



Riverfly Surveys
River Exe System
2020 Annual Report



Version C Jan21

Riverfly Surveys 2020

River Exe System

COVID-19 – Coronavirus

2020 has been an extraordinary year, with COVID-19 restrictions severely affecting activities, including Riverfly surveys..

Concern about coronavirus was raised early in the year and by March a national 'lockdown' was imposed. By May there had been some relaxation, so that lone surveys were possible, but this guidance was too late for some, whilst other volunteers were 'shielding' themselves or family. Volunteers were advised throughout that their safety is paramount and they should not feel obliged to survey. Many sites are usually surveyed with teams of two, or more, and this was impractical in most cases due to social distancing guidance.

We try to fill retirement vacancies by training new volunteers at the start of the season. However, restrictions have prevented any Riverfly group events, which has further increased the number of sites that were not surveyed in 2020 due to them remaining 'vacant'.

Given these obstacles, it is remarkable that volunteers still managed 73 surveys, almost half of those possible and just over half if the vacant sites are excluded. Over two-thirds of the sites were visited at least once (three-quarters if the vacant sites are taken into account).

There is an agreed protocol to report to the Environment Agency (EA) any survey results that fall below a threshold score set by them. This is done immediately in the case of an acute failure (a very poor result from a normally good site) and through routine liaison in the case of chronic failures (sites where there is a history of results at or below the threshold). This year, routine liaison with the EA has been limited and its ability to investigate problems has been reduced. There have been a number of threshold failures this year, on known problem watercourses, that will be raised with the EA when circumstances allow.

Introduction

The recommended dates for surveys in 2020 were spring (9-24 May), summer (4-19 July) and autumn (5-20 September).

Following a wet winter, rainfall in March was about average but the driest May for about 30 years meant that spring (March to May) was much drier than usual. A wet June and August made summer wetter than average but Autumn (September to November) started with a drier-than-average September. However, unsuitable conditions did not generally affect the ability to carry out surveys.

The number of sites remains unchanged at 52 across the Exe catchment. However at least 5 of these were 'vacant' throughout the year because it was not possible to recruit new volunteers.

Riverfly data has many uses including:

- Identifying acute issues such as pollution incidents
- Enabling analysis such as cycles and trends that might indicate chronic issues
- Informing the Environment Agency and others, to influence priorities

Survey results have been entered onto the national Riverfly database that is hosted by the Freshwater Biological Association.

This network continues to be supported by the River Exe and Tributaries Association (RETA) and overseen by Fred Leach.

Summary Scores

The following summary tables show the Riverfly score for each site. The colouring from green to red is relative and does not necessarily indicate good or bad. Cells are blank where there is no survey data.

The first column of data shows the Riverfly scores for each site for spring, summer and autumn. Scores can often reduce during the season – probably because as insects hatch there are fewer adults to count, and the next generations have either not hatched or are too small to see with the naked eye.

The second column shows the scores as a percentage of the average of previous scores (based on a maximum of nine years).

The third column is a direct comparison between 2020 and 2019 with the numbers being the difference in Riverfly score.

The final column shows the difference between the Riverfly score and the threshold provided by the Environment Agency. These are highlighted to show whether the Riverfly score was above, below or at the threshold.

Any comparisons or conclusions must be considered in the context of the significantly reduced data collection in 2020. Findings have been expressed as % of the surveys undertaken or the sites visited:

Results from 73 surveys at 35 sites in 2020	Spring	Summer	Autumn
Scores below the seasonal site average	58%	50%	63%
Scores below the 2019 site average	75%	41%	32%
Scores at the EA threshold	17%	3%	11%
Scores below the EA threshold	8%	9%	15%

We can conclude:

- Results for the year were at or below the average at these sites.
- The year improved as it progressed, in comparison to 2019, but it should be noted that 2019 started above their average and ended below.
- A particular concern is the number of sites where the scores were at or below the EA threshold, being about 25% in the spring and autumn. 15% of the autumn results (four sites) were below the trigger levels in the autumn.

Trigger Level Failures:

The following results fell below the scores set by the EA as being notifiable:

- *The summer result for the River Exe below Tiverton STW.* Unfortunately, there are no results from this site for the spring and autumn, or from the next site downstream at Black Bridge, Bickleigh. It should be noted that results from close to the STW (both above and below) are often worse than they are in the River Exe upstream and downstream of Tiverton, which could be partly due to the quality of water from the River Lowman.

- *The spring result from the Sherdon Water at Ferny Ball.* This is an Exmoor National Park site and therefore of particular concern. Results had recovered by summer but were still below average by the Autumn.
- *The summer and autumn results for the Lowman tributary at Uplowman.* This is a rural catchment with predominately agricultural land use. The Lowman at Chieflowman Bridge also fell to its threshold value in autumn. Unfortunately, there were no results in 2020 from Collipriest on the Lowman so it is not possible to say what the combined impact was downstream. However, the Lowman is a significant tributary of the River Exe that joins below Tiverton. River Lowman water quality will affect results in the Exe at the STW about a mile below the confluence.
- *Summer and autumn results from the River Dart at Templeton Bridge.* This is a rural upland site where one should expect good results. The spring result was only at the threshold. The autumn score at Riverside was also only at threshold level.
- *The autumn result for the Spratford Stream at Cullompton.* This is a chronic problem site, producing large numbers of *gammarus* and little else. Whilst the spring score was encouraging, by autumn it was again below the threshold.
- *The River Culm between Uffculme and Cullompton.* This reach includes three sites, at Uffculme, Ford Farm and Hayne Barton. There were no spring surveys but the summer and autumn results were generally poor, with each site producing either a failure or a threshold score. Experienced anglers reported that few trout have been sighted or caught along this length.

Given their location, it is probable that most of the failures are a result of agricultural activity. They do not appear to be isolated acute incidents but suggest diffuse and chronic problems across a significant part of the Exe catchment. We have previously raised these concerns the Environment Agency and will again seek a commitment for action to address them.

The full results for each survey are included at the back of the report.

Citizen Science Investigations (CSI)

CSI is a recent initiative to engage the general public in measuring the quality of our rivers. It involves observational and water quality surveys, with the results being recorded on a central online database. CSI is overseen by the Westcountry Rivers Trust and further details can be found on its website <https://wrt.org.uk/project/become-a-citizen-scientist>

The opportunity has been taken to trial the physical CSI water quality tests on the River Culm, alongside the biological Riverfly surveys that we carry out. This has been possible with help from the *Connecting the Culm* project managed by the Blackdown Hills Area of Outstanding Natural Beauty. It is hoped that this testing will add value to and complement our findings, and will strengthen our ability to identify and address issues. The kits were available in time for the summer surveys.

There are four separate tests: turbidity, phosphate, total dissolved solids and temperature. The data is entered onto a database along with the time of survey and a description of the site.

Our initial experience has been encouraging. The tests do not add significantly to the overall survey time and the kit is manageable. There have been a few issues with electronic temperature sensing but this was resolved and the other tests appear reliable and reproduceable. Entering the data onto the database is straightforward. CSI testing is separate from Riverfly, and volunteers must manage the data themselves, but it makes sense to present the results together if the two surveys are undertaken together.

The initial results are included at the back of the report. The most notable feature is the range of phosphate readings: from zero in the upper catchment to 300 in the Sprattford Stream at Cullompton. The difference above and below Hemyock is also considerable, over a distance of only about 2 km.

Musings on the Blue Winged Olive

The eight Riverfly ‘targets’ comprise five groups and three individual species: mayfly, blue-winged olive and gammarus (shrimp). So why was the blue-winged olive singled out for inclusion?

Target Group Presence	2019 139 surveys	2020 73 surveys
Cased Caddis	88%	82%
Caseless Caddis	86%	81%
Mayfly	58%	48%
Blue-Winged Olive	56%	56%
Flat Body	94%	79%
Olive	97%	96%
Stonefly	92%	82%
FW Shrimp	75%	85%

The blue-winged olive *Serratella ignita* (formerly *Ephemerella ignita*) is described as one of the most common up-wing species in the British Isles. Nymphs of this species live in fast flowing streams and rivers, especially where aquatic vegetation is present. For those who like their cups half-full, it is present in over half of all our surveys; others will say that, for a common species, it is absent from almost half our surveys. What makes it a good choice is that it can be found right across Britain in rivers with the right conditions.

The second reason for including the BWO is its value as an indicator species. It is more pollution-sensitive than the *Baetidae* nymphs that we include with our group ‘olives’ (it would be less confusing if the BWO wasn’t itself described as an olive!) This sensitivity is borne out by the recent results of the CSI water quality testing. Whitehall is about 2km downstream of the sites above Hemyock.

BWO Count 2020	Spring	Summer	Autumn	Phosphate ppb
River Culm u/s Hemyock	130	85	45	0
Madford River above Hemyock	120	65	35	0
River Culm at Whitehall	0	2	0	200

The third reason is that the BWO is relatively easy to identify. One reason why five of the Riverfly targets are groups is that identification within the groups can be very difficult. By comparison, the BWO does have unique distinguishing features. The banded tail and legs and the characteristic rocking movement single out the BWO, although the latter may not always be obvious within the shallow sample tray. The supplied hand lens is not just for those of us whose eyes are failing because even the eagle-eyed may need it for BWO identification!

So, for those of us who struggle with identification of the BWO, please persevere because we need to know how well they are doing.

Notes and Other Activity

Covid-19 restrictions have prevented any training or other Riverfly events in 2020. There is a pressing need to recruit and train new volunteers if we are to maintain (and expand?) our network. We welcome approaches from anyone with an interest in joining Riverfly and will arrange training as soon as this is possible. There are usually spare spaces if existing volunteers want a 'refresher'.

The EA is able to deal with emergencies but much non-urgent and routine work has been affected, including face-to-face meetings. It is hoped that these activities can soon resume.

Volunteers sometimes find interesting 'beasties' in the kick-net which are unfamiliar. Examples in 2020 included saucer bugs *Aphelocheirus aestivalis*, from the River Exe and horsehair worm *Nematomorpha* from the Little Exe. Unfortunately, signal crayfish *Pacifastacus leniusculus* are becoming an increasingly common 'by-catch' on the upper Culm. We will always try to help with identification and can call on the experts at the EA if needed.

Given the number of surveys with results below the trigger-level, it may be worth providing a reminder of what to do if this happens:

1. Repeat the survey close-by, it may have been a 'blip'.
2. If the result is acute or unusual for the site, and particularly if there is evidence of a problem such as dead fish or pollution, call the EA incident hotline on **0800 80 70 60**.
3. A result at or below the threshold will be noted and forwarded to the EA when results are received by your co-ordinator, but this will not be for some time after the date of the survey and the opportunity to investigate may have been lost.

Finally, we should celebrate that the River Exe catchment Riverfly network has been running for over ten years, with now more than 1000 separate surveys. The success is largely due to the pioneers, including Ueli Zellweger who has not missed a survey at his two sites, on the Little Exe and on the Quarme.

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Tables:

- Summary Riverfly Results by Catchment
- Full Survey Results by Site
- River Culm and Tributaries CSI Water Quality Test Results



Sheldon Stream
Ma Riv

Summary Little Exe, Barle and Middle Exe

	River	Location	#
Little Exe & Barle	L. Exe	u/s Exford Westermill Fm	6
	L. Exe	d/s Exford Court Fm	6
	L. Exe	Winsford	6
	L. Exe	Hollam	7
	L. Exe	Perry Farm	6
	Barle	Simonsbath	5
	Barle	Withypool	5
	Barle	Landacre	5
	Barle	Brushford	6

Middle Exe	Exe	Exebridge	6
	Exe	Cove Bridge	6
	Exe	Hatswell	6
	Exe	Tiverton Morrisons	6
	Exe	Tiverton u/s STW	6
	Exe	Tiverton d/s STW	6
	Exe	Bickleigh d/s Black Bridge	6

2020 Score		
Spr	Sum	Aut
9	11	10
	10	8
6	9	7

As % Average		
Spr	Sum	Aut
72%	101%	96%
	93%	82%
67%	98%	80%

2020 v 2019		
Spr	Sum	Aut
-2	-1	-2
	0	0
-5	1	

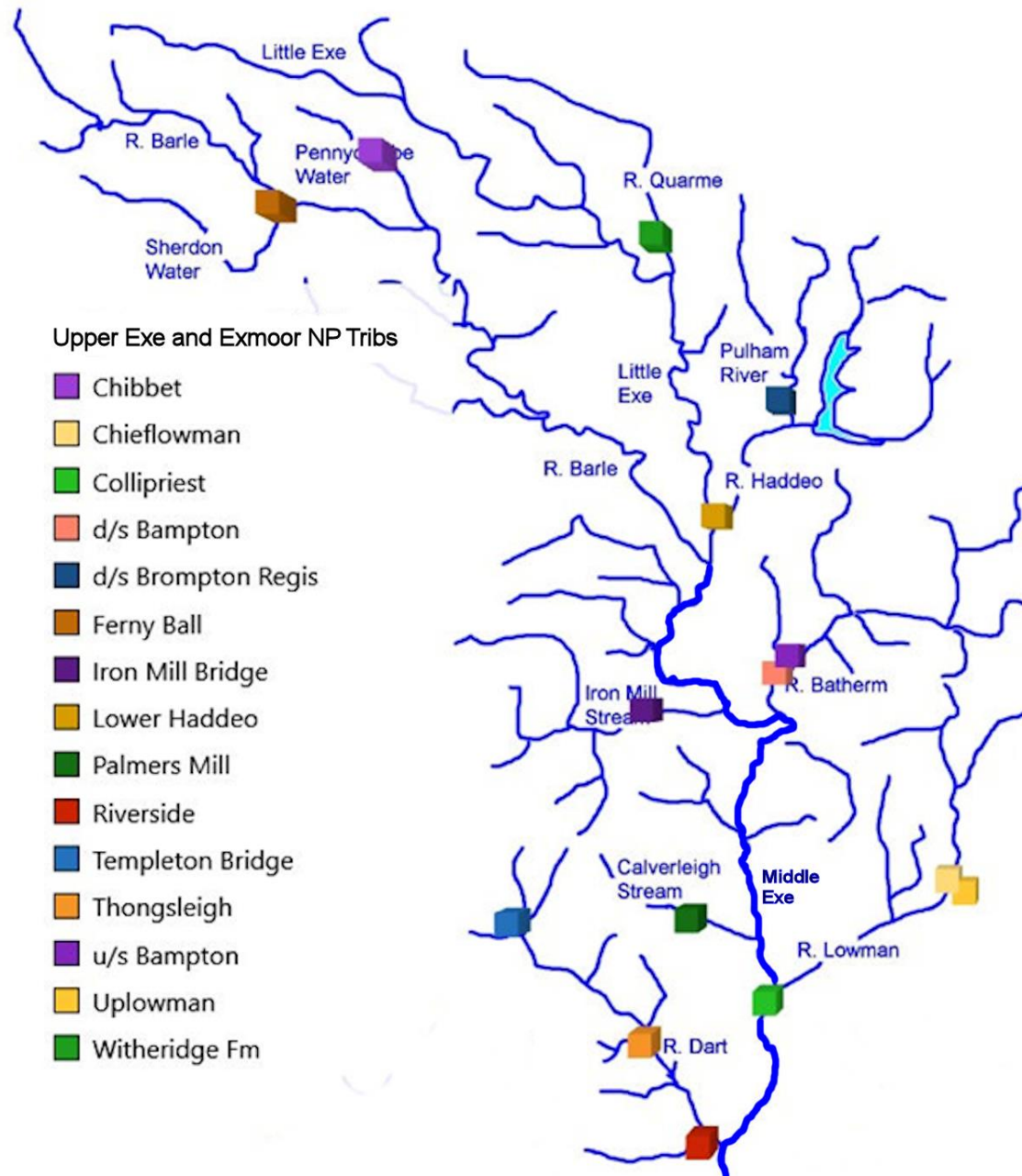
Trigger Fail		
Spr	Sum	Aut
1	1	1
	1	1
0	1	1

	9	
	9	
	8	
	5	

	109%	
	111%	
	111%	
	69%	

	-1	
	0	
	-2	
	0	

	1	
	1	
	1	
	-1	



Summary ENP and Middle Exe Devon Tribs.

	River	Location	#
Exmoor NP	Sherdon Water	Ferny Ball	6
	Quarme	Witheridge Farm	7
	Pulham	d/s Brompton Regis	6
	Lower Haddeo	Lower Haddeo	7
	Pennycombe Water	Chibbet	6

2020 Score		
Spr	Sum	Aut
5	9	7
12	10	11
	10	10

As % Average		
Spr	Sum	Aut
58%	98%	80%
91%	84%	96%
	100%	106%

2020 v 2019		
Spr	Sum	Aut
-4	2	
0	-2	0
	0	2

Trigger Fail		
Spr	Sum	Aut
-1	1	1
1	1	1
	1	1

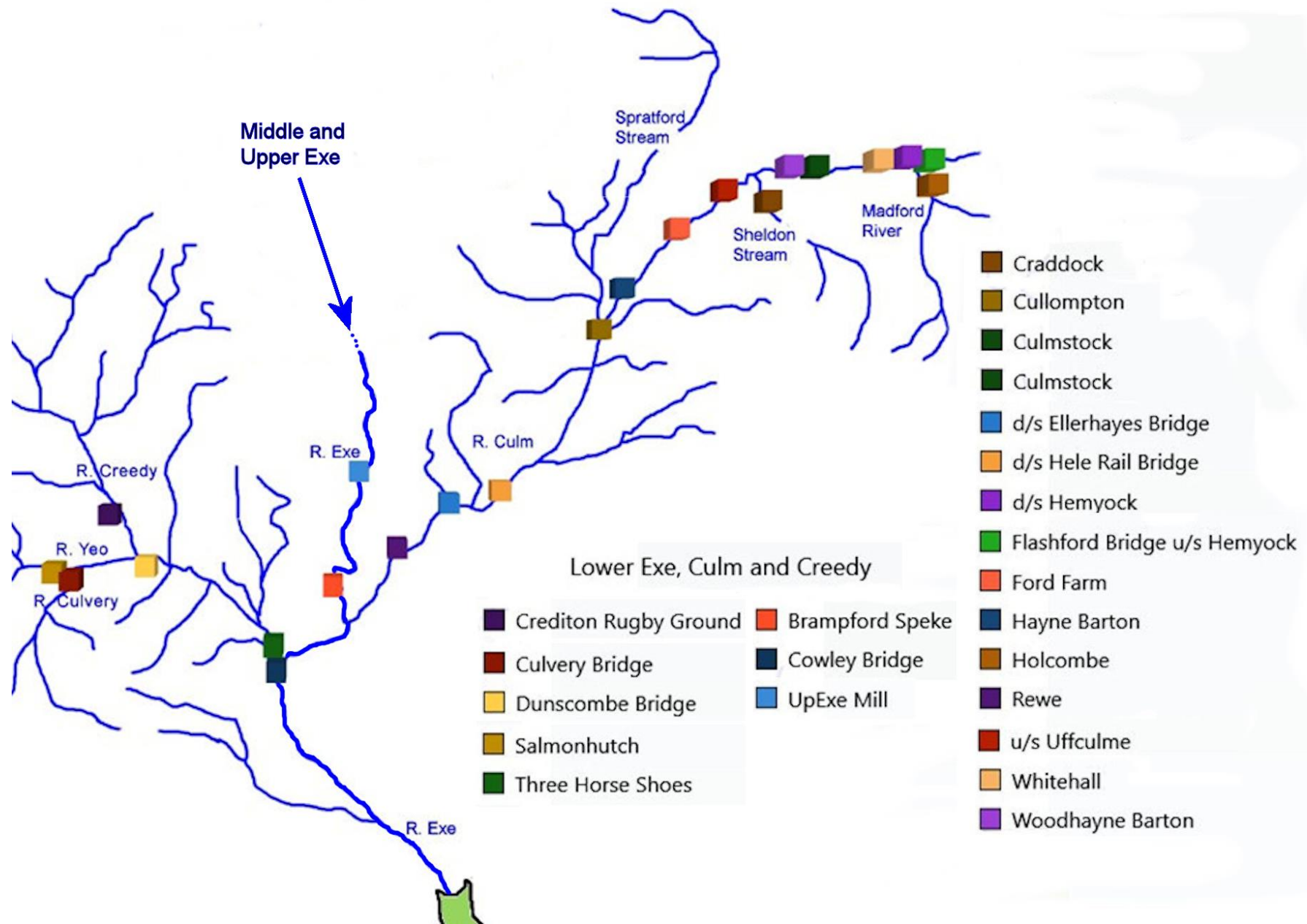
	River	Location	#
Middle Exe Devon Tribs.	Bathern	u/s Bampton	6
	Bathern	d/s Bampton	6
	Iron Mill Stream	Iron Mill Bridge	7
	Lowman Trib	Uplowman	7
	Lowman	Chieflowman Bridge	7
	Lowman	Collipriest	7
	Calverleigh Stream	Palmers Mill	7
	Dart	Templeton Bridge	7
	Dart	Thongsleigh	7
	Dart	Riverside	7

	9	9
	7	8
	8	9
	5	5
	10	7
	8	
7	4	5
	9	8
	8	7

	83%	98%
	69%	91%
	89%	102%
	58%	70%
	105%	89%
	79%	
74%	44%	56%
	103%	121%
	103%	92%

	0	0
	-5	-2
	-1	1
	-2	-2
	0	0
	-7	
-2	-4	-1
	3	2
	1	0

	1	1
	1	1
	1	1
	-1	-1
	1	0
	1	
0	-1	-1
	1	1
	1	0



Summary Culm, Lower Exe and Creedy/Yeo

	River	Location	#
Culm & Tributaries	Culm	Rewe	5
	Culm	d/s Ellerhayes Bridge	5
	Culm	d/s Hele Rail Bridge	5
	Culm	Hayne Barton	7
	Culm	Ford Farm	7
	Culm	u/s Uffculme	7
	Culm	Woodhayne Barton	7
	Culm	Culmstock	7
	Culm	Whitehall	7
	Culm	Flashford Br u/s Hemyock	7
	Spratford Stream	Cullompton	6
	Sheldon Stream	Craddock	7
	Madford River	Holcombe	7

2020 Score		
Spr	Sum	Aut
	10	7
	9	6
	7	9
	9	9
	10	10
10	13	9
19	18	15
10	7	5
13	12	11
19	18	15

As % Average		
Spr	Sum	Aut
	104%	79%
	71%	51%
	65%	98%
	98%	100%
	90%	128%
89%	139%	114%
108%	119%	116%
130%	117%	91%
103%	105%	108%
108%	117%	107%

2020 v 2019		
Spr	Sum	Aut
	1	0
	-1	-2
	-5	0
	-2	-1
	0	2
-2	1	0
-1	1	1
0	1	-1
-1	-1	-1
-2	1	0

Trigger Fail		
Spr	Sum	Aut
	1	0
	1	-1
	0	1
	1	1
	1	1
1	1	1
1	1	1
1	1	-1
1	1	1
1	1	1

	River	Location	#
Lower Exe and Creedy	Exe	Cowley Bridge	7
	Exe	Brampford Speke	7
	Exe	UpExe Mill	7
	Creedy	Three Horse Shoes	6
	Culvery	Culvery Bridge	6
	Yeo	Dunscombe Bridge	6
	Yeo	Salmonhutch	6
	Creedy	Crediton Rugby Club	6

	14	10
	8	
11	11	12
	8	
12		9
	12	

	102%	81%
	109%	
71%	89%	92%
	75%	
100%		135%
	114%	

	0	1
	4	
-4	2	2
	-1	
1		2
	2	

	1	1
	1	
1	1	1
	1	
1		1
	1	

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 9071 34914	SS 93095 29627	SS 93460 26240

Spring

Date					22/05/2020					
Time					10.30					
Recorded by					Ueli Zellweger					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					15	2				
Caseless Caddis					5	1				
Mayfly					0	0				
BWO					3	1				
Flat Body					20	2				
Olive					7	1				
Stonefly					10	2				
FW Shrimp					0	0				
Total Score					9					
Trigger Level					6					

Summer

Date					17/07/2020		16/07/2020			
Time					16.00		14.00			
Recorded by					Ueli Zellweger		Julian Capps			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					12	2	10	2		
Caseless Caddis					3	1	4	1		
Mayfly					0	0	3	1		
BWO					10	2	1	1		
Flat Body					20	2	10	2		
Olive					7	1	4	1		
Stonefly					3	1	30	2		
FW Shrimp					10	2	0	0		
Total Score					11		10			
Trigger Level					6		7			

Autumn

Date					11/09/2020		17/09/2020			
Time					16.00		10.30			
Recorded by					Ueli Zellweger		Julian Capps			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					15	2	10	2		
Caseless Caddis					1	1	3	1		
Mayfly					1	1	3	1		
BWO					20	2	0	0		
Flat Body					0	0	4	1		
Olive					30	2	10	2		
Stonefly					2	1	6	1		
FW Shrimp					3	1	0	0		
Total Score					10		8			
Trigger Level					6		7			

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	

Spring

Date					23/05/2020					
Time					09.00					
Recorded by					Jo Down					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					20	2				
Caseless Caddis					3	1				
Mayfly					0	0				
BWO					0	0				
Flat Body					7	1				
Olive					3	1				
Stonefly					3	1				
FW Shrimp					0	0				
Total Score					6					
Trigger Level					5					

Summer

Date					14/07/2020					
Time					09.30					
Recorded by					Jo Down					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					15	2				
Caseless Caddis					10	2				
Mayfly					0	0				
BWO					12	2				
Flat Body					5	1				
Olive					5	1				
Stonefly					4	1				
FW Shrimp					0	0				
Total Score					9					
Trigger Level					5					

Autumn

Date					11-Sep-20					
Time					13.00					
Recorded by					Jo Down					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					0	0				
Caseless Caddis					2	1				
Mayfly					0	0				
BWO					6	1				
Flat Body					15	2				
Olive					12	2				
Stonefly					7	1				
FW Shrimp					0	0				
Total Score					7					
Trigger Level					5					

EXMOOR NP TRIBUTARIES

River	Sherdon Water	Quarme	Pulham	Haddeo	Pennycombe Water
Site	Ferny Ball	WitheridgeWinsford	Brompton Regis d/s	Lower	Chibbet
NGR	SS 80540 36071	SS 92031 35145	SS 95829 30188	SS 93892 26681	SS 83620 37630

Spring 2020

Date	21/05/2020		22/05/2020							
Time	9.00		11.00							
Recorded By	Jo Down		Ueli Zellweger							
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	12	2	30	2						
Caseless Caddis	3	1	12	2						
Mayfly	0	0	3	1						
BWO	0	0	4	1						
Flat Body	0	0	30	2						
Olive	1	1	5	1						
Stonefly	2	1	10	2						
FW Shrimp	0	0	1	1						
Total Score	5		12							
Trigger Level	6		7							

Summer 2020

Date	15/07/2020		15/07/2020		15/07/2020					
Time	09.30		17:00		14.00					
Recorded By	Jo Down		Ueli Zellweger		Julian Capps					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	15	2	10	2	2	1				
Caseless Caddis	10	2	0	0	4	1				
Mayfly	0	0	3	1	1	1				
BWO	12	2	7	1	8	1				
Flat Body	5	1	10	2	20	2				
Olive	5	1	5	1	30	2				
Stonefly	4	1	3	1	2	1				
FW Shrimp	0	0	10	2	6	1				
Total Score	9		10		10					
Trigger Level	6		7		6					

Autumn 2020

Date	11/09/2020		11/09/2020		12/09/2020					
Time	13.00		17:00		13.00					
Recorded By	Ueli Zellweger3		Ueli Zellweger		Julian Capps					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	3	1	12	2	7	1				
Caseless Caddis	0	0	3	1	2	1				
Mayfly	0	0	3	1	0	0				
BWO	15	2	12	2	1	1				
Flat Body	7	1	3	1	30	2				
Olive	20	2	30	2	60	2				
Stonefly	3	1	2	1	3	1				
FW Shrimp	0	0	3	1	20	2				
Total Score	7		11		10					
Trigger Level	6		7		6					

Middle EXE DEVON TRIBUTARIES

River	Bathern	Bathern	Iron Mill Stream	Lowman Tributary	Lowman
Site	u/s Bampton	d/s Bampton	Iron Mill Bridge	Uplowman	Chieflowman Bridge
NGR	SS 96106 22472	SS 95722 21956	SS 91751 20831	SS 93095 29627	ST 00900 15720

Spring 2020

Date										
Time										
Recorded By										
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO										
Flat Body										
Olive										
Stonefly										
FW Shrimp										
Total Score										
Trigger Level										

Summer 2020

Date	21/07/2020		18/07/2020		21/07/2020		19/07/2020		19/07/2020	
Time	11.00		11.00		14:30		12.00		12.30	
Recorded By	Fred Leach		Fred Leach		Fred Leach		C Roderick Jones		C Roderick Jones	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	0	0	0	0	3	1	0	0	4	1
Caseless Caddis	2	1	5	1	5	1	0	0	1	1
Mayfly	0	0	0	0	0	0	1	1	0	0
BWO	6	1	2	1	5	1	0	0	1	1
Flat Body	12	2	3	1	5	1	1	1	10	2
Olive	60	2	20	2	6	1	1	1	30	2
Stonefly	5	1	4	1	12	2	2	1	2	1
FW Shrimp	40	2	6	1	1	1	1	1	30	2
Total Score	9		7		8		5		10	
Trigger Level	6		6		7		7		7	

Autumn 2020

Date	15/09/2020		15/09/2020		18/09/2020		16/09/2020		16/09/2020	
Time	10.00		11.00		16.00		15:00		15.00	
Recorded By	Fred Leach		Fred Leach		Fred Leach		C Roderick Jones		C Roderick Jones	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	2	1	1	1	12	2	0	0	0	0
Caseless Caddis	10	2	5	1	3	1	0	0	1	1
Mayfly	0	0	0	0	0	0	0	0	0	0
BWO	0	0	2	1	0	0	1	1	0	0
Flat Body	3	1	0	0	14	2	0	0	5	1
Olive	80	2	40	2	30	2	2	1	30	2
Stonefly	8	1	9	1	3	1	1	1	1	1
FW Shrimp	20	2	20	2	1	1	10	2	30	2
Total Score	9		8		9		5		7	
Trigger Level	6		6		7		7		7	

Middle EXE DEVON TRIBUTARIES

River	Lowman	Calverleigh Stream	Dart	Dart	Dart
Site	Collipriest	Palmer's Mill	Templeton Bridge	Thongsleigh Mill	Riverside
NGR	SS 95434 12049	SS 93092 14527	SS 87782 14411	SS 91690 10777	SS 9352807676

Spring 2020

Date					31/05/2020					
Time										
Recorded By					Simon Hunt					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					0	0				
Caseless Caddis					3	1				
Mayfly					5	1				
BWO					10	2				
Flat Body					3	1				
Olive					7	1				
Stonefly					0	0				
FW Shrimp					2	1				
Total Score					7					
Trigger Level					7					

Summer 2020

Date			24/07/2020		19/07/2020		16/07/2020		16/07/2020	
Time			15.00							
Recorded By			Robert Wightmore		Simon Hunt Stephen Powles		Stephen Powles		Stephen Powles	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis			2	1	2	1	1	1	1	1
Caseless Caddis			0	0	1	1	0	0	0	0
Mayfly			2	1	0	0	8	1	5	1
BWO			3	1	5	1	0	0	0	0
Flat Body			5	1	7	1	14	2	20	2
Olive			4	1	0	0	12	2	8	1
Stonefly			2	1	0	0	12	2	16	2
FW Shrimp			20	2	0	0	6	1	8	1
Total Score			8		4		9		8	
Trigger Level			7		7		7		7	

Autumn 2020

Date					08/09/2020		19/09/2020		19/09/2020	
Time										
Recorded By					Simon Hunt Stephen Powles		Stephen Powles		Stephen Powles	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis					2	1	3	1	0	0
Caseless Caddis					0	0	0	0	0	0
Mayfly					0	0	1	1	1	1
BWO					0	0	0	0	0	0
Flat Body					15	2	15	2	15	2
Olive					7	1	12	2	15	2
Stonefly					0	0	1	1	0	0
FW Shrimp					5	1	8	1	12	2
Total Score					5		8		7	
Trigger Level					7		7		7	

RIVER CULM

River	Culm	Culm	Culm	Culm	Culm
Site	Rewe	ds Ellerhayes Bridge	ds Hele Bridge	Hayne Barton	Ford Farm
NGR	SX 95218 99765	SS 97105 01402	SS 98961 01846	ST 03420 09210	ST 0530 1130

Spring 2020

Date										
Time										
Recorded By										
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis										
Caseless Caddis										
Mayfly										
BWO										
Flat Body										
Olive										
Stonefly										
FW Shrimp										
Total Score										
Trigger Level										

Summer 2020

Date						17/07/2020	17/07/2020			
Time						12:00	12:00			
Recorded By						Nigel Nesbitt	Nigel Nesbitt			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis							12	2	4	1
Caseless Caddis							20	2	15	2
Mayfly							0	0	0	0
BWO							0	0	0	0
Flat Body							4	1	8	1
Olive							30	2	20	2
Stonefly							6	1	14	2
FW Shrimp							25	2	3	1
Total Score							10		9	
Trigger Level							7		7	

Autumn 2020

Date						16/09/2020	16/09/2020			
Time						9:30	11:00			
Recorded By						Nigel Nesbitt	Nigel Nesbitt			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis							4	1	6	1
Caseless Caddis							2	1	8	1
Mayfly							3	1	0	0
BWO							0	0	0	0
Flat Body							0	0	0	0
Olive							10	2	10	2
Stonefly							3	1	4	1
FW Shrimp							6	1	5	1
Total Score							7		6	
Trigger Level							7		7	

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 1043 1362	ST 12749 13905	ST 14729 13905

Spring 2020

Date							21/05/2020		23/05/2020	
Time							15:00		16:00	
Recorded By							Richard Horrocks		Chris Morter	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis							4	1	13	2
Caseless Caddis							3	1	50	2
Mayfly							5	1	8	1
BWO							0	0	130	3
Flat Body							6	1	65	2
Olive							100	3	235	3
Stonefly							50	2	320	3
FW Shrimp							7	1	175	3
Total Score							10		19	
Trigger Level							7		7	

Summer 2020

Date	17/07/2020		17/07/2020		14/07/2020		18/07/2020		22/07/2020	
Time	10:00		12:00		11:00		11:00		13:00	
Recorded By	Alan Dodds Mark Couldrick		Nigel Nesbitt		Alice Sumption Mark Couldrick		Richard Horrocks		Chris Morter	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	30	2	12	2	40	2	12	2	15	2
Caseless Caddis	15	2	4	1	40	2	2	1	20	2
Mayfly	0	0	3	1	0	0	12	2	1	1
BWO	0	0	0	0	9	1	2	1	85	2
Flat Body	10	2	0	0	5	1	1	1	120	3
Olive	0	0	20	2	40	2	100	3	170	3
Stonefly	0	0	10	2	9	1	20	2	170	3
FW Shrimp	1	1	4	1	4	1	8	1	40	2
Total Score	7		9		10		13		18	
Trigger Level	7		7		7		7		7	

Autumn 2020

Date	30/09/2020		14/09/2020		23/09/2020		15/09/2020		22/09/2020	
Time			10:00		11:00		12:30		16:30	
Recorded By	Mark Couldrick		Nigel Nesbitt		Alice Sumption Mark Couldrick		Richard Horrocks		Chris Morter	
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	50	2	12	2	100	3	1	1	7	1
Caseless Caddis	50	2	4	1	50	2	1	1	19	2
Mayfly	0	0	3	1	0	0	5	1	1	1
BWO	0	0	0	0	0	0	0	0	45	2
Flat Body	0	0	0	0	0	0	1	1	35	2
Olive	100	3	20	2	500	3	100	3	140	3
Stonefly	0	0	10	2	0	0	2	1	85	2
FW Shrimp	12	2	4	1	12	2	5	1	80	2
Total Score	9		9		10		9		15	
Trigger Level	7		7		7		7		7	

RIVER CULM TRIBUTARIES

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

Spring 2020

Date	25/05/2020		21/05/2020		23/05/2020					
Time	18:00		16:00		14:30					
Recorded By	Richard Horrocks		Richard Horrocks		Chris Morter					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	0	0	4	1	3	1				
Caseless Caddis	4	1	25	2	15	2				
Mayfly	0	0	12	2	1	1				
BWO	4	1	0	0	120	3				
Flat Body	0	0	30	2	210	3				
Olive	50	2	50	2	240	3				
Stonefly	25	2	50	2	230	3				
FW Shrimp	1000	4	20	2	115	3				
Total Score	10		13		19					
Trigger Level	6		7		7					

Summer 2020

Date	18/07/2020		18/07/2020		22/07/2020					
Time	13:00		12:00		11:00					
Recorded By	Richard Horrocks		Richard Horrocks		Chris Morter					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	1	1	3	1	300	3				
Caseless Caddis	3	1	5	1	13	2				
Mayfly	0	0	4	1	1	1				
BWO	0	0	2	1	65	2				
Flat Body	0	0	30	2	85	2				
Olive	2	1	15	2	170	3				
Stonefly	0	0	50	2	110	3				
FW Shrimp	2000	4	10	2	50	2				
Total Score	7		12		18					
Trigger Level	6		7		7					

Autumn 2020

Date	15/09/2020		15/09/2020		22/09/2020					
Time	19:00		14:30		17:30					
Recorded By	Richard Horrocks		Richard Horrocks		Chris Morter					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	0	0	1	1	50	2				
Caseless Caddis	0	0	5	1	1	1				
Mayfly	0	0	1	1	2	1				
BWO	0	0	0	0	35	2				
Flat Body	0	0	11	2	30	2				
Olive	2	1	30	2	110	3				
Stonefly	0	0	25	2	30	2				
FW Shrimp	2000	4	10	2	90	2				
Total Score	5		11		15					
Trigger Level	6		7		7					

LOWER EXE AND CREEDY

River	Exe	Exe	Exe	Creedy	Culvery
Site	Cowley Bridge	Bramford Speke	Upexe Mill	Three Horse Shoes	Culvery Bridge
NGR	SX 90823 95300	SX 92885 98398	SS 93826 02545	SX 90715 96207	SX 83346 98597

Spring 2020

Date							14/05/2020			
Time							12:30			
Recorded By							Ben Dymoke-Marr			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis							0	0		
Caseless Caddis							20	2		
Mayfly							0	0		
BWO							30	2		
Flat Body							30	2		
Olive							50	2		
Stonefly							2	1		
FW Shrimp							15	2		
Total Score							11			
Trigger Level							6			

Summer 2020

Date	15/06/2020		18/07/2020				27/07/2020			
Time	11:30		13:30				16:30			
Recorded By	Ben Fitch		Adrian Howells				Ben Dymoke-Marr			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	30	2	70	2			3	1		
Caseless Caddis	30	2	0	0			20	2		
Mayfly	1	1	0	0			5	1		
BWO	30	2	1	1			1	1		
Flat Body	40	2	6	1			8	1		
Olive	80	2	1	1			9	1		
Stonefly	0	0	1	1			15	2		
FW Shrimp	450	3	30	2			15	2		
Total Score	14		8				11			
Trigger Level	7		7				6			

Autumn 2020

Date	15/09/2020						17/09/2020			
Time	13:00						10:30			
Recorded By	Ben Fitch						Ben Dymoke-Marr			
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	42	2					20	2		
Caseless Caddis	11	2					40	2		
Mayfly	0	0					3	1		
BWO	0	0					0	0		
Flat Body	0	0					1	1		
Olive	10	2					20	2		
Stonefly	3	1					30	2		
FW Shrimp	300	3					50	2		
Total Score	10						12			
Trigger Level	7						6			

LOWER EXE AND CREEDY

River	Creedy	Crediton Yeo	Creedy		
Site	Duncombe Bridge	Salmonhutch	Crediton Rugby Gnd		
NGR	SX 83346 98597	SX 82716 98876	SS 84795 00935		

Spring 2020

Date			14/05/2020							
Time			10:30							
Recorded By			Ben Dymoke-Marr							
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis			0	0						
Caseless Caddis			12	2						
Mayfly			0	0						
BWO			30	2						
Flat Body			10	2						
Olive			50	2						
Stonefly			20	2						
FW Shrimp			10	2						
Total Score			12							
Trigger Level			6							

Summer 2020

Date	16/07/2020				Jul 16 2020					
Time	12:00				12:00					
Recorded By	Martin Davies				Martin Davies					
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis	1	1			0	0				
Caseless Caddis	15	2			5	1				
Mayfly	0	0			0	0				
BWO	5	1			15	2				
Flat Body	0	0			15	2				
Olive	200	3			300	3				
Stonefly	0	0			25	2				
FW Shrimp	4	1			40	2				
Total Score	8				12					
Trigger Level	6				6					

Autumn 2020

Date			14/09/2020							
Time			9:00							
Recorded By			Ben Dymoke-Marr							
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score
Cased Caddis			1	1						
Caseless Caddis			1	1						
Mayfly			0	0						
BWO			0	0						
Flat Body			1	1						
Olive			50	2						
Stonefly			50	2						
FW Shrimp			50	2						
Total Score			9							
Trigger Level			6							

RIVER CULM AND TRIBUTARIES CSI WATER QUALITY TESTS
2020

River	Culm	Culm	Culm	Culm	Culm	Culm	Spratford Stream	Sheldon Stream	Madford River
Site	Hayne Barton	Ford Farm	US Uffculme	Woodhayne Barton	Whitehall	us Hemyock	Cullompton	Craddock	Holcombe
NGR	ST 03420 09210	ST 0530 1130	ST 07125 12775	ST 09510 13640	ST 12749 13905	ST 14729 13905	ST 02570 07706	ST 08730 12370	ST 14723 12970

Summer

Date	17/07/2020	17/07/2020	17/07/2020	17/07/2020	18/07/2020	22/07/2020	18/07/2020	18/07/2020	22/07/2020
Time	12:00	12:00	10:00	12:00	11:00	13:00	13:00	12:00	11:00
Recorded By	Nigel Nesbitt	Nigel Nesbitt	Alan Dodds Mark Couldrick	Nigel Nesbitt	Richard Horrocks	Chris Morter	Richard Horrocks	Richard Horrocks	Chris Morter
Temperature C	18	17.9	18.1	17.5	21.8 ?*	16.8	22.5 ?*	23.9 ?*	20.4 ?*
Turbidity	<12	12.5	<12	13.5	<12	<12	13	<12	<12
Total Dissolved Solids ppm	79	88	86	70	65	63	120	52	45
Phosphate ppb	200	200	200	100	200	0	300	0	0

Autumn

Date	16/09/2020	16/09/2020	30/09/2020	14/09/2020	15/09/2020	22/09/2020	15/09/2020	15/09/2020	22/09/2020
Time	9:30	11:00		10:00	12:30	16:30	19:00	14:30	17:30
Recorded By	Nigel Nesbitt	Nigel Nesbitt	Mark Couldrick	Nigel Nesbitt	Richard Horrocks	Chris Morter	Richard Horrocks	Richard Horrocks	Chris Morter
Temperature C	17	17.3	16.7	17.6	16	15.1	18	16	15.3
Turbidity	12	13	12+	12	<12	<12	<12	<12	<12
Total Dissolved Solids ppm	79	75	151	67	57	64	117	52	50
Phosphate ppb	200	200	100	100	200	0	300	0	0

Note: * Suspected problem with temperature readings