



**Site Visit Report**  
**Afan Cynffig Kenfig River Pollution Incident, Marlas STW SPS Discharge**  
**18<sup>th</sup> May 2026**

Observer: AP  
Organisation: A Peace for Nature  
Date of visit: 18 May 2026  
Time on site: Approximately 13:00 to 17:00

This report should be read alongside APFN's previous site assessment report dated 13<sup>th</sup> May 2026.

## **1. Overview**

APFN representatives attended the Afon Kenfig incident location on 18<sup>th</sup> May 2026 between approximately 13:00 and 17:00 to undertake continued environmental monitoring, water quality testing and site observations relating to the ongoing pollution incident associated with the Marlas STW SPS catchment.

This report should be read alongside APFN's previous incident reports and supporting photographic evidence documenting the ongoing condition of the affected watercourse and riverbed.

The purpose of the visit was to undertake observational assessment and field water quality testing upstream and downstream of the Dŵr Cymru Welsh Water discharge associated with Permit BP0169901 at Marlas STW SPS, North Cornelly, Bridgend.

The discharge point identified during the inspection corresponds with the permitted discharge location listed within NRW Environmental Permit BP0169901 for:  
"Marlas STW SPS, Bryn Alwg, North Cornelly, Bridgend, CF33 4DJ."

The permit identifies the receiving water as the Afon Kenfig and records the discharge point reference as: SS 81394 82391 (Natural Resources Wales, 2019).

## **2. Weather and River Conditions**

Weather conditions during the site visit were generally overcast with higher river levels following rainfall earlier in the morning. Some light precipitation may have occurred during the monitoring period; however no significant rainfall was observed while testing was underway.

River conditions remained visibly elevated and heavily turbid, consistent with recent runoff and increased flow conditions.

Compared with observations recorded during APFN's previous inspection on 13<sup>th</sup> May 2026, river levels were slightly higher during the present visit.

### **3. Personnel and Organisations Present on Site**

Present on site during the monitoring period were representatives from Dŵr Cymru Welsh Water (DCWW), including Rebecca Jones from the communications team, operational staff and contractors.

Representatives from Adler & Allan and Alun Griffiths were also present.

APFN was advised on site that Ricardo environmental consultants had attended the location earlier in the day prior to APFN's arrival.

Elected representatives present included:

- Councillor John Spanswick, Leader of Bridgend County Borough Council (BCBC)
- Councillor Gary Haines, Cabinet Member for Environment BCBC
- Councillor Winstanley BCBC
- Councillor Granville BCBC

APFN's Principal Scientist was present throughout the monitoring period to oversee testing activities and engage with elected representatives and visitors attending the site.

Additional individuals were also present on site during the monitoring period, including community representatives and the landowner.

### **4. Land Access and Monitoring Arrangements**

The landowner attended site during the monitoring period and expressly granted continued permission for APFN to access the land for ongoing environmental monitoring purposes. This included permission for vehicular access with a 4x4 vehicle where required to facilitate monitoring and evidence gathering activities. APFN thanked the landowner for his continued cooperation and support in facilitating independent environmental monitoring.

During the preceding days leading to the site visit on the 18<sup>th</sup> May 2026, APFN requested access through a newly secured lockable gate installed by DCWW at the farmer's entrance. APFN was advised by Mr Steve Wilson, COO of DCWW, that access through the gate would not be provided.

Alternative access arrangements have subsequently been secured directly with the express permission of the landowner to ensure continuation of independent environmental monitoring activities.

APFN was also advised on site that portable fencing would shortly be installed around sections of the riverbank adjacent to the temporary aeration equipment and that this would restrict access to APFN's established sampling location. It was suggested that this was being introduced for health and safety reasons.

No such fencing was present on either 17<sup>th</sup> or 18<sup>th</sup> May 2026 while contractors and operational staff were actively working within the same area.

The landowner advised APFN that the fencing could be moved where necessary to facilitate safe access to the riverbank for monitoring purposes.

## **5. Aeration Equipment and River Intervention Measures**

At the time of attendance, multiple temporary aeration devices had been installed within the river channel adjacent to the affected infrastructure. These devices were actively operating during much of the monitoring period.

The aeration systems appeared designed to artificially increase dissolved oxygen concentrations within the impacted reach of the river (Adler and Allan, no date). Such systems are commonly deployed during pollution incidents where oxygen depletion and ecological stress may pose a risk to aquatic life.

Mechanical aeration increases the transfer of atmospheric oxygen into the water column and may temporarily mitigate some of the effects associated with elevated organic loading and ammonia concentrations. However, aeration does not remove the underlying pollution source itself.

APFN also observed Adler & Allan operating additional pump-based aeration systems positioned further downstream from the primary outfall area. These systems utilised hose fed pumping equipment discharging river water back into the river to increase turbulence and oxygen transfer within the water column.

Two such systems were noted during the monitoring period at locations estimated to be approximately 50 to 150 metres downstream from the outfall area.

The use of multiple aeration methods across an extended section of the river indicates continued mitigation activity within the affected reach of the watercourse.

APFN subsequently observed the aeration devices being removed or deactivated between approximately 16:00-16:30. The mitigation measures therefore appeared to operate only during working hours despite the ongoing visible pollution impacts remaining present within the river system.

APFN was also advised on site that peroxide based chemical treatment of the river had been considered but had not been permitted by Natural Resources Wales.

APFN understands that peroxide based treatment methods may influence dissolved oxygen and ammonia related conditions within impacted watercourses while not removing the underlying pollution source itself.

## **6. Visual River Conditions**

Visible pollution impacts remained evident throughout the monitoring period.

The river remained heavily discoloured and turbid with continued signs of contamination associated with the affected outfall area.

APFN also noted a significant visual reduction in the extent of sewage fungus previously observed within the affected reach. Visual observations during the monitoring period indicated that most, if not all, of the previously documented sewage fungus had been removed from visible surfaces within the river channel.

APFN considers it likely that the increased river flow and elevated water levels following recent rainfall contributed substantially to this visible change by mobilising and washing affected material downstream.

Despite this visual improvement, elevated nutrient concentrations, elevated ammonia readings and continued operational mitigation measures remained present during the monitoring period.

## **7. Sampling Methodology**

Water samples were collected directly in front of the outfall location during the monitoring period using an extendable sampling pole and dedicated collection bottle.

Prior to collection of the primary sample, the sample bottle was rinsed twice using water from the sampling location to minimise contamination and condition the container to the sample environment.

The vessel used for sample reduction and testing preparation was also rinsed twice with sample water prior to each individual reading being undertaken.

Sample vials used for repeat measurements were similarly rinsed twice using sample water before readings were recorded.

Nitrile gloves were worn throughout the sampling and handling process to maintain sample integrity and reduce the risk of cross contamination.

Sampling and handling procedures broadly followed the same field approach outlined within APFN's previous site report dated 13<sup>th</sup> May 2026.

## **8. Water Quality Monitoring Results**

Water quality monitoring was undertaken using calibrated field equipment.

The following readings were recorded during the monitoring period:

- Dissolved Oxygen (DO): 83.5%
- Ammonia: 9.31 mg/L with duplicate readings (exceeding) >10 mg/L
- Phosphate: 2.11 mg/L with duplicate readings (exceeding) >2.5 mg/L
- Nitrate: 5.5 mg/L, 5.8 mg/L and 2.9 mg/L
- Temperature: 12.1°C
- pH: 8.81
- Turbidity: 90.4 FNU, 80.7 FNU and 75.8 FNU

The ammonia concentrations recorded remain substantially elevated for a freshwater river environment and are consistent with significant wastewater influence within the affected reach.

Phosphate concentrations also remained elevated during the monitoring period and continue to support evidence of nutrient enrichment within the watercourse.

Turbidity levels remained high throughout the monitoring period, reflecting both rainfall influenced runoff conditions and continued suspended material within the river.

Although dissolved oxygen levels remained above acute collapse thresholds during the monitoring period, this must be considered in the context of active artificial aeration occurring within the river channel for much of the site visit.

The water quality readings recorded during the monitoring period are substantially elevated when considered in the context of Water Framework Directive (WFD) ecological assessment principles and associated UKTAG guidance relating to river water quality. In particular, the ammonia concentrations recorded during the inspection, including repeated readings exceeding 10 mg/L, are significantly higher than the toxic threshold set out in WFD assessment guidance. Ammonia readings this high, particularly in combination with a pH exceeding 8, are extremely dangerous to aquatic fauna because the highly toxic, un-ionised form, free ammonia (NH<sub>3</sub>), dominates. This presents a significant toxic risk to fish and aquatic macroinvertebrates.

Phosphate concentrations recorded during the inspection were also substantially elevated in the context of river nutrient enrichment standards associated with WFD ecological assessment. When considered alongside the observed sewage related pollution impacts, elevated turbidity, previous widespread sewage fungus presence, absence of immediately observable aquatic macroinvertebrate life during informal kick sampling and ongoing artificial aeration measures within the river channel, the conditions observed during the monitoring period are consistent with severe ecological pressure within the affected reach of the Afon Kenfig.

## **9. Microbiological Sampling**

Two microbiological water samples for E. coli analysis were collected during the site visit.

These samples have been submitted for independent laboratory analysis and findings will be published when available.

## **10. Equipment Used by APFN**

APFN utilised calibrated field monitoring and sampling equipment during the site visit including:

- Hanna Instruments HI83399 Multiparameter Photometer with COD capability
- Hanna Instruments HI98193 Dissolved Oxygen Meter
- Hanna Instruments HI98713 ISO Turbidimeter
- Hanna Instruments pHep+ Portable pH Meter
- Hanna Instruments consumable reagents for all tests undertaken
- Extendable sampling pole
- Sterile and clean sample collection containers
- Sterile microbiological sampling bottles
- PPE including nitrile gloves
- GPS enabled mobile device for recording sampling locations and photographic evidence

## 11. Summary

The continuing presence of elevated nutrient concentrations, elevated ammonia levels and ongoing operational mitigation measures within the river itself indicate that the incident remained active at the time of monitoring.

Temporary river aeration systems remained in operation during much of the site visit and contractor presence continued throughout the monitoring period.

Visual observations indicated a substantial reduction in visible sewage fungus within the affected reach following increased river flow conditions associated with rainfall. However, elevated field readings and continued mitigation measures remained present during the monitoring period.

APFN will continue independent environmental monitoring, evidence gathering and laboratory supported analysis relating to the ongoing incident.

## References

Adler & Allan (no date) *Aquatic aeration services*. Available at: <https://www.adlerandallan.co.uk/services/strategy-consultancy/ecology/aquatic/aeration> (Accessed: 18 May 2026).

Environment Agency (2015) *WFD Cycle 2 River Ammonia Classification*. Defra Data Services Platform. Available at: <https://environment.data.gov.uk/dataset/802e5cff-26b9-4038-9254-eb07cfb581f1> (Accessed: 18 May 2026).

Natural Resources Wales (no date) *Public register: environmental permitting, water resources and marine licensing information*. Available at: <https://naturalresources.wales/permits-and-permissions/public-register-environmental-permitting/> (Accessed: 14 May 2026).

Natural Resources Wales (2019) *Environmental Permit BP0169901: Marlas STW SPS, Bryn Alwg, North Cornelly, Bridgend, CF33 4DJ*. Available via NRW Public Register (Accessed: 14 May 2026).

UK Technical Advisory Group on the Water Framework Directive (2007) *Ammonia (un-ionised)*. Available at: <https://www.wfduk.org/sites/default/files/Media/ammonia.pdf> (Accessed: 18 May 2026).

UK Technical Advisory Group on the Water Framework Directive (2013) *Phosphorus Standards for Rivers: Updated Recommendations on Phosphorus Standards for Rivers*. Available at: [https://www.wfduk.org/sites/default/files/Media/UKTAG%20Phosphorus%20Standards%20for%20Rivers\\_Final%20130906\\_0.pdf](https://www.wfduk.org/sites/default/files/Media/UKTAG%20Phosphorus%20Standards%20for%20Rivers_Final%20130906_0.pdf) (Accessed: 18 May 2026).