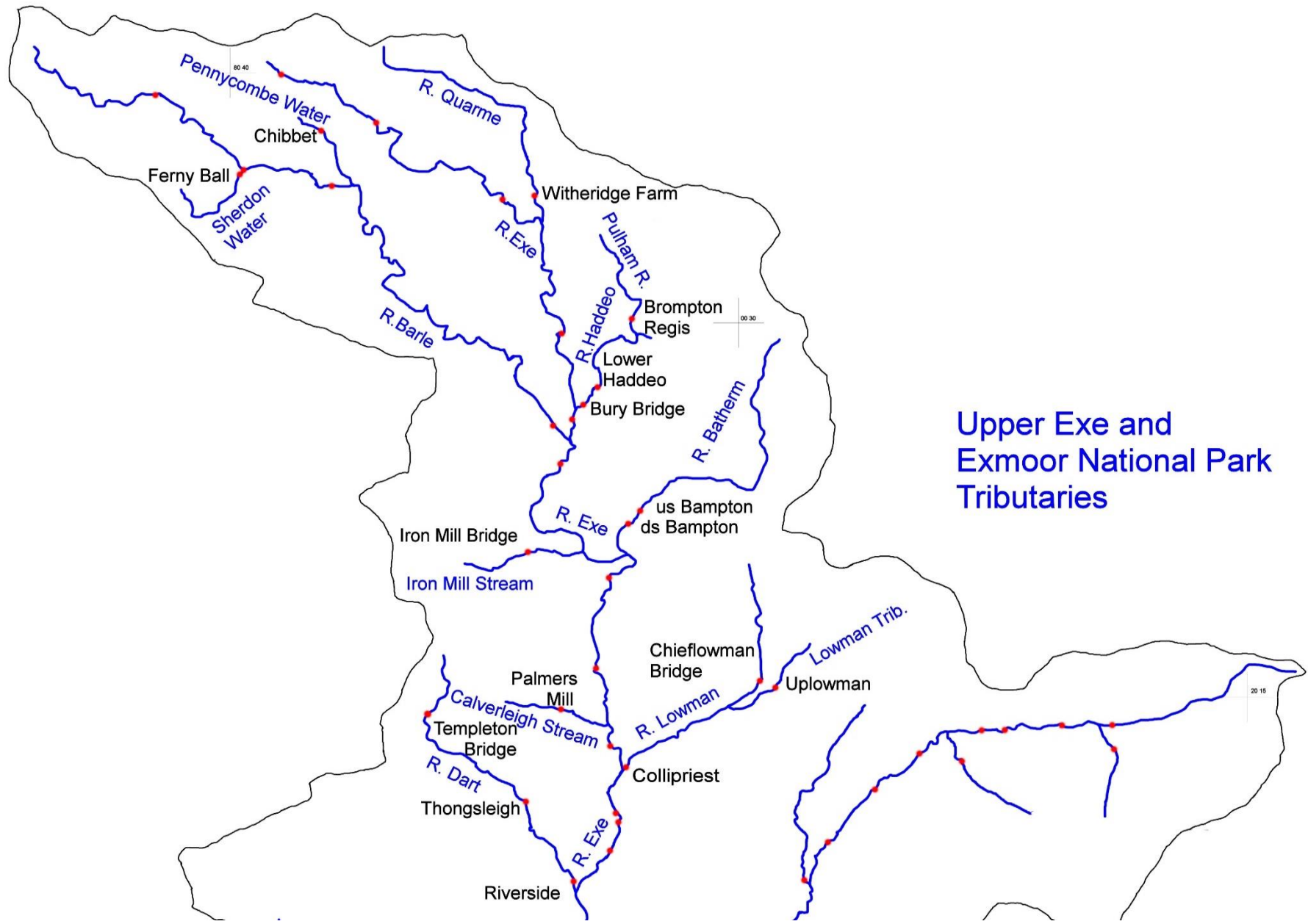
# Trigger score                      ##### No data (or comparison data)

The first column '2022', shows the summary scores for each survey

The second column '2022-Average' shows the difference from average of previous seasonal scores

The third column 2022 v 2021 shows the difference from the equivalent 2021 survey, where both are available

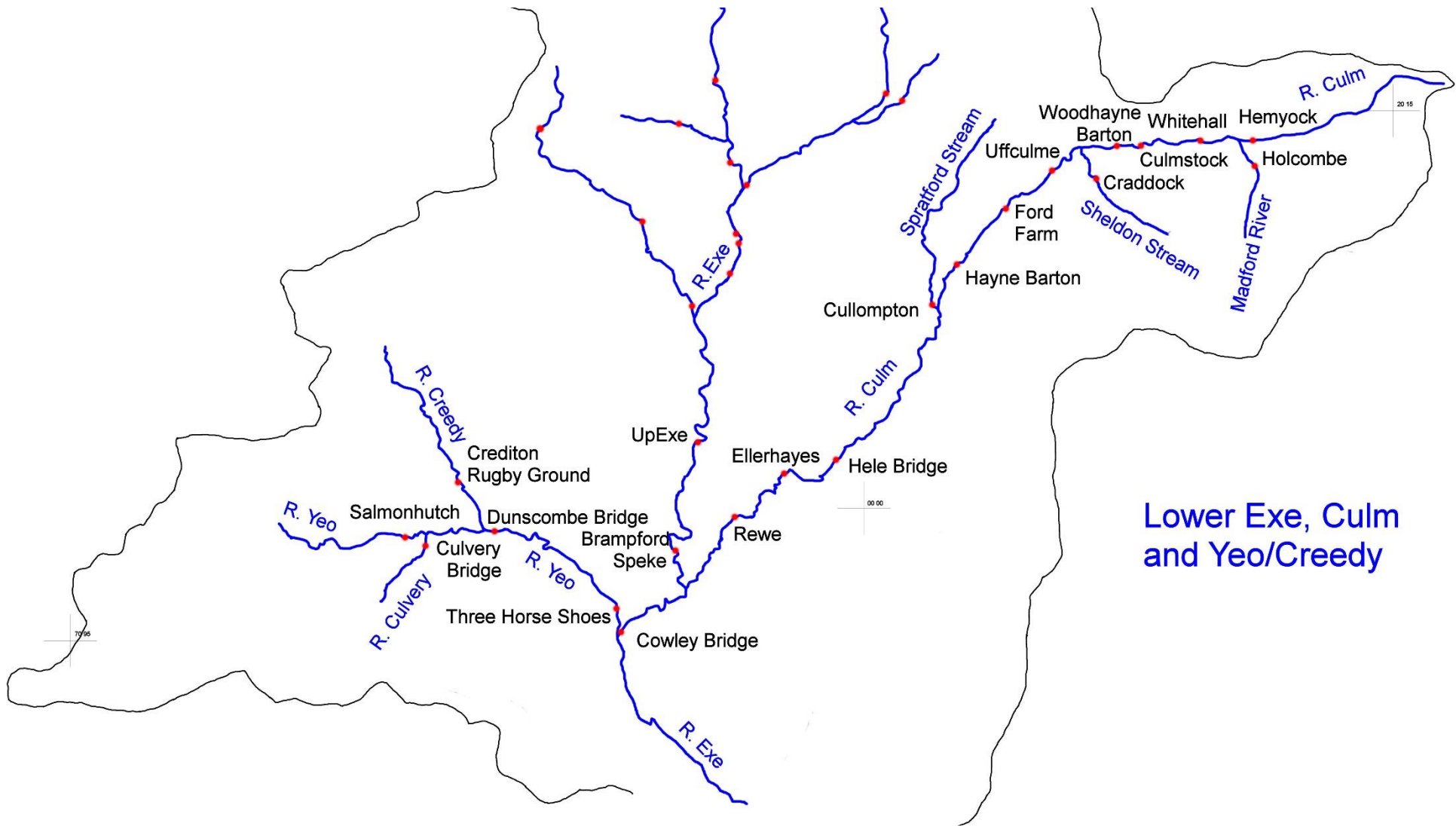
The fourth column 'Trigger Fail', shows the difference between the score and the trigger score. Hence 0 indicates the trigger has been met.



## Upper Exe and Exmoor National Park Tributaries

**Summary ENP and Middle Exe Devon Tribs.**

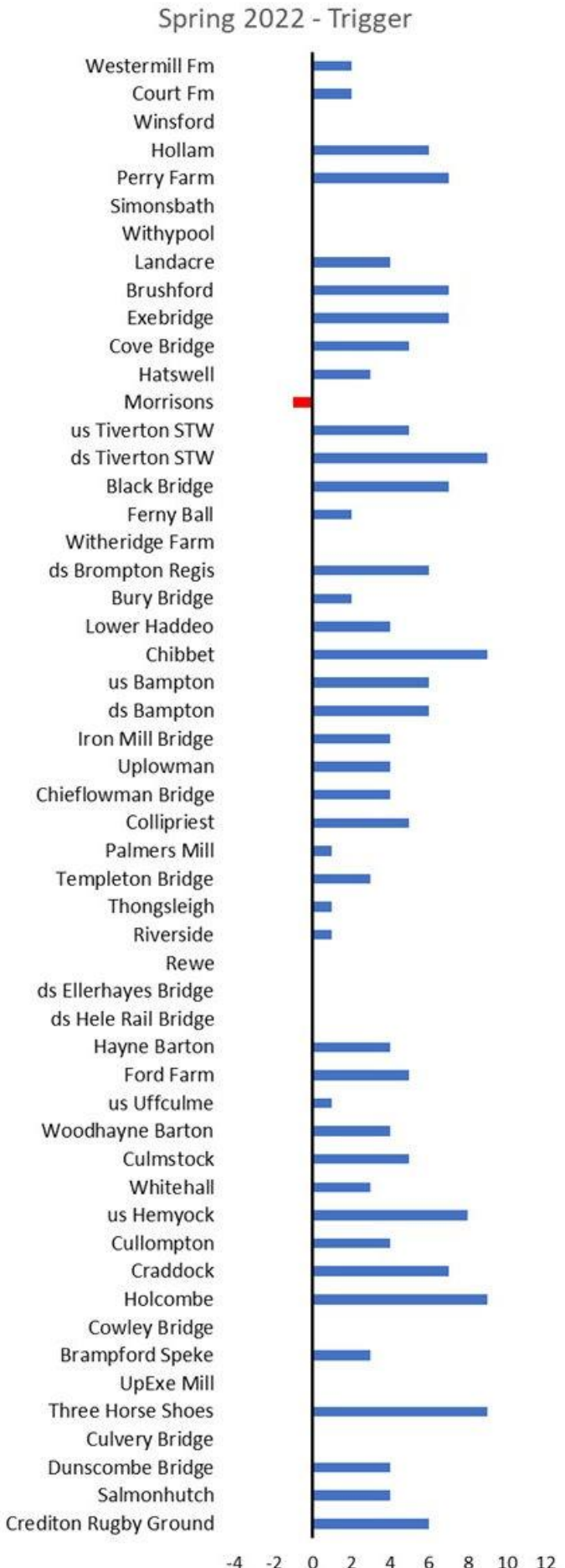
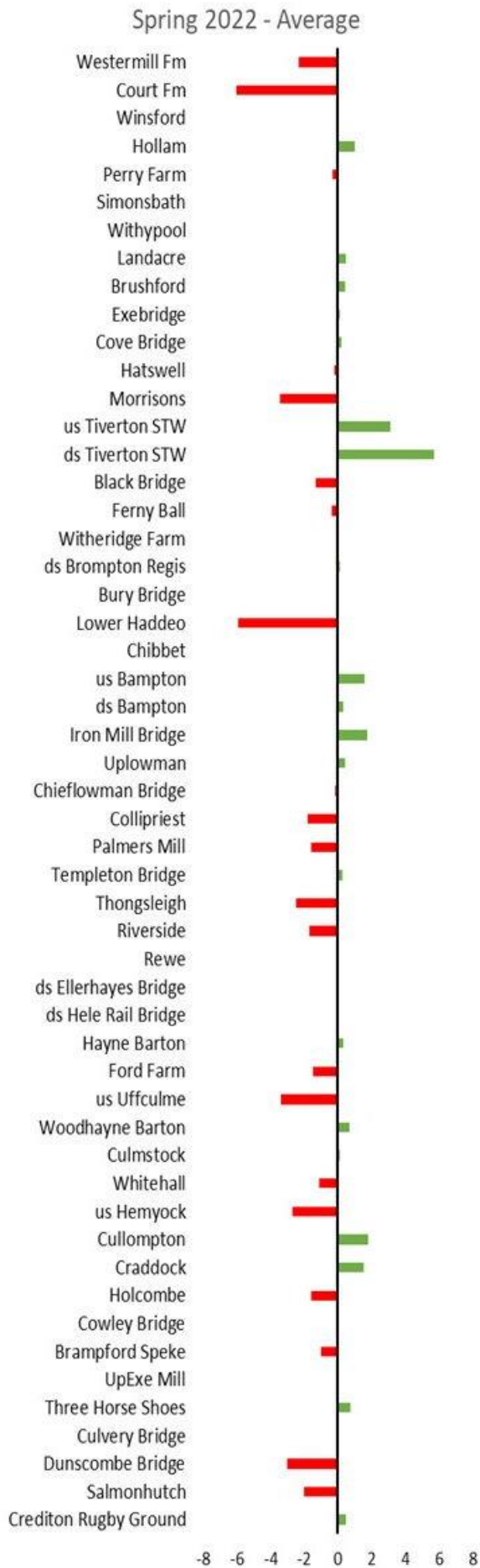
				2022			2022-Average			2022 - 2021			2022-Trigger		
				Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut
Exmoor NP	River	Location	#												
	Sherdon Water	Ferny Ball	6	8	11		-0.4	1.9	####	-2			2	5	####
	Quarme	Witheridge Farm	7				####	####	####				####	####	####
	Pulham	d/s Brompton Regis	6	12	11	13	0.1	0.8	3.5	0	-1	4	6	5	7
	Haddeo	Bury Bridge	7	9	9	9	####	0.0	-1.0		0	-1	2	2	2
	Haddeo	Lower Haddeo	7	11	9	9	-5.9	-6.6	-5.8	3	-2	1	4	2	2
Pennycombe Water	Chibbet	6	16			0.0	####	####				9	####	####	
Middle Exe Devon Tribs.	Bathern	us Bampton	6	12	9	7	1.6	-1.4	-1.9	1	0	0	6	3	1
	Bathern	ds Bampton	6	12	11	8	0.3	1.1	-0.6		0	0	6	5	2
	Iron Mill Stream	Iron Mill Bridge	7	11	5		1.8	-3.5	####		-2		4	-2	####
	Lowman Trib	Uplowman	7	11	9		0.4	0.8	####	2	0		4	2	####
	Lowman	Chieflowman Bridge	7	11	9		-0.1	-0.6	####	0	-1		4	2	####
	Lowman	Collipriest	7	12	10	7	-1.8	-0.7	-2.8	1	-1	0	5	3	0
	Calverleigh Stream	Palmer's Mill	7	8	9		-1.6	-0.9	####	-1	-1		1	2	####
	Dart	Templeton Bridge	7	10	7	6	0.3	-0.7	-2.1	-4	2	-1	3	0	-1
	Dart	Thongsleigh	7	8	9	8	-2.5	0.7	1.3	-5	3	2	1	2	1
	Dart	Riverside	7	8	7	7	-1.7	-0.7	-0.6	-3	0	-1	1	0	0

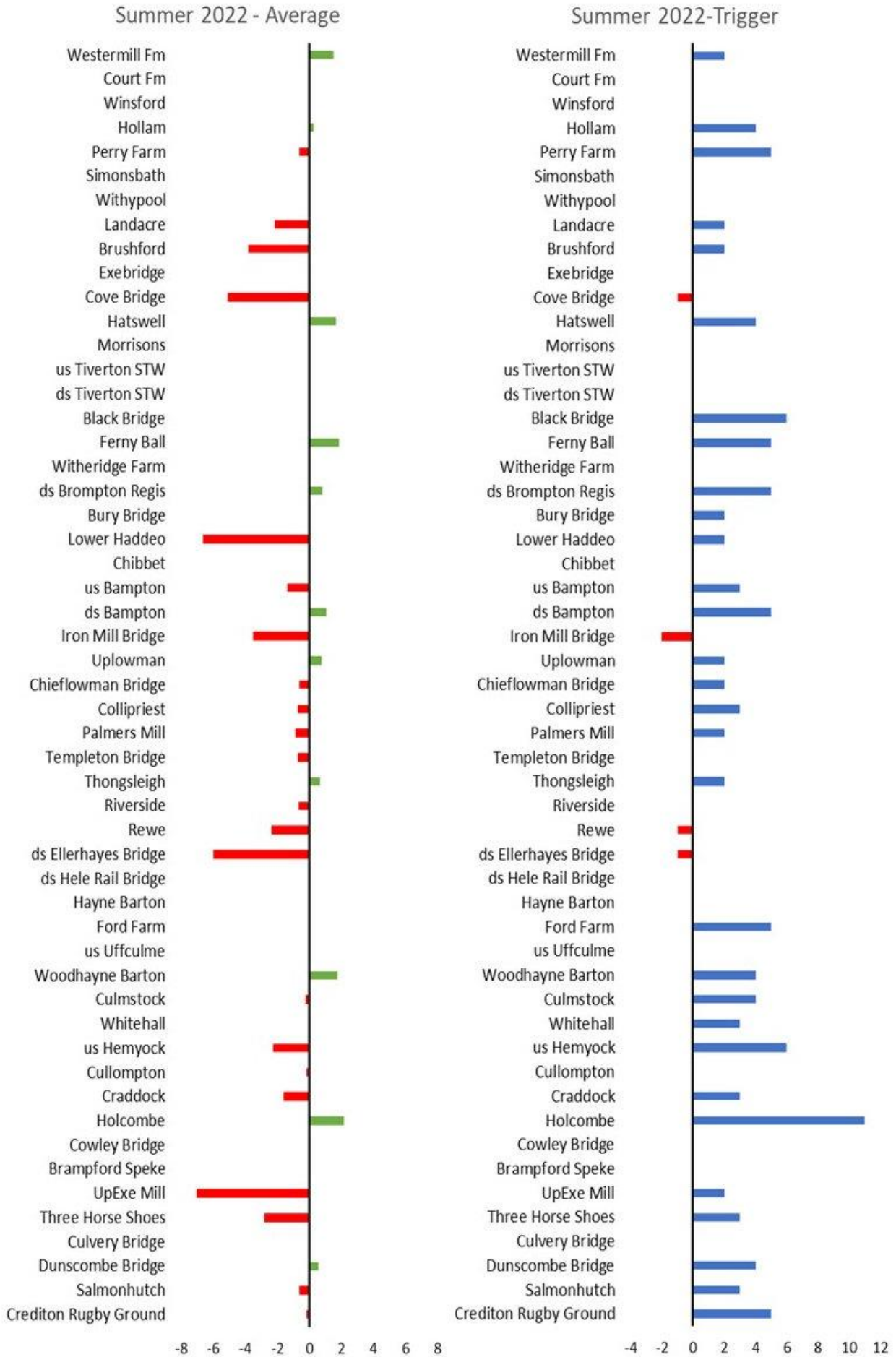


**Lower Exe, Culm  
and Yeo/Creedy**

**Summary Culm, Lower Exe and Creedy/Yeo**

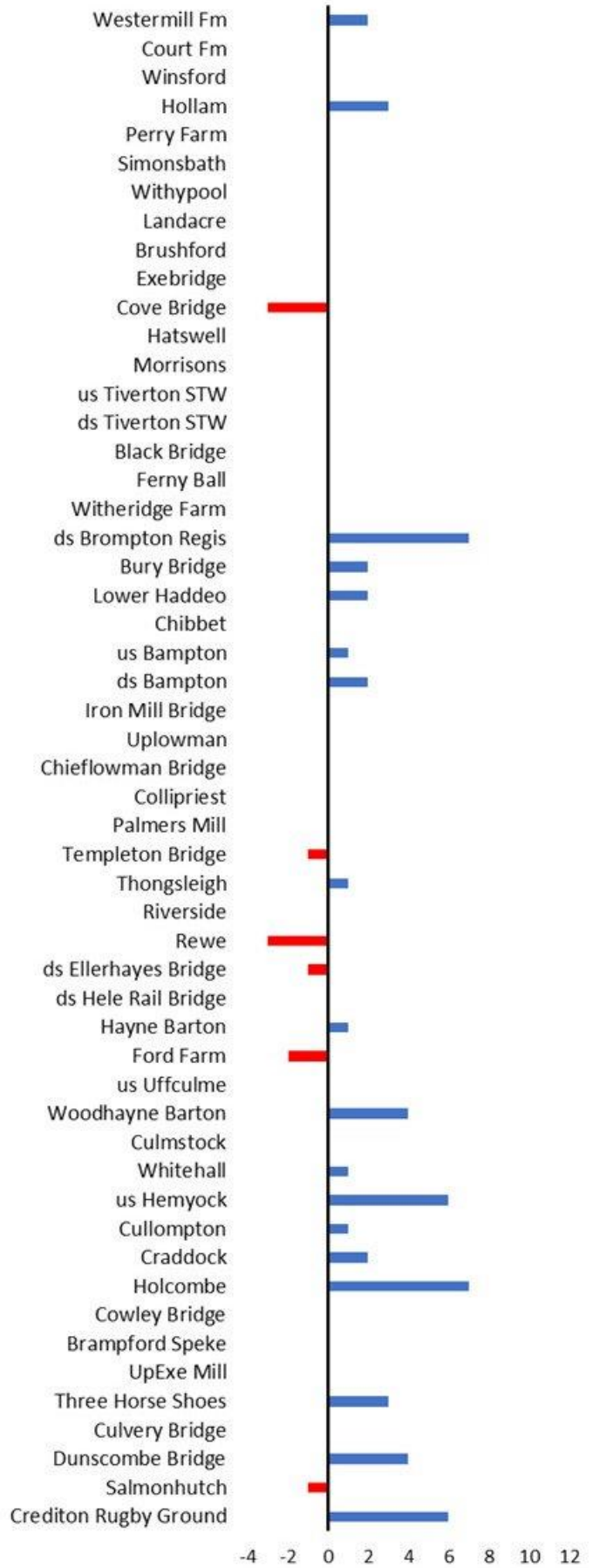
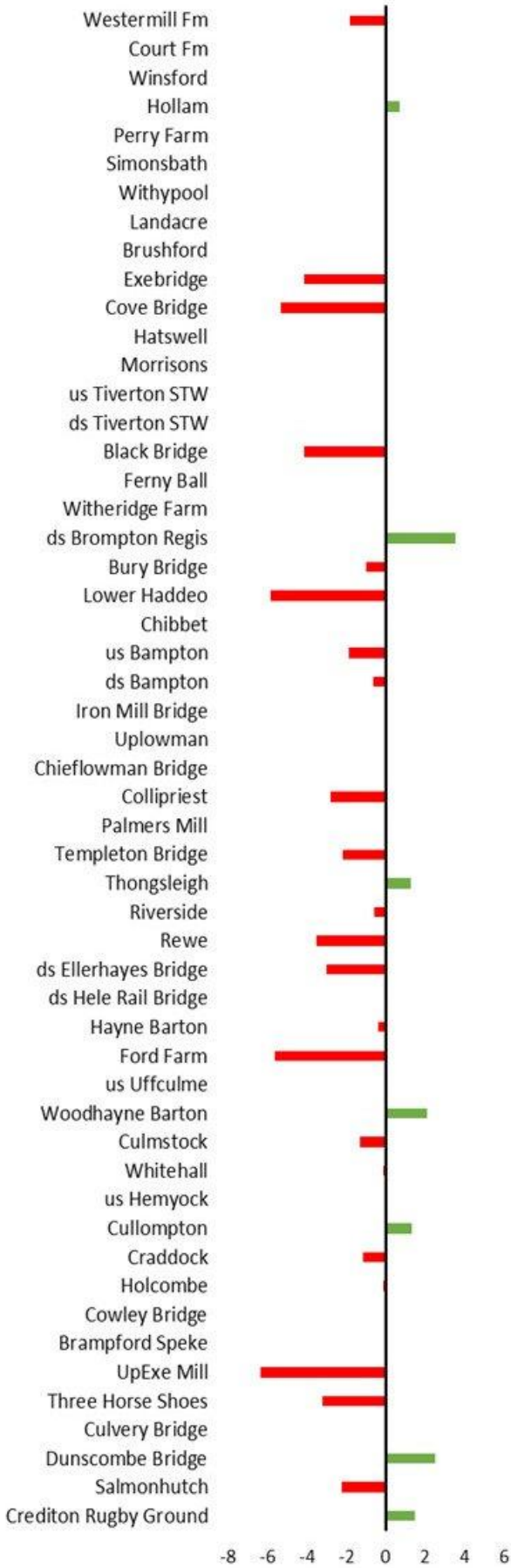
				2022			2022-Average			2022 - 2021			2022-Trigger		
				Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut	Spr	Sum	Aut
<b>Culm &amp; Tributaries</b>	Culm	Rewe	5		4	2	####	-2.3	-3.5				####	-1	-3
	Culm	ds Ellerhayes Bridge	5		4	4	####	-6.0	-3.0				####	-1	-1
	Culm	ds Hele Rail Bridge	5				####	####	####				####	####	####
	Culm	Hayne Barton	7	11		8	0.3	####	-0.4	-1		1	4	####	1
	Culm	Ford Farm	7	12	12	5	-1.5	0.1	-5.6	3	4	-3	5	5	-2
	Culm	us Uffculme	7	8			-3.4	####	####	-6			1	####	####
	Culm	Woodhayne Barton	7	11	11	11	0.7	1.8	2.1	-1	1	3	4	4	4
	Culm	Culmstock	7	12	11	7	0.1	-0.2	-1.3	-1	-2	-2	5	4	0
	Culm	Whitehall	7	10	10	8	-1.1	0.1	-0.1	-1	-2	-1	3	3	1
	Culm	us Hemyock	7	15	13	13	-2.7	-2.3	0.0	-2	-1	1	8	6	6
	Spratford Stream	Cullompton	6	10	6	7	1.8	-0.2	1.3	2	0	0	4	0	1
	Sheldon Stream	Craddock	7	14	10	9	1.6	-1.6	-1.1	3	-3	0	7	3	2
Madford River	Holcombe	7	16	18	14	-1.6	2.2	-0.1	0	1	0	9	11	7	
<b>Lower Exe and Creedy</b>	Exe	Cowley Bridge	7				####	####	####				####	####	####
	Exe	Bramford Speke	7	10			-1.0	####	####	0			3	####	####
	Exe	UpExe Mill	7		9	7	####	-7.0	-6.3				####	2	0
	Creedy	Three Horse Shoes	6	15	9	9	0.8	-2.8	-3.2	0	-2	-1	9	3	3
	Culvery	Culvery Bridge	6				####	####	####				####	####	####
	Yeo	Dunscombe Bridge	6	10	10	10	-3.0	0.6	2.5	0	3		4	4	4
	Yeo	Salmonhutch	6	10	9	5	-2.0	-0.6	-2.2		-3	-2	4	3	-1
	Creedy	Crediton Rugby Ground	6	12	11	12	0.5	-0.2	1.5	0	-2		6	5	6





Autumn 2022 - Average

Autumn 2022 - Trigger





**LITTLE EXE & BARLE**

River	Little Exe	Little Exe	Little Exe	Little Exe	Little Exe
Site	Westermill Farm	Court Farm	Winsford	Hollam	Perry Farm
NGR	SS 82127 39949	SS 85748 38010	SS 90710 34914	SS 93095 29627	SS 93460 26240
Trigger Score	6	6	6	7	6

**Spring**

Date	02-Jun-22		02-Jun-22				18-May-22		19-May-22	
Time	15:30		16:30				10:00			
Recorded by	P.Gibson P.Grisley		P.Gibson P.Grisley				Julian Capps		J. Hughes Alan Searle M. Williams	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	6	1	2	1			30	2	20	2
Caseless Caddis	2	1	1	1			20	2	20	2
Mayfly	1	1	4	1			29	2	5	1
BWO	2	1							2	1
Flat Bodied H.	6	1	6	1			100	3	150	3
Olive	20	2	55	2			50	2	50	2
Stonefly	5	1	10	2			20	2	30	2
FW Shrimp										
Total Score	8		8				13		13	

**Summer**

Date							12-Jul-22		22-Sep-22	
Time	15:30		16:30				10:00			
Recorded by							Julian Capps C.Garland		J. Hughes Alan Searle M. Williams	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis							10	2	50	2
Caseless Caddis							4	1	10	2
Mayfly							1	1	1	1
BWO							1	1		
Flat Bodied H.							30	2	20	2
Olive							20	2	20	2
Stonefly							30	2	40	2
FW Shrimp										
Total Score							11		11	

**Autumn**

Date							21-Sep-22			
Time							09:00			
Recorded by							Julian Capps C.Garland			
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis							10	2		
Caseless Caddis							3	1		
Mayfly							3	1		
BWO										
Flat Bodied H.							10	2		
Olive							10	2		
Stonefly							50	2		
FW Shrimp										
Total Score							10			

**LITTLE EXE & BARLE**

River	Barle	Barle	Barle	Barle	
Site	Simonsbath	Withypool	Landacre	Brushford	
NGR	SS 77125 39120	SS 84000 35460	SS 80511 36125	SS 92670 25870	
Trigger Score	5	5	5	6	

**Spring**

Date				05-May-22		19-May-22				
Time				08:00						
Recorded by				Jo Down		J. Hughes Alan Searle M. Williams				
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis					17	2	30	2		
Caseless Caddis					21	2	40	2		
Mayfly										
BWO							5	1		
Flat Bodied H.					16	2	100	3		
Olive					5	1	100	3		
Stonefly					23	2	30	2		
FW Shrimp										
Total Score					9		13			

**Summer**

Date				14-Jul-22		22-Sep-22				
Time				08:00						
Recorded by				Y. Milverton		J. Hughes Alan Searle M. Williams				
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis					5	1	50	2		
Caseless Caddis					5	1	5	1		
Mayfly										
BWO					8	1				
Flat Bodied H.					3	1	5	1		
Olive					8	1	70	2		
Stonefly					17	2	20	2		
FW Shrimp										
Total Score					7		8			

**Autumn**

Date										
Time										
Recorded by										
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO										
Flat Bodied H.										
Olive										
Stonefly										
FW Shrimp										
Total Score										

**MIDDLE RIVER EXE**

River	Exe	Exe	Exe	Exe	Exe
Site	Exebridge	Cove Bridge	Hatswell	Morrisons	us Tiverton STW
NGR	SS 93010 24470	SS 94890 19770	SS 94312 16220	SS 95048 13015	SS 95262 10328
Trigger Score	6	6	6	6	6

**Spring**

Date	19-May-22		18-May-22		08-May-22		02-May-22		18-May-22	
Time			11:00		16:00		14:00		14:45	
Recorded by	J. Hughes Alan Searle M. Williams		Alan Searle		Robert Wightmore		Robert Wightmore		Claire Fuller Adrian Howell	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	30	2	1	1					5	1
Caseless Caddis	40	2			3	1			60	2
Mayfly			5	1					4	1
BWO	5	1	10	2	1	1			2	1
Flat Bodied H.	200	3	50	2	50	2	10	2	20	2
Olive	50	2	30	2	120	3	1	1	20	2
Stonefly	40	2	100	3	25	2	20	2	15	2
FW Shrimp	1	1								
Total Score	13		11		9		5		11	

**Summer**

Date			12-Jul-22		04-Jul-22					
Time			11:00		16:00		14:00		14:45	
Recorded by			Alan Searle		Robert Wightmore					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis					12	2				
Caseless Caddis					5	1				
Mayfly			4	1						
BWO			1	1	1	1				
Flat Bodied H.					15	2				
Olive			3	1	1	1				
Stonefly			20	2	30	2				
FW Shrimp					2	1				
Total Score			5		10					

**Autumn**

Date	22-Sep-22		23-Sep-22							
Time			14:00							
Recorded by	J. Hughes Alan Searle M. Williams		Alan Searle							
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	7	1	1	1						
Caseless Caddis										
Mayfly	1	1								
BWO										
Flat Bodied H.										
Olive	50	2	4	1						
Stonefly	30	2	6	1						
FW Shrimp										
Total Score	6		3							

**MIDDLE RIVER EXE**

River	Exe	Exe			
Site	ds Tiverton STW	Black Bridge			
NGR	SS 95284 10043	SS 94920 08879			
Trigger Score	6	6			

**Spring**

Date	18-May-22	18-May-22								
Time	15:30	15:00								
Recorded by	Claire Fuller Adrian Howell	Alan Searle								
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	10	2	40	2						
Caseless Caddis	2	1	20	2						
Mayfly	12	2								
BWO	10	2	20	2						
Flat Bodied H.	20	2	50	2						
Olive	20	2	250	3						
Stonefly	20	2	50	2						
FW Shrimp	20	2								
Total Score	15		13							

**Summer**

Date		12-Jul-22								
Time	15:30	15:00								
Recorded by		Alan Searle								
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			30	2						
Caseless Caddis			3	1						
Mayfly										
BWO			3	1						
Flat Bodied H.			40	2						
Olive			50	2						
Stonefly			40	2						
FW Shrimp			10	2						
Total Score			12							

**Autumn**

Date		23-Sep-22								
Time		15:00								
Recorded by		Alan Searle								
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO			10	2						
Flat Bodied H.										
Olive			80	2						
Stonefly			20	2						
FW Shrimp										
Total Score			6							

**EXMOOR NP TRIBUTARIES**

River	Sherdon Water	Quarme	Pulham	Haddeo	Haddeo
Site	Ferry Ball	Witheridge Farm	ds Brompton Regis	Lower Haddeo	Bury Bridge
NGR	SS 80540 36071	SS 92031 35145	SS 95829 30188	SS 93892 26681	SS 94470 27455
Trigger Score	6	7	6	7	7

**Spring**

Date	05-May-22				18-May-22		19-May-22		19-May-22	
Time	18:00				11:30		11:15		10:15	
Recorded by	Jo Down				Julian Capps		R Butcher M Werrett		R Butcher M Werrett	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	8	1			50	2	6	1	8	1
Caseless Caddis	6	1			5	1	15	2	23	2
Mayfly					6	1	2	1		
BWO					5	1	2	1	2	1
Flat Bodied H.	25	2			60	2	80	2	40	2
Olive	10	2			60	2	90	2	60	2
Stonefly	11	2			10	2	8	1	7	1
FW Shrimp					8	1	1	1		
Total Score	8				12		11		9	

**Summer**

Date	10-Jul-22				12-Jul-22		09-Jul-22		09-Jul-22	
Time	18:00				11:30		11:15		10:15	
Recorded by	Y Milverton				Julian Capps M Garland		R Butcher M Werrett		R Butcher M Werrett	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	16	2			30	2	19	2	22	2
Caseless Caddis	15	2			6	1			4	1
Mayfly	1	1			2	1	2	1	1	1
BWO	32	2			6	1				
Flat Bodied H.	1	1			30	2	30	2	20	2
Olive	12	2			50	2	30	2	40	2
Stonefly	3	1			6	1	3	1	6	1
FW Shrimp					2	1	2	1		
Total Score	11				11		9		9	

**Autumn**

Date					21-Sep-22		24-Sep-22		24-Sep-22	
Time					10:00		10:30		09:30	
Recorded by					Julian Capps M Garland		R Butcher M Werrett		R Butcher M Werrett	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis					10	2	7	1	30	2
Caseless Caddis					8	1	2	1	2	1
Mayfly					2	1			1	1
BWO					3	1	1	1	1	1
Flat Bodied H.					10	2	5	1	6	1
Olive					50	2	100	3	70	2
Stonefly					20	2	4	1	2	1
FW Shrimp					20	2	4	1		
Total Score					13		9		9	

**EXMOOR NP TRIBUTARIES**

River	Pennycombe Water				
Site	Chibbet				
NGR	SS 83620 37630				
Trigger Score	7				

**Spring**

Date	02-Jun-22									
Time										
Recorded by	P Grisley P. Gibson									
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	21	2								
Caseless Caddis	27	2								
Mayfly	3	1								
BWO	5	1								
Flat Bodied H.	16	2								
Olive	150	3								
Stonefly	18	2								
FW Shrimp	270	3								
Total Score	16									

**Summer**

Date										
Time										
Recorded by										
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO										
Flat Bodied H.										
Olive										
Stonefly										
FW Shrimp										
Total Score										

**Autumn**

Date										
Time										
Recorded by										
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO										
Flat Bodied H.										
Olive										
Stonefly										
FW Shrimp										
Total Score										

**MIDDLE EXE DEVON TRIBUTARIES**

River	Batherm	Batherm	Iron Mill Stream	Lowman	Lowman
Site	us Bampton	ds Bampton	Iron Mill Bridge	Uplowman	Chieflowman Bridge
NGR	SS 96106 22472	SS 95722 21956	SS 91751 20831	ST 01410 15360	ST 00900 15720
Trigger Score	6	6	7	7	7

**Spring**

Date	23-May-22		23-May-22		19-May-22		12-May-22		12-May-22	
Time	10:30		11:30		16:00		13:45		12:45	
Recorded by	Fred Leach		Fred Leach 1 20		Fred Leach		C. Roderick Jones		C. Roderick Jones	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			1	1	4	1	1	1	1	1
Caseless Caddis	8	1	20	2	12	2	2	1	1	1
Mayfly	1	1			1	1	2	1	1	1
BWO	11	2	6	1	6	1	2	1		
Flat Bodied H.	40	2	30	2	20	2	15	2	20	2
Olive	60	2	60	2	40	2	20	2	30	2
Stonefly	12	2	20	2	6	1	2	1	10	2
FW Shrimp	10	2	20	2	1	1	30	2	20	2
Total Score	12		12		11		11		11	

**Summer**

Date	13-Jul-22		13-Jul-22		13-Jul-22		07-Jul-22		07-Jul-22	
Time	10:30		11:30		16:00		13:45		12:45	
Recorded by	Fred Leach John Dawson		Fred Leach John Dawson		Fred Leach John Dawson		C. Roderick Jones		C. Roderick Jones	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			4	1						
Caseless Caddis	3	1	2	1			2	1	1	1
Mayfly			2	1			1	1	1	1
BWO	11	2	5	1	2	1	1	1	1	1
Flat Bodied H.	10	2	35	2	6	1	4	1	6	1
Olive	110	3	10	2	12	2	30	2	10	2
Stonefly			2	1	1	1	4	1	2	1
FW Shrimp	7	1	20	2			15	2	30	2
Total Score	9		11		5		9		9	

**Autumn**

Date	19-Sep-22		19-Sep-22							
Time	10:30		11:30							
Recorded by	Fred Leach John Dawson		Fred Leach John Dawson							
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	2	1	4	1						
Caseless Caddis	1	1	2	1						
Mayfly			1	1						
BWO										
Flat Bodied H.	1	1								
Olive	50	2	5	1						
Stonefly	1	1	15	2						
FW Shrimp	5	1	20	2						
Total Score	7		8							

**MIDDLE EXE DEVON TRIBUTARIES**

River	Lowman	Calverleigh Stream	Dart	Dart	Dart
Site	Collipriest	Palmers Mill	Templeton Bridge	Thongsleigh	Riverside
NGR	SS 95434 12049	SS 93092 14527	SS 87782 14411	SS 91690 10777	SS 9352807676
Trigger Score	7	7	7	7	7

**Spring**

Date	18-May-22		08-May-22		22-May-22		22-May-22		22-May-22	
Time	16:00				10:30		12:30		14:00	
Recorded by	Alan Searle		Robert Wightmore		Simon Hunt Stephen Powles		Simon Hunt Stephen Powles		Simon Hunt Stephen Powles	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	20	2	5	1	10	2	5	1	4	1
Caseless Caddis	5	1							3	1
Mayfly			8	1	6	1	4	1		
BWO	2	1								
Flat Bodied H.	10	2	4	1	15	2	40	2	15	2
Olive	8	1	11	2	25	2	20	2	16	2
Stonefly	20	2	6	1	3	1	8	1	5	1
FW Shrimp	150	3	30	2	14	2	8	1	9	1
Total Score	12		8		10		8		8	

**Summer**

Date	12-Jul-22		06-Jul-22		15-Jul-22		15-Jul-22		15-Jul-22	
Time	16:00				10:30		12:30		14:00	
Recorded by	Alan Searle		Robert Wightmore		Simon Hunt Stephen Powles		Simon Hunt Stephen Powles		Simon Hunt Stephen Powles	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	20	2			4	1	3	1		
Caseless Caddis			5	1			1	1	13	2
Mayfly			3	1	4	1	12	2	2	1
BWO	5	1	4	1						
Flat Bodied H.	5	1	25	2	15	2	6	1	4	1
Olive	10	2	4	1	2	1	12	2		
Stonefly	20	2	10	2	2	1	6	1	7	1
FW Shrimp	50	2	5	1	7	1	6	1	11	2
Total Score	10		9		7		9		7	

**Autumn**

Date	23-Sep-22				25-Sep-22		25-Sep-22		25-Sep-22	
Time	16:00				10:30		11:30		12:30	
Recorded by	Alan Searle				Simon Hunt Stephen Powles		Simon Hunt Stephen Powles		Simon Hunt Stephen Powles	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	5	1					1	1	2	1
Caseless Caddis							4	1	4	1
Mayfly	6	1					3	1	1	1
BWO										
Flat Bodied H.	1	1			14	2	13	2	8	1
Olive					7	1	1	1	7	1
Stonefly	4	1			12	2	6	1	3	1
FW Shrimp	100	3			2	1	3	1	5	1
Total Score	7				6		8		7	



**RIVER CULM**

River	Culm	Culm	Culm	Culm	Culm
Site	Rewe	ds Ellerhayes	ds Hele Bridge	Hayne Barton	Ford Farm
NGR	SX 95218 99765	SS 97105 01402	SS 98961 01846	ST 03420 09210	ST 05300 11300
Trigger Score	5	5	5	7	7

**Spring**

Date						12-May-22	08-May-22			
Time						10:30	09:30			
Recorded by						Nigel Nesbitt	Nigel Nesbitt			
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis							6	1	1	1
Caseless Caddis							12	2	25	2
Mayfly							8	1	6	1
BWO										
Flat Bodied H.							6	1	12	2
Olive							100	3	200	3
Stonefly							12	2	20	2
FW Shrimp							8	1	5	1
Total Score							11		12	

**Summer**

Date	17-Jul-22	16-Jul-22					04-Jul-22			
Time							10:30	09:30		
Recorded by	Penny Price	Dominic Acland					DNS	Nigel Nesbitt		
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis									14	2
Caseless Caddis									15	2
Mayfly									1	1
BWO										
Flat Bodied H.									12	2
Olive									5	1
Stonefly									10	2
FW Shrimp	2000	4	1500	4					12	2
Total Score	4		4						12	

**Autumn**

Date	23-Sep-22	17-Sep-22					18-Sep-22	13-Sep-22		
Time	11:00	17:00					10:00	10:30		
Recorded by	Penny Price	Dominic Acland					Nigel Nesbitt	Nigel Nesbitt		
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis							12	2	4	1
Caseless Caddis							14	2	5	1
Mayfly										
BWO										
Flat Bodied H.										
Olive			2	1			7	1	4	1
Stonefly							8	1	6	1
FW Shrimp	65	2	800	3			18	2	5	1
Total Score	2		4				8		5	

**RIVER CULM**

River	Culm	Culm	Culm	Culm	Culm
Site	us Uffculme	Woodhayne Barton	Culmstock	Whitehall	us Hemyock
NGR	ST 07125 12775	ST 09510 13640	ST 10430 13620	ST 12749 13905	ST 14729 13905
Trigger Score	7	7	7	7	7

**Spring**

Date	23-May-22		10-May-22		13-May-22		14-May-22		13-May-22	
Time			10:00		14:00		16:00		13:15	
Recorded by	Alan Dodds Mark Couldrick		Nigel Nesbitt		Richard Preston Mark Couldrick		RH		Chris Morter	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	1	1	6	1	1	1	6	1	20	2
Caseless Caddis	10	2	8	1	10	2	2	1	6	1
Mayfly	1	1	5	1	2	1			9	1
BWO									25	2
Flat Bodied H.	1	1	8	1	1	1	22	2	5	1
Olive	1	1	50	2	100	3	200	3	140	3
Stonefly	1	1	10	2	10	2	27	2	180	3
FW Shrimp	1	1	100	3	60	2	6	1	40	2
Total Score	8		11		12		10		15	

**Summer**

Date			08-Jul-22		06-Jul-22		12-Jul-22		08-Jul-22	
Time			10:00		14:00		16:00		13:15	
Recorded by	DNS		Nigel Nesbitt		Richard Preston Mark Couldrick Alice Sumption		RH		Chris Morter	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			15	2	10	2	6	1	2	1
Caseless Caddis			10	2	10	2			25	2
Mayfly			1	1					1	1
BWO							1	1	5	1
Flat Bodied H.			8	1	10	2	16	2	40	2
Olive					50	2	100	3	25	2
Stonefly			18	2			20	2	200	3
FW Shrimp			100	3	100	3	4	1	9	1
Total Score			11		11		10		13	

**Autumn**

Date			21-Sep-22		21-Sep-22		21-Sep-22		30-Sep-22	
Time			10:00		09:30		14:00		10:00	
Recorded by	DNS		Nigel Nesbitt		Richard Preston Alice Sumption		RH		Chris Morter	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			14	2	2	1	1	1	13	2
Caseless Caddis			11	2	5	1			30	2
Mayfly			3	1			4	1	7	1
BWO									3	1
Flat Bodied H.							2	1	1	1
Olive			6	1	50	2	100	3	40	2
Stonefly			12	2			8	1	40	2
FW Shrimp			300	3	100	3	3	1	15	2
Total Score			11		7		8		13	

**RIVER CULM TRIBUTARIES**

River	Spratford Stream	Sheldon Stream	Madford River		
Site	Cullompton	Craddock	Holcombe		
NGR	ST 02570 07706	ST 08730 12370	ST 14723 12970		
Trigger Score	6	7	7		

**Spring**

Date	20-May-22		19-May-22		13-May-22					
Time	19:00		14:00		12:00					
Recorded by	RH		RH		Chris Morter					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			10	2	30	2				
Caseless Caddis	1	1	6	1	3	1				
Mayfly			10	2	12	2				
BWO			5	1	7	1				
Flat Bodied H.	1	1	5	1	30	2				
Olive	50	2	100	3	110	3				
Stonefly	20	2	50	2	120	3				
FW Shrimp	1000	4	10	2	60	2				
Total Score	10		14		16					

**Summer**

Date	12-Jul-22		12-Jul-22		08-Jul-22					
Time	19:00		14:00		12:00					
Recorded by	RH		RH		Chris Morter					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	3	1	4	1	80	2				
Caseless Caddis			2	1	20	2				
Mayfly					7	1				
BWO			3	1	65	2				
Flat Bodied H.			50	2	50	2				
Olive	4	1	10	2	210	3				
Stonefly			30	2	140	3				
FW Shrimp	1000	4	8	1	160	3				
Total Score	6		10		18					

**Autumn**

Date	21-Sep-22		21-Sep-22		30-Sep-22					
Time	18:00		15:00		11:15					
Recorded by	RH		RH		Chris Morter					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			2	1	40	2				
Caseless Caddis			1	1	10	2				
Mayfly	1	1	3	1	2	1				
BWO					15	2				
Flat Bodied H.			2	1	1	1				
Olive	20	2	50	2	65	2				
Stonefly	5	1	30	2	50	2				
FW Shrimp	500	3	1	1	70	2				
Total Score	7		9		14					

**LOWER EXE**

River	Exe	Exe	Exe		
Site	Cowley Bridge	Brampford Speke	UpExe Mill		
NGR	SX 90823 95300	SX 92885 98398	SS 93826 02545		
Trigger Score	7	7	7		

**Spring**

Date			18-May-22							
Time			18:30							
Recorded by			Claire Fuller Adrian Howell							
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis			10	2						
Caseless Caddis			6	1						
Mayfly			6	1						
BWO										
Flat Bodied H.			10	2						
Olive			10	2						
Stonefly			10	2						
FW Shrimp										
Total Score			10							

**Summer**

Date					17-Jul-22					
Time			18:30							
Recorded by					Peny Price					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis					22	2				
Mayfly										
BWO					1	1				
Flat Bodied H.					11	2				
Olive					12	2				
Stonefly					5	1				
FW Shrimp					8	1				
Total Score					9					

**Autumn**

Date					22-Sep-22					
Time					13:30					
Recorded by					Penny Price					
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis										
Caseless Caddis					3	1				
Mayfly										
BWO					2	1				
Flat Bodied H.										
Olive					15	2				
Stonefly					2	1				
FW Shrimp					16	2				
Total Score					7					

**CREEDY YEO**

River	Creedy	Culvery	Yeo	Yeo	Creedy
Site	Three Horse Shoes	Culvery Bridge	Dunscombe Bridge	Salmonhutch	Crediton Rugby Ground
NGR	SX 90715 96207	SX 83346 98597	SX 86071 99107	SX 82716 98876	SS 84795 00950
Trigger Score	6	6	6	6	6

**Spring**

Date	19-May-22				23-May-22		19-May-22		23-May-22	
Time	16:00						09:30			
Recorded by	Ben D-M				Martin Davies		Ben D-M		Martin Davies	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	3	1								
Caseless Caddis	25	2			15	2	20	2	6	1
Mayfly	15	2								
BWO	30	2			30	2	40	2	5	1
Flat Bodied H.	30	2			8	1	10	2	120	3
Olive	100	3			100	3	80	2	50	2
Stonefly	10	2					5	1	200	3
FW Shrimp	9	1			12	2	8	1	15	2
Total Score	15				10		10		12	

**Summer**

Date	09-Jul-22				06-Jul-22		09-Jul-22		06-Jul-22	
Time	16:00						09:30			
Recorded by	Ben D-M				Martin Davies		Ben D-M		Martin Davies	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	9	1			2	1			2	1
Caseless Caddis	2	1			4	1	2	1	8	1
Mayfly	6	1			1	1				
BWO	1	1			50	2	20	2		
Flat Bodied H.	4	1					8	1	50	2
Olive	1	1			40	2	10	2	80	2
Stonefly	30	2			12	2	10	2	110	3
FW Shrimp	5	1			4	1	4	1	20	2
Total Score	9				10		9		11	

**Autumn**

Date	29-Sep-22				03-Oct-22		29-Sep-22		03-Oct-22	
Time	16:30						15:30			
Recorded by	Ben D-M				Martin Davies		Ben D-M		Martin Davies	
	Count	Score	Count	Score	Count	Score	Count	Score	Count	Score
Cased Caddis	3	1								
Caseless Caddis	2	1			15	2			8	1
Mayfly										
BWO									20	2
Flat Bodied H.	3	1			5	1			10	2
Olive	10	2			120	3	50	2	100	3
Stonefly	30	2			20	2	1	1	60	2
FW Shrimp	10	2			30	2	30	2	40	2
Total Score	9				10		5		12	





## From the Team

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A huge welcome to the Autumn 2022 Riverfly Partnership Newsletter. Since our last issue in May, we have seen one of the hottest and driest summers on record, however as I write this we are just out of a cold snap that blanketed much of the country in snow, a few weeks too early in my opinion, as it would be nice to have a white Christmas! This September saw the departure of Alex Domenge from the team. We were sad to see her go and wish her every success in her new venture. Her contribution to the Riverfly Partnership over the last seven years has been immense and she is greatly missed. Trine is still here holding the fort and spinning many plates.

### In this issue:

- From the Team
- EA Ecology Contact Meeting
- Riverfly Conference 2023
- Updates
- Meet the Monitor
- Trigger Level Breach Reporting
- In Action
- and much more!

From **March 2022 to December 2022**, you have:

- Uploaded **3292** records to the ARMI database.
- Captured information from **767** sites, in **321** rivers, across **99** catchments.
- Highlighted **84** trigger level breaches.



## EA Ecology Contacts & Riverfly Partnership Meeting.

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*This piece is written by Arron Watson from the Environment Agency:*

In May this year a meeting was held by the Environment Agency and the Riverfly Executive board to catchup with new schemes for 2022/23 (Extended and Urban) and discuss barriers and solutions between the Environment Agency and volunteers. The barriers include communication between Environment Agency and volunteers, and the lack of use of Riverfly data. We have a plan to work through these barriers and solutions in the near future. This meeting was a good introduction to running annual meetings with the Environment Agency and Riverfly, engaging Environment Agency ecology contacts and discussing any issues that may have arisen. The feedback from both parties was seen as positive and there will be another meeting in February 2023.

Earlier this year, the Environment Agency successfully bid for funding to support a 3-year project on water quality citizen science. This project will support emerging and established citizen science initiatives across the country, including the new Ofwat funded CaSTCo project, and create new Environment Agency roles to connect to local



citizen science projects. We will also improve understanding of how the data collected can be used within the Environment Agency to improve the environment. We are currently recruiting the new roles, which will see extra resource placed in every Environment Agency area. Some of the roles are focussing on supporting engagement or planning teams, but some roles are more ecologically focussed and will sit within our Analysis and Reporting teams. Any new staff will be introduced to the Riverfly network. All Ecology Contact names are held by Riverfly and updated by the Environment Agency on a quarterly basis so please reach out if there are any issues.

**Arron Watson,**  
**EA Analysis and Reporting Officer**  
**and Riverfly Tutor.**



## 5th National Riverfly Conference - 17th March 2023

Tickets are now available for the 5th National Riverfly Conference, due to be held in the Flett Theatre at the Natural History Museum, London.

The morning session will begin at 11 am and will feature the following speakers and talks:

Tamsin Appleton (Environment Agency) Embracing citizen science in the Environment Agency

John Davy-Bowker (Freshwater Biological Association) & Angus Menzies (Dorset Wildlife Trust) Extended Riverfly Scheme

Nicola Edgar (Environment Agency) & Jess Andrews (Environment Agency) An introduction to Urban Riverfly monitoring

Louise Lavictoire (Freshwater Biological Association and co-chair RP). Latest news and developments from the Riverfly Partnership

Joe Pecorelli (Zoological Society of London) Why outfalls matter in urban rivers - get ready to go on safari!

This will be followed by the announcement of the winner of the Richard Chadd Volunteer of the Year award.

The afternoon session will close at 4 pm following talks from:

Michelle Walker (Rivers Trust) on the Catchment Monitoring Co-operative project

Rebecca Lewis (Buglife) Connecting communities through riverfly monitoring in Scotland

Rick Battarbee (University College London) Working together on the Wharfe: the role of citizen science in the quest to clean up the river

Steve Ormerod (Water Research Institute, Cardiff University) The changing cocktail of river pollutants and the challenges for citizen science

Craig Macadam (Buglife) Impacts of neonicotinoids and fipronil flea-treatments on riverflies

Kate Heppell (Queen Mary University of London & Chilterns Chalk Streams Project) Citizen science and the River Chess Smarter Water Catchment Programme

[Tickets are priced at £20 and are available from EventBrite](#)



▲ Riverfly Conference at NHM London 17 March 2023



## New Database Update

Development of the new database is in full swing now. We are looking forward to testing it in the new year and seeing ARMI, Urban and Extended records all in one place. We will share news with you as we progress!

## Extended Riverfly Update

During the summer the first Extended Riverfly Training courses were held at the Natural History Museum in London. The training was offered to tutors with a view to them training keen volunteers next spring and summer. There will be more 'train the trainers' events held, we will announce those dates as soon as we have them locked in.

The hope is that volunteer training for Extended will coincide with the launch of the new Cartographer database, where records from ARMI, Urban and Extended will live side by side.

The [ID Chart](#) is available to buy at £10 per copy, and we are happy to say it's been very popular so far. The guide has been designed as a stand-alone item that allows for bankside identification of 33 groups.







## Meet the Monitor

*We want to dedicate a portion of each newsletter to putting the spotlight on our wonderful monitors, the people who don their wellies/waders and head to the water whatever the weather. In this issue the feature is on Robert Hellawell, a volunteer with the Friends of Bradford's Becks, he wrote this in November 2022.*

I am a fifty-something, born again angler and citizen scientist. I worked for many years in textiles as a technician. I have lived in the Aire valley, in West Yorkshire, all my life. I used to fish as a boy, but only in ponds and the Leeds Liverpool canal. There were no fish in the river Aire where I lived back then due to the widespread, industrial pollution. I'm glad to say that things have changed since and the river Aire is much improved now with plenty of fish, and other wildlife, all along its length.

I became interested in angling again about 20 years ago. I kept a watchful eye on Bradford Beck, now my nearest river and a major tributary of the river Aire. I was delighted to observe the return of fish as the water quality improved. This was mainly due to the decline of the wool industry and the reduction in industrial pollution to Bradford Beck from local factories. First minnows, then chub and eventually wild brown trout made Bradford Beck their home again, probably for the first time since before the Industrial Revolution.

This situation came to an abrupt end in 2009 when a pollution incident killed all the fish in Bradford Beck. Despite the authorities' best efforts at the time, the source of the pollution was never found. There was another serious pollution incident in 2011 and this second incident caused me to think about the problem of pollution of our postindustrial rivers.

I joined the Friends of Bradford's Becks (FoBB), a group of local residents and ecologists committed to restoring the river back to full health. Through FoBB I became a volunteer Riverfly monitor in 2015. I also started pollution spotting at the same time. I observed the river for pollution at various places, made notes and took pictures. The fish did recover slowly until there was a good population of wild brown trout again. However, my Riverfly sampling showed that only invertebrates which are tolerant of pollution were thriving below Bradford city centre indicating a problem with long-term pollution here.

In August 2018, I spotted dead trout in the river once again. There had been another devastating wipe out. My own research showed that the pollution had originated from beneath the city centre where the river flows in an underground culvert over a mile long. I took photographs of the river flowing clearly upstream of the city centre but full of grey, foul smelling, sewage where the river emerged from beneath the city. Out of sight, out of mind!



▲ Bradford Beck, downstream of George Street tank

After more reports of sewage in the river from concerned members of the public over several days, the EA with the help of Yorkshire Water found that the pollution was caused by a faulty sewer overflow which had discharged illegally into the river in the culverted section beneath the city centre.

Three weeks after first spotting the dead fish, I sampled upstream and downstream of the city centre and found the river to be full of invertebrate life upstream, yet all but dead below the city centre. I compiled my findings into a report including all my observation notes and photographs of the pollution and the dead fish and sent it to the EA.

The EA had taken my report as compelling evidence of a serious pollution incident, they requested records from Yorkshire Water which showed a lack of required maintenance of their sewers. This inaction had led to the sewers regularly overflowing and discharging illegally into the river.



## Meet the Monitor cont.

I submitted my findings in evidence for the EA in a legal case against Yorkshire Water. In July 2022, Yorkshire Water pleaded guilty to 25 separate pollution incidents of Bradford Beck. A large storage tank in their sewer system was found to have not been functional for almost two years. Yorkshire Water were judged to have been reckless in this matter and were fined £1.6m for the pollution of Bradford Beck.

Riverfly was the key which enabled the EA to open a whole can of worms in this case. When the EA initially sent just a warning letter to Yorkshire Water about the pollution, I thought that all my Riverfly sampling had been a waste of time and effort. I now think that this case shows that data gathered through citizen science undertaken by members of the public, is valuable and can make a difference to the health of our rivers.



*Thank you Robert, for your continued support and for submitting this piece for the newsletter. While there was some frustration from Robert at the pace of action of the EA, we have to remember that they increasingly face funding and staffing challenges, we are all working towards the same goals, the health of our waterways and when we come together, we can achieve great things. We want to take a moment to thank all of you that put in your valuable time monitoring, uploading records, tutoring, looking after other volunteers, coordinating with EA ecology contacts and for the myriad of ways in which you contribute to the success of the Riverfly Partnership.*

▲ Robert Hellowell in Bradford Beck

## Trigger Level Breach Reporting

- If you identify a trigger level breach after sorting and scoring your first sample, then you must carry out a second sample straight away. Use the same methodology, varying the areas that you kick sample. If the score is still below the trigger level then proceed to report.
- You must call 0800 80 70 60, identify yourself as a Riverfly Volunteer and that you are calling in a trigger level breach. State the name of the EA Ecology contact if known. Please ensure you provide accurate site details and the trigger scores. Make sure you record the NIRS number (National Incident Recording System).
- If you believe any breaches you find are as a result of a pollution incident, then please place a second call to the same 24/7 hotline 0800 80 70 60 in the event this needs more urgent attention and an officer to attend to take water samples. Do not mention you are a riverfly volunteer on this second call.
- Volunteers should document the incident with photos and make notes of any smells, fish kills or unusual water colour.
- Alert your coordinator so that they can follow up with the EA Ecology Contact and update the record on the database.

In Wales you should report to NRW 0300 065 3000 (open 24/7) and in Scotland you should alert SEPA using the same EA number 0800 80 70 60 (24/7), you can also submit a report online for [NRW](#) and [SEPA](#).



## In Action

Here we have a group of volunteers out on the Esk, conducting their winter monitoring in style! If you are going out during these cold months make sure you wrap up warm, bring flasks of hot drinks and go out in pairs, mince pies are optional but highly recommended!

Speaking of Scotland, we wanted to commend Rebecca Lewis on the fantastic job she is doing reinvigorating Scotland's monitors and groups. Through Buglife she is leading the Guardians of our Rivers project. Accredited Riverfly training will be offered to create a network of Citizen Scientists across Scotland, feeding into the Riverfly Partnership database, share learning between communities and encourage volunteers to spend time outdoors which we know is beneficial for mental health and overall well being.

You can read more about it here: [Guardians of Our Rivers](#)  
Contact Rebecca Lewis at: [Rebecca.Lewis@buglife.org.uk](mailto:Rebecca.Lewis@buglife.org.uk)



◀ Rebecca Lewis in action on the river



▲ Riverfly on the Esk - luxury winter monitoring

We would love to feature more volunteers and groups in action and hear from monitors for the newsletter. If you're interested in submitting some photos or a written piece about what Riverfly means to you, please send them to [trine@riverflies.org](mailto:trine@riverflies.org)

## Richard Chadd Volunteer of the Year Award

Richard Chadd, worked as a biologist for the Environment Agency's Eastern Region. He was an expert freshwater ecologist and taxonomist who freely and cheerfully leant his expertise to specialists and non-specialists alike – he was passionate about training and encouraging people and students in freshwater ecology. He was an active member of the Riverfly Partnership Board, who kept the project to a high scientific standard, and was able to provide a vital perspective on how ARMI could be viewed with advantage by the Environment Agency.

To honour Richard and keep his legacy going we will name a volunteer of the year at the Riverfly Conference. We've asked you to send in your nominations. There is still time to nominate people, you have until the end of January! Please send your emails to [info@riverflies.org](mailto:info@riverflies.org) with Volunteer of the Year in the subject line.

