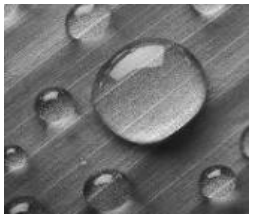


ELEMENTS ENERGY

Cilybebyll Hydro Scheme

Hydromorphology Survey

July 2025

Hydropower Consultancy & Development

Document Control

Scheme Name: **Plas Farm Hydro Scheme**
Client Name: **Richard Bowen**

Elements Energy Ltd Reference: **CYBH**

Elements Energy Ltd
Tel: 07717811107

Document Control			
File Name:	CYBH-DOC-Hydromorphology Survey Report-A-140725-AC		
	Original Rev A	**Revision B**	**Revision C**
Prepared by:	A. Cropper		
Approved by:	A. Cropper		
Date:	140725		
Status:	Approved		
Comments:			

Survey Date & Time: 11th July 2025, 11am-5pm (20 Locations)
Conducted by: Adam Cropper
Flow Conditions: Low

Hyrdomophology Survey

Watercourse – River Clydach, Cilybebyll, Swansea

The hydromorphology survey was taken on the 11/07/25 between the 11:00am and 5:00pm. Sixteen Locations were selected throughout the water course ranging from 400m up from the proposed intake down to the proposed outfall and one more 100m below outfall and 200m below outfall. Any further upstream or downstream was not able to be recorded due to access restrictions. For each location a grid reference was taken along with photographs of the location and were possible a photograph of the river bed sediment (all photographs include a stave or similar for scale).

On all photographs the left and right bank labels are when looking upstream.

<u>The depleted Reach Gradient</u>

The Coanda intake crest is at 205.50mOAD, the invert of the outfall is at 146.44mAOD. The floor level of the powerhouse is at 148m OAD.

The reach has an elevation drop of 59.6m

The length of the reach measured down the centre of the watercourse is 974m long

Therefore the gradient is 0.061 or 6%

Location 1 – SN 75995 04478 (circa 400m Upstream of intake)

Figure 1 Downstream

Figure 2: Upstream

Figure 3: Let Bank

Figure 4: Right Bank

Figure 5: Sediment

Location 2 – SN 75801 04417 (circa 250m upstream of intake, apologies water on lens, this location only)

Figure 1: Downstream

Figure 2: Upstream

Figure 3: Left Bank

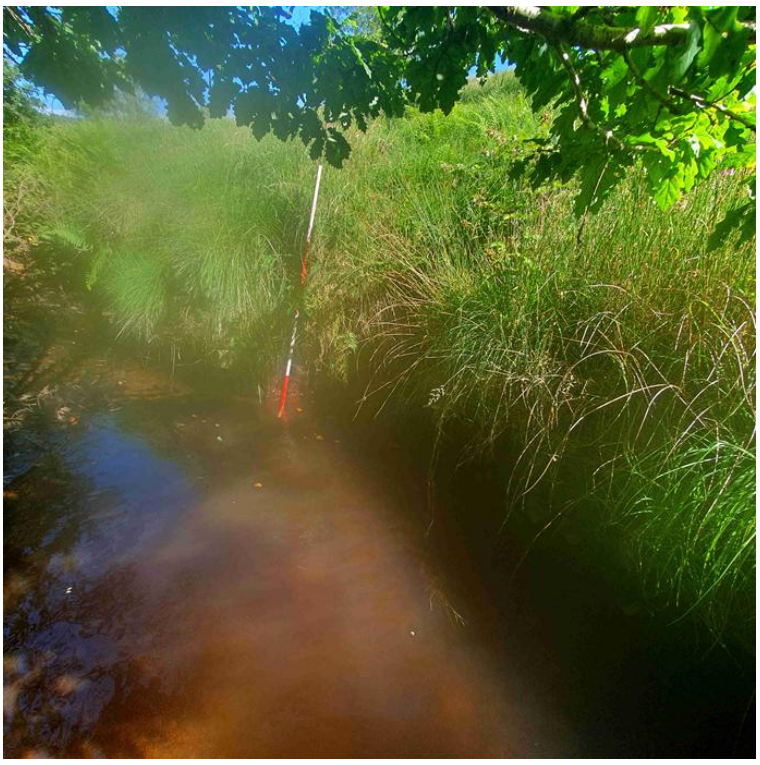


Figure 4: Right Bank

Figure 5: Sediment

Location 3 – SN 75677 04394 (at landownership boundary, circa 100m upstream of intake)

Figure 1: Downstream

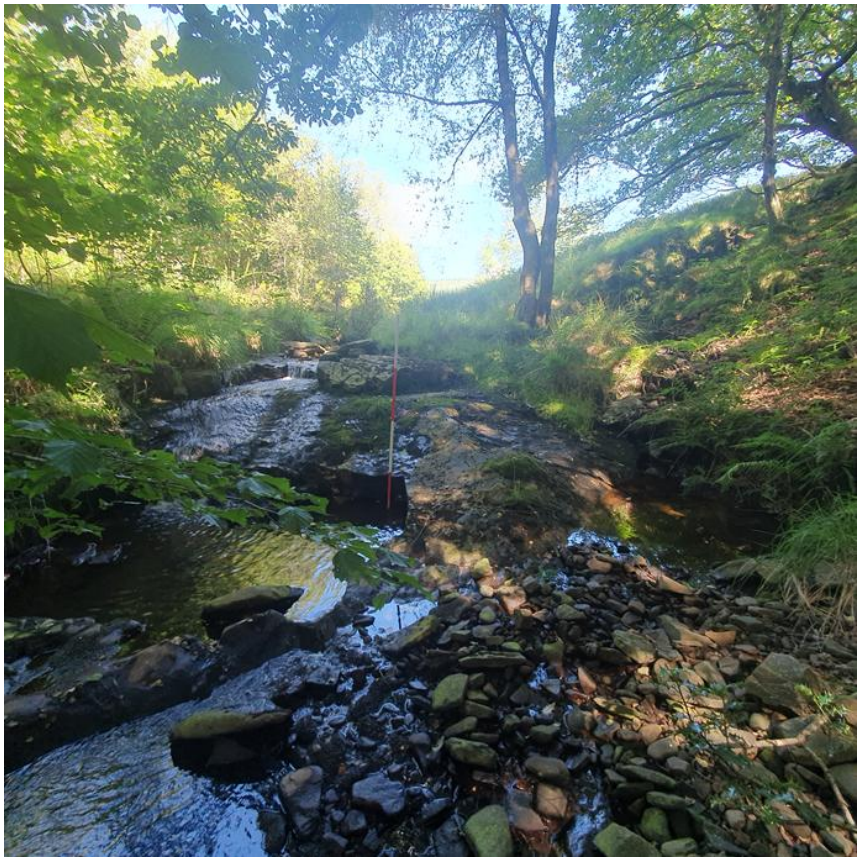


Figure 2: Upstream

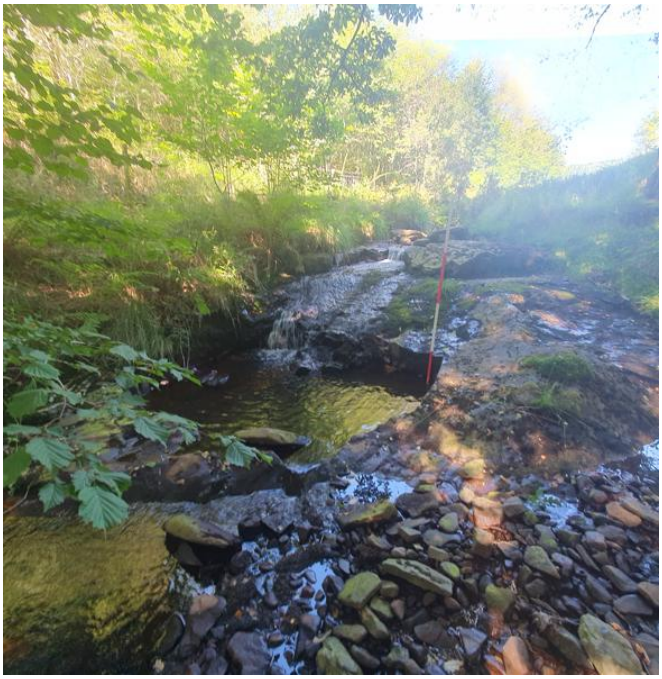


Figure 3: Left Bank

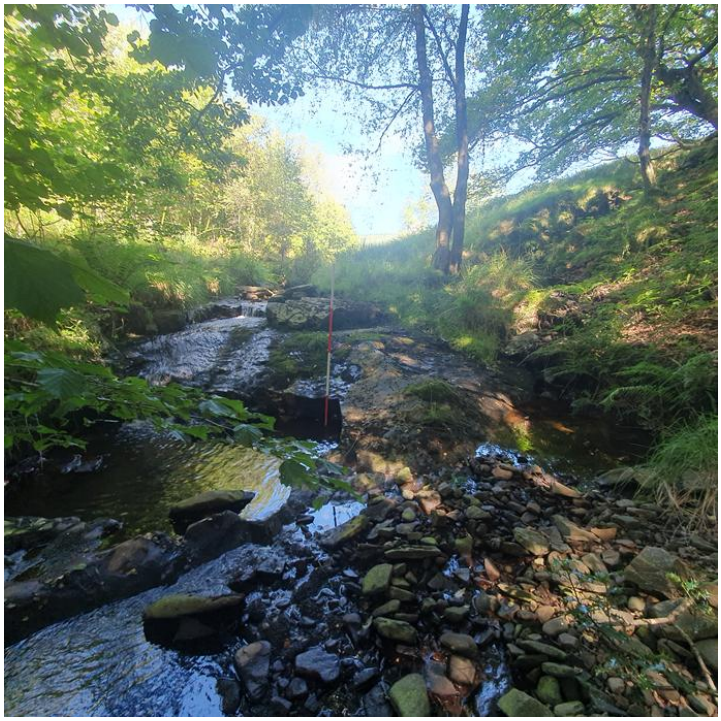


Figure 3: Right Bank

Figure 4: Sediment

Location 4 – SN 75557 04369 (Intake Location)

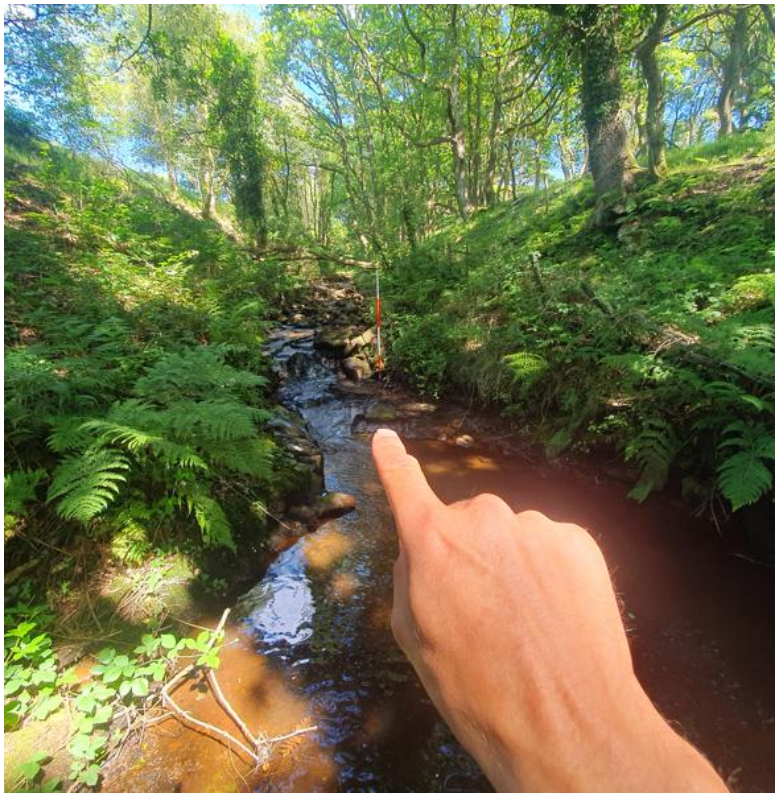


Figure 1: Upstream

Figure 3: Left Bank

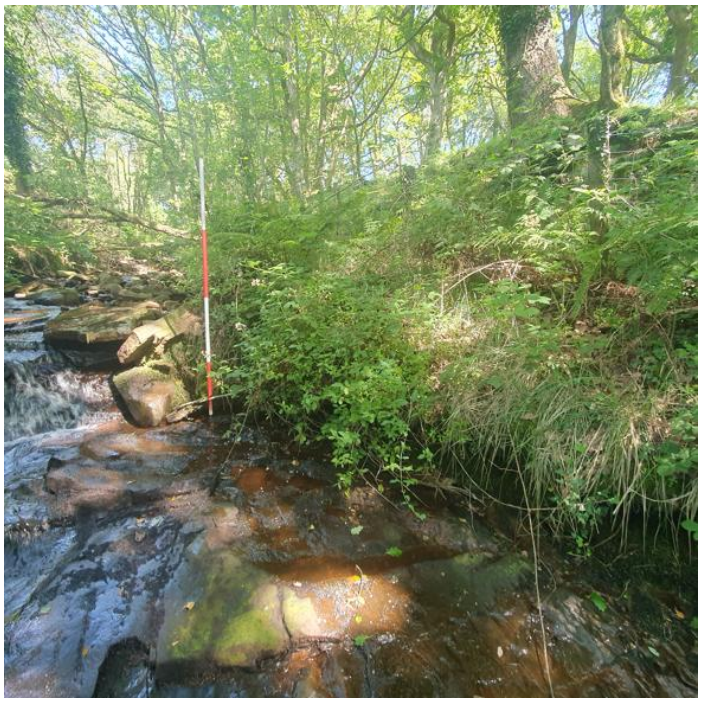


Figure 3: Right Bank

Figure 4: Sediment

Location 5 – SN 75377 04354

Figure 1: Downstream

Figure 2: Upstream

Figure 3: Left Bank

Figure 4: Right Bank

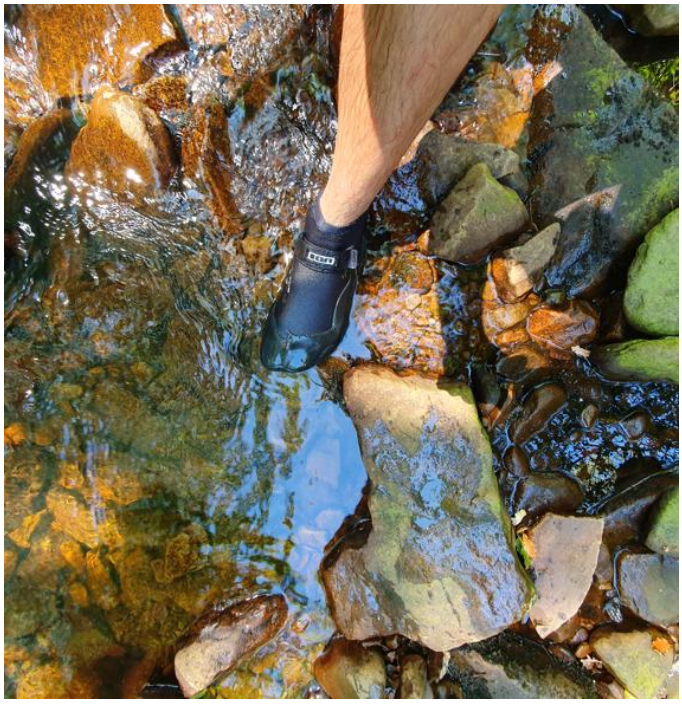
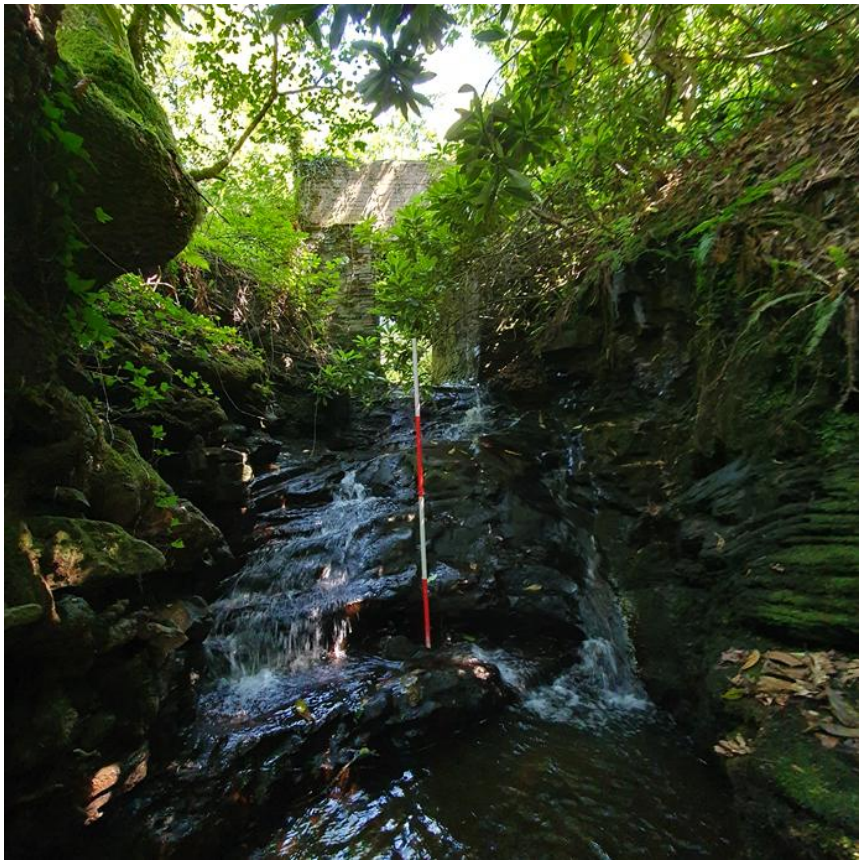


Figure 5: Sediment

Feature Road Bridge Waterfall – SN 75215 04397



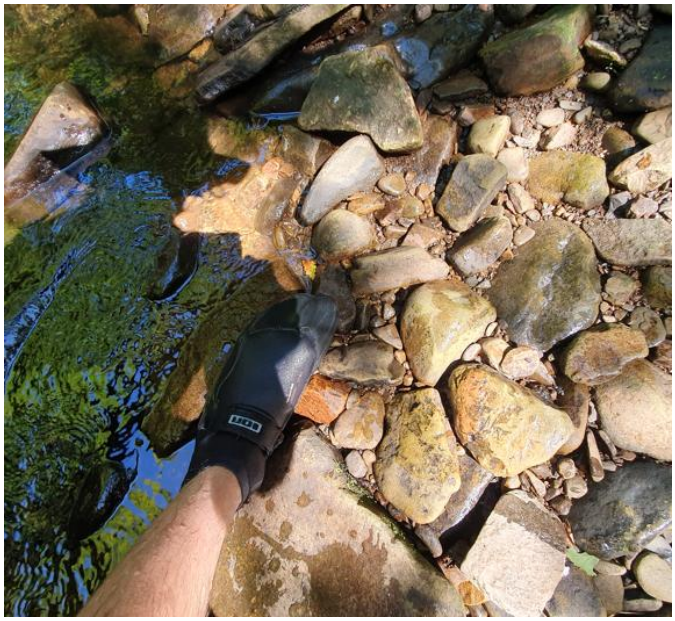
Location 6 – SN 75179 04374 (Confluence of joining tributary)

Downstream

Figure 2 (Trib is on the left of photo, main river is on the right (hydro is on main river not the trib.)

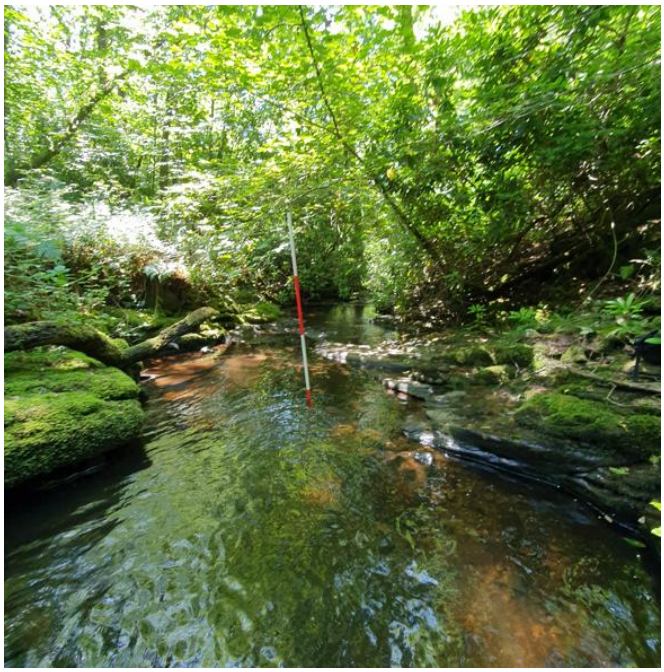
Right Bank

Left Bank



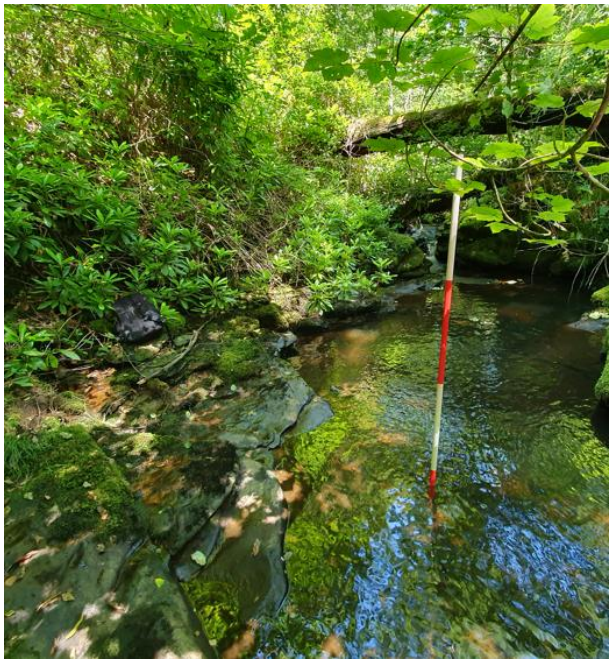
Sediment

Location 7 – SN 75065 04301

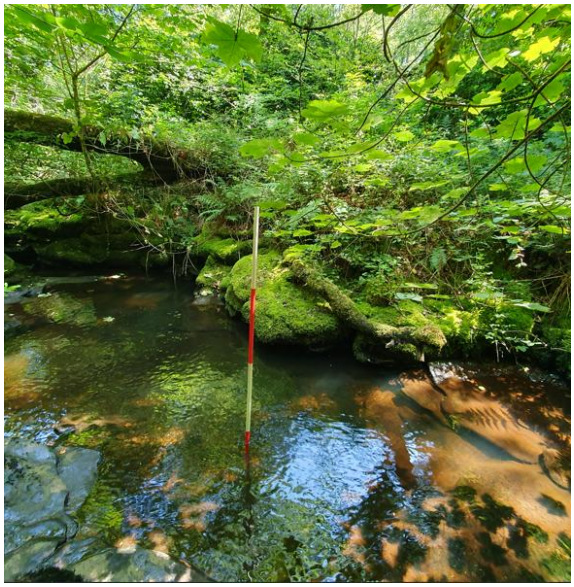


Downstream

Upstream



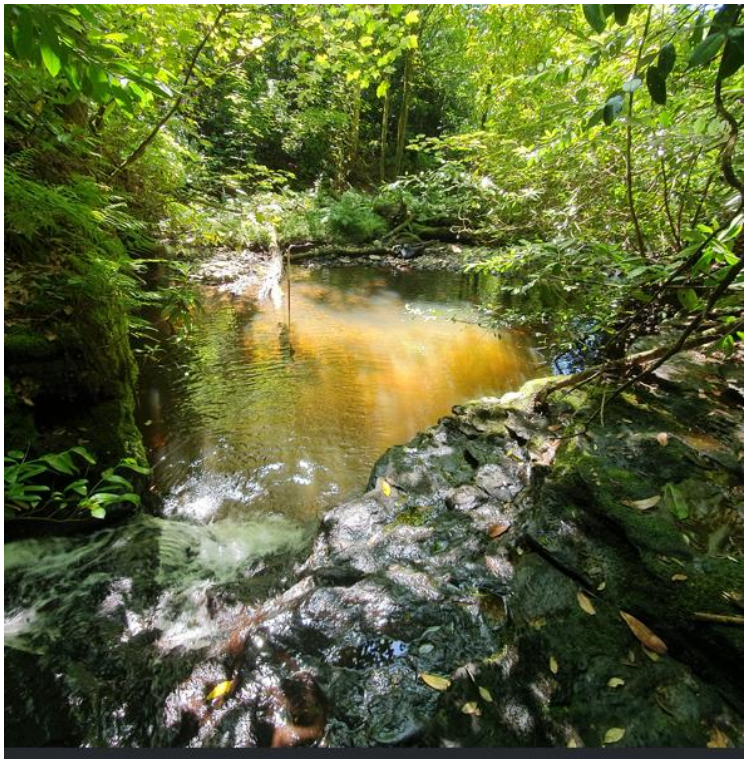
Left Bank



Right Bank

Sediment

Location 8 – SN 75035 04271 (Large Pool fed by waterfall)



Downstream

Left Bank

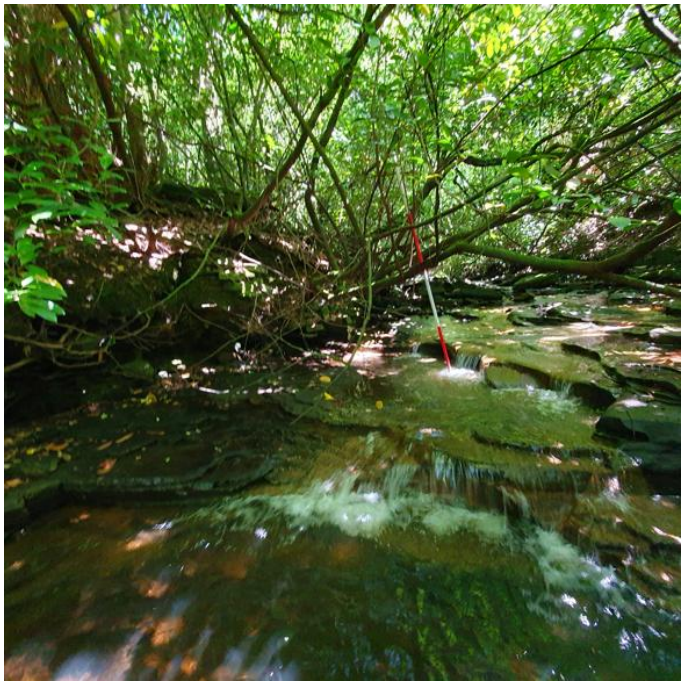
Right Bank

Sediment

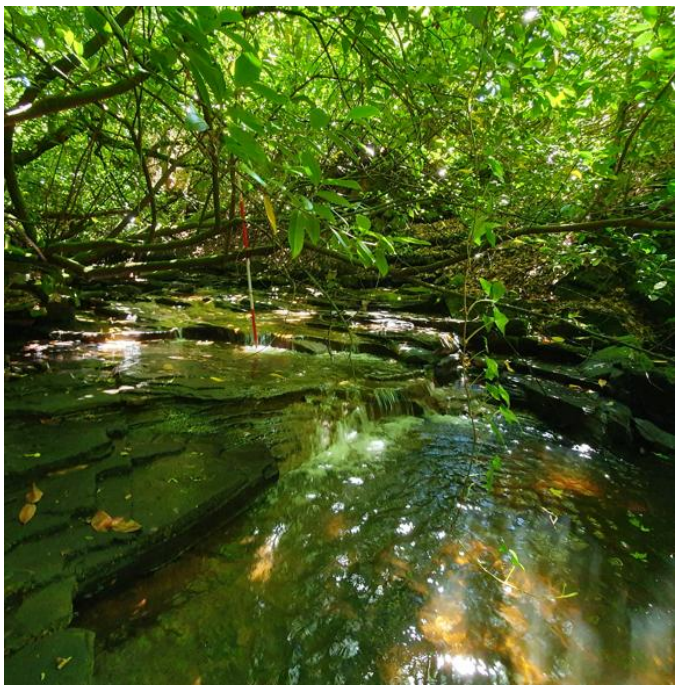
Location 9 – SN 74923 04227

Downstream

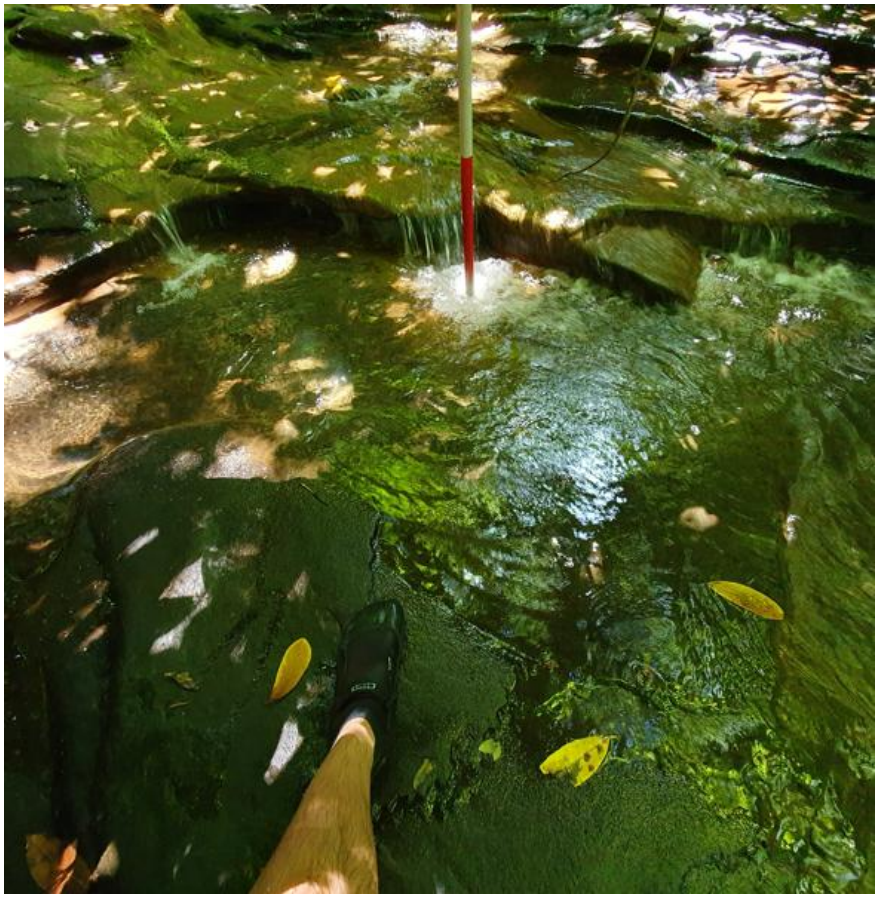
Upstream



Left Bank

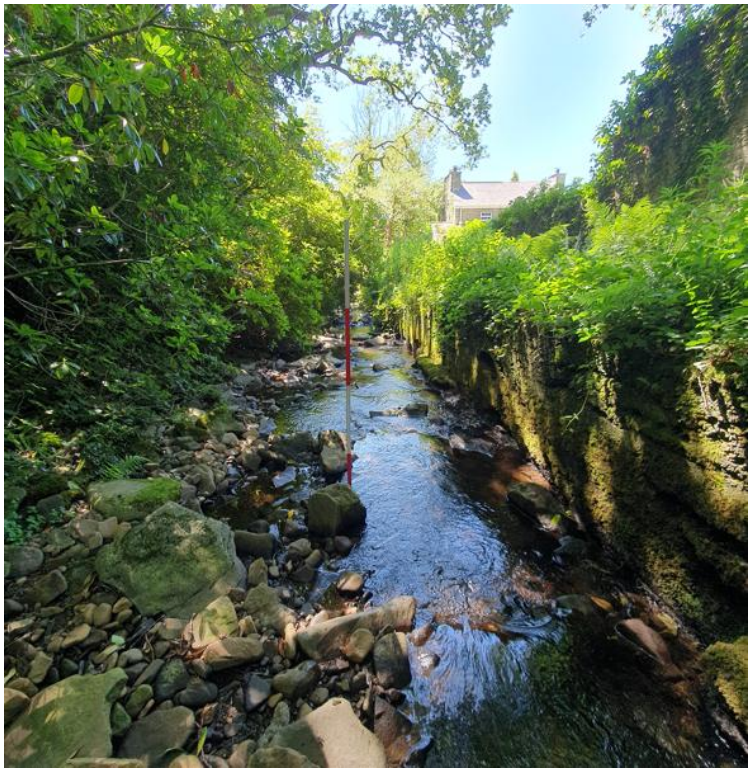


Right Bank

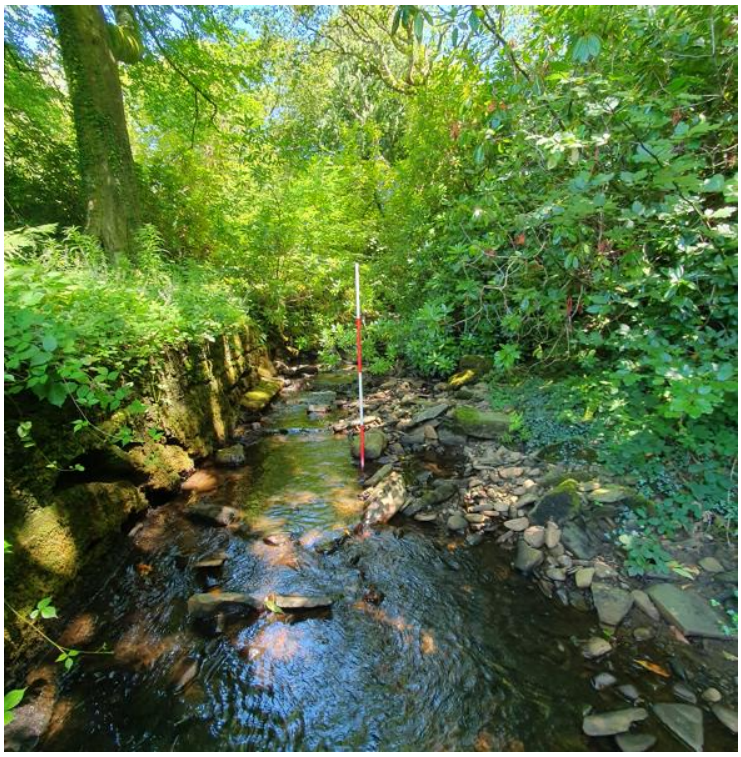


Sediment

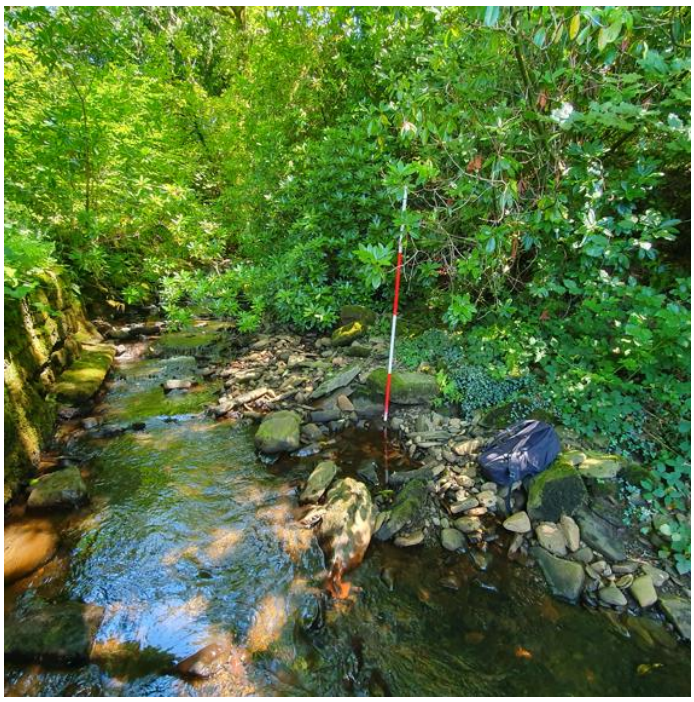
Location 10 – SN 74893 04211



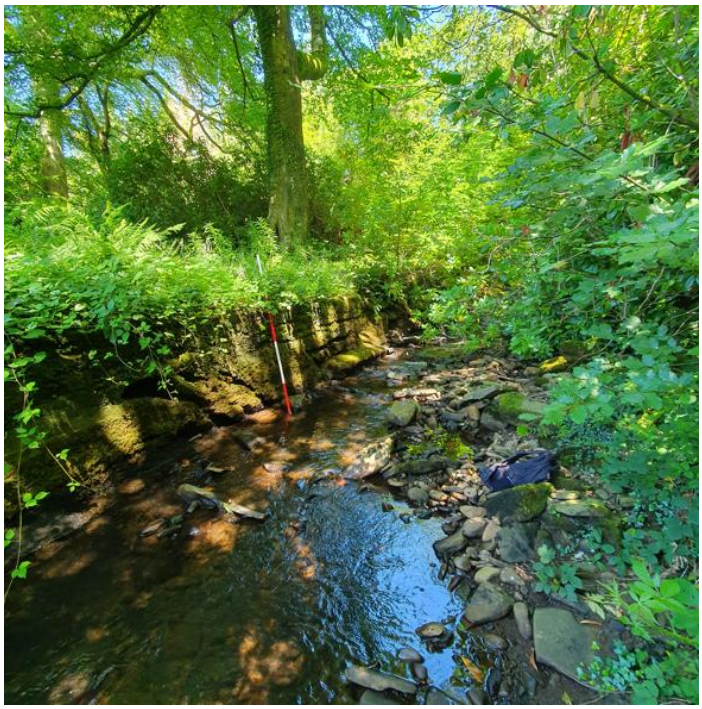
Downstream



Upstream



Right Bank



Left Bank

Sediment

Feature between location 10 and location 11, old bridge

Location 11 – SN 74886 04183

Downstream

Upstream

Left Bank

Right Bank

Sediment

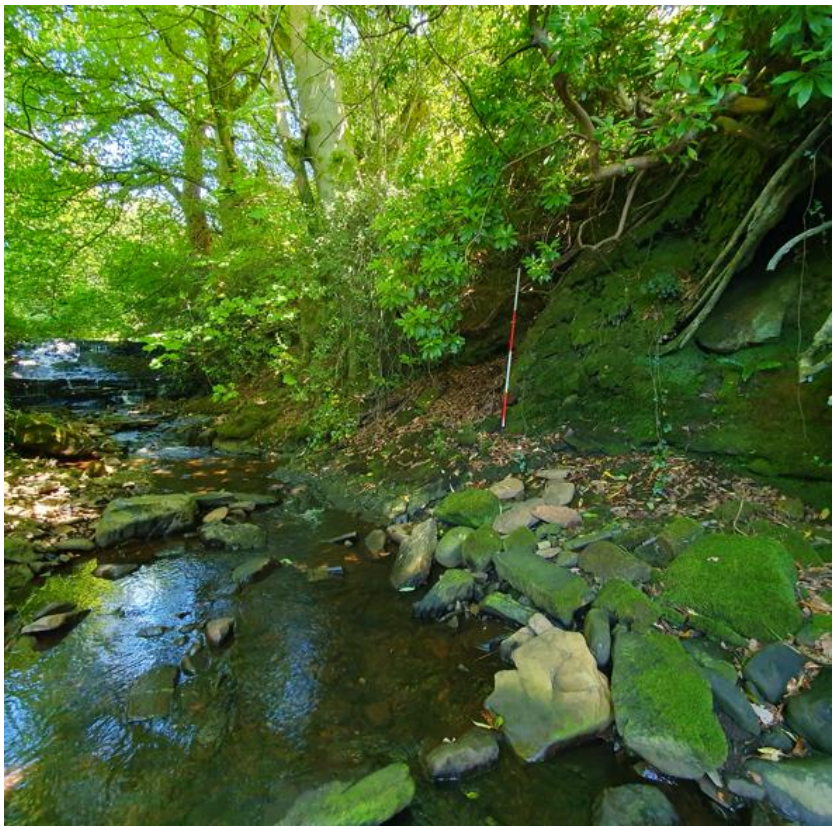
Location 12 – SN 74893 04139

Downstream

Upstream

Extra Feature (old weir, this is from former waterwheel at Plas Cilybebyll) Weir visible in upstream photo above as well). Weir is about 2.5m high.

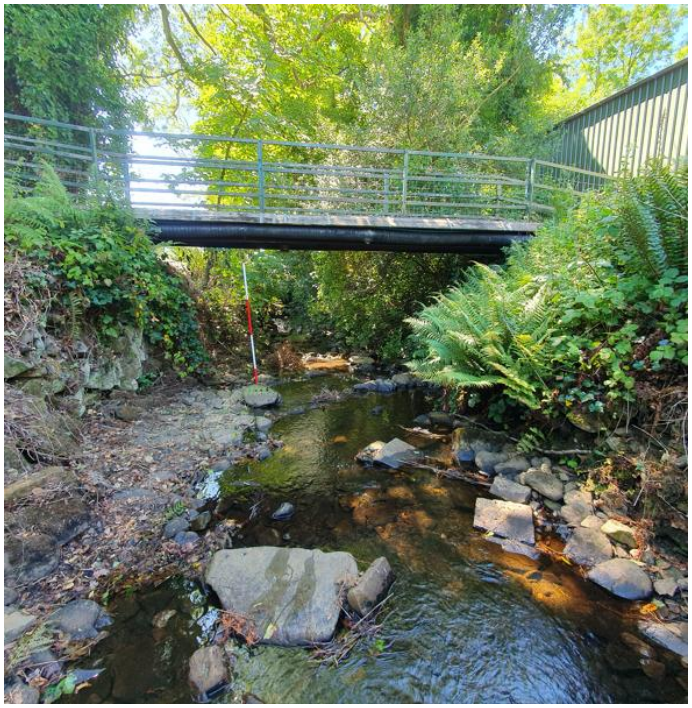
Left Bank



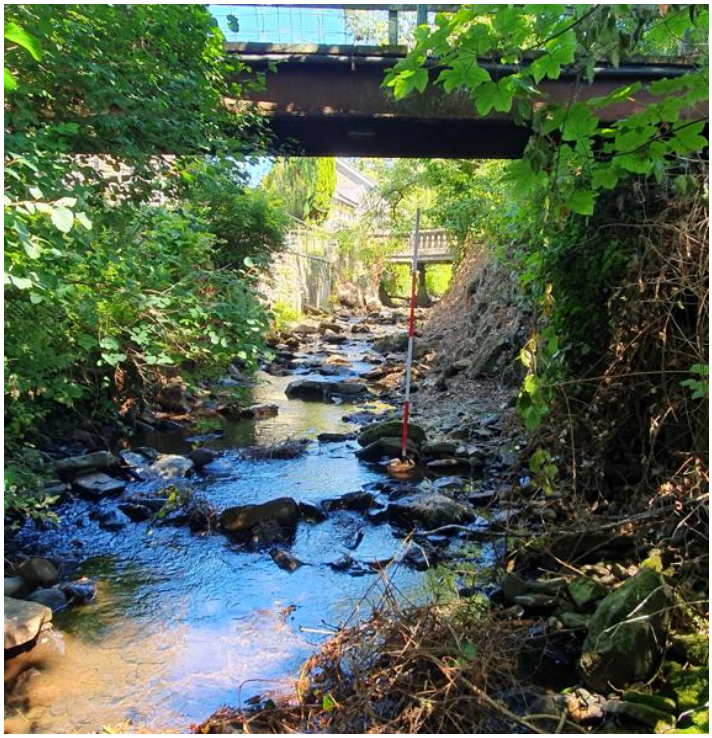
Right Bank

Sediment

Location 13 – SN 74830 03989

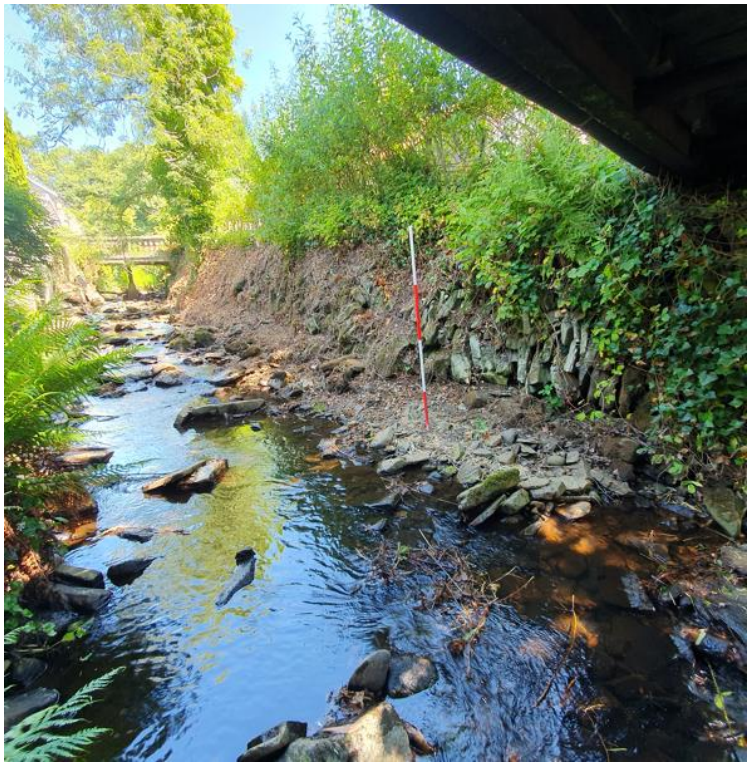


Downstream



Upstream

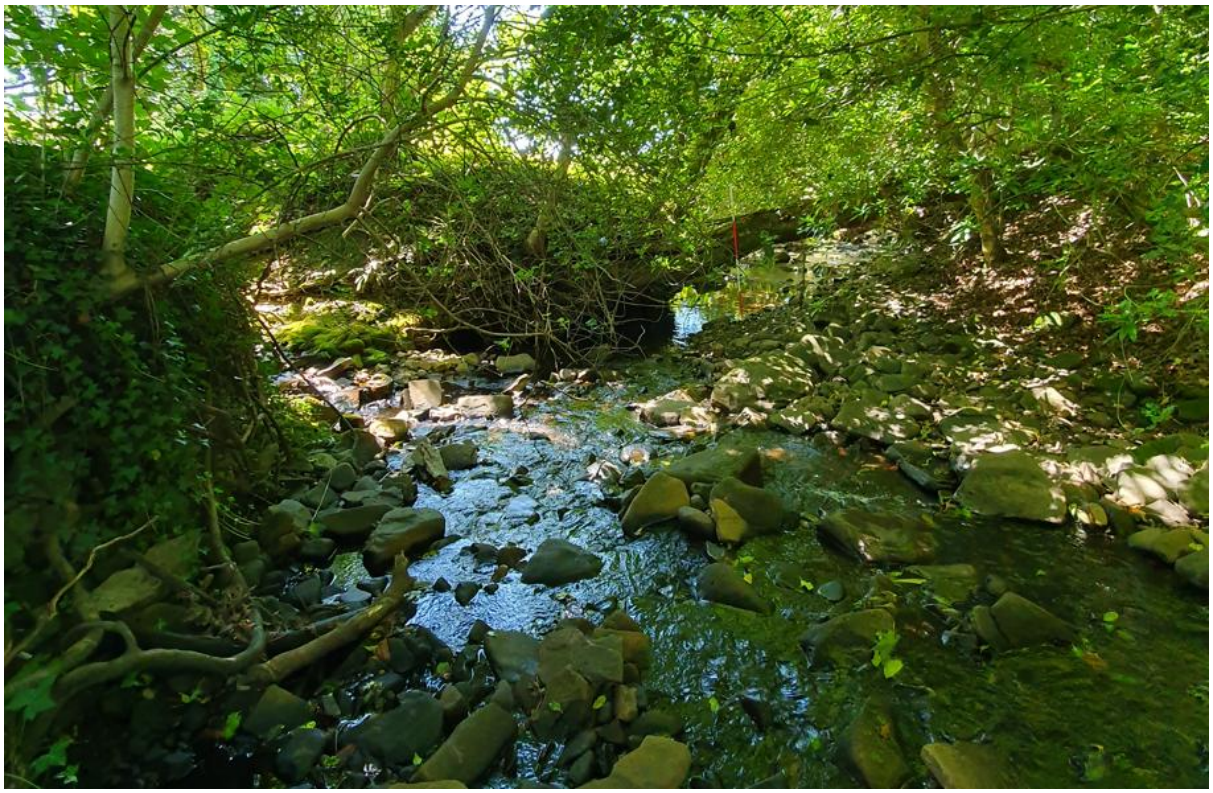
Left Bank



Right Bank

Sediment

Location 14 – SN 74761 03875 (Outfall Location)



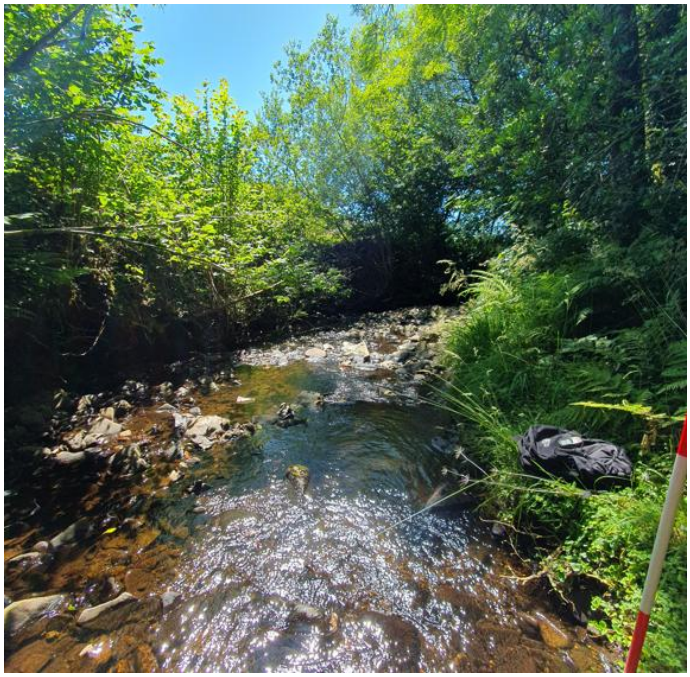
Downstream

Upstream

Left Bank

Right Bank

Location 15 – SN 74761 03875 150m Downstream



Downstream

Upstream

Right Bank

Left Bank

Location 16 – SN 74709 03719 300m downstream of outfall (From Plas Farm Survey, survey date 23th February 2024, 11am-4pm, flows moderate/high)

Figure 97: Downstream

Figure 98: Left Bank

Figure 99: Right Bank

Figure 100: Upstream

Figure 101: Sediment