

APPENDIX C: NATURAL RESOURCES WALES (NRW)

DENBIGHSHIRE BATHING WATER STATUS

Introduction

North Wales benefits from over forty EC designated bathing beaches / bathing waters (BW's). Natural Resources Wales monitor the bathing waters in Wales throughout the bathing season. Under the Regulations, we are required to sample our bathing waters a minimum of 5 times throughout the season. This year, the majority of our bathing waters were sampled 10 times, with some being sampled 16 or 20 times. It's our job to work with government, bathing water controllers, local authorities and businesses to maintain and improve bathing water quality in Wales.

At the end of the 2024 season, the four EC BW's in Denbighshire will have the following classifications :

	Rhyl	Rhyl East	Marine Lake	Prestatyn
2023	SUFFICIENT	GOOD	SUFFICIENT	EXCELLENT
2024	POOR	GOOD	GOOD	GOOD

The above table shows that both Rhyl and Prestatyn have dropped a classification. Marine Lake has improved a classification.

Further information for Rhyl and Prestatyn are below:

RHYL

The 2015 Bathing Water Directive revision (rBWD) reviewed the limits for acceptable levels of bacteria and this resulted in many beaches moving from 'Excellent' to 'Good' and from 'Good' to 'Sufficient', as in the case of Rhyl. Since 2015, Rhyl has been at risk of dropping to 'Poor' status but the use of Prediction & Discounting (P&D) where daily water quality predictions are published and allows up to 15 % of sample results to be discounted from the data set. This has been key in preventing such a drop in classification until 2024.

Following a number of elevated sample results this season, Rhyl will now be classified as a 'Poor' bathing water for 2025

What influences Rhyl BW water quality

Reductions in the bathing water quality at Rhyl can almost entirely be attributed to the proximity of the River Clwyd and its estuary. On an outgoing tide the river follows the Training Wall and appears to flow out to sea without affecting the bathing water sample point which is in line with Rhyl Seaquarium. As the tide turns, the long shore drift pushes the river water towards Rhyl Beach. Rivers are naturally higher in bacteria compared to that of coastal waters. In wet weather, river bacteria levels rise significantly above acceptable bathing water standards and if this coincides with an incoming tide at Rhyl, a reduction in water quality can be observed.

The bacteria in the river is normally from two significant sources:

Sewage – the majority of sewage is collected and treated by Welsh Water via their network of sewers, pumping stations and sewage works. There are many permitted overflows / outfalls on this system and designed to spill storm sewage in very wet weather, with significant outfalls near Marine Lake and Rhuddlan. The sewage infrastructure in the area has been designed to ensure Rhyl achieves Sufficient status.

Agriculture – the Clwyd Valley is farmed intensively with large dairy farms located in the lowlands, as well as sheep and beef cattle throughout. Livestock access to streams can be a significant source of bacteria if there is unrestricted access.

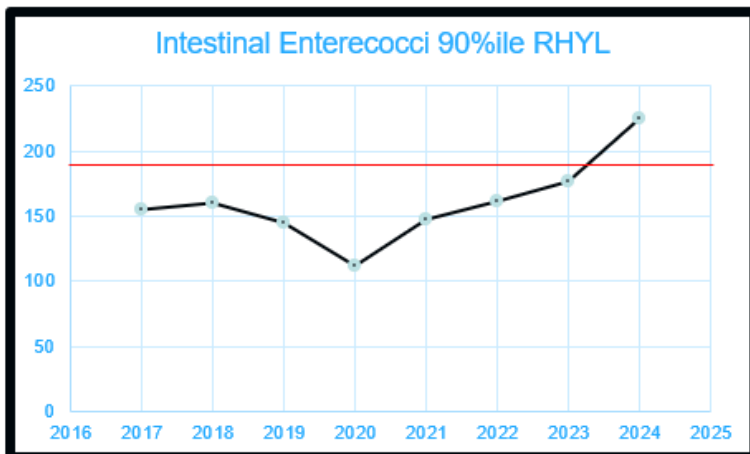
Other sources of bacteria local to Rhyl may include birds and dog. It is also possible for rough seas to disturb bacteria loaded sediment.

Levels of bacteria

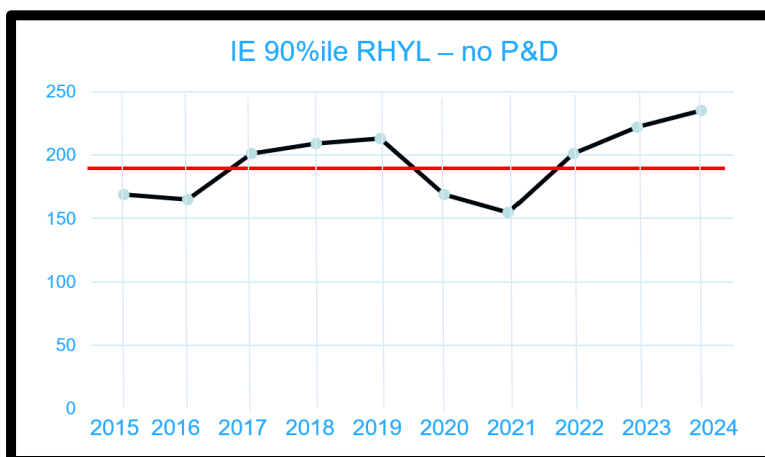
We sample for two bacteria at EC beaches – E Coli and Intestinal Enterococci (IE), both faecal indicators. Samples are taken between May and September and are roughly two weeks apart.

EColi levels would place Rhyl in Good status but IE levels have exceeded the threshold of 185 (red line below) and hence the 'Poor' status.

The graph below shows IE at Rhyl in recent years after the discounting of samples.



The graph below shows IE at Rhyl in recent years without discounting of samples – had there been no P&D :



The graph above shows that without P&D, Rhyl would have been classed as Poor in 2017 to 2019 and 2022 onwards.

NRW work to minimise the risk

Bacteria tends to die with time and therefore the further away the source of the bacteria, the less likely the bacteria are to reach Rhyl. We have therefore focused our work on the lower Clwyd catchment, from around Denbigh downstream to Rhyl.

The sewerage infrastructure was upgraded in 2012, designed to ensure Rhyl achieved Sufficient status. Our investigations and regulation indicate that assets in

the lower Clwyd are being operated in accordance with permit requirements, including storm overflows which are permitted to discharge in storm conditions.

We also work closely with Welsh Water on proactive issues such as misconnections in the surface water drains, reducing storm overflow discharges and nature based solutions to traditional sewage treatment that has the added benefit of bacteria reduction.

We have focused significant resource and investment towards reducing agricultural sources of bacteria. We have worked with the farming unions, Farming Connect, Rivers Trust and many farmers, initially on our Lower Clwyd Project and then the Clwyd Opportunity Catchment work to reduce agricultural bacteria input into the lower Clwyd. Livestock access to watercourses in the summer months is not a breach of any regulations, and we have therefore sought funding to fence out livestock and providing alternative sources of water. Since 2019, we have invested over £350k on such schemes in the lower Clwyd catchment.

Forward look

Rhyl will have 'Poor' status for 2025. The assessment is made using a rolling four year data set. At the end of the 2025 season, 2021 data will be removed from the assessment. As 2021 data contained some poor results, Rhyl is likely to return to 'Sufficient'.

We believe that the prediction model that has been successful since implementation in 2015 is now in need of updating. An improved model would likely allow a number of poor results to be discounted that currently aren't. We are looking to carry out this work prior to the start of next season. We will continue to work closely with Denbighshire County Council Harbour team to ensure the prediction requirements continue to be met.

We will continue to work with farmers in the catchment to restrict livestock access to stream. We will also look to work with other stakeholders to increase such work.

We will continue to regulate Welsh Water's assets in the area and work with them on proactive measures e.g. clean water removal from sewers.

PRESTATYN

Under the revised BWD in 2015, Prestatyn has achieved 'Excellent' classification until this year. Following some elevated sample results this season, Prestatyn will now be classified as a 'Good' bathing water for 2025. The Blue Flag status requires 'Excellent' water quality as one of the criteria. This will mean that Prestatyn will not retain its Blue Flag in 2025.

What influences Prestatyn BW water quality

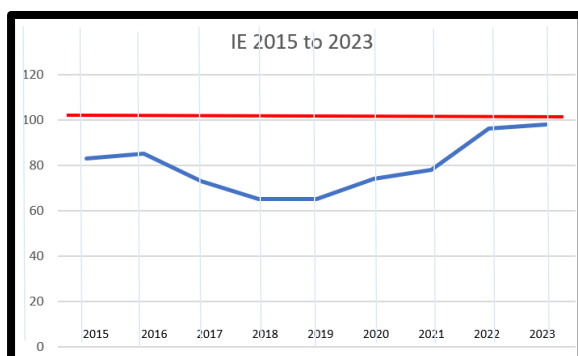
During high flows in the Clwyd catchment, the river water entering the sea at Rhyl (~4 miles to the west) is pushed on incoming tides towards Prestatyn bathing waters.

Rhyl Cut outfalls into bathing waters approximately two miles to the west. The catchment is of limited size with some agriculture and three sewer overflows.

Levels of bacteria

EColi levels would place Prestatyn just within 'Excellent' status but IE levels have exceeded the threshold of 100 (red line below) and hence the 'Good' status.

The graph below shows IE at Prestatyn in recent years after the discounting of samples.



At the end of 2024 season, Prestatyn IE exceeded the 100 threshold for 'Excellent' with 106 IE.

NRW work to minimise the risk

The work detailed above for Rhyl will also have had a positive impact on Prestatyn.

Forward look

Prestatyn will have 'Good' status for 2025. The assessment is made using a rolling four year data set. At the end of the 2025 season, 2021 data will be removed from the assessment. As 2021 data contained good results, Prestatyn is likely to remain as 'Good'.

The key piece of work is to improve the prediction model for Prestatyn. The four year data set (2021 – 24) contains 11 elevated results, of which five were predicted. We believe that an updated model would have predicted all but one of these results. We are looking to carry out this work prior to the start of next season.

Any future work in the Clwyd catchment will also benefit Prestatyn, along with catchment work in the limited area drained by Rhyl Cut.

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