Waldringfield Bathing Water - December 2023

2023 Bathing water results

The 2023 results were released on Friday 1st December. Waldringfield has been classified as 'Poor' under the Bathing Water Regulations. As Waldringfield was designated as a bathing water in 2023, this result is based on one year's data.

What is the Bathing water season?

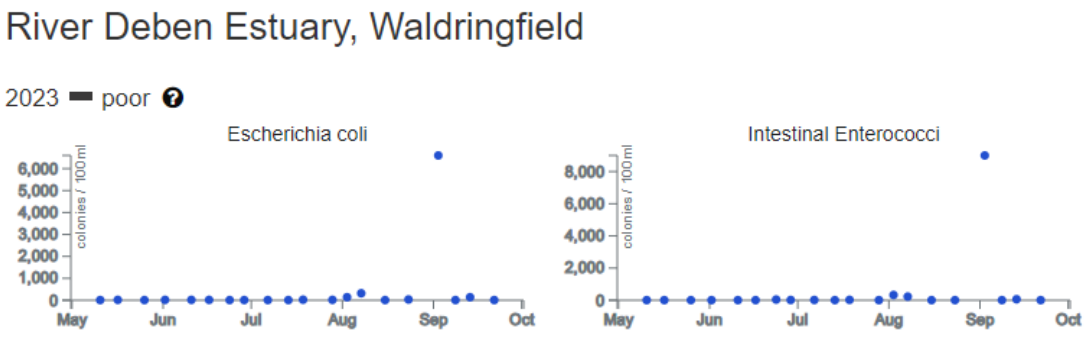
The Bathing Water Regulations 2013 set out the bathing water season, which runs from 15 May to 30 September inclusive each year. The Environment Agency is responsible for sampling for 2 types of bacteria at designated bathing waters during the season. Sampling must start just before the season and include some weekend and bank holiday samples, when the largest number of bathers are often present. Waldringfield is sampled 20 times a season.

When and how does the Environment Agency sample?

The legislation dictates that the Environment Agency must set a sampling program before the beginning of the season and stick to it as much as possible, taking each water sample at 30cm depth after wading into 1 metre of water then analyse within 4 hours, or within 24 hours if refrigerated (Environment Agency vans are refrigerated). The results are then available 2-5 days later as the bacteria have to be plated up and grown before being counted.
There is a set protocol for the sampling, including sterile bottles and aseptic techniques.

Analysis of samples

Samples are analysed by set protocol for *Escherichia Coli* (E.C) and Intestinal Enterococci (I.E), 2 bacteria found in the gut of many animals such as humans, birds, dogs, livestock and seals. These are used as faecal indicator organisms for other pathogens such as viruses.



An Environment Agency sample taken on 2nd September was high in bacteria, both *Escherichia coli (E. Coli*) and Intestinal Enterococci. Without this sample, the overall classification would have been 'Good' for 2023.
The high sample was taken during an astronomical high tide. The sampler observed very high-water levels when taking the sample and debris associated with high tide.

Classification of bathing water

The bathing water bacterial counts taken over the last 4 years (one year for Waldringfield at present) are put through a complicated calculation using log10 means and standard deviations which is set out in the legislation to get a figure which is then compared with the table below to give the classification.

Standards (Coastal Waters)	Classes			
	Excellent	Good	Sufficient	Poor
E.coli (EC/100ml), must be <=	250	500	500	>500
IE (IE/100ml), must be <=	100	200	185	>185
	95th percentile	95th percentile	90th percentile	90th percentile

High sample

A desk top investigation was done on the one high Waldringfield sample taken on 2nd September. A report was run from our pollution incident database - the National Incident Recording System (NIRS) and there were no reports of pollution incidents within a 5km radius, between 29th August and 2nd September. The rain gauge in Woodbridge recorded little rain (6.8mm in the 5 days prior to the sample being taken). The sample was taken at the highest tide height across the season, it was an astronomical high tide, and the entire beach was covered by the tide – all the way up to the channel edge. This had not been observed prior to this date.

There is extensive saltmarsh in the wider estuary, some areas may be grazed by livestock. With astronomical high spring tides there will have been water inundation of areas of marsh which would otherwise have been untouched except during storms or other extreme tides. There is therefore potential for worse than usual water quality due to the influx of rotted vegetation and bacteria from wildlife, dogs, or livestock from the rear of the marsh and strand lines.

Sources of pollution in the catchment

There are several farms in the Deben catchment, arable and livestock. Livestock manures contain bacteria such as *E. Coli* and I.E., so slurry and manure can be a source of bacterial pollution if it reaches watercourses.

Heavy rainfall can cause run-off from fields and under certain conditions, this can enter the watercourse. If organic manures have been spread on these fields recently, or livestock are present, this can potentially add bacteria to the watercourse.

The Deben is a large catchment and there are several Water Recycling Centres (WRC) upstream of the bathing water. There are permitted Combined Sewer Overflows in the catchment and many properties in the catchment that are not connected to the foul sewer.

There are natural sources of pollution too such as dogs, deer, and birds.

Microbial Source Tracking (MST) was undertaken on three samples this season. MST is the process used for identifying possible sources of faecal contamination in the environment. The samples analysed to date showed evidence for faecal pollution from seabirds; human signals possibly from non-faecal waste sources e.g., misconnections from washing machines, showers, hand basins and faecal waste sources; possible contribution from pigs and clear evidence of dog DNA.

As Waldringfield has only been designated for one year, there are not enough samples to determine patterns and relationships between pollution sources and high sample results.

What has the Environment Agency (EA) done so far to improve the water quality at Waldringfield?

Agricultural officers have undertaken full compliance visits to farms, checking compliance with regulations. Ten visits to farms have been completed by the end of November 2023. Farms checked so far have been livestock farms and those with fields adjacent to the river, close to Waldringfield. One farm upstream of Woodbridge had various significant issues, which are now being addressed (with input from independent professional advisors).

Focused Operator Self-Monitoring (OSM) visits have been completed by Environment Officers at six WRCs where the site is fully audited. All WRCs were compliant with their permits, no issues were found. All other OSM visits in the catchment are up to date.

A total of 88 letters were sent to properties close to the bathing water that are not connected to the main sewer. The letter contained advice on checking septic tanks and package treatment plants and the proper maintenance required.

A pollution prevention visit of a nearby Industrial Estate was done in June; no issues were found.

A site visit to Martlesham Creek was completed in July. Ammonia samples were taken at two outfalls; the result showed no Ammonia present (indicating no sewage). An abundance of Macroalgae was present, floating on the top of the water.

Local staff met with a local contact who is overseeing the citizen science bacteria sampling on the Deben, and members of the “Greener Debenham” group in August. Members of the local Environment Management team gave a bacteria sampling demonstration and answered questions.

Engagement with local stakeholders, such as the Major Landowners Group and the Upper Deben Farm Cluster. Meetings have made stakeholders aware of the bathing water designation and aware of actions that are happening within the catchment.

Environment Agency future planned work

A key priority will be to continue farm visits, we will concentrate our visits sites near to Waldringfield and will ensure that we check to which land their litter/manures are exported. We will work with farmers to resolve any issues that are identified.
Further work to understand the sources of diffuse run-off is required, this will include reviewing areas where the saltmarsh is grazed and continued involvement in the Deben – Source to Sea project.

A focus next year will be working with Anglian Water to agree the details of the investigation and improvements submitted in PR24 (the latest Anglian Water funding bid for improvements). We will continue OSM visits in the catchment. We will send out letters to more properties not connected to the main sewer in the wider catchment.

Misconnection surveys and tracer studies would be useful in determining source pathways and potential impacts on the bathing water classification. These investigations would be subject to securing funding.

Requests for further monitoring have been submitted in the annual EA Monitoring Commission. Monitoring requests are subject to National prioritisation and available resources but extra sampling throughout the catchment would help identify sources of pollution. Further MST analysis will be subject to securing funding.

A desk top study into downstream sources of faecal pollution that could affect Waldringfield when the tide moves up the Estuary will be undertaken, as well as looking into correlation between other environmental factors and high samples e.g., rainfall.

Information about bathing water quality?
The Swimfo site contains lots of useful info about bathing water quality – you can see all the data through the years with maps and details of investigations. If there is a known relevant pollution incident ongoing this will be flagged on this site too:
https://environment.data.gov.uk/bwq/profiles/