MONITORING OF THE PAR RIVER AND ITS TRIBUTARIES

The monitoring group operates under the citizen science scheme run by the Westcountry Rivers Trust. Comments and opinions in this report are those of the authors only.

MAY 2025

Summer foliage along the Tywardreath Stream near Treesmill
Photo: Maggie Tagney

CONTENT	PAGES

A. OUR MAY 2025 FINDINGS AT A GLANCE (SEE SECTIONS C TO I FOR FULL PICTURE)

1. Data

We sampled at 16 locations between 14th and 28th May 2025. The **red** highlighting shows results of concern.

CRITERIA	UPPER PAR (UPSTREAM OF CONFLUENCE WITH BOKIDDICK STREAM NEAR BLACK HILL CAR PARK) 5 TESTING LOCATIONS	LOWER PAR (FROM CONFLUENCE WITH BOKIDDICK STREAM TO SEA) 3 TESTING LOCATIONS	TRIBUTARIES OF UPPER PAR (CARBIS STREAM, MOLINNIS STREAM, TRESKILLING STREAM, BOKIDDICK STREAM) 6 TESTING LOCATIONS	TRIBUTARIES OF LOWER PAR (POLMEAR & TYWARDREATH STREAMS) 2 TESTING LOCATIONS
TEMPERATURE ˚ CELSIUS (SHOULD NOT EXCEED 18˚ CELSIUS)	Mean 15.36 Median 16 Min 13.5 Max 16.9	Mean 17.3 Median 17.4 Min 17 Max 17.5	Mean 16.53 Median 16.6 Min 14.8 Max **18.6**	Mean 15.6 Median 15.6 Min 15.4 Max 15.8
TOTAL DISSOLVED SOLIDS PPM (SHOULD NOT EXCEED 300 PPM)	Mean 84 Median 74 Min 59 Max 110	Mean 111.33 Median 100 Min 99 Max 135	Mean 91.16 Median 71 Min 48 Max 176	Mean 140.5 Median 140.5 Min 117 Max 164
TURBIDITY (SHOULD BE <12 ON SECCHI TUBE. FOR AVERAGING ANY READING <12 IS COUNTED AS 0)	Mean 0 Median 0 Min 0 Max 0	Mean 0 Median 0 Min 0 Max 0	Mean 0 Median 0 Min 0 Max 0	Mean 0 Median 0 Min 0 Max 0
PHOSPHATES PPB (SHOULD NOT EXCEED 100 PPB)	Mean **200** Median 0 Min 0 Max **500**	Mean **600** Median **500** Min **300** Max **1000**	Mean 0 Median 0 Min 0 Max 0	Mean 0 Median 0 Min 0 Max 0
RIVERFLY SCORE (TRIGGER LEVEL AT LRM SHOULD BE ≥ 6)	Riverfly surveys were conducted on the Par River and Tywardreath Stream: Par River score = **10** (Trigger level = **6**) Tywardreath stream score = **5** (Trigger level = **5**)			
KEY WILDLIFE (WRT KEY SPECIES ONLY* – FOR FULL LIST SEE SECTION I)	Dragonflies	Dipper Grey Wagtail	Beaver (evidence) Marsh Tit (heard)	Grey Wagtail (heard)
INVASIVE PLANTS	Hemlock Water Dropwort, Japanese Knotweed	Hemlock Water Dropwort	Hemlock Water Dropwort, Japanese Knotweed	Hemlock Water Dropwort

***The WRT monitoring forms highlight: Water Vole; Heron; Dipper; Otter; Kingfisher; Dragonflies/Damselflies; Mink; Grey Wagtail; Fish; 'Other'. Beavers aren't stipulated but could, for example, be considered a key species under 'Other'.**

2. Key points

(a) Positive signs

(i) Some key species were noted, giving some indication of river health. The presence of beavers on the Bokiddick Stream has the potential to raise biodiversity, slow the flow of water and increase water quality.

(ii) There were no sewage discharges from sewer overflows.

(iii) The ARMI riverfly monitoring scores exceeded the trigger level on the Lower Par and met it on the Tywardreath Stream.

(b) Points of concern

(i) Very high levels of Phosphate were noted again on the Lower Par, with a reading of 1000 PPB at Lady Rashleigh Mine in Luxulyan Valley. Even at Par Beach slipway there was a reading of 300 PPB. These readings are not unusual when river levels are generally low.

(ii) The range of riverfly nymphs was limited at both monitoring sites.

(iii) The temperature on the Treskilling Stream was concerning at first site but this was recorded later in the month, on a sunny afternoon, and on an unshaded, shallow section of stream.

(iv) When conducting the riverfly survey in Luxulyan Valley, the stones felt unusually slippery. The stone in the photo below has a partial covering of weed and felt slimy. This may not be anything untoward and the observation is subjective.

Stone from riverbed at Lady Rashleigh Mine **Photo: Joan Farmer**

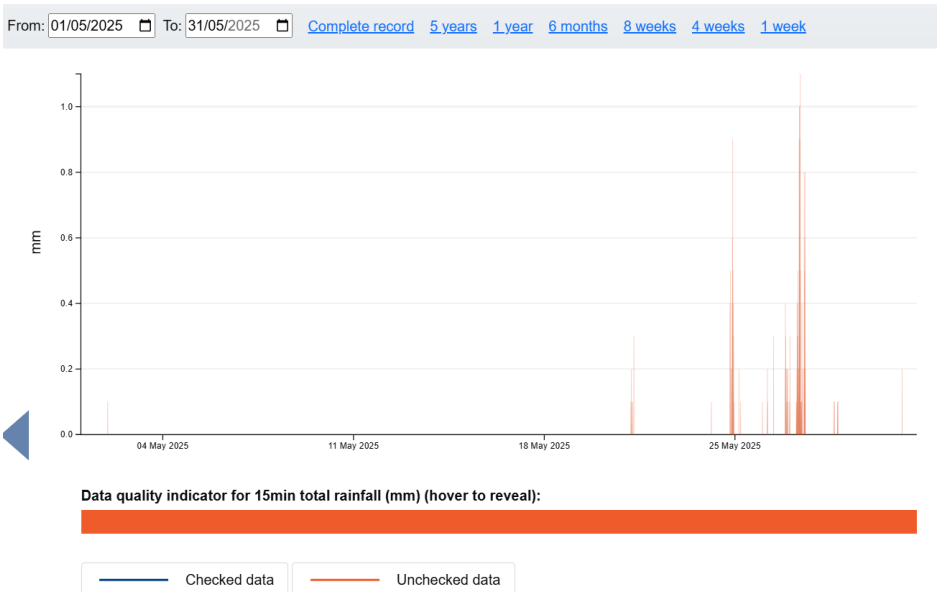
(c) Areas for further research

An assessment of the impact on river health of the St Austell North STW at Luxulyan would be welcome.

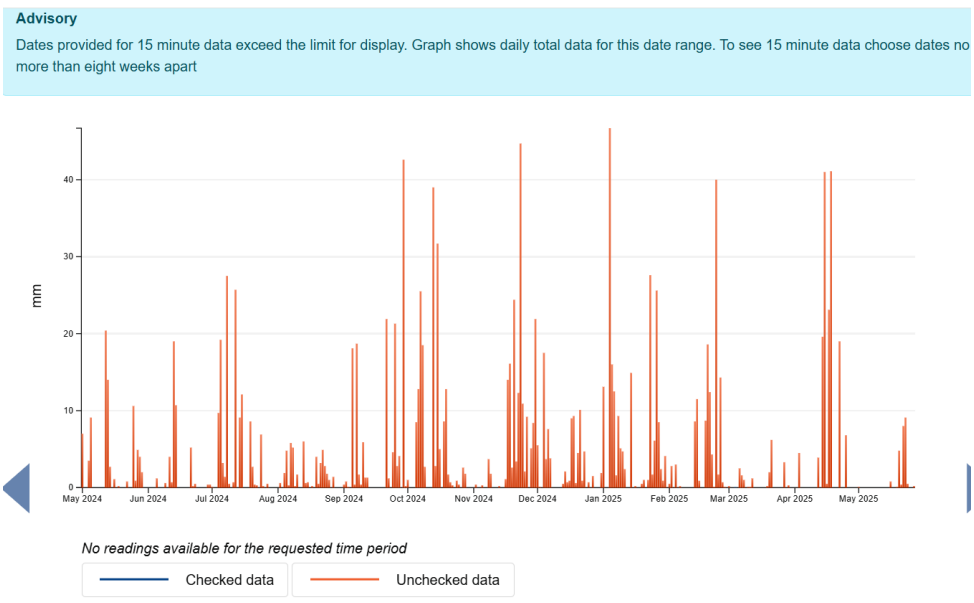
B. RAINFALL, RIVER LEVELS AND FLOW

1. Rainfall at Luxulyan (https://environment.data.gov.uk/hydrology/station/14aadf3c-3d4d-44b3-b26b-cf705827d00e_377323)

(a) May 2025



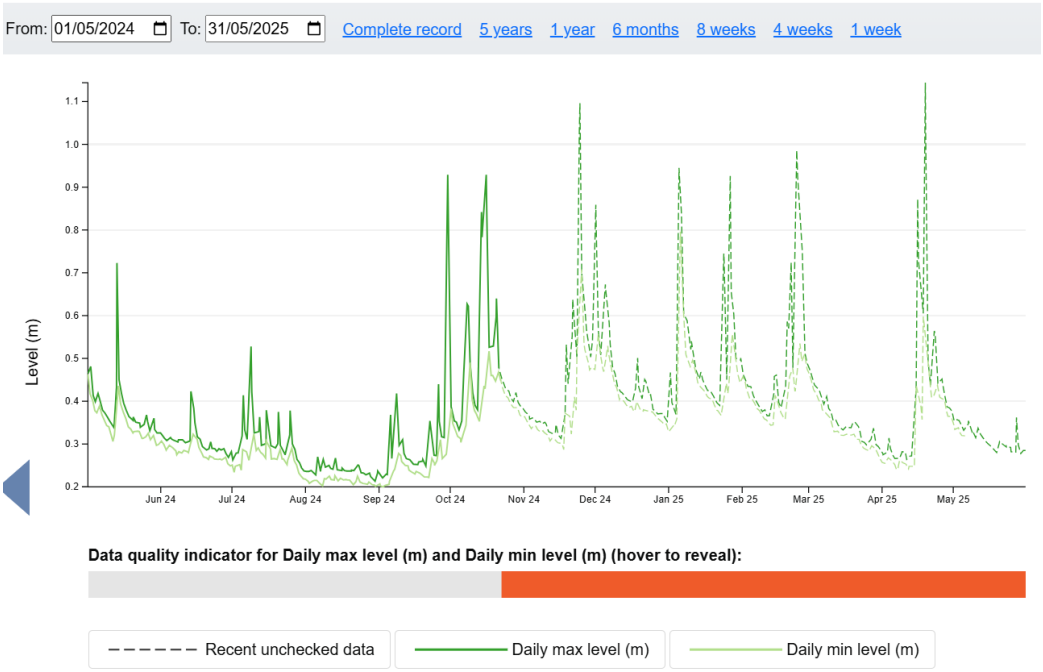
(b) From 1st May 2024 until 31st May 2025



2. Par River levels at Luxulyan preceding and during surveys. Source: https://environment.data.gov.uk/hydrology/station/14aadf3c-3d4d-44b3-b26b-cf705827d00e

(a) Levels for May 2025

(b) Levels from 1st May 2024 until 31st May 2025



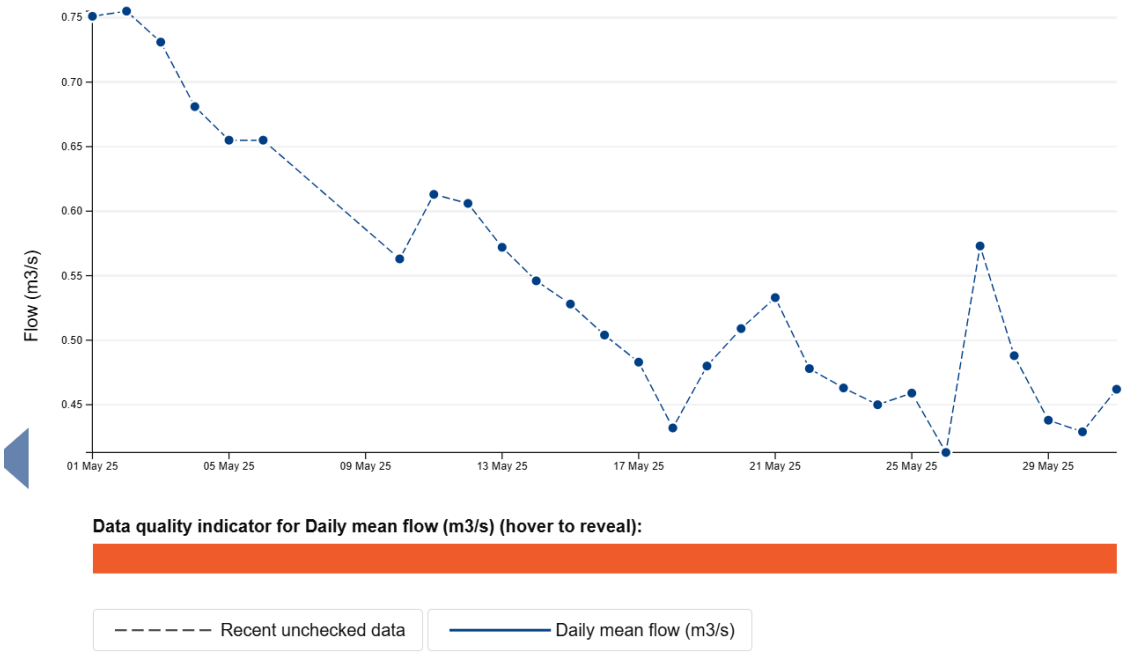
(c) How levels at Luxulyan could affect nearby areas:

1.80m	Property flooding is possible above this level. One or more flood warnings may be issued
1.68m	Water reaches the highest level recorded at this measuring station (recorded on 19 December 1999)
1.40m	Low lying land flooding is possible above this level. One or more flood alerts may be issued
	This is the top of the normal range

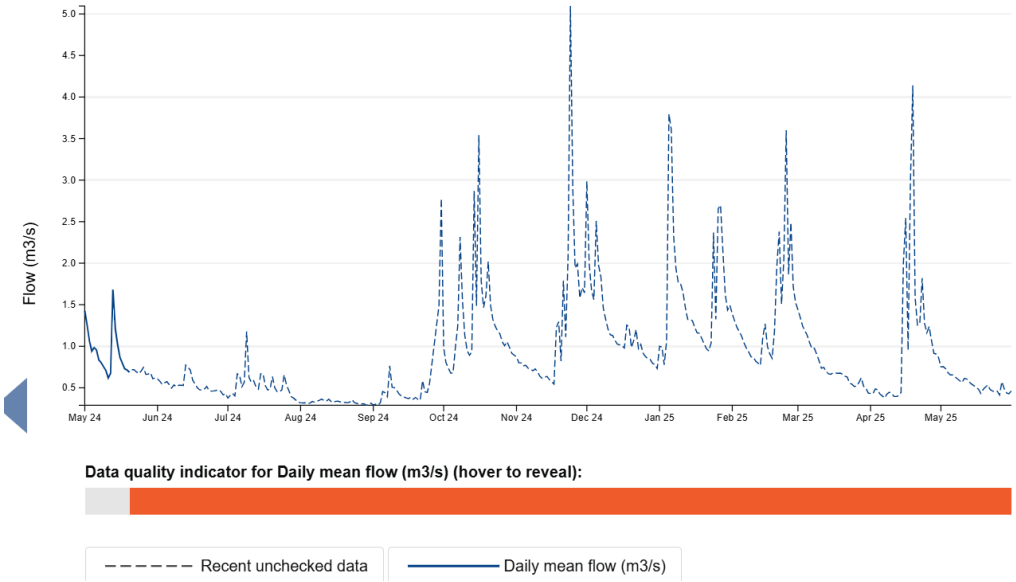
(d) Complete record of river levels at Luxulyan. Refer to level descriptions in previous section.

3. RIVER FLOW AT LUXULYAN (Daily Mean Flow in M3/s – cubic metres per second):

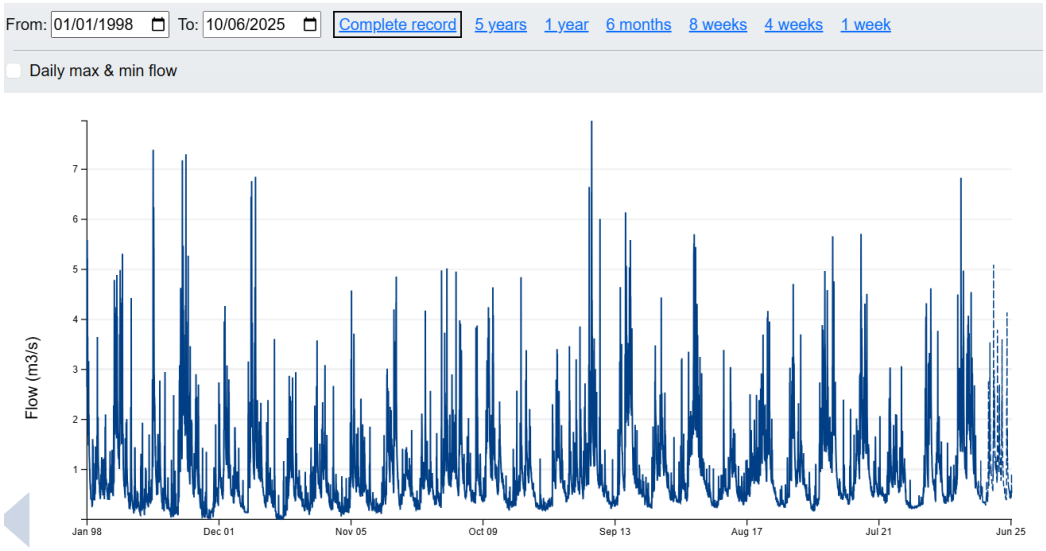
(a) The last month (N.B. Some data unchecked):



(b) From 1st May 2024 until 31st May 2025



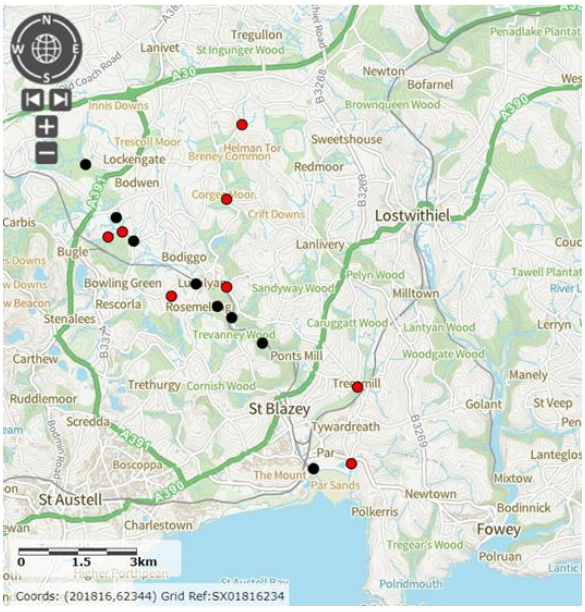
(c) Complete record of river flow at Luxulyan



4. The graphs in sections 1 to 3 are taken from Hydrology Data Explorer (https://environment.data.gov.uk/hydrology/explore). Data for Luxulyan and Par St Andrews are used here. Other stations in the Par catchment include: Ponts Vale, Par Highways, Treesmill Dam Public Footpath, Treesmill Dam Marsh Villa Gardens, and St Blazey (rainfall only). It is possible to check daily Par River levels for Luxulyan, Ponts Vale and St Blazey Station Stream at St Blazey Station Road at: https://check-for-flooding.service.gov.uk/river-and-sea-levels/rloi/3159 .

C. MAY 2025 MONITORING POINTS

This month monitoring occurred at 16 locations. Monitoring points along the main Par River are shown in black. Those in red are on tributaries. **Source:** https://magic.defra.gov.uk/MagicMap.aspx



LOCATION	PAR/TRIBUTARY	DATE/TIME	TYPE OF CHECK	MONITORED BY
Criggan Moors, Par River, SX 01882 61133	**PAR**	14/5/2025 8:10	CSI sample & Cartographer record.	Roger Smith
South of Minorca Lane, Par River, SX02668 59747	**PAR**	14/5/2025 7:35	CSI sampling. Cartographer record.	Roger Smith
Near Forkandles Farm, Molinnis Stream, SX 02460 59271	**SECONDARY TRIBUTARY (OF CARBIS STREAM)**	14/5/2025 9:30	CSI sample & Cartographer record.	Roger Smith
Carbis Stream SX 02834 59401	**TRIBUTARY**	14/5/2025 9:15	CSI sampling. Cartographer record.	Roger Smith
Lavrean, Par River SX 03134 59164	**PAR**	14/5/2025 9:55	CSI sampling. Cartographer record.	Roger Smith
Treskilling, Treskilling Stream, SX 04107 57726	**TRIBUTARY**	28/5/2025 15:30	CSI sampling. Cartographer record.	Roger Smith
Luxulyan allotments, Par River, SX 04732 58045	**PAR**	14/5/2025 10:50	CSI sampling. Cartographer record.	Roger Smith
Cam Bridges, Par River, SX 05292 57454	**PAR**	14/5/2025 12:35	CSI sampling. Cartographer record.	Roger Smith
Trebell Green, Bokiddick Stream SX 0551960226	**TRIBUTARY**	12/5/2025 15:00	CSI sampling. Cartographer record.	Roger Smith
Corgee Moor, Bokiddick Stream SX 0593462167	**TRIBUTARY**	14/5/2025 15:50	CSI sampling. Cartographer record.	Roger Smith
Gatty's Bridge, Bokiddick Stream SX 05531 57953	**TRIBUTARY**	14/5/2025 13:15	CSI sampling. Cartographer record.	Joan Farmer
Treffry Viaduct, Par River, SX 05650 57179	**PAR**	14/5/2025 16:15	CSI sampling. Cartographer record.	Joan Farmer
Lady Rashleigh Mine, Par River, SX 06451 56509	**PAR**	14/5/2025 14:15	CSI sampling. Cartographer record. Riverfly.	Roger Smith, Joan Farmer, Veronica Jones
Treesmill, Tywardreath Stream, SX 08873 55385	**TRIBUTARY**	14/5/2025 12:25	CSI sampling. Cartographer record. Riverfly.	Maggie Tagney, Simon Tagney
Par Beach slipway, SX 0776 53261	**PAR**	15/5/2025 11:30	CSI sampling. Cartographer record.	Simon Tagney
Polmear Stream, Ship Inn SX 08749 53417	**TRIBUTARY**	15/5/2025 12:10	CSI sampling. Cartographer record.	Simon Tagney

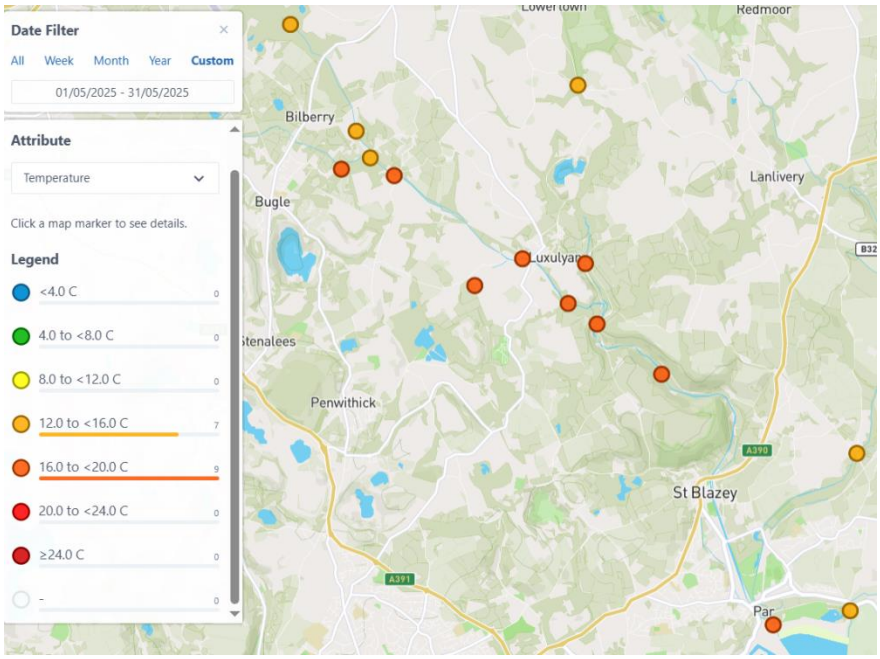
The times have been included in the previous table in case that explains some of the variations in readings.

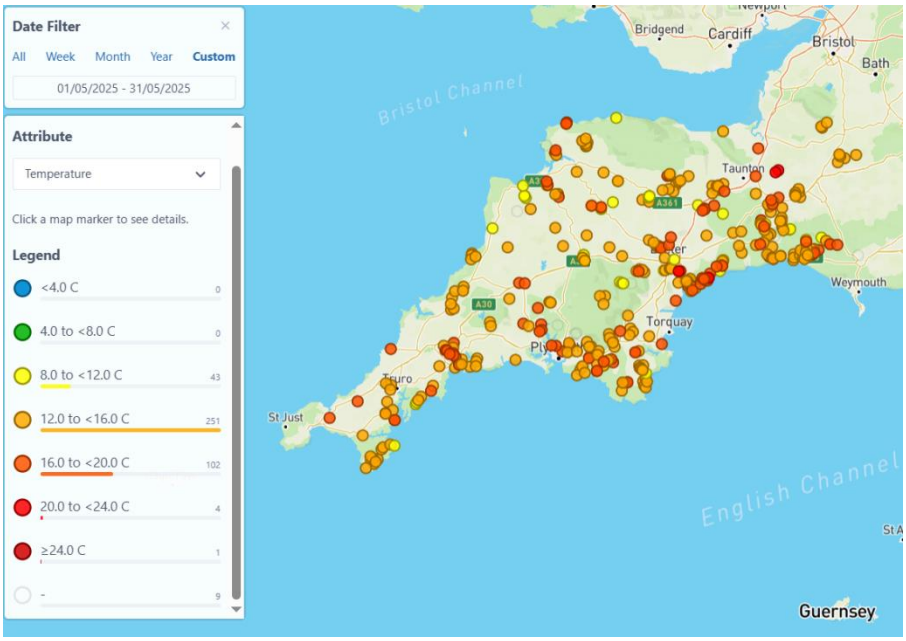
D. TEMPERATURE

1. This is the WRT's explanation of why this is monitored:

Temperature is a vital parameter within the river ecosystem. It controls many of the aquatic species life cycles. Temperature fluctuates with the seasons; however, you do get variation within that, particularly in small rivers and streams. Another important reason to measure temperature is to track the impact of our warming climate on our waterbodies.

Geographical comparison. Source: Cartographer.





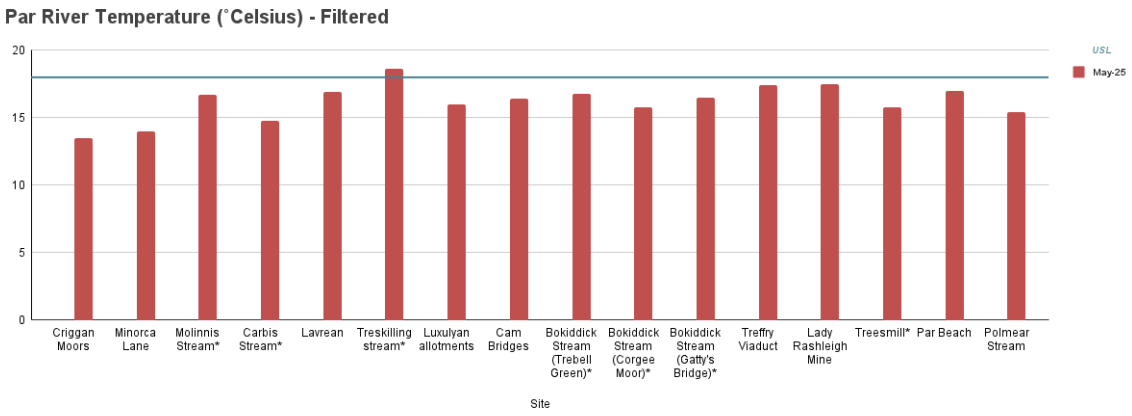
PAR RIVER/TRIBUTARY	LOCATION		Temperature ˚Celsius
Par	Criggan Moors, Par River, SX 01882 61133		**13.5**
Par	South of Minorca Lane, Par River, SX 02657 59788		**14**
Secondary tributary	Near Forkandles Farm, Molinnis Stream, SX 02460 59271		**16.7**
Tributary	Carbis Stream SX 02834 59401		**14.8**
Par	Lavrean, Par River SX 03134 59164		**16.9**
Tributary	Treskilling, Treskilling Stream, SX 04107 57726		**18.6**
Par	Luxulyan allotments, Par River, SX 04732 58045		**16**
Par	Cam Bridges, Par River, SX 05292 57454		**16.4**
Tributary	Trebell Green, Bokiddick Stream SX 0551960226		**16.8**
Tributary	Corgee Moor, Bokiddick Stream SX 0593462167		**15.8**
Tributary	Gatty's Bridge, Bokiddick Stream SX 05531 57953		**16.5**
Par	Treffry Viaduct, Par River, SX 05650 57179		**17.4**
Par	Lady Rashleigh Mine, Par River, SX 06451 56509		**17.5**
Tributary	Treesmill, Tywardreath Stream, SX 08873 55385		**15.8**
Par	Par Beach slipway, SX 0776 53261		**17**
Tributary	Polmear Stream, Ship Inn, SX 08749 53417		**15.4**

Colour coding:

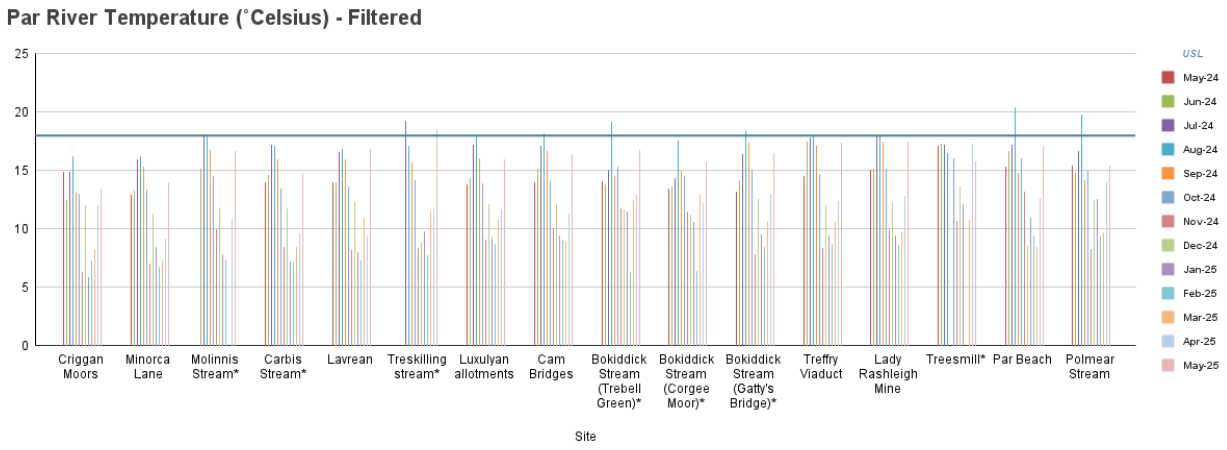
Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	

3. Graphs

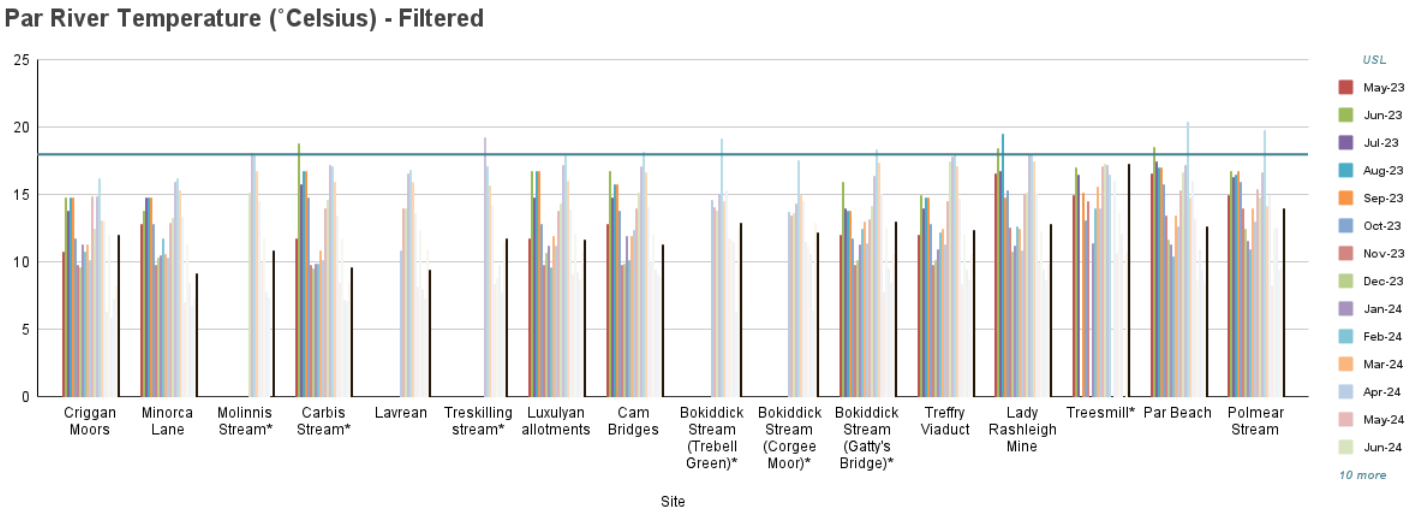
(a) This month:



(b) From 1st May 2024 until 31st May 2025



(c) From 1st May 2023 until 31st May 2025



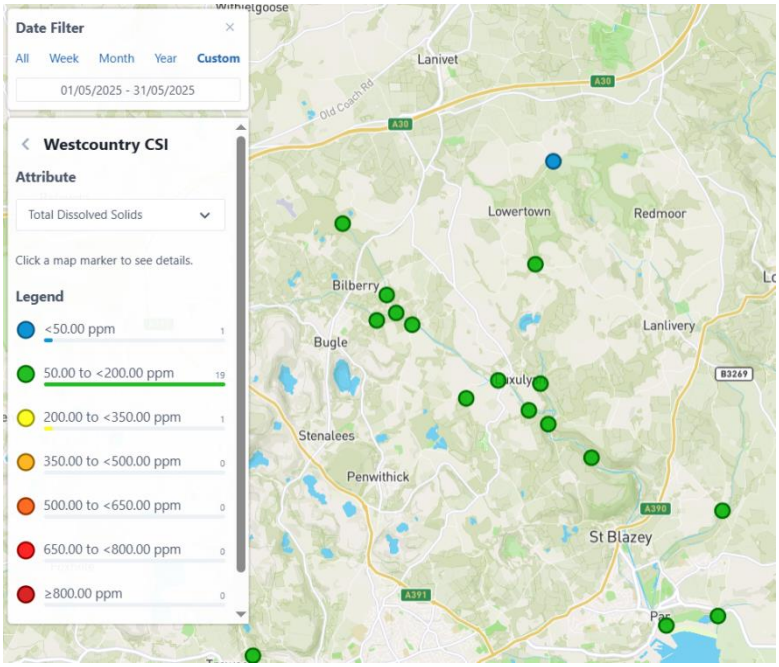
E. TOTAL DISSOLVED SOLIDS

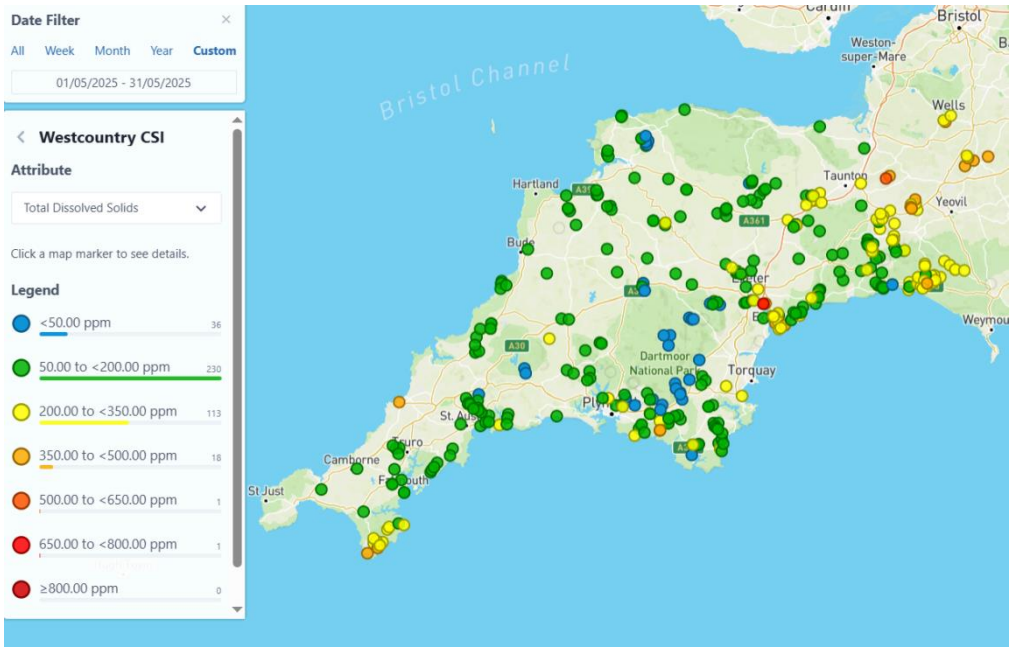
1. We measure these in ppm (parts per million). This is the WRT's explanation:

Total Dissolved Solids (TDS) is directly related to the conductivity of the water. The more minerals, salts and metals that are dissolved in the water the more conductive it gets. Low levels of dissolved solids in waters such as those on Dartmoor near to the source of the river are a result of very low levels of input from the surrounding landscape. As the river runs down to the sea it collects material from many different inputs, some natural and some man-made such as farms, sewage plants, factories and residential areas. This typically increases the amount of solids dissolved in the water leading to a higher reading. Harmful pollution from things like sewage,

slurry and factory discharge will usually elevate your TDS reading. However, some pollutants such as oil can lower conductivity; therefore it should be used as a general indicator of water quality not a specific measure of toxicity. Geology will influence the normal level of conductivity in a watercourse (e.g. Areas dominated by granite generally give a lower conductivity than those with limestone). Regular monitoring will allow the detection of changes in conductivity which can indicate pollution.

2. Geographical comparison. Source: Cartographer.





2. Results May 2025

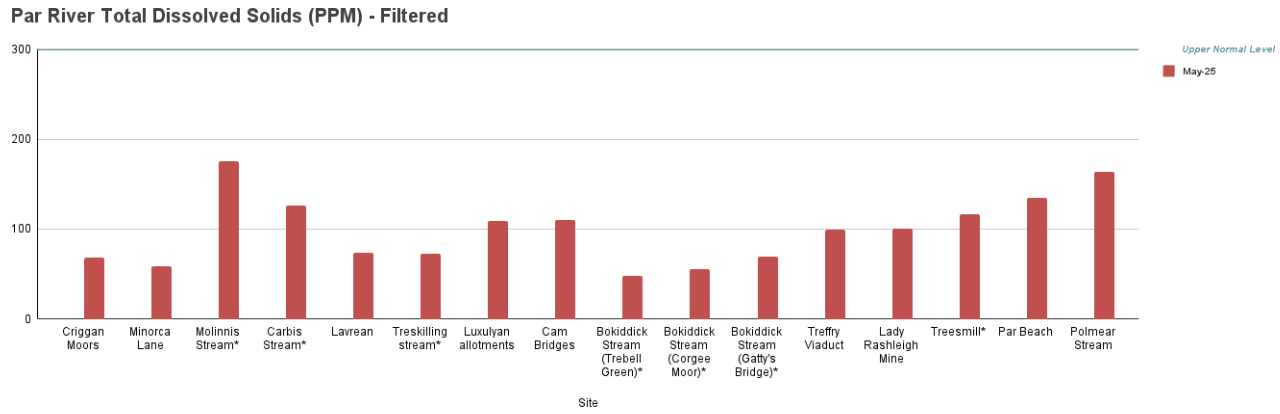
PAR RIVER/TRIBUTARY	LOCATION		Total Dissolved Solids PPM
Par	Criggan Moors, Par River, SX 01882 61133		68
Par	South of Minorca Lane, Par River, SX 02657 59788		59
Secondary tributary	Near Forkandles Farm, Molinnis Stream, SX 02460 59271		176
Tributary	Carbis Stream SX 02834 59401		126
Par	Lavrean, Par River SX 03134 59164		74
Tributary	Treskilling, Treskilling Stream, SX 04107 57726		73
Par	Luxulyan allotments, Par River, SX 04732 58045		109
Par	Cam Bridges, Par River, SX 05292 57454		110
Tributary	Trebell Green, Bokiddick Stream SX 0551960226		48
Tributary	Corgee Moor, Bokiddick Stream SX 0593462167		55
Tributary	Gatty's Bridge, Bokiddick Stream SX 05531 57953		69
Par	Treffry Viaduct, Par River, SX 05650 57179		99
Par	Lady Rashleigh Mine, Par River, SX 06451 56509		100
Tributary	Treesmill, Tywardreath Stream, SX 08873 55385		117
Par	Par Beach slipway, SX 0776 53261		135
Tributary	Polmear Stream, Ship Inn, SX 08749 53417		164

Colour coding:

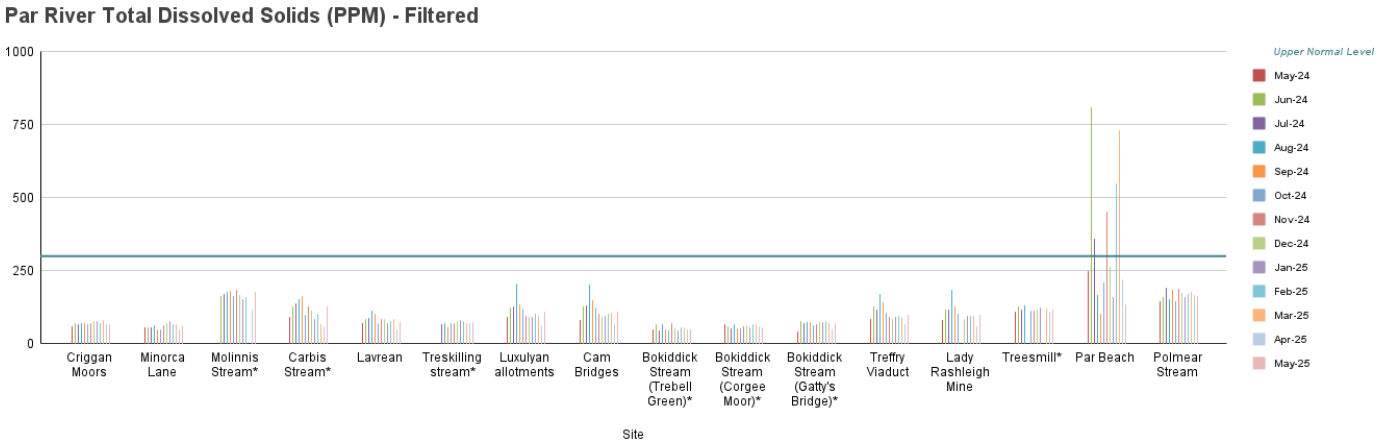
Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	

3. Graphs

(a) This month:



(b) From 1st May 2024 until 31st May 2025:



(c) From 1st May 2023 until 31st May 2025:

F. TURBIDITY

1. This is the WRT explanation of this measure:

Turbidity tube is a measure of the optical clarity of the water. The more suspended particles in the water the lower the clarity and the higher the turbidity. You will often find your waterbody gets more turbid after heavy rainfall due to soil running off the fields and sediment being mixed into the water column. This loss of topsoil is both a problem for farmer and river. It can often contain chemicals from the fertiliser and pesticides used on the land. An increase in sediment level on the substrate of the river can cause smothering of habitat by removing light and oxygen. Aquatic wildlife such as the less mobile invertebrates and fish eggs struggle to survive in low oxygen conditions and without light, plants are unable to grow. It is a good idea to sample your river after different weather conditions to understand how it responds to rainfall or drought.

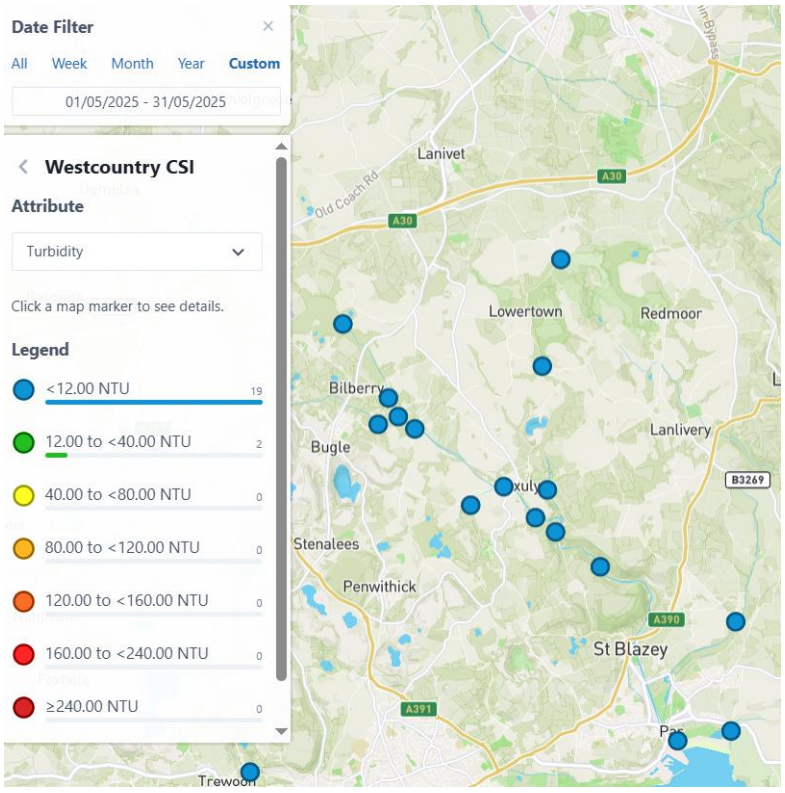
The Yealm Estuary to Moor Project (YEM) in Devon considers that the upper safe level (USL) for turbidity is 75 NTU = 25 mg/l.

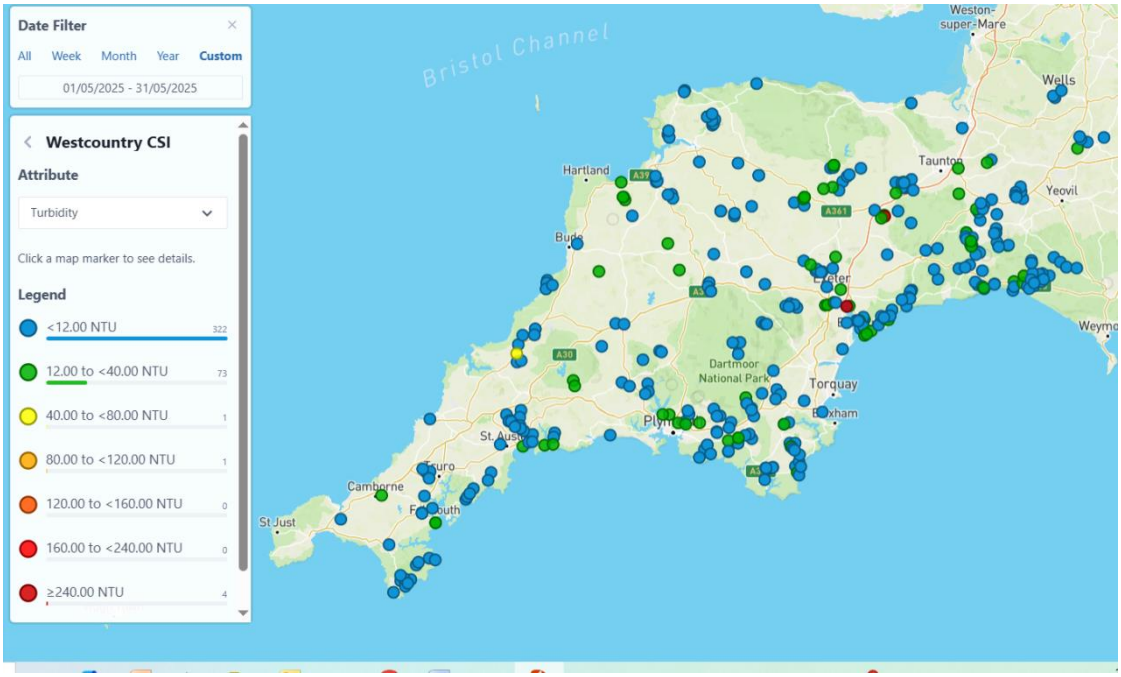
2. Results May 2025:

PAR RIVER/TRIBUTARY	LOCATION		Turbidity (NTU)
Par	Criggan Moors, Par River, SX 01882 61133		**<12**
Par	South of Minorca Lane, Par River, SX 02657 59788		**<12**
Secondary tributary	Near Forkandles Farm, Molinnis Stream, SX 02460 59271		**<12**
Tributary	Carbis Stream SX 02834 59401		**<12**
Par	Lavrean, Par River SX 03134 59164		**<12**
Tributary	Treskilling, Treskilling Stream, SX 04107 57726		**<12**
Par	Luxulyan allotments, Par River, SX 04732 58045		**<12**
Par	Cam Bridges, Par River, SX 05292 57454		**<12**
Tributary	Trebell Green, Bokiddick Stream SX 0551960226		**<12**
Tributary	Corgee Moor, Bokiddick Stream SX 0593462167		**<12**
Tributary	Gatty's Bridge, Bokiddick Stream SX 05531 57953		**<12**
Par	Treffry Viaduct, Par River, SX 05650 57179		**<12**
Par	Lady Rashleigh Mine, Par River, SX 06451 56509		**<12**
Tributary	Treesmill, Tywardreath Stream, SX 08873 55385		**<12**
Par	Par Beach slipway, SX 0776 53261		**<12**
Tributary	Polmear Stream, Ship Inn, SX 08749 53417		**<12**

Colour coding:

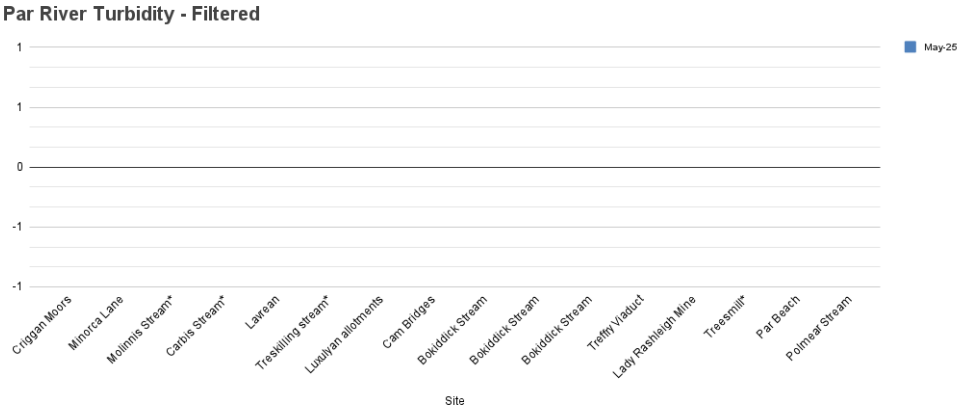
Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	



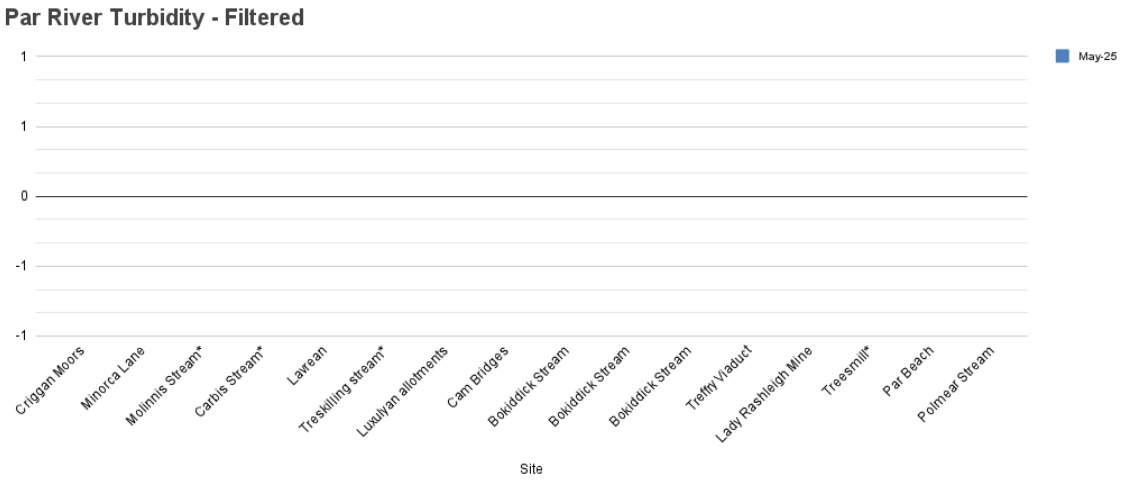


3. Graphs

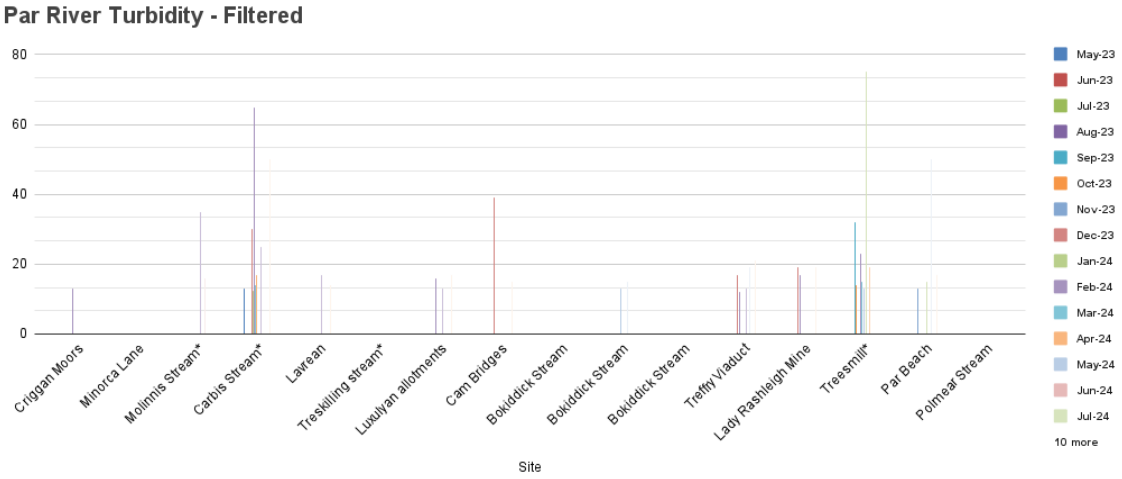
(a) This month



(b) From 1st May 2024 until 31st May 2025:



(c) From 1st May 2023 until 31st May 2025:



G. PHOSPHATES

1. This is the WRT's explanation of this measure.

Phosphate occurs naturally within the river ecosystem, but in very low levels under 0.05 mg/l. Therefore, higher levels may indicate anthropogenic input. Phosphate is found in animal and human waste, cleaning chemicals, industrial runoff and fertiliser so this can be a good indicator of pollution. Having raised levels of phosphate can lead to increases in plant growth within the watercourse. This leads to a depletion of oxygen due to the plant's aerobic respiration during the night. Without oxygen aquatic species cannot survive and the river ecosystem collapses. (It is important to note that phosphate is taken up by plants. You may get a low reading but high plant growth, indicating eutrophication.)

Ranges on phosphate diagnostic colour chart:

0 – 100 OK

200 – 300 HIGH

500 – 2500 – TOO HIGH

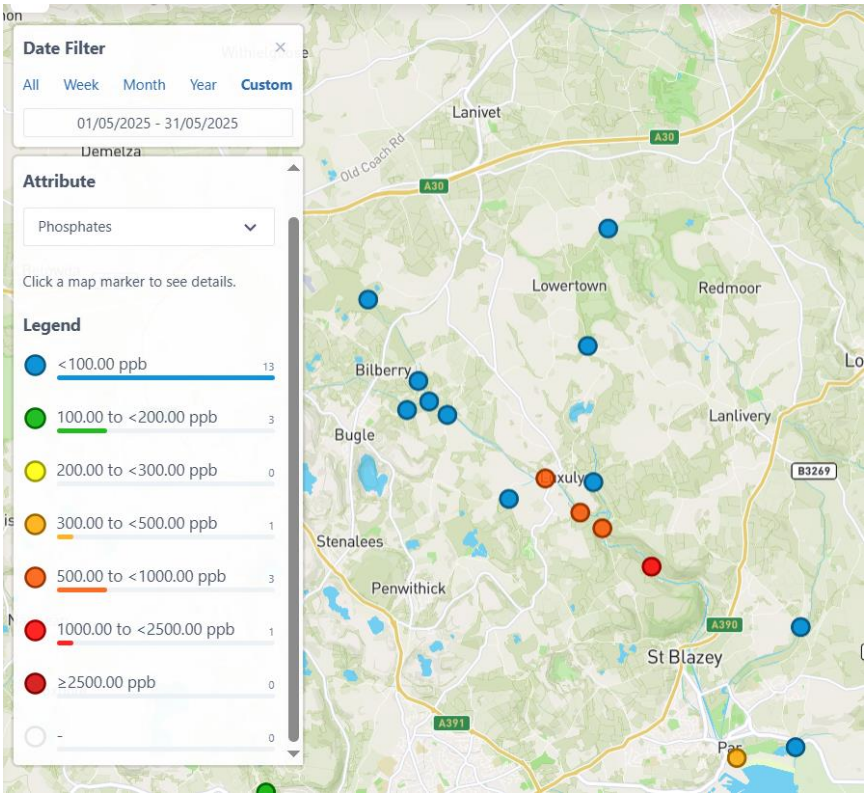
2. Results May 2025

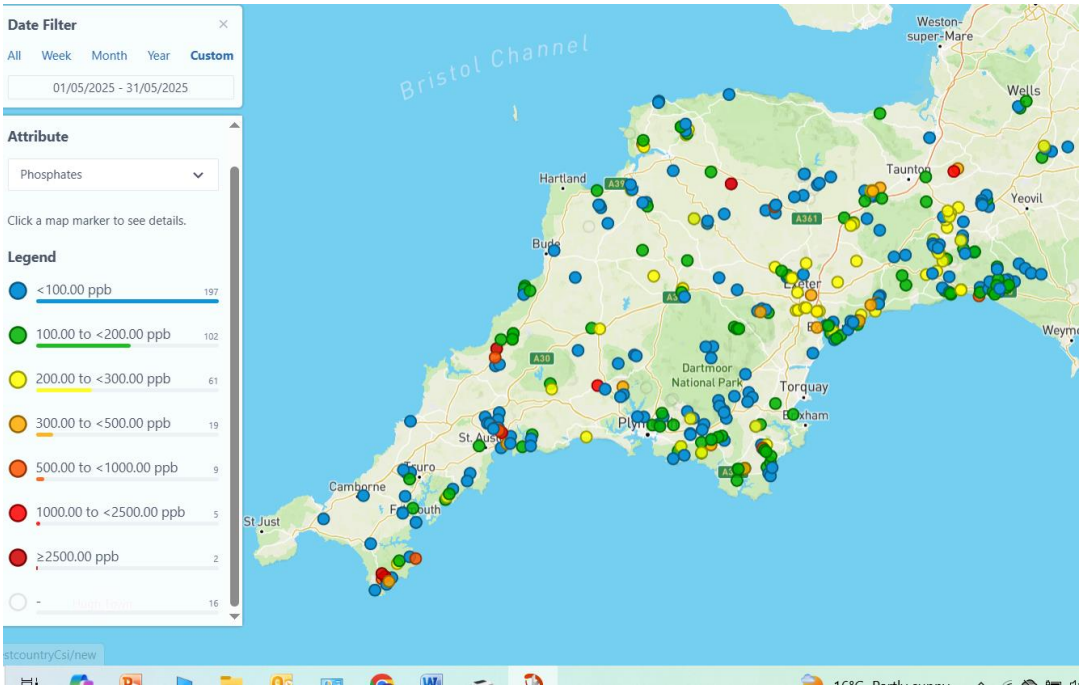
Results in red show phosphate levels that are classified as 'High' (above the upper safe level). WRT advice is that this is 100 Parts per Billion (0.1 mg/l).

PAR RIVER/TRIBUTARY	LOCATION		Phosphates PPB
Par	Criggan Moors, Par River, SX 01882 61133		0
Par	South of Minorca Lane, Par River, SX 02657 59788		0
Secondary tributary	Near Forkandles Farm, Molinnis Stream, SX 02460 59271		0
Tributary	Carbis Stream SX 02834 59401		0
Par	Lavrean, Par River SX 03134 59164		0
Tributary	Treskilling, Treskilling Stream, SX 04107 57726		0
Par	Luxulyan allotments, Par River, SX 04732 58045		500
Par	Cam Bridges, Par River, SX 05292 57454		500
Tributary	Trebell Green, Bokiddick Stream SX 0551960226		0
Tributary	Corgee Moor, Bokiddick Stream SX 0593462167		0
Tributary	Gatty's Bridge, Bokiddick Stream SX 05531 57953		0
Par	Treffry Viaduct, Par River, SX 05650 57179		500
Par	Lady Rashleigh Mine, Par River, SX 06451 56509		1000
Tributary	Treesmill, Tywardreath Stream, SX 08873 55385		0
Par	Par Beach slipway, SX 0776 53261		300
Tributary	Polmear Stream, Ship Inn, SX 08749 53417		0

Colour coding:

Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	


Date Filter
All Week Month Year Custom
01/05/2025 - 31/05/2025
Attribute
Phosphates
Click a map marker to see details.
Legend
<100.00 ppb 13
100.00 to <200.00 ppb 3
200.00 to <300.00 ppb 0
300.00 to <500.00 ppb 1
500.00 to <1000.00 ppb 3
1000.00 to <2500.00 ppb 1
≥2500.00 ppb 0
- 0
Lanivet
Old Coach Rd
A30
Lowertown
Redmoor
Bilberry
Bugle
Lanlivery
B3269
Stenalees
Penwithick
A390
St Blazey
A391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All Week Month Year Custom
01/05/2025 - 31/05/2025
Attribute
Phosphates
Click a map marker to see details.
Legend
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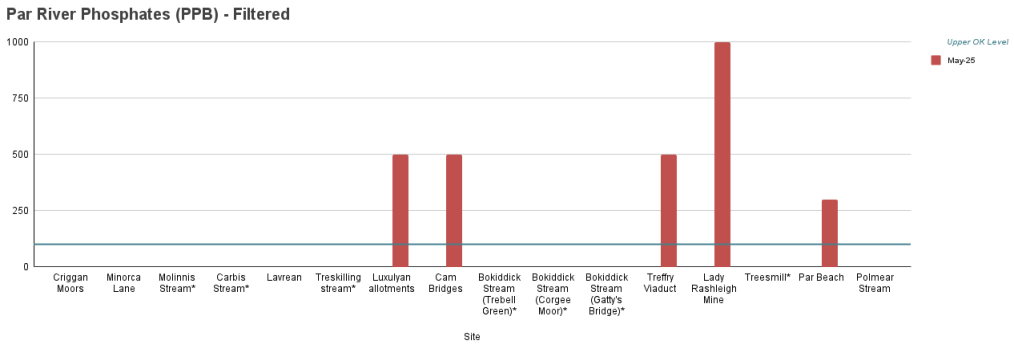
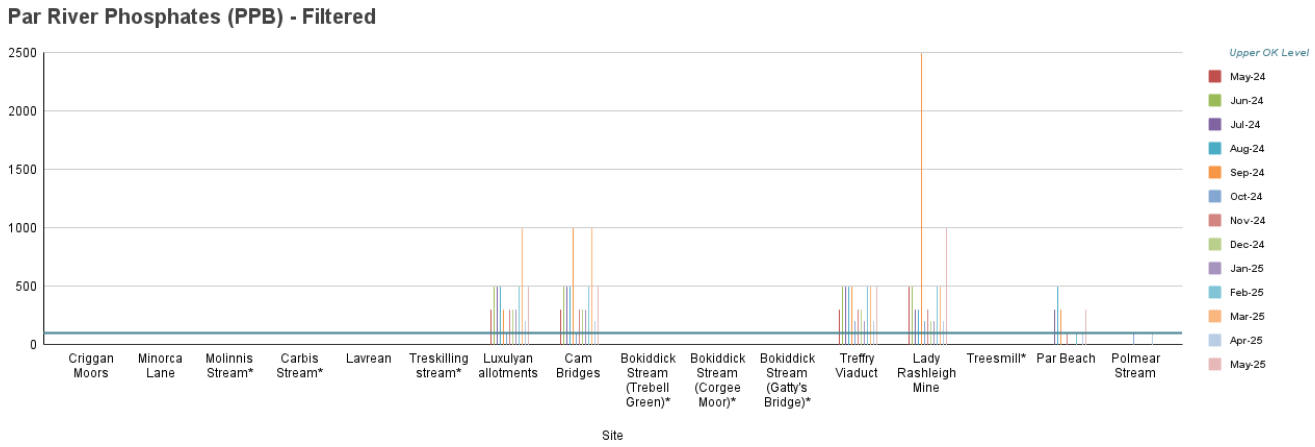
100.00 to <200.00 ppb 102
200.00 to <300.00 ppb 61
300.00 to <500.00 ppb 19
500.00 to <1000.00 ppb 9
1000.00 to <2500.00 ppb 5
≥2500.00 ppb 2
- 16
Bristol Channel
Weston-super-Mare
Wells
Taunton
Yeovil
Hartland
A39
A361
Bude
Exeter
A30
Dartmoor National Park
Torquay
Plymouth
St Austell
Truro
Camborne
St Just

4. Graphs

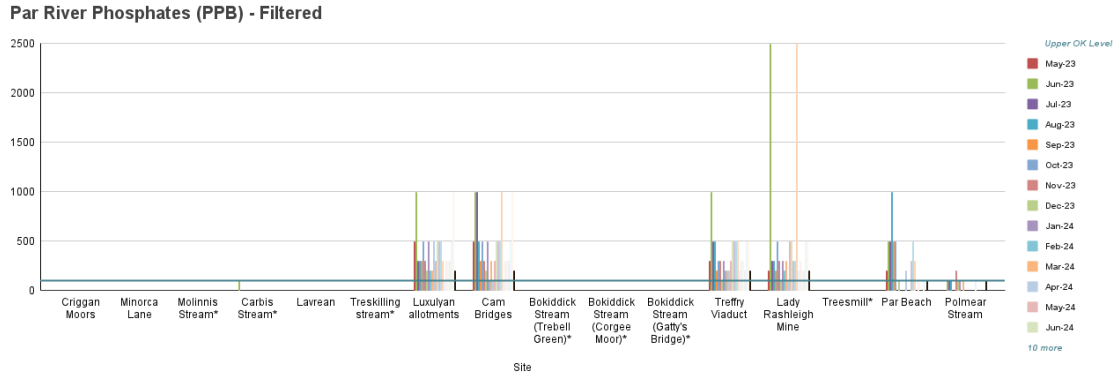
(a) This month:



(b) From 1st May 2024 until 31st May 2025:

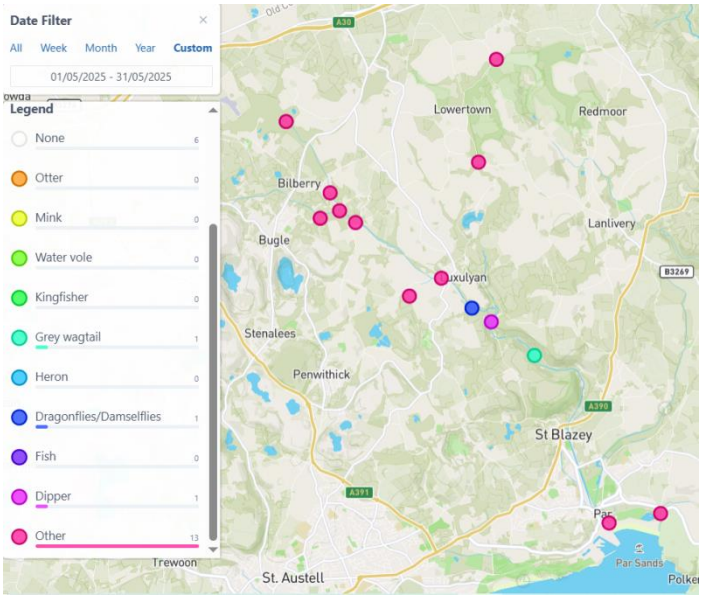


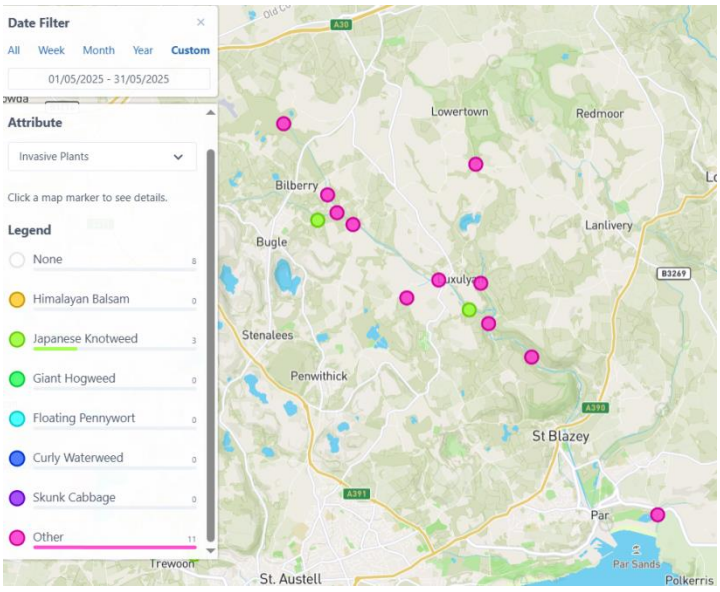
(c) From 1st May 2023 until 31st May 2025:



H. WILDLIFE & INVASIVE PLANTS

Wildlife & Invasive Plants sightings at the monitoring points included:





LOCATION	WILDLIFE NOTED		INVASIVE PLANTS NOTED
Criggan Moors, SX 01882 61133	**HEARD: Blackbird, Robin, Chiffchaff, Blackcap, Chaffinch, Wren, Blue Tit**		Hemlock Water Dropwort
South of Minorca Lane, Par River, SX 02657 59788	**HEARD: Wren, Robin, Great Tit, Blackbird, Chaffinch, Chiffchaff, Jackdaw**		Hemlock Water Dropwort
Forkandles Farm, Molinnis Stream, SX 02460 59271	**HEARD: Cuckoo, Goldcrest, Robin, Blackbird**		Japanese Knotweed Hemlock Water Dropwort
Carbis Stream SX 02834 59401	**HEARD: Wren, Goldcrest, Chaffinch**		Hemlock Water Dropwort
Lavrean, Par River SX 03134 59164	**HEARD: Robin, Great Tit, Chiffchaff, Song Thrush, Greenfinch, Bullfinch**		Hemlock Water Dropwort
Treskilling, Treskilling Stream, SX 04107 57726	**HEARD: Blackbird, Robin, Greenfinch, Woodpigeon** **SEEN: Mallards, Goldfinches**		Hemlock Water Dropwort
Luxulyan allotments, Par River, SX 04732 58045	**HEARD: Blue Tit, Robin, Blackbird, Wren, Goldfinch, Chaffinch House Sparrow**		Hemlock Water Dropwort
Cam Bridges, Par River, SX 05292 57454	**SEEN: Dragonflies, Mallards**		Hemlock Water Dropwort, Japanese Knotweed
Trebell Green, Bokiddick Stream SX 0551960226	**HEARD: Blue Tit, Robin, Ring-necked Pheasant, Chiffchaff, Wren, Blackcap, Woodpigeon, Blackbird, Willow Warbler, Marsh Tit, Carrion Crow, Chaffinch, Linnet** **SEEN: Lake created by beaver dam and gnawed trees.**		None
Corgee Moor, Bokiddick Stream SX 0593462167	**HEARD: Chiffchaff, Robin, Blackbird, Bullfinch, Marsh Tit, Blue Tit**		Hemlock Water Dropwort
Gatty's Bridge, Bokiddick Stream SX 05531 57953			Hemlock Water Dropwort
Treffry Viaduct, Par River, SX 05650 57179	**SEEN: Dipper**		Hemlock Water Dropwort
Lady Rashleigh Mine, Par River, SX 06451 56509	**HEARD: Wren** **SEEN: Riverfly nymphs (Cased Caddis, Caseless Caddis, Flat-bodied Upwing, Stoneflies, Gammarus – full report below)**		Hemlock Water Dropwort
Treesmill, Tywardreath Stream, SX 08873 55385	**HEARD: Blackbird, Robin, Woodpigeon, Sparrow, Chaffinch, Goldfinch, Chiffchaff, Grey Wagtail**		
Par Beach slipway, SX 0776 53261	**SEEN: Woodpigeons, 2 Mallards, Herring Gull**		
Polmear Stream, Ship Inn, SX 08749 53417	**SEEN: Robin, small midges***		Hemlock Water Dropwort

The Merlin Bird ID app has been used to identify birdsong (https://merlin.allaboutbirds.org/).

*At various locations dense clouds of small midges/flies could be seen above the surface of the river/streams.

Colour coding:

Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	

On the Bokiddick Stream near Helman Tor there is an extensive lake created by the beavers. As the next photo shows, although trees are felled by the beavers regrowth occurs:

Another feature is the amount of water weed growing in the still water of the dammed lake. This may be evidence of enhanced biodiversity resulting from the activities of the beavers.

I. ARMI RIVERFLY SURVEYS AT LADY RASHLEIGH MINE & TYWARDREATH STREAM

Four of the group (Joan Farmer, Veronica Jones, Roger Smith, and Simon Tagney) have undertaken the training to carry out Riverfly Surveys under the Anglers' Riverfly Monitoring Initiative (https://www.riverflies.org/rp-riverfly-monitoring-initiative). In short, sampling for 8 riverfly groups is carried out using standardised methods with scores calculated for their abundance. Information is passed to ARMI and the ORKS database. If the score does not reach a trigger level (in our case trigger level was raised from 5 to 6 in May 2022), the Environment Agency must be informed immediately since it is highly likely to indicate that the water is polluted. Our group received approval to sample at two sites: Luxulyan allotments (SX 04743 58054) and Lady Rashleigh Mine (SX 06453 56500). We have decided, for the time being, to concentrate on the latter, but from May 2024 have moved the kick-sampling site a few metres downstream of the bridge where conditions are safer and easier. This amended site will be known as Lady Rashleigh 2 in the ARMI/ORKS record. Recently, Simon and Brian have started to look at a location on the Tywardreath Stream, at SX SX0887055340.

It is impossible to count every invertebrate so this counting method is used:

Abundance	Score	Estimated Number
1-9	1	Quick count
10-99	2	Nearest 10
100-999	3	Nearest 100
>1000	4	Nearest 1000

Results of survey at Lady Rashleigh Mine (SX 06451 56509) carried out by Joan Farmer, Veronica Jones and Roger Smith on 14th May 2025:

	SPECIES	NUMBER	CATEGORY
Trichoptera			
1	Cased Caddisfly	1	1
2	Caseless Caddisfly	15	2
Ephemeroptera 3 tails			
3	Mayfly (Ephemeridae)	0	0
4	Blue-winged olive (Ephemerellidae)	0	0
5	Flat-bodied up-wings (Heptageniidae)	11	2
6	Olives (Baetidae)	20	2
Plecoptera 2 tails			
7	Stoneflies	6	1
Gammaridae			
8	Freshwater Shrimp	20	2
			10

CATEGORY TOTAL	10
TRIGGER LEVEL	6

N.B. From May 2024 sampling has been done at Lady Rashleigh 2, downstream from the bridge.

Results from the Tywardreath Stream

	SPECIES	NUMBER	CATEGORY
Trichoptera			
1	**Cased Caddisfly**	**0**	**1**
2	**Caseless Caddisfly**	**0**	**0**
Ephemeroptera 3 tails			
3	**Mayfly (Ephemeridae)**	**1**	**1**
4	**Blue-winged olive (Ephemerellidae)**	**1**	**0**
5	**Flat-bodied up-wings (Heptageniidae)**	**0**	**0**
6	**Olives (Baetidae)**	**0**	**0**
Plecoptera 2 tails			
7	**Stoneflies**	**0**	**0**
Gammaridae			
8	**Freshwater Shrimp**	**>100**	**3**
			5

CATEGORY TOTAL	**7**
TRIGGER LEVEL	**5?**

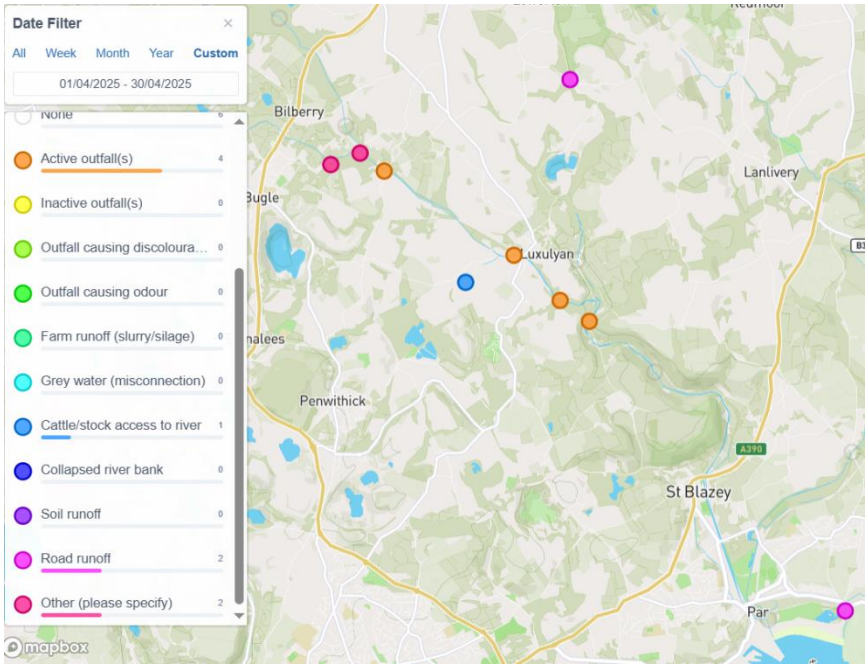
Blue-winged Olive **Photo: Simon Tagney**

Mayfly nymph **Photo: Simon Tagney**

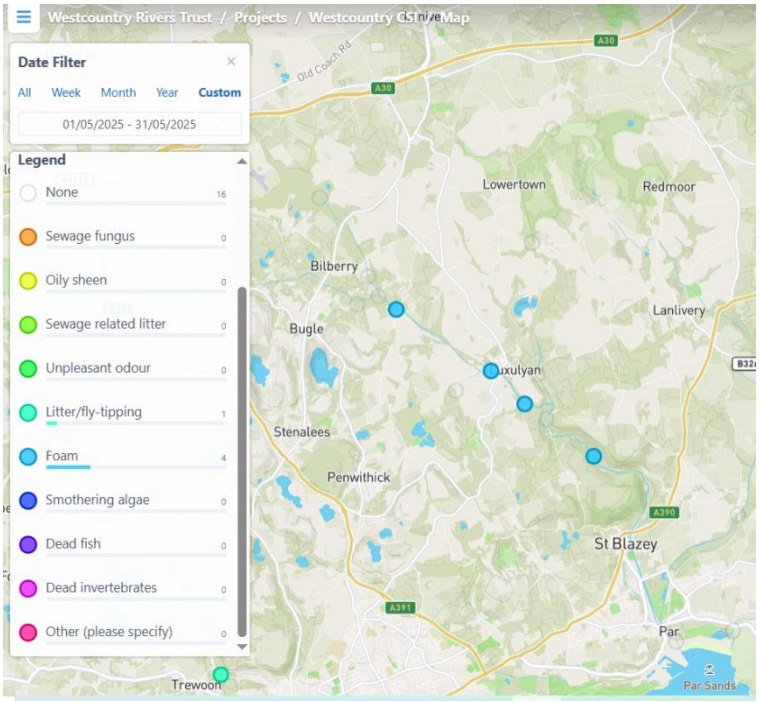
Tiny fish in Tywardreath Stream (Stickleback?) **Photo: Simon Tagney**

I. POLLUTION SOURCES AND EVIDENCE

1. Visible sources of pollution (source: Cartographer)



2. Recent evidence of pollution



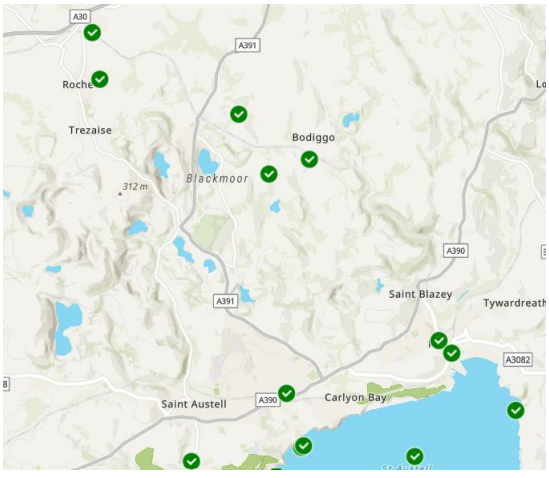
LOCATION		EVIDENCE OF RECENT POLLUTION
Criggan Moors, SX 01882 61133		None
South of Minorca Lane, Par River, SX 02657 59788		None
Forkandles Farm, Molinnis Stream, SX 02460 59271		None
Carbis Stream SX 02834 59401		None
Lavrean, Par River SX 03134 59164		Foam
Treskilling, Treskilling Stream, SX 04107 57726		None
Luxulyan allotments, Par River, SX 04732 58045		Foam
Cam Bridges, Par River, SX 05292 57454		Foam
Trebell Green, Bokiddick Stream SX 0551960226		None
Corgee Moor, Bokiddick Stream SX 0593462167		None
Gatty's Bridge, Bokiddick Stream SX 05531 57953		None
Treffry Viaduct, Par River, SX 05650 57179		None
Lady Rashleigh Mine, Par River, SX 06451 56509		None
Treesmill, Tywardreath Stream, SX 08873 55385		None
Par Beach slipway, SX 0776 53261		None
Polmear Stream, Ship Inn, SX 08749 53417		None

Colour coding:

Upper Par	
Lower Par	
Bokiddick Stream	
Tributaries of Upper Par	
Tributaries of Lower Par	

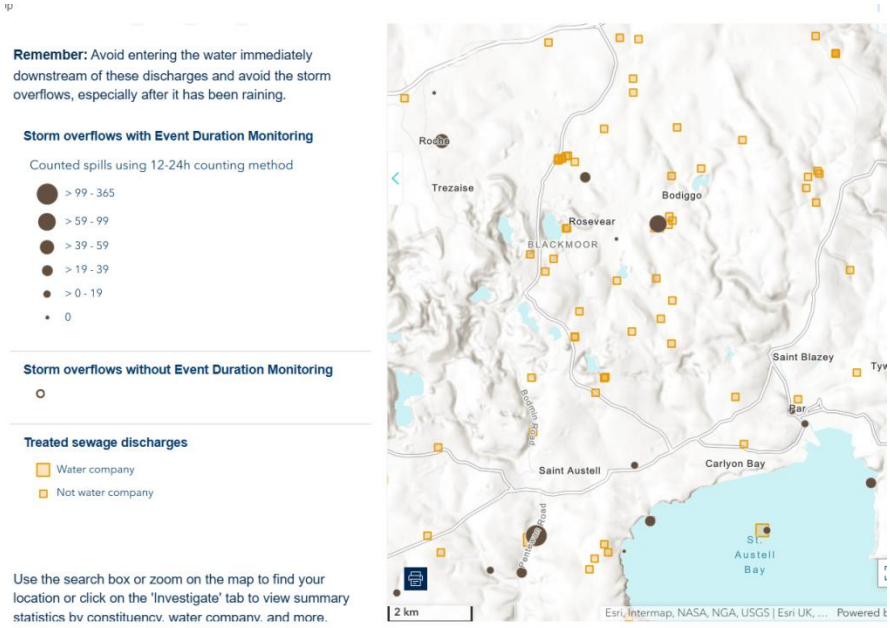
3. South West Water Storm Overflows

The Rivers Trust's sewage map (https://www.sewagemap.co.uk/) gives live information about discharges of sewage into rivers and the sea by water companies. (This is also provided by South West Water's WaterFit Live site: https://www.southwestwater.co.uk/storm-overflow-map).



This screenshot is for illustrative purposes only and does not show the situation in March. Not all of the locations are in the Par River catchment either.

It should be noted that there are also numerous private sewerage arrangements in the area but information about possible contamination of watercourses from these has not been found. The following screenshot shows the different facilities in the area (source: https://theriverstrust.org/key-issues/sewage-in-rivers)



(b) South West Water Storm Overflows in the Par River Catchment:

The main overflows are (from source to sea along the catchment):

- Roche storm overflow (SWW1001)
- Molinnis storm overflow, Bugle (SWW0765)
- Rescorla storm overflow, Luxulyan (SWW0987)
- Luxulyan sewage treatment works settled storm overflow, St Austell (SWW0694)
- Tredenham Close storm overflow, Par (SWW1230)
- Par No2 pumping station overflow, Par (SWW0519)

(c) SWW Storm Overflow spills

LOCATION/WATERCOURSE	SPILLS 2020	SPILLS 2021	SPILLS 2022	SPILLS 2023	SPILLS TARGET
Victoria pumping station overflow, Roche	41	26	42	59	39 (2030) 10 (2050)

(SWW1266) Into Par River					
Molinnis storm overflow, Bugle (SWW0765) Into tributary of Par River	28	38	7	38	8 (2030) 27 (2050)
Rescorla storm overflow, Luxulyan (SWW0987) Into 'Tributary of Par Sands (S)' [sic]	n/a	n/a	0	0	0 (2030) 0 (2050)
Luxulyan sewage treatment works settled storm overflow, St Austell (SWW0694) Into Par River	64	55	36	80	10 (2030) 8 (2050)
Tredenham Close storm overflow, Par (SWW1230) Into St Blazey stream	8	3	6	5	6 (2030) 6 (2050)
Par No2 pumping station overflow, Par (SWW0519) Into Par River	12	2	5	8	8 (2030) 8 (2050)

(d) SWW Storm Overflow spills May 2025:

No spills into the river were noted but this should not be taken as a certainty.

K. OUR GROUP AND SUPPORTERS

Monitoring is part of the Citizen Science programme run by the West Country Rivers Trust (WCRT) and is carried out monthly by volunteers, including Joan Farmer; Veronica Jones; Roger Smith; Simon Tagney; Maggie Tagney; and Brian Harrisson. They have received training from Lydia Ashworth, Junior Evidence and Engagement Officer of the West Country Rivers Trust (https://wrt.org.uk/project/become-a-citizen-scientist/). Results are logged on the Cartographer website. The support and advice given by Ross Tonkin, Lloyd Paynter, David Edwards, Claire and Gary Phillips, Jenny Heskett, Nick Taylor, Jeremy Roberts, Mat Bateman, Colin Pringle, Matt Healey, Simon Browning, Lydia Deacon, Jack Middleton, Anna Seal, Anna Crane, Zoe Connelly, Jade Neville, Lauren Jasper and Callum Lewis is greatly appreciated. The work carried out by the late Dave Burrell both in the field and in checking reports will not be forgotten. The interest and encouragement offered by Environment Agency officers, especially Lisa Best, Lisa Goodall, Layla Ousley, Jenny Davies, Leah Steward, Nicola Rogers and Peter Scobie, have been invaluable.

Report compiled by Roger Smith, 15th June 2025

Summer has arrived. Looking upstream from Par Beach slipway at low water. Photo: Simon Tagney