

## **The Seaweed and Sewage Situation**

Quite often there have been reports of sewage smells along our beaches, sightings of brown scum in the water, and unexpectedly large landings of seaweed. Conversely, we are not aware of first-hand sightings/photos of actual sewage deposits, and there is some debate over what is or isn't a sewage release and whether or not it is harmful. Clearly, many are worried about this so we decided to find out what's happening. Passions run high on the topic and we try to present our research, for Friars Cliff and Avon beaches only, in a necessarily brief but fair and balanced manner.

Firstly, we refer to the **Environment Agency (EA) website** which contains a huge amount of water sampling and analysis data. EA samples are taken weekly in summer near (1) Avon Beach car park and (2) Southcliffe Road ramp. The analysis tests for pathogens Intestinal Enterococci (IE) and Escherichia coli (EC), with procedures / gradings following strict EC guidelines so we should expect them to be reliable. The water quality was classified Good in 2016 / 17, Excellent in 2018 / 19 and, after a Covid gap, Excellent in 2021.

### **So where do the discharges come from?**

The discharges occur mainly in winter after exceptional rainfall and contain both rain water and possible small quantities of 'screened/filtered' sewage. There are no sewer discharge points along Avon/Friars Cliff beaches, but in our wider area the discharge locations are:

<b>Water Recycling Centres (WRC)</b>	<b>Sewage Pumping Stations (SPS)</b>	<b>River: Combined Sewer Overflows (CSO)</b>	<b>Sea: Combined Sewer Overflows (CSO)</b>
Christchurch WRC	Iford Lane SPS	Tuckton Rd CSO	Bournemouth Pier CSO
Holdenhurst WRC	Mudford Gardens SPS	Cooper Dean CSO	Boscombe Pier CSO
Palmersford WRC			Fisherman's Walk (Southbourne) CSO

From the table we see that Combined Sewer Outflows (CSOs) discharge into the sea at 3 nearby outlets roughly ½ km offshore near Boscombe and Bournemouth Piers, and Fisherman's Walk at Southbourne. We know that 'long-shore drift' carries sea water from West to East but the enormous dispersal and dilution from the discharge points greatly reduces the chance of contaminant reaching our beaches. The EA sampling data appears to support this point.

Also, there are CSO discharges into the rivers Stour and Avon that emerge into Christchurch harbour. The nearest overflow to us is at Mudford Gardens which has operated only twice in the past 5 years, but there are other CSOs further upstream (as above) that discharge regularly. Again there is dispersal and dilution into the river water, but a question arises where this emerges through The Run.

Separate to these are Surface Water Outfalls (SWOs) that drain surface water from streams, roads and roofs into the sea. SWOs are located at many points along the coast with two near us (Gundimore and Steamer Point). They are not connected to the sewage system so should not discharge sewage, but may be contaminated by pollutants such as car wash, detergent, oil etc and can appear brown-ish due to sand/mud. Authorities investigate misconnections and infringements, but it is a difficult area to control as any house or business could potentially misuse the drains.



**Surface Water Outfall: Local Map and at Steamer Point**

Finally, both rivers (Stour and Avon) are about 95km long and during heavy rainfall suffer with agricultural run-off such as slurry and nitrates (fertilizer). These come from the 50-odd farms in the 300,000 hectares of associated land (the Hampshire Avon Catchment), and inflow from the many tributaries, and also emerges through The Run.



Worrying as all this seems, we cannot ignore the EA water quality sampling in our area that is generally excellent (when taken) for Intestinal Enterococci (IE) and Escherichia coli (EC). These pathogens do not survive long outside host organisms and are fragile when exposed to sunlight in seawater, so they perish fairly quickly.

That said, we do not know what other pollutants may be present, particularly from agricultural run-off and surface water contaminants after heavy rainfall. We might guess that irregular and heavy storms are increasing due to global warming or whatever, so it follows that irregular loading and discharges will increase in future.

## So what is being done about all this?

Quite a lot actually. Our local water provider, Wessex Water, has investment programmes to expand facilities and reduce discharges. The Government has initiatives underway, and there are many actions elsewhere. That said, focused action is tricky because responsibility for water quality lies with so many different organisations including Wessex Water, BCP, Public Health Dorset / England, Farming regulators, and the Environment Agency (DEFRA).

To help pull this together a Storm Overflows Taskforce was set up last year comprising water companies, regulators and environmental groups to try to improve water quality, reduce discharges, and introduce catchment-sensitive farming programmes. This work led to new legislation (including October's Environment Bill) introducing a huge range of improvements including legal controls, enforced investments, monitoring systems, statutory obligations, accountability etc that will greatly reduce pollutant discharges into rivers and seas. This is a big step forward and will lead to real improvements, but it is also costly, and it will take time to see the more significant improvements.

For our beaches and sea, the FCRA Committee (us!) monitor the general situation and potential incidents, and communicate regularly with local groups and our councillors Lesley Dedman and Paul Hilliard. In turn, our councillors vigorously pursue BCP and others as there are knock-on implications for tourism, the environment and council work. We are also in communication with our Christchurch MP, Sir Chris Chope.

## Can we be notified of any potential discharges?

For water quality information, anyone can access the EA pollution risk forecasting service and historic testing data at [www.gov.uk/quality-of-local-bathing-water](http://www.gov.uk/quality-of-local-bathing-water). However, in our opinion there are two main issues with the testing process:

1. It tests only for 'faecal' matter (IE and EC as above) and nothing else (such as fertiliser nitrates etc), so the test criteria is too narrow.
2. Testing is conducted only from 15 May to 30 September – so there is no winter testing. This is unacceptable given the rapid increase in winter-time water use (open-water swimming, surfing, wind-surfing, paddling etc).

Direct notifications are available through the '**Surfers Against Sewage**' (SAS) mobile app titled 'Safer Seas & Rivers Service'. This pulls in EA and Water Company data and modelling to provide alerts. However, notifications may not be entirely correct as their alerts state '**Pollution Alert – Storm Sewage has been discharged from a Sewer Overflow in this location within the past 48 hours**'. This is potentially misleading as there are no sewage discharge pipes on or near our beaches at all – they are some distance away. Nor do the warnings correlate much (in summer at least) with EA negative test results. From an objective viewpoint, the App's alerts are beneficial and 'indicative' rather than 'actual'.

For an example of widespread misunderstanding and reporting, there is a common marine algae seen in our waters called Phaeocystis (marine phytoplankton) which forms a worrying-looking foam and brown scum. Phaeocystis is often filmed/reported on local Facebook pages as sewage - but it is in fact just a naturally occurring algae and non-toxic. The many valid concerns about sewage discharge are noted, but it is easy for misconceptions like this to creep into the argument.



**Phaeocystis – not sewage**

### **What is causing the recent Seaweed build-up and bad smell at Avon / Gundimore beach?**



Since early summer seaweed (macro-algae) rapidly built up on the sandbank and pooled water areas by Gundimore beach and had a smell resembling sewage. There was, at times, a similar build-up of seaweed and bad smell on Avon and FC beaches.

To address this our councillors, Lesley and Paul, held a site meeting just recently comprising the BCP Portfolio Holder for Tourism & Active Health (Cllr Mohan Lyengar), BCP officers, other Cllrs and reps from the FCRA and Avon Beach Company. The meeting was largely exploratory, with focus on BCPs analysis and intended response for next summer. The FCRA position is that if the seaweed / bad smell situation returns, then BCP must remove it promptly.

Our independent investigations suggest that Gundimore likely suffered an excessive build-up of 'sea lettuce', which is known to grow vigorously in nitrate-rich, run-off waters. As the sea lettuce rots it gives off Hydrogen Sulphide gas (smelling of rotten eggs) and at higher tides washes from Gundimore further down the coast to Avon and FC beaches. This however is only a hypothesis. More research and testing is needed, and we will press for this.

## What about the RNLI Red Flags sometimes raised on our beaches?

The RNLI Lifeguards liaise closely with BCP Seafront Operations to ensure that 'red flag' decisions are made correctly. Reference is made to the SAS app and also to local conditions. Red flags do not therefore directly equate to contaminant in the sea, but again they are indicative.

## What is the FCRA Position?

With apologies for any arguments / information we might have missed, there are valid concerns over sewage outflow and agricultural run-off in bad weather. These need constant monitoring, action and investment. However at the same time there can be unnecessary panic caused by misinterpreted information. In all of this it is key that up-to-date data and analysis is shared widely and promptly.

It seems to us that winter water testing, in particular, is inadequate (there is none!) and also there needs to be faster and more expansive testing, with near real-time availability of results. Finally, the argument seems too one-dimensional when centred only on sewage. In our area at least the actual issue (due to the river and surface water outlets) is more concerned with water pollution in wider context, and also the removal of seaweed and sea lettuce along the beaches.

So, on all this the **FCRA will campaign for improved testing procedures**. To begin, we have initiated meetings with local groups to establish common positions, and communicated with our local councilors (Lesley and Paul) and MP, Sir Chris Chope. We will not solve this problem, but we can campaign for improved testing, and press to investigate / resolve the situation of seaweed build-up and noxious smells along Gundimore, Avon and FC beaches.

**Finally, we must remember that prior to 1971 sewage in our area was discharged UNTREATED directly into the sea, so we are better off now than we were previously. Also, Avon and Friars Cliff are 'Seaside Award' beaches and form a central part of BCPs Seafront and Tourism Strategies so there is much drive, politically and economically, to maintain a high quality of bathing water.**

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The Rivers Trust (Interactive Map)	BCP Seafront Operations
<a href="https://www.gov.uk/government/news/environment-bill-further-strengthened-to-tackle-storm-overflows">https://www.gov.uk/government/news/environment-bill-further-strengthened-to-tackle-storm-overflows</a>	Cllrs Lesley Dedman & Paul Hilliard