Where does your drinking water come from?

The Cornish rain fills rivers and reservoirs which provide the water for our treatment works. After we remove impurities from the raw water, it is stored in service reservoirs close to customer homes, ready for use.

The source of your water

Throughout Cornwall, the source of drinking water is surface water that feeds rivers and reservoirs.

In this area, water supply comes from:

- River Fowey at Restormel, which can be supplemented by Colliford Lake and Siblyback Lake
- Drift Reservoir

Between treatment works and customer's homes, treated water is stored in tanks called service reservoirs. In this area, service reservoirs are located at:

- Foxpark, Trevu, Ludgvan (Restormel)
- Cryor, Kerris, Leha and Carn Bosavern (Drift)

Our approach to water treatment

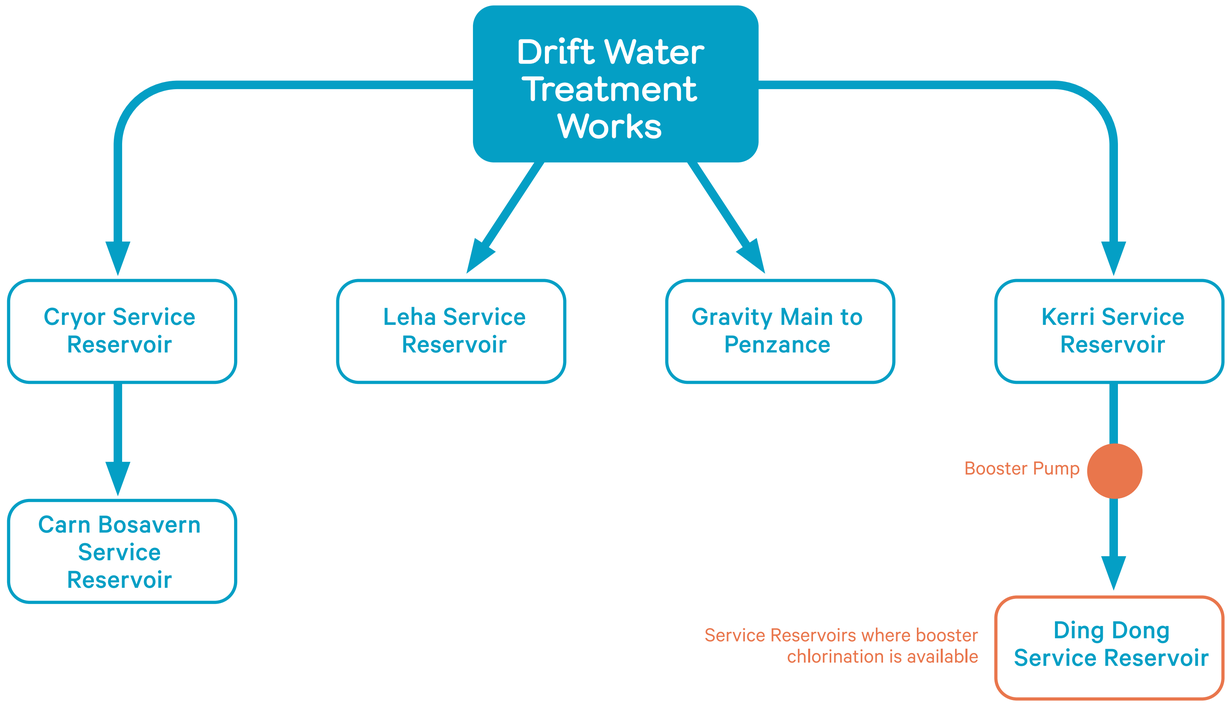
Our Upstream Thinking initiative aims to improve raw water quality by engaging with land users within the catchment. We fund partners to support land users in finding ways to reduce their impact on water quality.

We have a multi-barrier approach to water treatment, using:

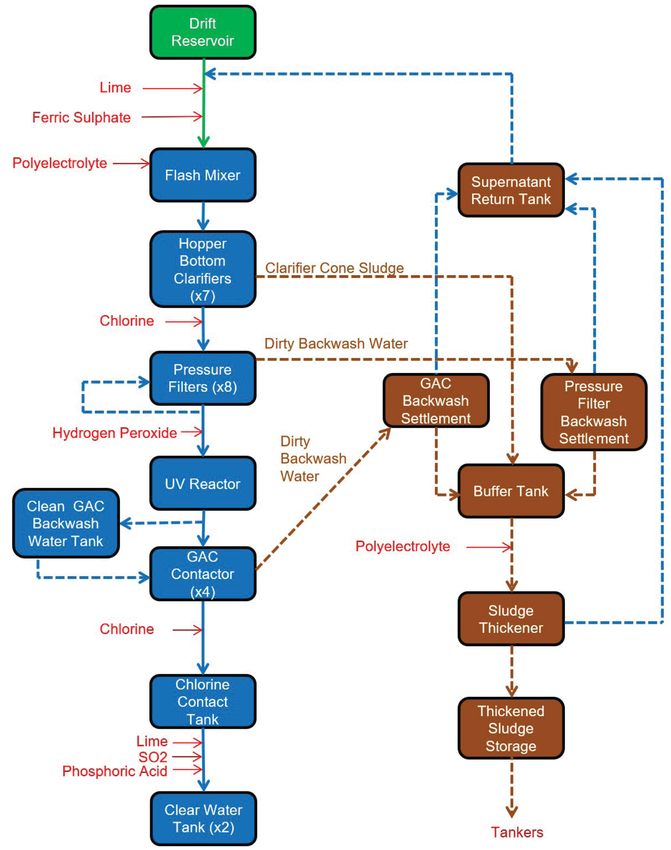
- Clarification
- Filtration
- UV
- Granular Activated Carbon (GAC) absorption
- Chlorine disinfection

Drift Water Treatment Works

How drinking water flows from Drift Water Treatment Works to Service Reservoirs



The water treatment process at Drift Water Treatment Works



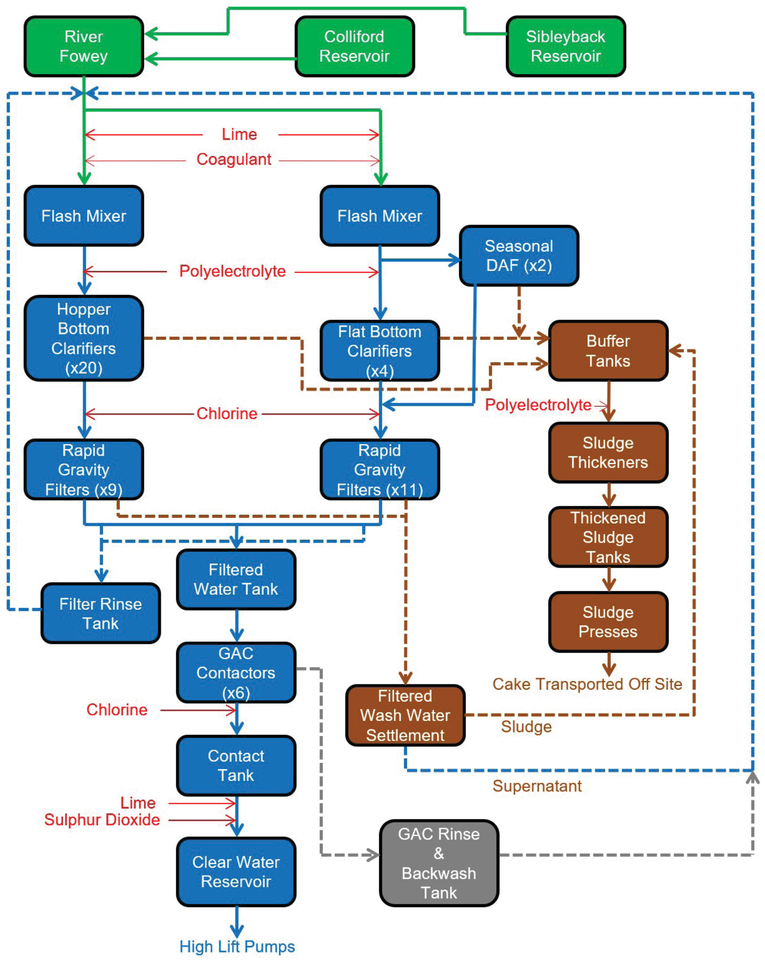
Drift WTW Process Schematic

South West Water

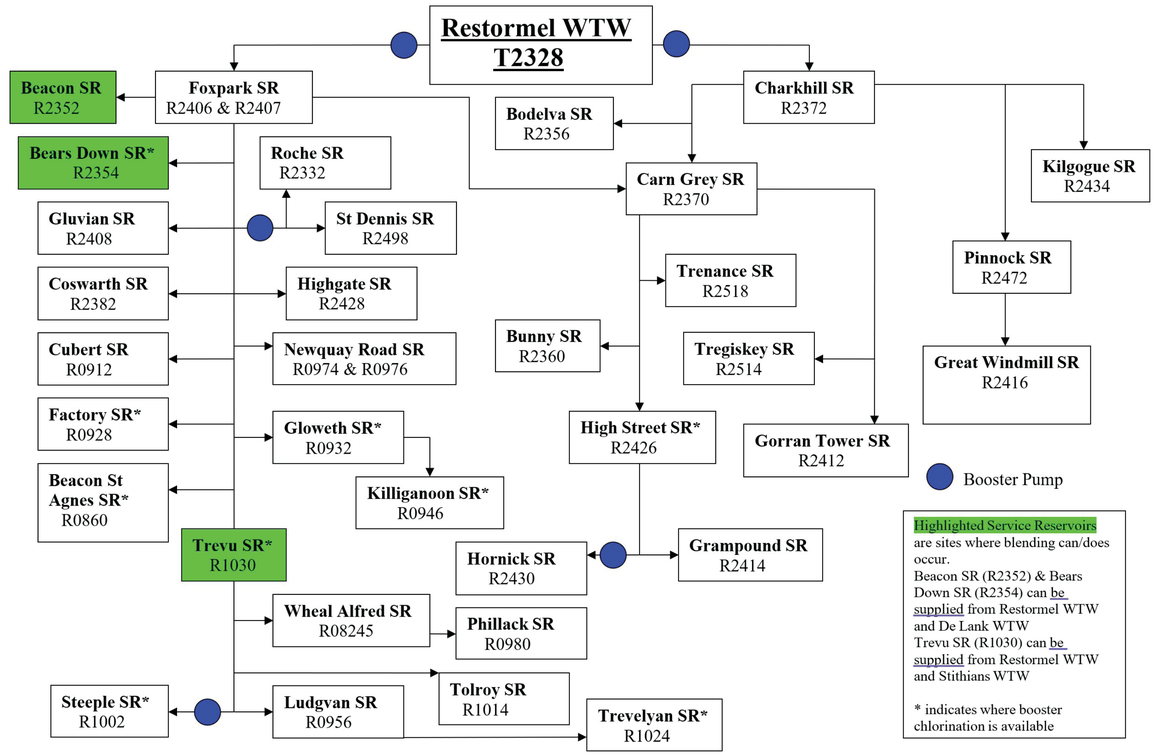
Restormel Water Treatment Works

The water treatment process at Restormel Water Treatment Works

Restormel WTW Process Schematic

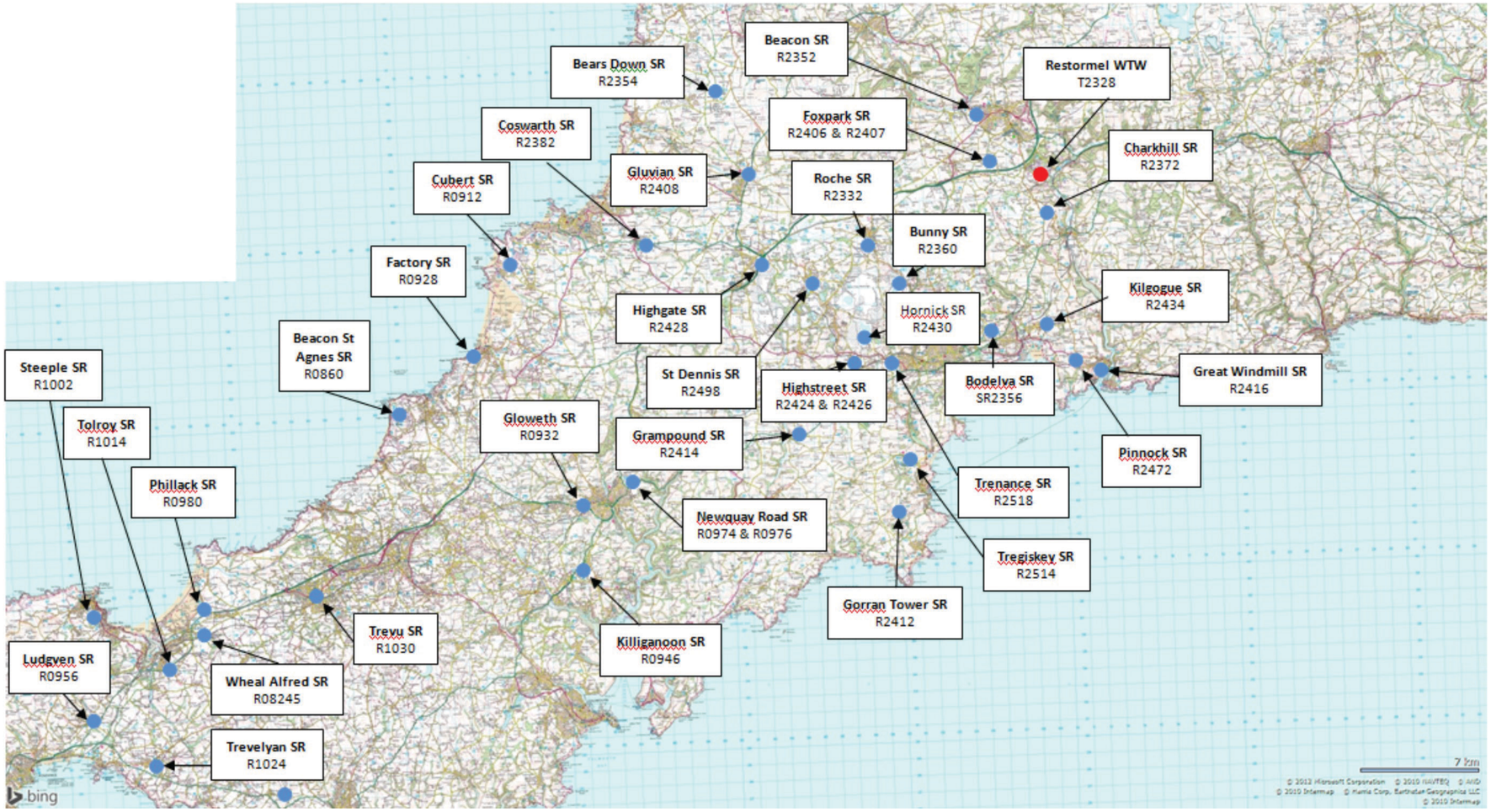


How drinking water flows from Restormel Water Treatment Works to Service Reservoirs



South West Water

Service Reservoirs supplied by Restormel Water Treatment Works



South West Water

Peatland Restoration

The South West Peatland Partnership is restoring peatland on West Penwith, above Penzance. South West Water is the lead partner on the project, which has benefits for the water system, wildlife and the environment.

Peatlands and water

Rewetting degraded peatland improves the hydrological functioning of the peat. This slows the flow of water, which helps to prevent the water network downstream from being inundated by heavy rain and potentially triggering the use of storm overflows.

Peat can hold up to 20 times its own weight in water*.

Supporting biodiversity

A heathy peatbog provides a unique and valuable wildlife habitat, supporting many plants, insects, birds and animals. Peatlands are also part of the heritage of the South West, offering a link to historic practices in farming, mining and industry.

Environmental benefits

Vast amounts of carbon can be stored in peatbogs – they cover only 3% of the world's land area but contain more than twice the carbon found in all the world's forests. Degraded peatlands release carbon into the waterways, but healthy peatlands store it away, helping to reduce further emissions.

*Source: https://southwestpeatlandpartnership.co.uk/peatlands

South West Water

Upstream Thinking in the Drift Catchment

Land management practices influence how fast water drains through the land and whether it picks up impurities along the way. Upstream Thinking works in partnership with farmers and other land users to slow the flow of water and improve its quality before it reaches our treatment works.

Interventions in the landscape that improve drinking water quality

Upstream Thinking 3 is a catchment management programme that operates in the Drift catchment, which is a subsection of the wider Penwith Peninsula Operation Catchment. A catchment is an area of land as defined by the water that drains through it.

To deliver the programme, we have partnered with the Cornwall Wildlife Trust. The aim of the programme is to combat deterioration of soil, nutrient loss and water quality through improving resilience on third-party land.

Investment to improve water quality

In this investment period (AMP7, covering 2020-2025) investment of around £550,000 has been focused on implementing interventions in the landscape that improve drinking water quality, such as tree planting and habitat creation or restoration.

Cornwall Wildlife Trust has match funded our investment to increase delivery of the programme.

Our achievements so far

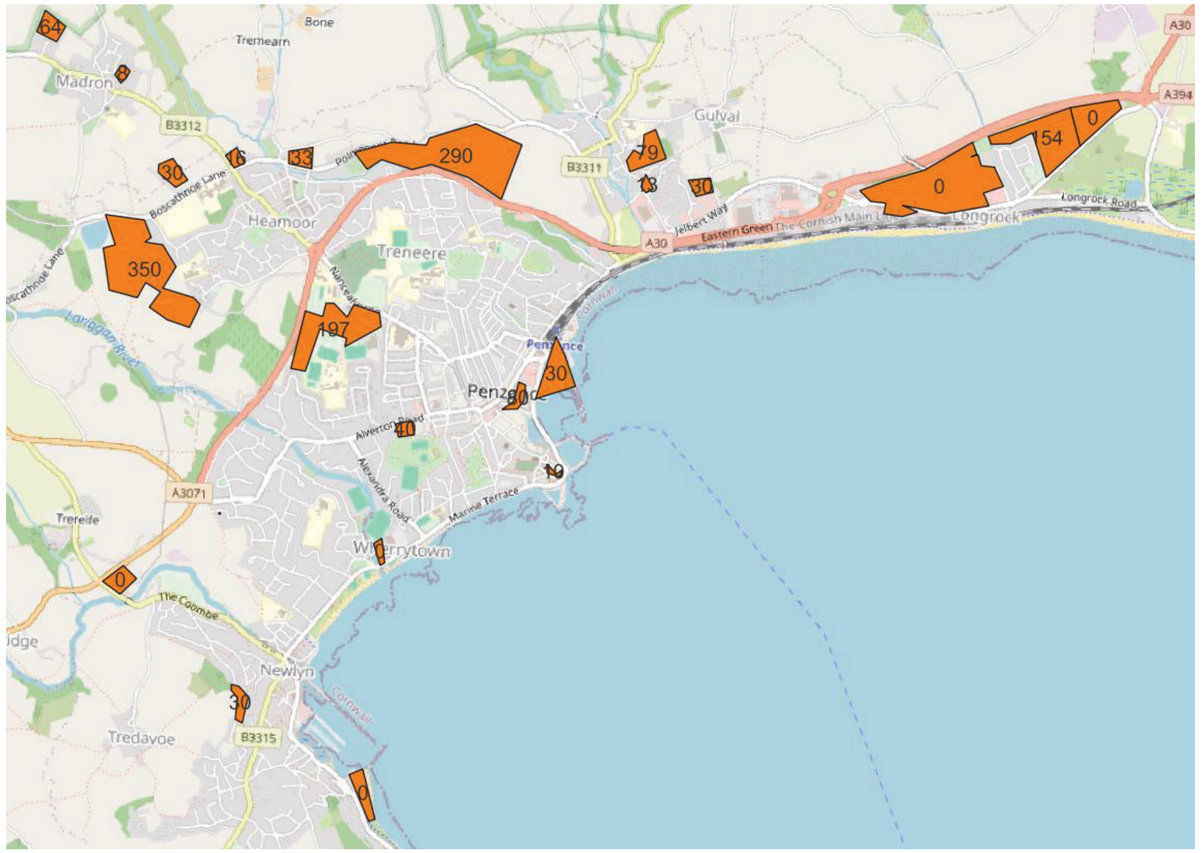
In this regulatory period, to date the programme has achieved:

- 44 farms given advice
- 2,369 hectares of land actively improved or managed for drinking water quality – covering over 70% of farmland in the catchment (3,382 hectares)
- 4.4 hectares of new permanent habitat created
- 42.4 hectares of habitat restored
- 3,000 trees planted within the catchment

South West Water

New developments in this area

New developments create additional demand for drinking water and wastewater services. We need to ensure the network is able to meet this demand, reinforcing the system where necessary.



Site	Type	Build Plan	Planning Reference	Development
Heamoor	Housing Development	350	None	Local Development Framework (LDF)
Trannack	Housing Development	290	None	LDF
St Clare	Housing Development	197	PA16/12037	Planning Permission Received
Sports Field And Land At Longrock	Housing Development	154	PA22/03879	Planning Permission Received
Jennings Street	Mixed Use Development	80	None	LDF
Land North Of Foxes Field Eastern Green Penzance	Housing Development	79	PA21/10825	Planning Permission Received
The Old Workhouse	Housing Development	64	None	LDF
Bellair	Housing Development	40	None	LDF
Polmennor Road	Housing Development	33	None	LDF
Poltair	Housing Development	30	None	LDF
Posses Lane	Housing Development	30	None	LDF

Wastewater operations

Regular maintenance

We carry out regular maintenance cleansing of our network to help identify and prevent problems. This includes:

- Cleansing all wet wells – concrete tanks that collect wastewater and transport it to the treatment works, helping to manage the flow
- Checks on pumping stations – to ensure all equipment is working correctly

Refurbishment of Perranuthnoe Sewage Pumping Station

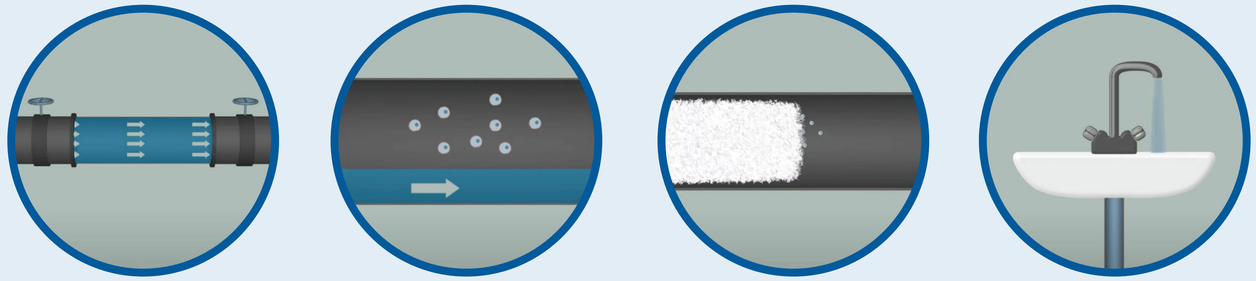
By 2025, we aim to refurbish the sewage pumping station at Perranuthnoe. This will ensure the plant is working efficiently and will provide reliable service for many years to come.

Plans for ice pigging

We plan to carry out ice pigging of the rising main at Longrock Industrial Estate Sewage Pumping Station within this investment period (2020-25).

Ice pigging uses an ice crystal mixture to cleanse pipes. The ice scours the pipes as it passes through, carrying any impurities with it.

What's involved in removing cryptosporidium



To clear cryptosporidium from the system, we open hydrants to increase flow, flushing through the network.

However, some pipes are up to 15 inches (38cm) in diameter and water flow alone is not enough to clear them.

To clear larger pipes, an ice crystal solution is pumped in, scouring the pipes as it passes through. This process is called Ice Pigging.

Customer pipes are small enough to be flushed through normal usage.

You can see a longer video of this process on our website.

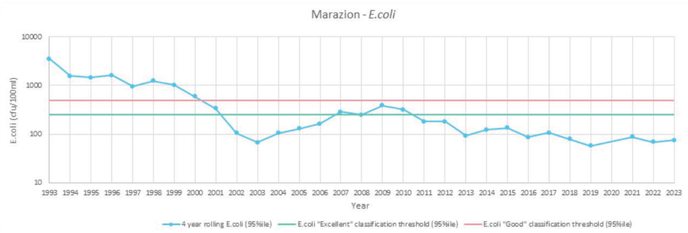
Information about your local bathing water quality – Marazion

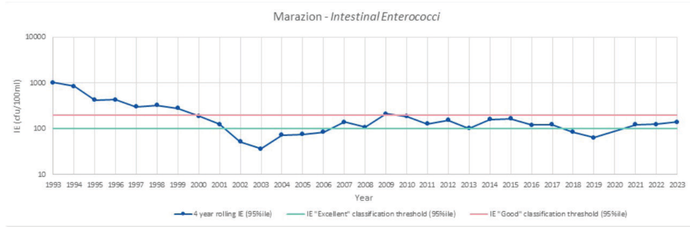
Water quality in this area has consistently been rated Good or Excellent. We want to ensure water quality is even better in future. We've been investing and making plans to help increase standards.

Bathing Water Classification

What can reduce water quality?

Environment Agency samples show levels of Escheria coli and Intestinal enterococci at Marazion have reduced since the 1990s.

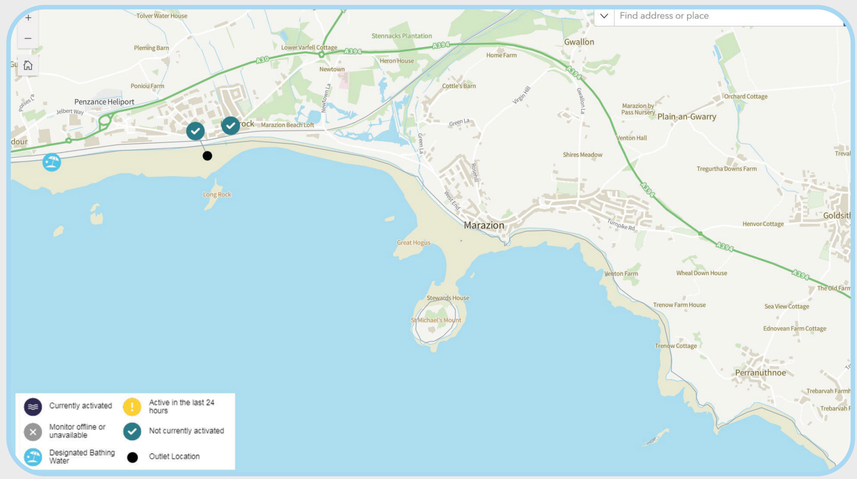




How many times have storm overflows been in operation?

There are no storm overflows that impact this beach.

There may be bacteria in the water from other sources – such as agricultural runoff, waste from dogs and birds, and misconnected waste pipes from private properties.

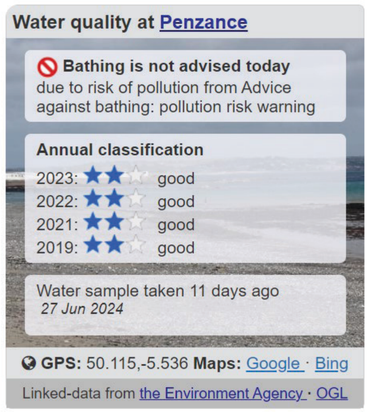


South West Water

Information about your local bathing water quality – Penzance

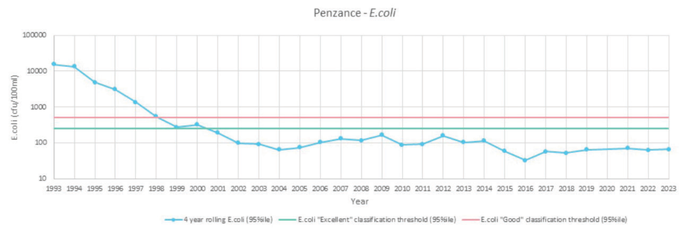
Water quality in this area has consistently been rated Good. We want to ensure water quality is even better in future. We've been investing and making plans to help increase standards.

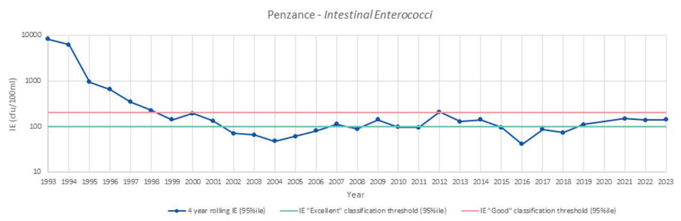
Bathing Water Classification



What can reduce water quality?

Environment Agency samples show levels of Escheria coli and Intestinal enterococci at Penzance have reduced since the 1990s.

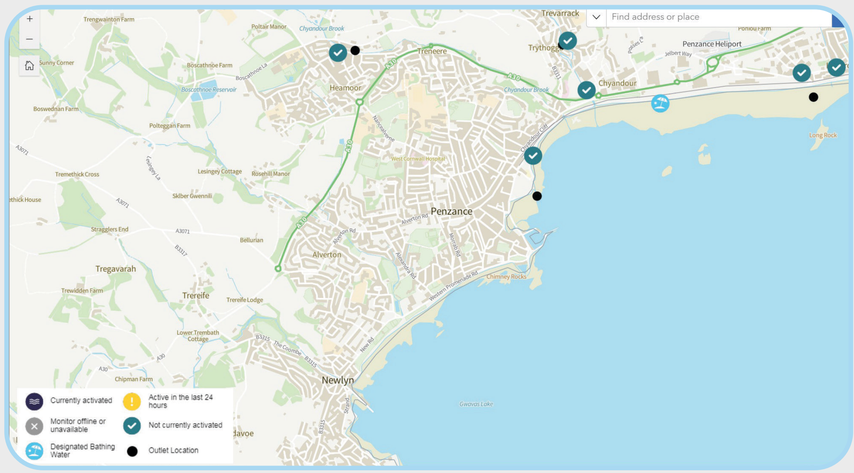




How many times have storm overflows been in operation?

There are no storm overflows that impact this beach.

There may be bacteria in the water from other sources – such as agricultural runoff, waste from dogs and birds, and misconnected waste pipes from private properties.

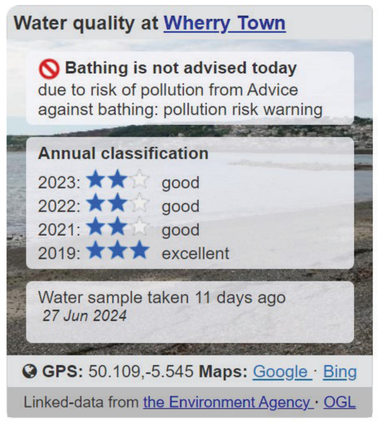


South West Water

Information about your local bathing water quality – Wherry Town

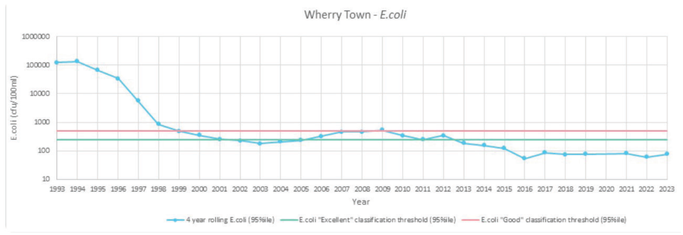
Water quality in this area has consistently been rated Good or Excellent. We want to ensure water quality is even better in future. We've been investing and making plans to help increase standards.

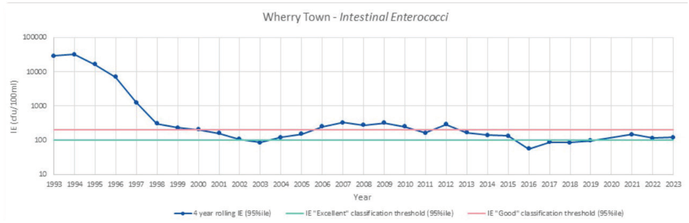
Bathing Water Classification



What can reduce water quality?

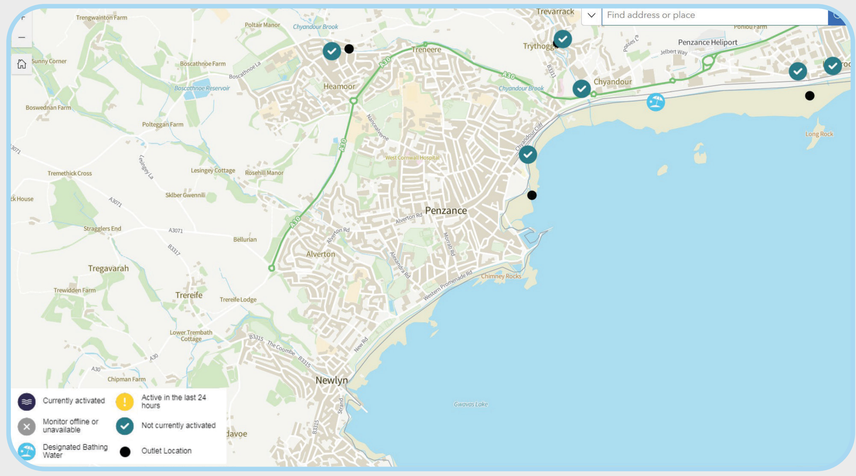
Environment Agency samples show levels of Escheria coli and Intestinal enterococci at Wherry Town have reduced since the 1990s.





How many times have storm overflows been in operation?

There are no storm overflows that impact this beach. There may be bacteria in the water from other sources – such as agricultural runoff, waste from dogs and birds, and misconnected waste pipes from private properties.

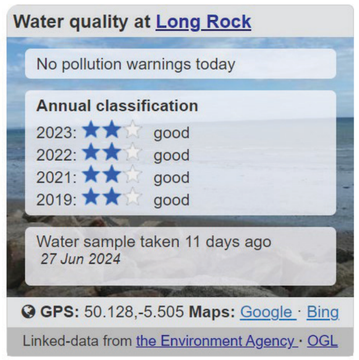


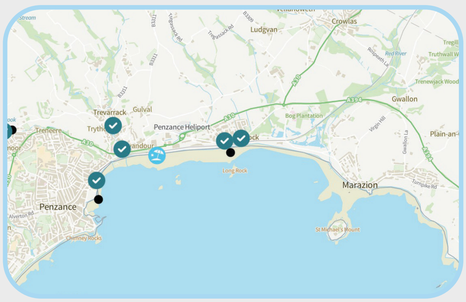
South West Water

Information about your local bathing water quality – Long Rock

Water quality in this area has consistently been rated Good. We want to ensure water quality is even better in future. We've been investing and making plans to help increase standards.

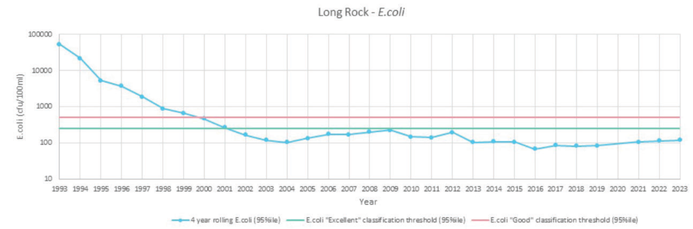
Bathing Water Classification

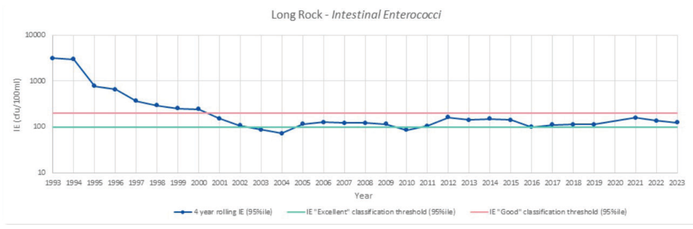




What can reduce water quality?

Environment Agency samples show levels of Escheria coli and Intestinal enterococci at Long Rock have reduced since the 1990s.





How many times have storm overflows been in operation?

In the last four years, our Event Duration Monitor (EDM) data indicates the following storm overflow activations in this area:

- 389 at Bolitho Road storm overflow
- 1 at Chyandour Pumping Station overflow
- 200 at Finns storm overflow
- 56 at Gladstone Terrace North storm overflow
- 408 at Gulval Trevarrack Lane storm overflow
- 10 at Long Rock Industrial Estate Pumping Station overflow

Not all overflows impact bathing water quality – this depends on factors such as tidal state and weather conditions. Debris can also cause false spills to be recorded.

Up to 2025, around £600,000 of investment is focused on improving bathing water quality at Long Rock. We are currently evaluating the feasibility of a joint plan to reduce Gulval Trevarrack Lane storm overflow and Finns storm overflow. Part of this involves reducing the amount of groundwater that entering the wastewater network, which would reduce the need for storm overflows to operate.

Data from Bolitho Road storm overflow suggests that rainwater runoff from roads and roofs makes up a significant proportion of the discharges from storm overflows. We're investigating whether we can keep this rainwater separate by 2025 and discharge it directly into the watercourse.

South West Water