

Emergency Overflow Discharges at Esthwaite Lodge Sewage Pumping Station 2020 to 2024

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SUMMARY

United Utilities (UU) operates Esthwaite Lodge Sewage Pumping Station (SPS) to transfer sewage from Esthwaite Lodge to Hawkshead STW. It has an emergency overflow (EO) which, in exceptional circumstances, is permitted by the Environment Agency (EA) to be used to discharge untreated sewage to Esthwaite Water, a site with Ramsar status.

From 2013 to 2017, spills from the EO were reported to the EA, presumably by UU, and were recorded on the DEFRA WIMS data archive¹. Since then, no such spill was recorded on WIMS. Following UU's rejected EIR request and internal review, Save Windermere appealed to the Information Commissioner's Office who forced UU to provide the requested data².

Table 1 summarises the EA WIMS spill data for Esthwaite Lodge SPS for 2013-2024 as well as the results of WASP's analysis of UU's own sewage flow and telemetry data for 2020-2024.

| Environment Agency/DEFRA WIMS Data Archive | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Spills | 2 | 1 | 24 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hours | 28 | 0 | 426 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Save Windermere/WASP using UU data | | | | | |
|------------------------------------|------|------|------|------|----------|
| | 2020 | 2021 | 2022 | 2023 | 2024 |
| Spills | 4 | 5 | 4 | 7 | data |
| Hours | 57 | 95 | 32 | 103 | withheld |

TABLE 1: discharges of untreated sewage via the Emergency Overflow at Esthwaite Lodge SPS

WASP's analysis suggests that between 2020 and 2024, there were at least 20 discharges of untreated sewage from the emergency overflow at Esthwaite Lodge SPS to Esthwaite Water lasting more than 287 hours. Limited checking of power cuts was undertaken and only one discharge appeared to be potentially related to an electrical power interruption, one of the permitted situations where untreated sewage discharge is allowed via an EO.

Either justification of the exceptional nature of these discharges needs to be provided or, given their rainfall related nature, this emergency overflow is simply being operated illegally as an unpermitted storm overflow.

¹ <https://environment.data.gov.uk/water-quality/view/landing>

² <https://ico.org.uk/media2/migrated/decision-notice/4030183/ic-300506-f5g4.pdf>

BACKGROUND AND DATA SOURCES

The EA permit for Esthwaite Lodge SPS (017380246-01), issued on 01/04/2010, contains the description of exceptional circumstances permitting discharges via the emergency overflow.

1. Nature of Discharge

- (a) The Discharge shall consist solely of sewage in an emergency.
- (b) The Discharge shall only occur when the sewage pumping station is inoperative as a result of one or more of the following:
 - (i) electrical power failure not due to the act or default of the Consent Holder, its agents, representatives, officers, employees or servants;
 - (ii) mechanical breakdown of duty, assist and standby pumps;
 - (iii) rising main failure;
 - (iv) blockage of the downstream sewer not due to the act or default of the Consent Holder, its agents, representatives, officers, employees or servants;

and it is not reasonably practicable to dispose of the sewage otherwise. There shall be no undue delay on the part of the Consent Holder in remedying any such failure or breakdown.

Figure 1: extract from EA permit for the Emergency Overflow at Esthwaite Lodge SPS

The permit also contains a map showing the location of the emergency overflow (**Fig. 2a**)

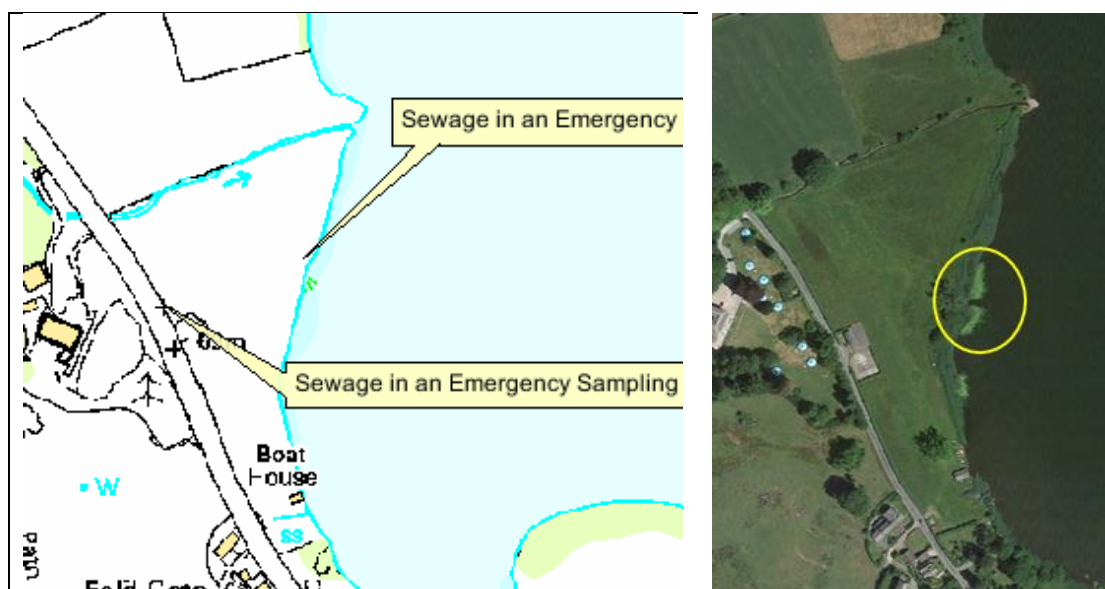


Figure 2: Location of EO given a) in the EA permit; b) on Google Earth Pro.

In March 2024, in the House of Lords, the Marquis of Lothian asked this question³

To ask His Majesty's Government whether the Environment Agency is monitoring the untreated sewage being discharged into Esthwaite Water by United Utilities; if not, why; if so, how often

³ <https://questions-statements.parliament.uk/written-questions/detail/2024-03-13/HL3252>

United Utilities is discharging untreated sewage into Esthwaite Water; and why these discharges are permitted in a Site of Special Scientific Interest.

The response from Lord Douglas-Miller, then Parliamentary Under Secretary of State at DEFRA, was as follows:

26 March 2024

It is important to highlight that no storm overflows currently discharge into Esthwaite Water, and the only source of sewage pollution is likely to come from Emergency overflows.

Emergency overflows are only permitted to operate in exceptional circumstances to prevent environmental damage or harm to the public, such as due to electrical power failure or mechanical failure.

The Environment Agency is ensuring there is monitoring on all emergency overflows from 2025. This includes at Esthwaite Lodge Pumping Station. The Environment Agency already require water companies to report any discharge of sewage in emergency overflows as pollution incidents. ***The Environment Agency has not had any reports from United Utilities of emergency overflow discharges from Esthwaite Lodge Pumping Station.*** The Environment Agency investigate any instances where permits are not being followed and will always take enforcement action if necessary. The permit for Esthwaite Lodge Pumping Station is in place to protect Esthwaite Water SSSI and that the emergency overflow provision is part of that permit.

This response does not make any reference to a time period for not reporting such discharges. Clearly, there have been reports of spills from the emergency overflow but not post 2017.

WASP's analysis made use of data provided by UU following the decision by the ICO:

- passed forward flow
- SPS wet well level
- telemetry exchanges between Esthwaite Lodge SPS and UU's central control.

UU provided data for one particularly relevant alarm entitled

NP1.NPS 1 Wet Well 1.Spill 1.LX_SPILL

When the function of this alarm was requested from UU, the following was received:

This is an indicator of when the level within the wet well reaches a certain point, which could result in a spill from the permitted outfall. Please note that there is a large amount of erroneous data associated with this point (i.e. multiple entries logged for the same date/time) which shows false spills.

Hereafter, the alarm is referred to as *Wet well alarm*. WASP purchased hourly rainfall data from www.visualcrossing.com and potentially linked power cuts data were retrieved from the energy supplier's website. It was not possible to identify accurately which electricity substation provided power to the Esthwaite Lodge SPS.

DETAILED ANALYSIS

For each year between 2020 and 2024, an overview chart is provided along with extracts from monthly charts to illustrate specific candidates for spills of untreated sewage. Generally speaking, candidate spills were identified where the wet well level was recorded as above 5.5 and the wet well alarm was raised. There also are instances where the flow passed forward is 0 for a significant time period and in addition the wet well level is constant or 0.

2020

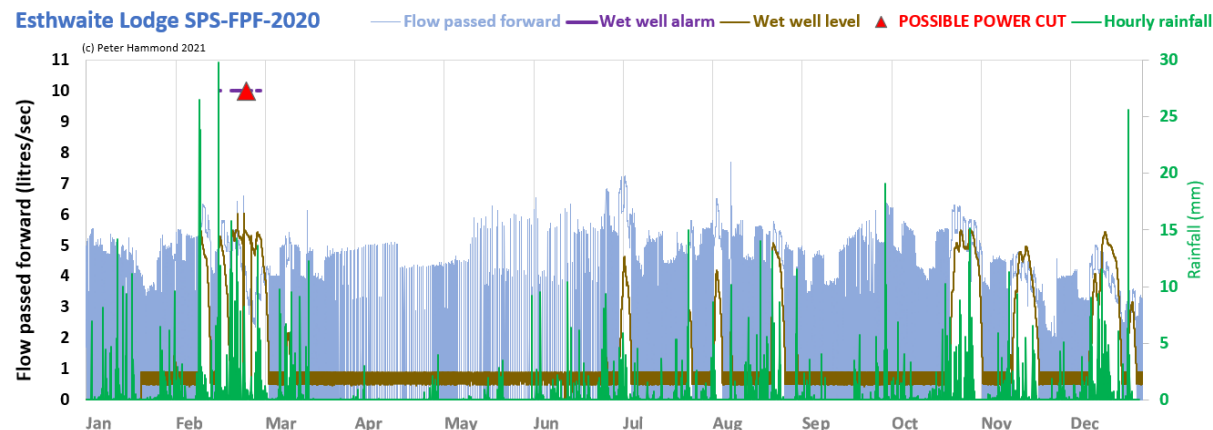


Figure 3: 2020 overview chart with flow forward, wet well alarm/level, rainfall and power cuts

On at least 4 occasions in Feb 2020, the wet well level was flat for hours while the wet well alarm was set high. These suggest use of the emergency overflow for at least 57 hours.

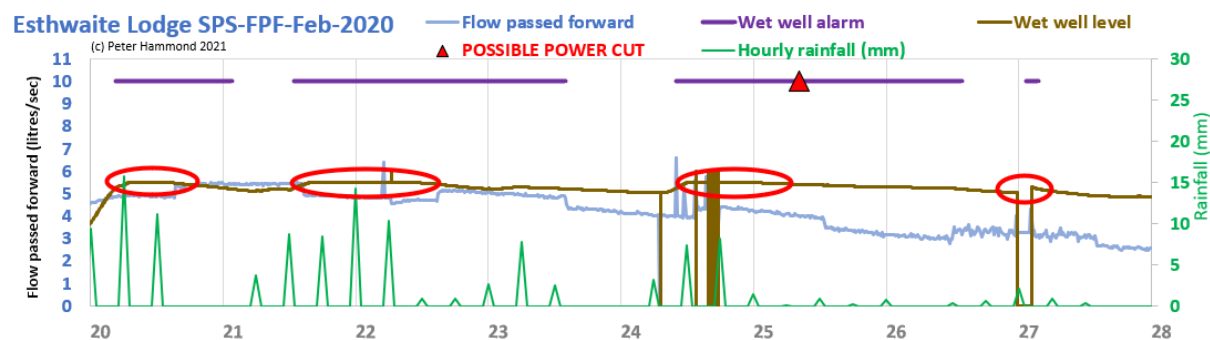


Figure 4 Four potential untreated sewage discharges from Esthwaite Lodge SPS

2021

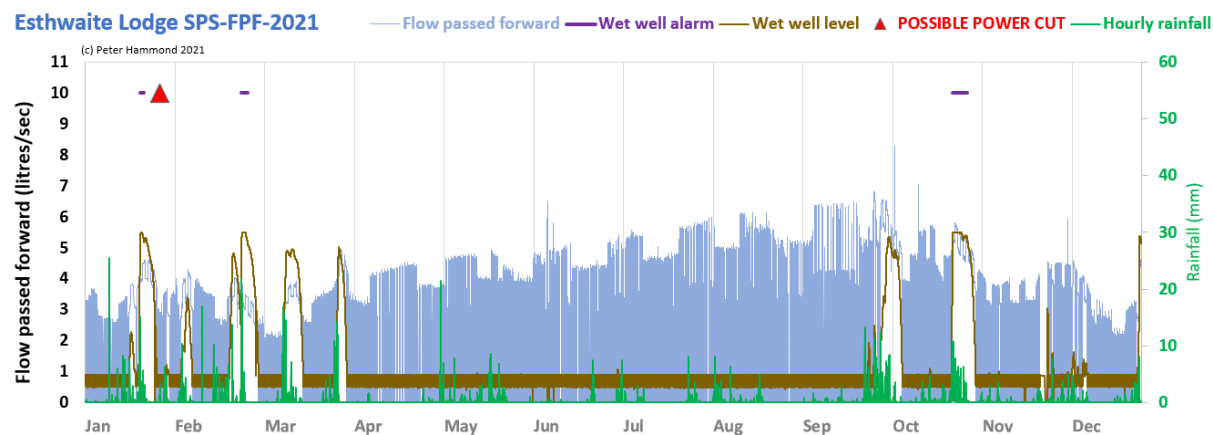


Figure 5: 2021 overview chart with flow forward, wet well alarm/level, rainfall and power cuts

In 2021, the flow, the wet well level/alarm and rainfall combine to suggest four situations where an untreated discharge may have been made from the Emergency Overflow (**Fig. 6**).

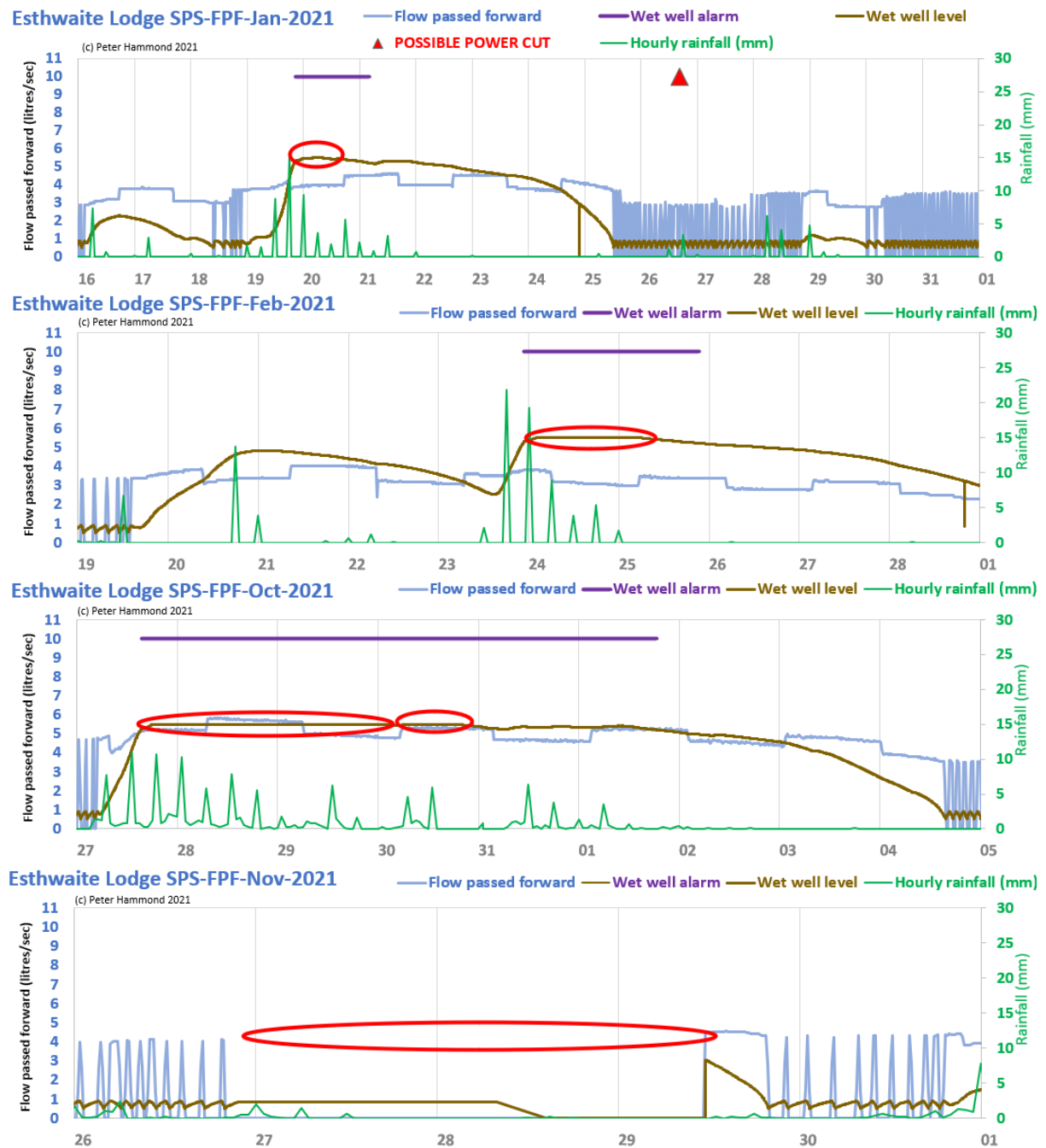


Figure 6: Four possible untreated sewage spills in Jan, Feb and Oct 2021. The loss of flow passed forward and the wet well constant level suggest a further discharge in Nov 2021.

2022

Esthwaite Lodge SPS-FPF-2022

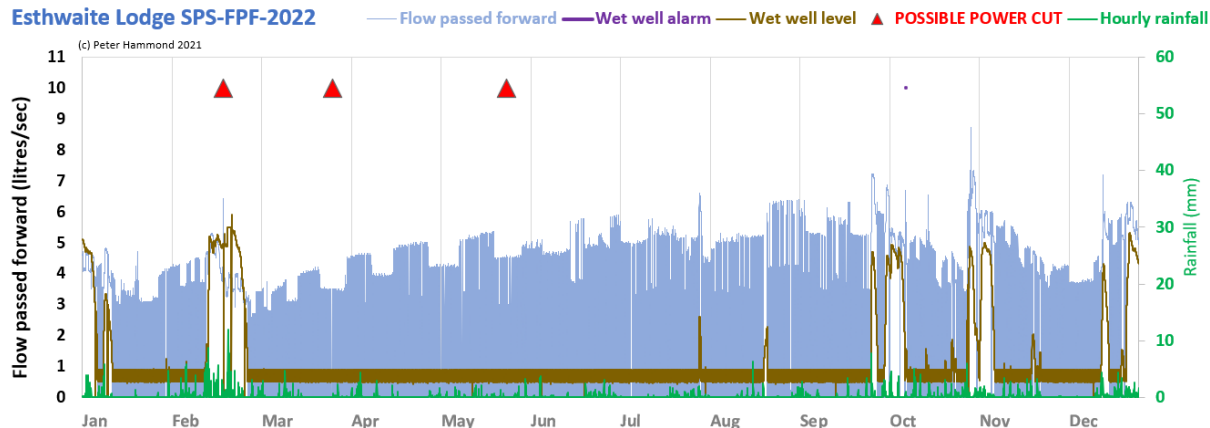


Figure 7: 2022 overview chart with flow forward, wet well alarm/level, rainfall and power cuts

In Feb 2022, there is at least one situation that suggests an untreated sewage discharge and a potential loss of passed forward flow (Fig. 8).

Esthwaite Lodge SPS-FPF-Feb-2022

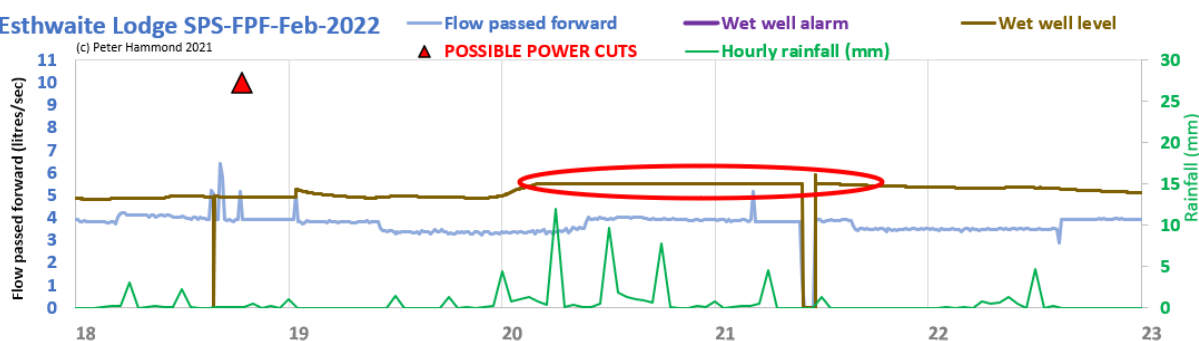


Figure 8: a possible discharge of untreated sewage occurred at Esthwaite SPS in Feb 2022

Losses of passed forward flow occurred in Feb 2022 and also in Oct 2022 (Fig. 9) suggesting further discharges of untreated sewage via the Emergency Overflow.

Esthwaite Lodge SPS-FPF-Oct-2022

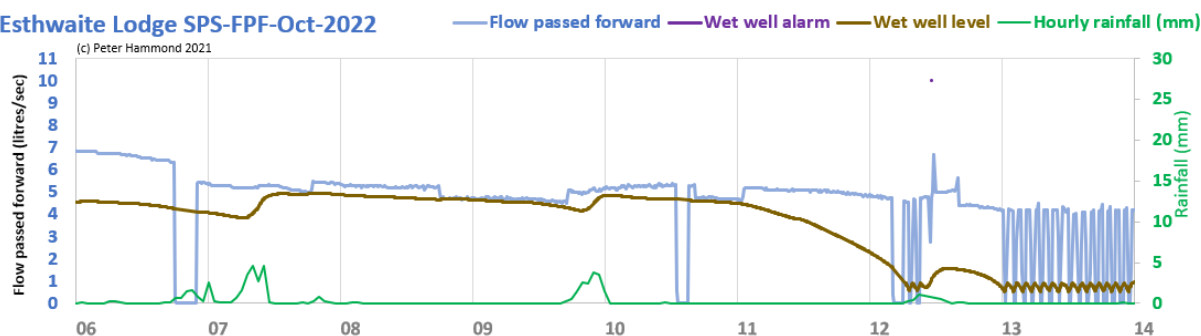


Figure 9: possible untreated sewage discharges on Oct 6, 10 and 12 2022

2023

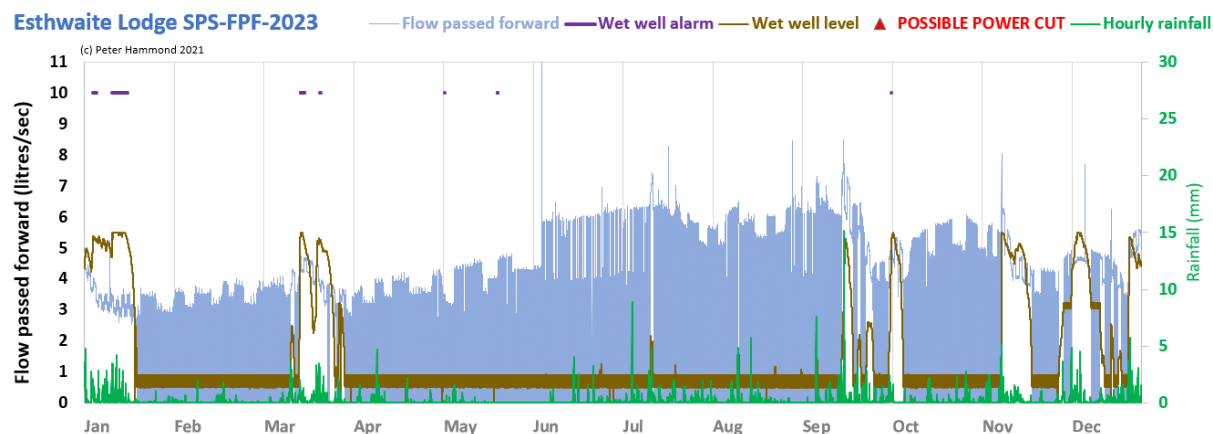


Figure 10: 2023 overview chart with flow forward, wet well alarm/level, rainfall and power cuts

There were 7 occasions in 2023 where the data suggest untreated sewage spills were made via the Emergency Overflow at Esthwaite Lodge SPS (**Fig. 11**).

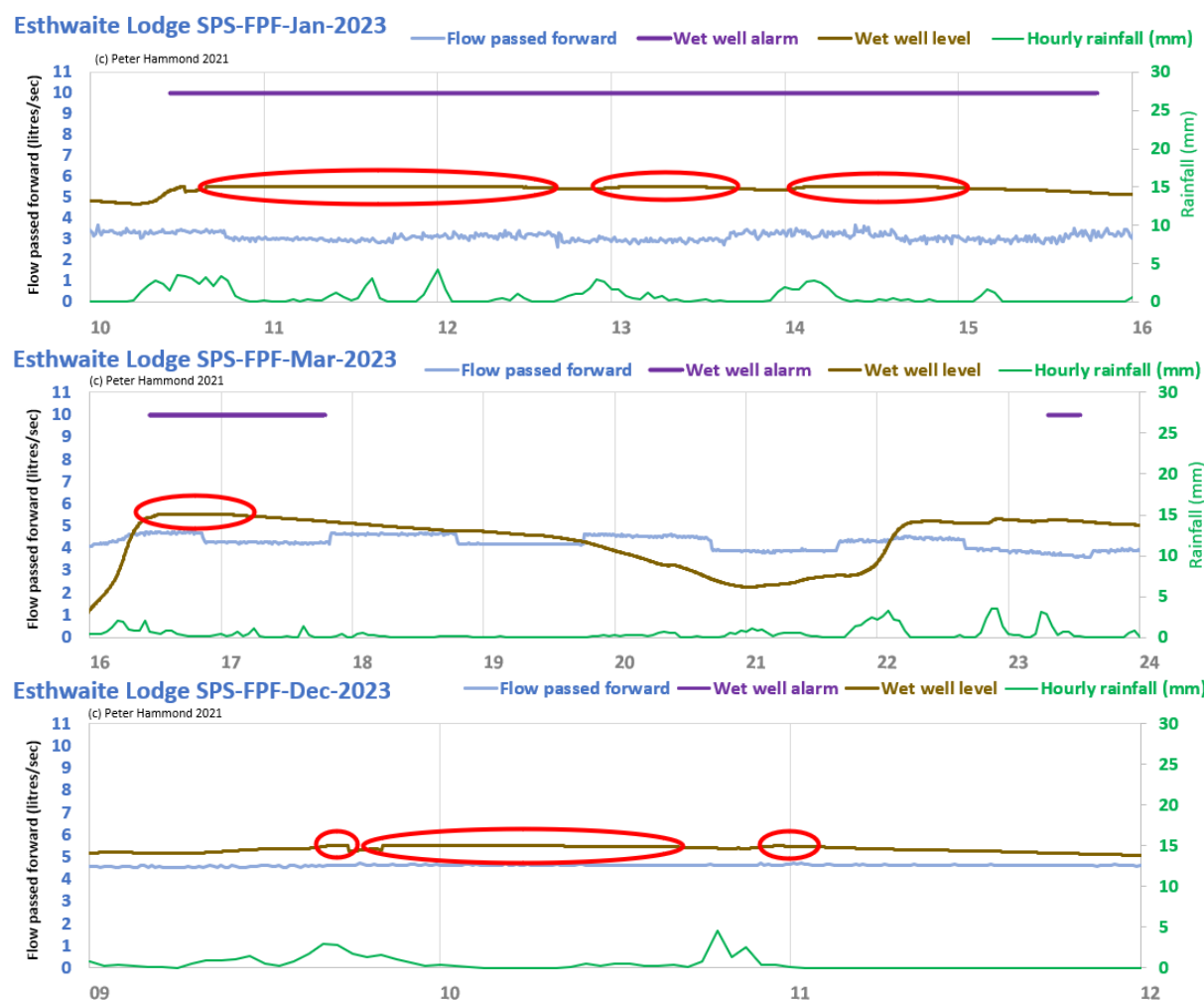


Figure 11: seven situations suggesting untreated sewage discharges from Esthwaite Lodge SPS

2024

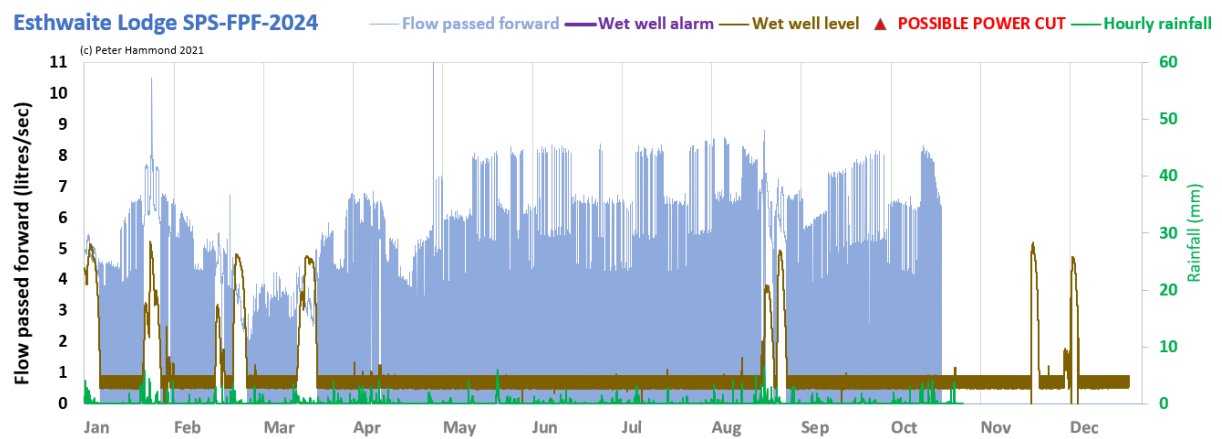


Figure 12: 2023 overview chart with flow forward, wet well alarm/level, rainfall and power cuts

As UU withheld telemetry alarm exchanges, the 2024 data for Esthwaite Lodge SPS is currently incomplete and, therefore, it is not possible to accurately identify potential untreated sewage discharges (**Fig. 12**).