



2022 WATER QUALITY REPORT

NOVEMBER 2022



FOREWORD

“ Our ocean is an unrivalled life force on our planet, a force which is imperative to every living creature on earth. As humans our connection with and to the ocean goes back millennia. It gives us the air we breathe, it controls our weather patterns, supplies billions of people with food to eat as well as their livelihoods.

It enriches our lives and is home to millions of diverse species. From the darkest depths to sandy beaches, the ocean – and the ecosystem it produces – is part of all of us.

But for hundreds of years, we have done nothing but destroy it. We have desolated diverse and abundant underwater communities thriving with life, which are now nothing but lifeless rubble. Graveyards of a time that once was. We have used the ocean as a dumping ground for unwanted objects, toxic chemicals, and human waste. An endless rubbish tip for whatever we choose.

But now in 2022, we are starting to understand the devastation we have caused and are striving to change our polluting ways...or so we are led to believe. It is more than a catastrophe that despite our thorough and comprehensive knowledge of these travesties, water companies continue to pour untreated sewage into the ocean, it's likely another discharge has occurred by the time you have read this paragraph.

WHEN IT COMES TO THE OCEAN, THE SAYING ‘OUT OF SIGHT OUT OF MIND’ HAS NEVER BEEN MORE FITTING, ESPECIALLY WHEN SHEER GREED OUTWEIGHS DOING THE RIGHT THING.

The coastline we have around the UK is one of the most outstanding in the world. Living in Cornwall I see it daily, which is why the 2022 Water Quality Report, expertly researched and put together by my dear friends Surfers Against Sewage, couldn't come at a more crucial time.

Their findings throughout this paper are shocking and must be put into the public sphere, spoken about, shared and have action taken upon. Not in 50 years, but now.

CLEAN WATER IS A BASIC HUMAN RIGHT.

We know the benefits that swimming in the ocean, a lake, river or stream hold for us, both We know the benefits that swimming in the ocean, a lake, river or stream hold for us, both physically and mentally. But, the fact that now going for a swim in the ocean could make us ill due to the amount of sewage being pumped into it is nothing short of terrifying. Not to mention the effect this is having on our wildlife and ecosystem, an ecosystem which we all rely upon. Once again, monetary gain and convenience clearly prevail over doing the right thing.

Therefore, I urge you dear reader, to share these findings with as many people as you possibly can, as it is more apparent than ever that ‘doing the right thing’ is now down to us. The people that value our ocean and the natural world. The health of our ocean and waterways have been abandoned by the powers that be. This is a fight that shouldn't even exist, but now we are the ones that must ensure the right thing is done, for the health of the ocean, the health of the planet, and ultimately, ourselves.”

Hannah Stitfall,
Wildlife filmmaker and presenter





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**WE'VE DISCOVERED
THE NUMBER OF
TIMES AND FOR
HOW MANY HOURS
UNTREATED SEWAGE
WATER HAS BEEN
DUMPED INTO OUR
BATHING WATERS
THIS SUMMER,
AND BY WHOM.**

INTRO- DUCTION

The UK is riddled with a crumbling network of sewage pipes that leak and overflow beneath our feet. Our combined sewerage network mixes both sewage effluent and surface water runoff to be treated at one of the thousands of wastewater treatment plants dotted around the country.

This system can become overwhelmed at times of heavy rainfall. Over 23,000 sewage overflows, installed throughout the network, are designed to take the pressure off the system when it becomes overloaded, preventing overflowing drains and sewage backing up into our homes. However, these overflows release a chemical cocktail of sewage pollution, agricultural pollution, contaminants from roads, household chemicals, and rainwater directly into our rivers and the ocean. They are therefore intended to be for emergency use only, during periods of 'exceptionally heavy rainfall'.¹

WHAT IS A SEWAGE OVERFLOW?

Sewage overflows, sometimes referred to as combined sewage overflows (CSO) or pumping stations, are part of our sewerage infrastructure owned and maintained by water companies. They are designed to discharge untreated wastewater in periods of exceptional rainfall to stop sewage backing up into people's homes.

However, water companies are using sewage overflows more than they should to dispose of sewage causing dangerous levels of pollution in the ocean and inland waterways.

SURFERS AGAINST SEWAGE ACCESSES DATA ON WHEN SEWAGE OVERFLOWS DISCHARGE POLLUTION INTO 388 OF OUR MOST POPULAR BEACHES AND RIVER LOCATIONS.

We provide this information to water lovers across the country through our free mobile app, the Safer Seas & Rivers Service (SSRS). As the UK's only real-time sewage pollution information service, the SSRS helps people to make an informed decision on the risks of going for a surf or taking a dip. Between 1st October 2021 and 30th September 2022, we issued a total of 9,216 sewage pollution alerts for locations included in the SSRS, 2,053 notifications were during the 2022 bathing season alone. Through the app, water users across the country are also taking direct action to end sewage pollution by; writing to local MPs when sewage is pumped onto beaches or rivers, calling out water company CEOs on their polluting habits, and submitting sickness reports on when and where they fell ill after swimming in our wild waterways.

In this report, we've used data collected through the SSRS between 1st October 2021 and 30th September 2022 to focus on the hidden health crisis caused by sewage pollution. We've crunched the numbers behind 720 health reports, highlighting the extent to which sewage pollution is literally making us sick. And we've delved into some shocking stories from the ocean and river lovers who have fallen ill this year after taking a dip.

Secondly, we're using data from the Met Office and the SSRS to investigate possible 'dry spill' events. These are instances where a sewage overflow has discharged when there has been no rain. Since the law states that sewage should only be discharged in 'unusually heavy rainfall', a 'dry spill' can indicate illegal activity. We've looked at instances when we received notifications of sewage discharges at locations on the SSRS but no rainfall has been recorded in the area. We're using this information to call out water companies on possible illegal practices.

And finally, for this year's report we've teamed up with Top of the Poops to analyse sewage data from every sewage overflow affecting bathing waters in England from the 2022 bathing season (15th May – 30th September). Together we've discovered the number of times and for how many hours untreated sewage water has been dumped into our bathing waters this summer, and by whom.

¹ European Commission (2020) Urban Waste Water Treatment, 2020, https://ec.europa.eu/environment/water/water-urbanwaste/index_en.html





HUMAN HEALTH

SICKNESS REPORTS

WHAT'S IN OUR WATER?

Millions of infectious microorganisms are present in every cubic metre of untreated wastewater dumped into the sea.² And although getting sick after a dip is a sadly common occurrence for water users, little research is available on the extent to which sewage pollution and poor water quality are making us sick.

Our consumer survey undertaken in May 2022, showed more than half of people who have tried wild swimming or water sports in the UK have experienced sickness after swimming.

For the last three years, we've been collating sickness reports through our Safer Seas and Rivers Service (SSRS) app and webpage to unearth the impact of sewage discharges on people's health and well-being.

THIS YEAR WE'VE HAD MORE REPORTS SUBMITTED TO US THAN EVER BEFORE. THESE REPORTS GIVE US A GLIMPSE OF THE THREATS FACED BY WATER USERS ACROSS THE COUNTRY.

SPEWING FROM SEWAGE

Between 1st October 2021 and 30th September 2022, 720 water users reported getting ill after entering the water.

THAT'S MORE THAN DOUBLE THE AMOUNT OF REPORTS WE RECEIVED IN 2020/21.

Swimming in contaminated recreational waters is known to increase the risk of gastroenteritis as well as sinus infections, skin rashes, and conjunctivitis. Figure 1 shows that the most common illness reported was Gastroenteritis, with 2 in 3 people reporting sickness experiencing it. Alarming, we found that many people have suffered from multiple illnesses, with 1 in every 15 cases reporting a combination of illnesses, from nasty rashes to bladder infections.

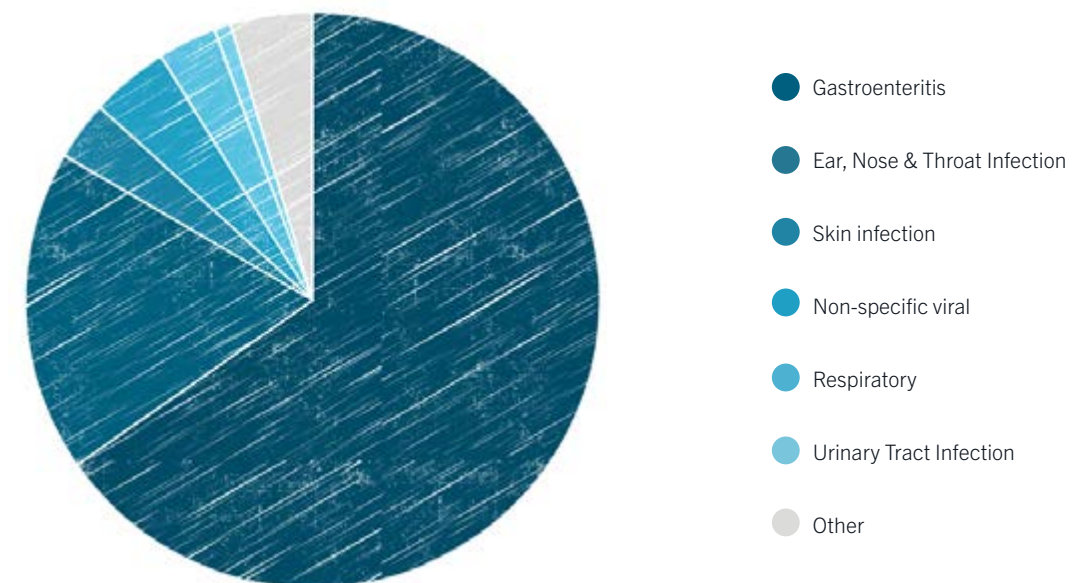
Swimming in polluted waters is estimated to cause 120 million cases of gastrointestinal diseases globally and studies have shown open-water swimmers face a considerable risk of gastrointestinal illness from entering the water, regardless of whether it has bathing water status.^{2,3,4}

"It harms the economy, it harms ecosystems, it harms health...there are health impacts being seen and sometimes you see GPs reporting on those every year."

Jim McManus, President of the Association of Directors of Public Health, Radio 4 18th August

FIGURE 1

Types of sickness



Even more worryingly, exposure to contaminated water can lead to potentially life-threatening cases of Leptospirosis. This is a condition that when left untreated can cause kidney failure, acute bleeding from the lungs and disrupt the flow of blood around the body.⁵

One such case reported to us this year was by Sam who went kayaking on the River Trent in October 2021. Sam reported that their doctor attributed the disease to their time in the river.

"I was hospitalised for four days with kidney and liver failure from Weil's disease."

Sam, The River Trent

- Shuval, H. (2003) Estimating the global burden of thalassogenic diseases: human infectious diseases caused by wastewater pollution of the marine environment, *Journal of Water and Health*, Vol.1, No.2, pp.53–64
- Hall, V., Taye, A., Walsh, B., et al. (2017) A large outbreak of gastrointestinal illness at an open-water swimming event in the River Thames, London, *Epidemiology & Infection*, Vol.145, No.6, pp.1246–1255

- Harder-Lauridsen, N.M., Kuhn, K.G., Erichsen, A.C., Mølbak, K., and Ethelberg, S. (2013) Gastrointestinal Illness among Triathletes Swimming in Non-Polluted versus Polluted Seawater Affected by Heavy Rainfall, Denmark, 2010-2011, *PLoS ONE*, Vol.8, No.11, p.e78371
- Koay, T.K. (2004) An Epidemiological Investigation of an Outbreak of Leptospirosis Associated with Swimming, Beaufort, Sabah, Vol.59, No.4, p.5





HUMAN HEALTH

SICKNESS REPORTS (CONTINUED)

THE EVIDENCE IS STACKING UP

Of all the people that told us they had visited a doctor, two-thirds said the doctor attributed the illness to exposure to contaminated water.

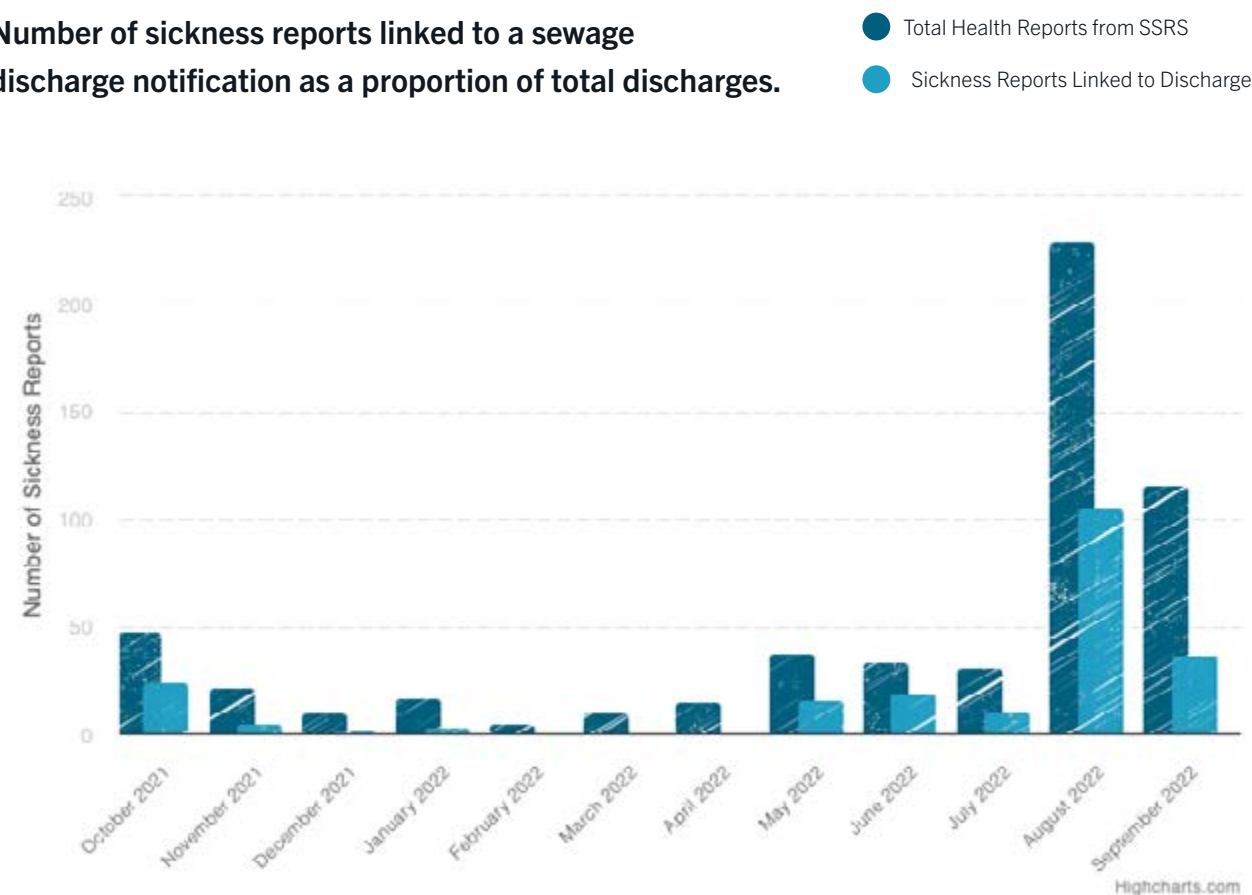
Analysis of our data has enabled us to link sickness reports submitted to us through the SSRS app with sewage discharges.

Shockingly, we found that 39% of sicknesses reported via the app happened at a time of a confirmed sewage discharge notification.

It should be noted that in Figure 2 we've used health reports submitted via the app exclusively which accounts for 80% of sickness reports submitted to us, as we aren't able to link reports submitted online to discharge notifications.

FIGURE 2

Number of sickness reports linked to a sewage discharge notification as a proportion of total discharges.



SOURCE: Safer Seas and Rivers Service Health Reports Oct 21 – Sept 22

7 Hill, W.F., Hamblet, F.E., and Akin, E.W. (1967) Survival of Poliovirus in Flowing Turbid Seawater Treated with Ultraviolet Light, Applied Microbiology, Vol.15, No.3, pp.533–536

8 (2017) Polio, accessed 4 October 2022, <https://www.nhs.uk/conditions/polio/>

POLIO FOUND IN LONDON'S WATER

In February 2022, waste from sewage treatment works in Newham, London tested positive for the Polio virus. The pathogen, known to have mutated from the live vaccine taken abroad, can pose a serious risk to human health and cause paralysis.

Since the Polio vaccine, the virus has been all but eradicated across the world (except for a few countries in Asia).

BUT BETWEEN FEBRUARY AND AUGUST 2022 THE MUTATED VIRUS HAS BEEN FOUND IN LONDON WASTE-WATER 116 TIMES.⁶

Are wild swimmers around London being exposed to potentially dangerous variants of the Polio virus? We didn't receive any sickness reports of polio after swimming in our rivers or seas but it's possible to contract polio from ingesting water where the virus is present, and poliovirus can survive in seawater.⁷

However, more research is needed to determine how long polio discharged in untreated sewage could survive in seawater or rivers or whether it could be transmitted. The NHS says the risk of getting polio in the UK remains extremely low.⁸





HUMAN HEALTH

WHY YOUR SWIM MIGHT NOT BE SO “EXCELLENT”

In the UK Designated Bathing Waters are given a water quality rating from “excellent” down to “poor” on an annual basis. This is informed by water quality samples taken during the previous bathing season which are tested for faecal matter (specifically testing for *E. coli* and intestinal enterococci).

DURING THE LAST WINTER PERIOD, THE SSRS APP ISSUED 7,163 DISCHARGE NOTIFICATIONS AND WE RECEIVED 181 REPORTS FROM WATER USERS THAT GOT SICK DURING THIS TIME.

However, in England and Wales, samples are only taken weekly over the summer months and don’t consider water quality in the winter when many of us are still surfing and swimming. This means lots of discharges will be missed.

Samples are only taken at one point along the designated beach or river and often away from any sources of pollution e.g. a sewage pipe! Shockingly, up to 15% of samples taken can be discounted when there has been an ‘unusual event’ which includes a sewage discharge⁹.

On top of this, no consideration is given to emerging threats such as microplastics and antibiotic resistance. Alarming, antibiotic resistance has been shown to be three times more prevalent in the guts of surfers than in the background population.¹⁰ With global deaths from antibiotic resistance set to exceed those from cancer by 2025, this is extremely concerning.

This all adds up to a rather murky view of water quality at designated bathing waters, particularly if you want real-time water quality information for your weekly dips. To help this, the regulators in England and Wales supply “Pollution Risk Forecasts” warnings when they suspect the water quality is too poor to enter the water safely. But these are only provided for 222 locations, only issued during the bathing season and are based on historic water quality samples taken during the summer.

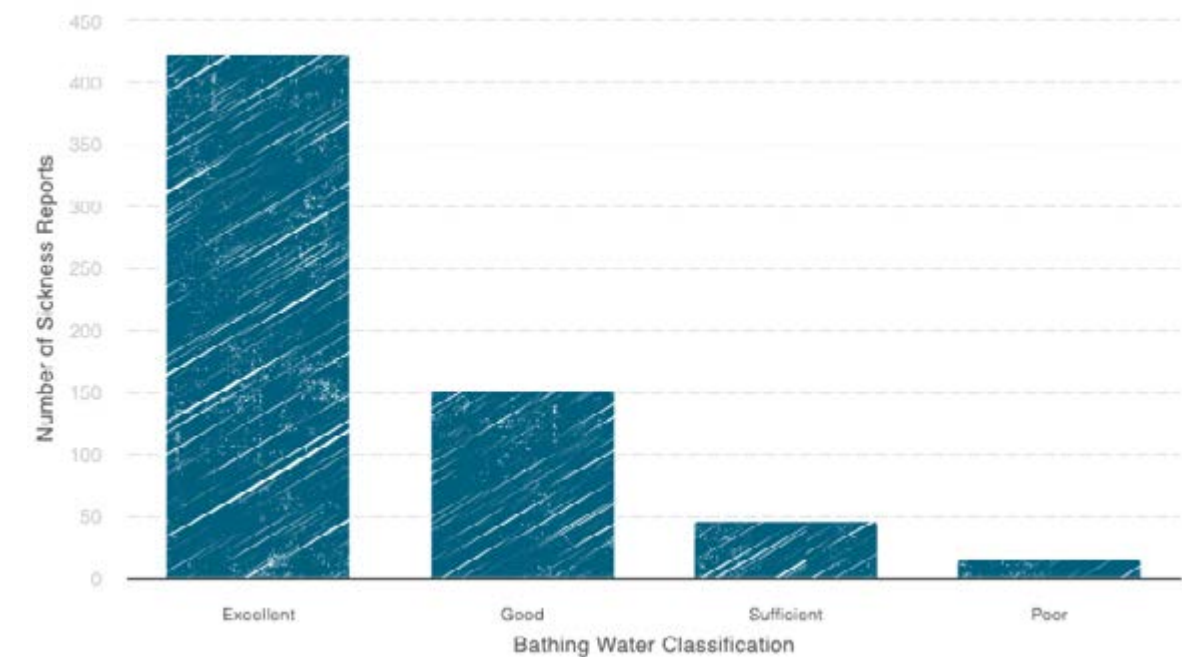
Worryingly, this year we received more reports of sickness from ‘excellent’ bathing spots (424 reports) than any other classification, that’s equivalent to one report of sickness at every ‘excellent’ bathing spot in the UK (Figure 3). Meaning, if you just use bathing water ratings you can’t be sure that your swim will be as ‘excellent’ as you might hope.

9 Gowen, P., and Eades, S. (2020) Sand, Sea and Sewage. Are English Sea Bathing Waters Safe?, January 2020, <http://www.marinet.org.uk/campaign-article/sand-sea-and-sewage>

10 Leonard, A.F.C., Zhang, L., Balfour, A.J., et al. (2018) Exposure to and colonisation by antibiotic-resistant *E. coli* in UK coastal water users: Environmental surveillance, exposure assessment, and epidemiological study (Beach Bum Survey), *Environment International*, Vol.114, pp.326–333

FIGURE 3

Sickness reports by bathing water classification



THIS YEAR WE RECEIVED MORE REPORTS OF SICKNESS FROM ‘EXCELLENT’ BATHING SPOTS (424 REPORTS) THAN ANY OTHER CLASSIFICATION





HUMAN HEALTH

THE COST OF SICKNESS

The global cost of human infectious diseases associated specifically with waste-water pollution into the sea has been estimated to be a multi-billion dollar per year health burden.²

Water-borne sickness is prevalent across the world in both high-income and less-developed countries. A US study¹¹ estimates that a whopping 3.56 million sick leave days are lost each year due to recreational beach water pollution in the state of California alone (which has a population size of around half of the UK).

Analysis of this year's sickness reports reveals that 150 cases resulted in days taken off work, with an average of nearly 3 days taken off each.

IF WE ADD UP ALL THESE SICK DAYS, THAT'S 396 DAYS OFF WORK – OVER A FULL YEAR.

Considering the average annual salary in the UK is £31,285, our data alone suggests an estimated loss to the economy of £47,650.¹² And that's just from the tiny sample we have of people reporting sickness to us.

Our consumer survey suggests that 11% of water users experience sickness after swimming outdoors in the UK and if we consider the stats from our app, we can estimate that 2.3% will take time off work. Sport England has estimated that over 2.6 million people entered the water over the last year.¹³ From these statistics, we've calculated a potential hit to the economy of £21.7 million each year.



OVER A YEAR

of sick days were reported due to water-related sickness.



47,650

is the predicted loss to the UK economy due to water-related sickness from our data alone.



21.7 MILLION

is our estimation for the total loss to the UK economy every year due to water-related sickness.

² Shuval, H. (2003) Estimating the global burden of thalassogenic diseases: human infectious diseases caused by wastewater pollution of the marine environment, *Journal of Water and Health*, Vol.1, No.2, pp.53–64

¹¹ Li, J., and Zhang, X. (2019) Beach Pollution Effects on Health and Productivity in California, *International Journal of Environmental Research and Public Health*, Vol.16, No.11, p.1987

¹² Earnings and working hours – Office for National Statistics, accessed 6 October 2022, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours>

¹³ Active Lives | Results, accessed 4 October 2022, <https://activelives.sportengland.org/Result?queryId=3131>

Despite growing concern over sickness absence among employers, virtually no robust data exists on its direct or indirect costs. Current estimates don't account for the indirect costs of absence, which can include expenditures related to temporary cover, management time, reduced productivity and reduced customer retention.¹⁴

And it's not just the employers of those who get sick that lose out. Last year 11.7 million people took part in boating activities on the UK's coasts and rivers and pre-COVID statistics showed the UK coast supports 285K tourism-related jobs annually.^{15,16} What is yet to be documented is the inevitable impact of water-related sickness on the water sports industry and businesses that depend on water lovers being able to use the water for their income.

In addition to the impact of catching water-borne diseases, lack of access to water for water users can have an impact on their well-being. The importance of well-being is often understated but should rank high on an employer's list of concerns, with mental ill-health being the number one cause of sick leave from work in industrialised countries.¹⁷ Having access to good quality blue spaces has been strongly linked with both a reduction in poor mental health and an increase in resilience factors.^{18,19} If water users are restricting their time in the water due to water quality issues, this could well have a knock-on effect on their health and ultimately time away from work. Every day that water companies discharge untreated sewage into the water is a day when water lovers are robbed of their space to de-stress and connect with nature.

¹⁴ Bevan, S., and Hayday, S. Costing Sickness Absence in the UK, p.70

¹⁵ Watersports Participation Survey 2021, accessed 20 October 2022, <https://mymembership.britishmarine.co.uk/resources/publications/posts/2022-13/june/watersports-participation-survey-2021/>

¹⁶ Creative, S. The Impact of Covid-19 on the Coastal Tourism Industry in England | National Coastal Tourism Academy, accessed 20 October 2022, <https://coastaltourismacademy.co.uk/resource-hub/resource/impact-of-covid19-on-coastal-tourism>

¹⁷ OECD Sick on the Job?: Myths and Realities about Mental Health and Work | en | OECD, accessed 23 September 2022, <https://www.oecd.org/els/mental-health-and-work-9789264124523-en.htm>

¹⁸ Johansson, G., Juuso, P., and Engström, Å. Nature-based interventions to promote health for people with stress-related illness: An integrative review, *Scandinavian Journal of Caring Sciences*, Vol. 4

¹⁹ McDougall, C.W., Foley, R., Hanley, N., Quilliam, R.S., and Oliver, D.M. (2022) Freshwater Wild Swimming, Health and Well-Being: Understanding the Importance of Place and Risk, *Sustainability*, Vol.14, No.10, p.6364







HUMAN HEALTH

SICKNESS REPORT CASE STUDIES

CHERIE'S SICKNESS REPORT


RIVER TRENT, 21ST OF JULY 2022

 **WATER COMPANY**
Severn Trent

 **ACTIVITY**
Paddleboarding

 **DAYS OFF SICK**
10+

 **ILLNESS**
Gastroenteritis

 **DOCTOR ANALYSIS**
Illness attributed to contaminated water exposure by Doctor



"I was participating in the Trent 100 paddleboard race. I am an experienced SUP racer but the race was through quite a few rapids and tricky shallow water, so I fell in a few times and swallowed some water. On the evening of the last day of the race I began to feel unwell.

By 10pm I was vomiting every few hours and feeling drained. By the next morning a great number of the other racers were also experiencing sickness, and some had diarrhoea (gossip has it that 60% of the 200 entrants were unwell).


One of the Marshalls later reported having been diagnosed with Weil's disease. My vomiting lasted for almost a week, and I felt very drained. I sought medical advice after hearing about the Marshall and was prescribed some antibiotics as a preventative measure.

It took almost 10 days for me to feel well again, and I have had low readings on a blood test for kidney function which I have been advised was probably as a result of the vomiting resulting in dehydration."


CHRIS' SICKNESS REPORT

PORTH NEIGWL, 10TH OF JUNE 2022

 **WATER COMPANY**
Dwr Cymru Welsh Water

 **ACTIVITY**
Surfing

 **DAYS OFF SICK**
2

 **ILLNESS**
Gastroenteritis, non-specific viral



I had all over body aches, bad stomach, diarrhea and general unwell feeling. This has happened nearly every time that I have been in the water since taking surfing back up again! Wales and also along the Cornish coast as well. Something needs to be done!

I have brought earplugs and a nose clip now but they have not seemed to help me. Every time I go in the sea I will now get some sort of negative health impact ranging from slight stomach cramps to full-blown vomiting and diarrhoea. I have been enjoying the sea for over 20 years now – it's such a great shame to see our seas change from a safe fun environment to a toxic environment that impacts on my health, work and general life.

I now cannot use the sea when I have work in the next 2 or 3 days as I cannot risk it affecting me in such a way.

I think it's terrible that companies are profiting from destroying our seas. Something needs to be done quickly, as I have done all I can do but still need to use the waters we all share (for healing and mental wellbeing as well as enjoyment). It is our right to be able to enjoy the sea in a safe respectful manner and people are making money from taking this right away. It's just not fair.





HUMAN HEALTH

SICKNESS REPORT CASE STUDIES

JULIA'S SICKNESS REPORT

SHOREHAM BEACH, 5TH OF SEPT 2022

WATER COMPANY
Southern Water

ACTIVITY
Swimming

DAYS OFF SICK
2

ILLNESS
Gastroenteritis & kidney infection

DOCTOR ANALYSIS
Illness attributed to contaminated water exposure by Doctor



I live on Shoreham beach and moved here because of my love of the sea. I can see the river Adur from back windows on my house and the sea from front windows. I use the sea several times per week all year around – swimming kitesurfing and SUPing. On this occasion I was swimming just by the port in Shoreham Fort (this is where I swim when its rough). It provides flat water so is very popular with sea swimmers. However, from looking at the safer seas app it appears to be between the two outlets for sewage in Southwick and in Shoreham.

I use the sea to help manage stress from my role as a Mental Health Social Worker. On Sunday 4th September I went for a swim prior to starting a new job. I was doing front crawl which now makes me feel is why I became ill as other people who swam with me that day didn't put their heads under in fear of becoming unwell.

By 8pm my stomach started to feel unusual- gurgling and bloated and then diarrhoea kicked in. This continued overnight. By the following morning as well as diarrhoea I had a stabbing pain in my kidneys. I was unable to sit comfortably and started shivering. I went to the doctors in the afternoon of the Monday where I provided a urine sample. The doctors confirmed I had both a bacterial infection and a kidney infection. They felt that it was very unusual to have both at the same time but said that this was likely caused by swimming in contaminated water.

I was unwell for 6 days. This impacted on my new role. I haven't been in the sea since and I won't be swimming in the same spot again due to fear of getting sick. This makes me feel very angry that the water companies are affecting how I use the water.

MEL'S SICKNESS REPORT

RIVER BRATHAY, 10TH OF JULY 2022

WATER COMPANY
United Utilities

ACTIVITY
Swimming

DAYS OFF SICK
8

ILLNESS
Gastroenteritis (likely Campylobacter)



I love outdoor swimming and sports. I spend a lot of my time in the Lake District and on the morning of Sunday 10th July I went swimming with two friends at a beautiful spot on the River Brathay between Elterwater and Skelwith Bridge. I have swam at this spot many times before and it was a beautifully hot day in the midst of a long period without rain. We had taken part in a ultra-marathon the previous day and we always find a cold swim afterwards really beneficial. I noticed a greasy film at the water's edge but assumed it was just plant matter and then waded out to swim under the water. After my friends exited, I lay at the water's edge on my front in the shallows where I had earlier sighted the residue, I didn't notice any smell and there did not appear to be any signs of blue-green algae.

Later that afternoon I started to feel unwell – dizziness, nausea, hot and agitated. I went to bed feeling restless and fell asleep but after an hour awoke with severe nausea, diarrhea, fever and delirium which continued throughout the night. By the time morning came and my friends found me, they had to call an ambulance to take me to hospital. I was discharged after a day in hospital where I remained unwell for a further 8 days. The incident occurred while I was away from home having left my young children in the care of my parents, which meant that I was unable to care for them.

On 12th July I spoke with the Environment Agency who identified that the point I had entered the water was between two sewage outflows. They believed this to be the cause of my illness and an investigation was started by United Utilities. I sent the exact location details but despite this, they sampled water over a mile from the location and not surprisingly, it was satisfactory. United Utilities have since refused to provide me with the telemetry data showing details of any sewage releases made around this time.

As an Area of Outstanding Natural Beauty and in a National Park, it seems abhorrent that this is allowed to happen. It upsets me that such an incredibly beautiful part of the UK can be spoilt in this way. It definitely makes me a lot more cautious about choosing my swim locations, and I have since educated others about this issue who like me, had no idea.







HUMAN HEALTH

SICKNESS REPORT CASE STUDIES

MILLIE'S SICKNESS REPORT

SANDGATE, 9TH OF SEPTEMBER 2022

 **WATER COMPANY**
Southern Water

 **ACTIVITY**
Swimming

 **DAYS OFF SICK**
2

 **ILLNESS**
Gastroenteritis



I was sea swimming with my 2 year old son. This is a picture of the two of us on the day it happened.


I was sick for 12 hours solid. I was on my own with my 2-year-old. It was hell. He swam as well but luckily didn't get sick. I feel more nervous about the water now and have not been as much as I normally would. I think it is an outrage and cannot believe it is happening in the UK in 2022. I pay £70 to private water companies in Kent, which makes me even more angry that they are not doing their job properly.


I have been wild swimming for years now and it has been great for my mental health as it is one of the only hobbies I have. My son loves swimming in the sea too and it's one of the reasons we moved to the seaside to enjoy this wonderful way of living. I am angry and upset with the companies and the government!

LIZZIE'S SICKNESS REPORT

SOUTH BAY, SCARBOROUGH,
14TH OF AUGUST 2022

 **WATER COMPANY**
Yorkshire Water

 **ACTIVITY**
Surfing

 **DAYS OFF SICK**
5

 **ILLNESS**
Gastroenteritis



At the time of my illness, I lost weight, appetite and was very sick for 24 hours and took 3 days to fully recover. I lost time from work too. I blame the sewage pipe and now know where it comes out onto the beach. It's pretty awful.

It took me weeks to trust the sea again. I am still very wary of the water. I try now not to get any in my mouth, which isn't really possible. I check the website for alerts before swimming and try to gauge the weather impact too (for run off from the land). It shouldn't be allowed to happen.

There should be infrastructure in place so that it physically can't happen. We pay for these companies to treat water, not dump it in the sea. We should protect our seas at all costs. We should have a government that sorts this out rather than being in bed with the water company bosses!

I now know the water has the potential to make me ill. It's a battle we need to have with the government and services.





HUMAN HEALTH

MENTAL HEALTH & WELLBEING

Swimming, surfing and dipping in natural water not only feels great but is good for our mind and body too. Since the COVID-19 pandemic, more and more people have realised just how important spending time in nature is for our mental and physical health.

In a consumer survey we undertook this summer, we found that of respondents that had been wild swimming, over half said they were inspired to try it as a result of the COVID-19 pandemic. And of all the wild swimmers that took part in the survey, over a third had taken it up in the last 2 years. Stories of symptom alleviation of both physical and mental illness are common in wild swimming communities, and as scientists work to quantify these tales, the data is starting to stack up. Spending time in nature has been shown to be effective in easing symptoms of health conditions.¹⁸ The health benefits of enjoying blue spaces are not confined to the summer months either.^{19,20} Regular swimming during the winter has been associated with improvements in well-being.²¹

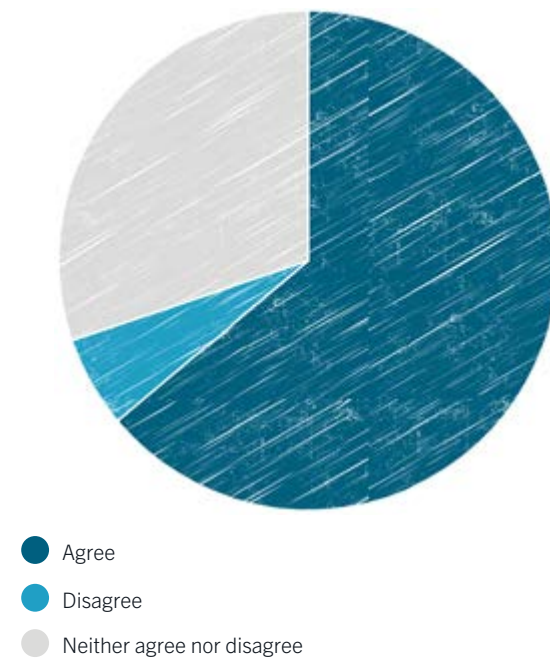
Cold water swimming in particular can reduce chronic pain and relieve arthritis, musculoskeletal issues and cardiovascular conditions. And evidence shows that immersion in cold water can be beneficial for mental health as well as physical.^{19,21} For those with stress-related illnesses, time in nature can improve relaxation, mindfulness, self-belief and productivity at work.¹⁸

18 Johansson, G., Juuso, P., and Engström, Å. Nature-based interventions to promote health for people with stress-related illness: An integrative review, *Scandinavian Journal of Caring Sciences*, Vol. 4

19 McDougall, C.W., Foley, R., Hanley, N., Quilliam, R.S., and Oliver, D.M. (2022) Freshwater Wild Swimming, Health and Well-Being: Understanding the Importance of Place and Risk, *Sustainability*, Vol. 14, No. 10, p.6364

FIGURE 4

Survey question: Wild Swimming has Improved my mental & physical well-being



THE BLUE SPACE AROUND US

These blue spaces which are both anecdotally and scientifically associated with good mental and physical health are not just the coastal coves and sandy beach environments you might imagine. Studies show UK outdoor swimmers gain health benefits from entering the water in a variety of places not limited to beaches or designated bathing waters but include swimming in lakes, rivers, quarries and reservoirs – all year round.^{19,20}

20 Massey, H., Gorczynski, P., Harper, C.M., Sansom, L., McEwan, K., Yankouskaya, A., and Denton, H. (2022) Perceived Impact of Outdoor Swimming on Health: Web-Based Survey, *Interactive Journal of Medical Research*, Vol. 11, No. 1, p.e25589

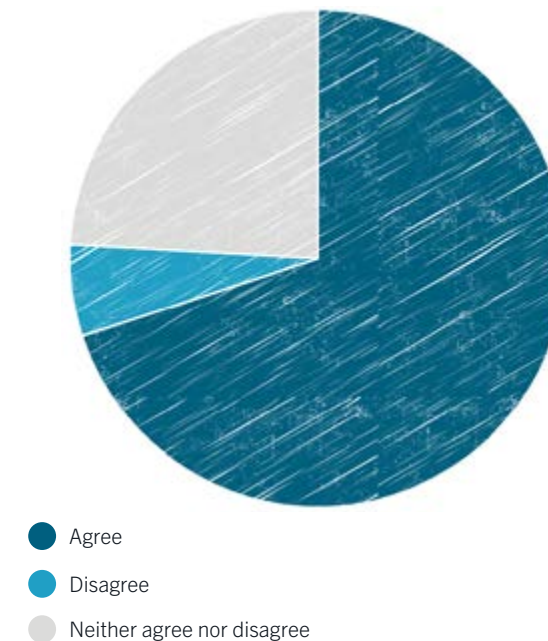
21 Huttunen, P., Kokko, L., and Ylijokuri, V. (2004) Winter swimming improves general well-being, *International Journal of Circumpolar Health*, Vol. 63, No. 2, pp. 140–144

NATURE CONNECTION

A chat with any wild swimmer will give you an insight into the feeling you get when you immerse yourself in wild waters. But the idea of nature connection is now being explored and measured by scientists. Qualitative accounts of wild swimming suggest participants feel an increased nature connection.¹⁹ Furthermore, studies on the impact of nature connection have shown that the better relationship we have with nature the more we are willing to act to help the environment.^{22,23} As shown in Figure 5, our 2022 consumer survey supports this evidence with 70% of respondents that had tried wild swimming agreeing that it connected them to nature and the need to protect our environment.

FIGURE 5

Survey question: Wild Swimming has connected me to nature and the need to protect our environment



22 Richardson, M., Passmore, H.-A., Barbett, L., Lumber, R., Thomas, R., and Hunt, A. (2020) The green care code: How nature connectedness and simple activities help explain pro-nature conservation behaviours, *People and Nature*, Vol. 2, No. 3, pp. 821–839

23 Barragan-Jason, G., de Mazancourt, C., Parmesan, C., Singer, M.C., and Loreau, M. (2022) Human–nature connectedness as a pathway to sustainability: A global meta-analysis, *Conservation Letters*, Vol. 15, No. 1, p.e12852

OUR 2022 CONSUMER SURVEY FOUND THAT OF RESPONDENTS WHO HAD TRIED WILD SWIMMING IN OPEN UK WATERS 64% AGREED THAT WILD SWIMMING HAD IMPROVED THEIR MENTAL & PHYSICAL WELL-BEING.





HUMAN HEALTH

BLUE PRESCRIBING

It is now blindingly obvious how important spending time in nature is for both our mental and physical health. Taking a walk through a woodland or diving into a meandering river provides us with a sense of calm, time to think, and washes away the stresses of the day.

Swimming amongst kelp forests and along emerald green river banks makes us feel relaxed, free and alive. More and more of us depend on the ocean, lakes and rivers with whole communities emerging around the love of water, such as the global Bluetits movement. And the benefits are no longer anecdotal.

Blue and Green Social Prescribing is becoming more commonplace as a recognised treatment for mental illness. In 2022, the government launched a multi-year funding programme for nature prescribing, investing £4 million into a cross-government project aimed at preventing and tackling mental ill-health. Programmes like this could have long-term benefits for our healthcare system. With hospital services under increasingly high pressure, allowing patients with long-term conditions to be referred to nature-based interventions within communities such as blue prescribing could proactively reduce demand for hospital beds.²⁴

HOWEVER, IF OUR RIVERS AND SEAS ARE TARRED BY THE REPEATED AND SUSTAINED INFLUX OF DANGEROUS AMOUNTS OF UNTREATED SEWAGE LEADING TO PEOPLE GETTING SICK, WHAT'S THE POINT?

STOMACH-CHURNING STATS

The sickness reports submitted this year highlight the extent to which we still getting ill from enjoying the water, and in some cases, the impacts can be severe. With 39% of reported sicknesses correlating to sewage discharge alerts and 63% of cases that were reported to a doctor being attributed to poor water quality, the link between sewage pollution and illness is clear. Illness from sewage is forcing many to take time off work and the impact on the economy could be reaching into the millions.

It's shocking to see that 59% of sickness reports were from bathing waters classified as 'excellent'. These are locations that are defined as having 'the cleanest water'. The water quality testing regime and classification process are meant to protect us and we expect 'excellent' and 'good' locations to be an extremely low risk to our health. A testing regime based on limited spot sampling during the bathing season alone and historic data provides us with little assurance of the quality of the water, and no indication of water quality in real-time.

A SICKENING CHOICE

But our health reports are just a drop in the ocean when it comes to sickness from sewage pollution. We only receive sickness reports from people that directly engage with Surfers Against Sewage and know they can submit a health report. Our data is limited to the 455 locations in the SSRS, the majority of which are designated bathing waters on the coast and a handful of other locations for which we receive sickness reports directly.

Over 90% of sewage overflows discharge directly into rivers, but there are only two river bathing waters in the UK. This means significantly more people than we know about could be getting sick from these contaminated channels and sewage-filled streams across the UK.

The problem with the patchy information we receive from designated bathing waters pales in comparison to the state of many of our popular inland dipping spots at which, no routine water quality testing for public health is provided whatsoever. This only adds to the uncertainty around the extent to which water lovers are being put at risk when they decide to swim, play and paddle in rivers.

OUR CITIZEN SCIENCE WATER QUALITY TESTS TAKEN LAST YEAR REVEALED THAT 75% OF TESTING SITES RECORDED ELEVATED E.COLI LEVELS THROUGHOUT THE SEASON.²⁵

The risk of water-related illnesses is a significant and growing concern among the ever-expanding community of water users that are being denied common-sense public health information.

24 Thomson, L.J., Camic, P.M., and Chatterjee, H.J. A Review of Community Referral Schemes, p.69

25 Slack, A., Tagholm, H., and Taylor, D. (2021) 2021 Water Quality Report, 2021

MORE THAN HALF OF RESPONDENTS IN OUR RECENT CONSUMER SURVEY SAID THEY WERE SCARED OF SWIMMING OUTSIDE BECAUSE THEY DIDN'T KNOW WHETHER THE WATER WAS CLEAN. AND THEY'RE RIGHT TO BE CONCERNED.

Investigations into the unknown effects of discharging untreated sewage continue to unearth worrying truths. New research has revealed that the levels of antibiotics from human waste in wastewater are likely to result in antibiotic resistance making medicine more ineffective against dangerous bacteria.²⁶ The knock-on effect of this is that the fewer people feel they can connect with blue spaces, the less likely they are to care about and protect them.

By continuing to dump sewage into our waterways, water companies are forcing us to decide if taking care of our mental health is worth the risk of getting sick, denying us access to clean and safe water to swim in, and eroding our connection to our blue spaces and nature.

26 Hayes, A., May Murray, L., Catherine Stanton, I., Zhang, L., Snape, J., Hugo Gaze, W., and Kaye Murray, A. (2022) Predicting selection for antimicrobial resistance in UK wastewater and aquatic environments: Ciprofloxacin poses a significant risk, Environment International, Vol.169, p.107488





SEWAGE POLLUTION

SAS X TOP OF THE POOPS

During this year's bathing season, sewage was dumped into bathing waters 5,504 times, for a total of 15,012 hours!

This year, we've collaborated with the Top of the Poops team to analyse where and for how long sewage overflows have been pumping sewage into designated bathing waters during the 2022 bathing season (15th May – 30th September in England).

WHAT'S DIFFERENT ABOUT THIS YEAR'S DATA?

Thanks to the campaigning might of national charities, local groups, and individual ocean and river activists up and down the country, water companies are now required to submit data on the number of times and for how many hours each of their sewer overflows discharge on an annual basis. This data is published by the regulators in March each year.

This year, for the first time, in addition to the annual returns, the Environment Agency instructed all water companies to submit sewage overflow information for the bathing season (15th May – 30th September) by the end of October.

We've used this data to help create a recent picture of how many sewage overflow events have taken place and for how many hours sewage has been pumped into bathing waters during the summer season.

In addition, the government has put a requirement on water companies in England and Wales to install Event Duration Monitors on all their sewage overflows by 2023 which, in theory, means they can accurately report every overflow event with no exceptions. The same requirements have not been put on Northern Ireland or Scotland.

WHAT IS TOP OF THE POOPS?

TOTP is a website which analyses and maps the annual sewage data released by the regulators each March. It has a comprehensive breakdown of the annual data around the country, and you can search by useful criteria such as your area, local river and constituency.

The website is run on a voluntary basis and has been cited in the media across the UK. We've been working in collaboration with the TOTP to crunch the sewage overflow data for the 2022 bathing season. Was your local swim spot "Top of the Poops" in 2021?



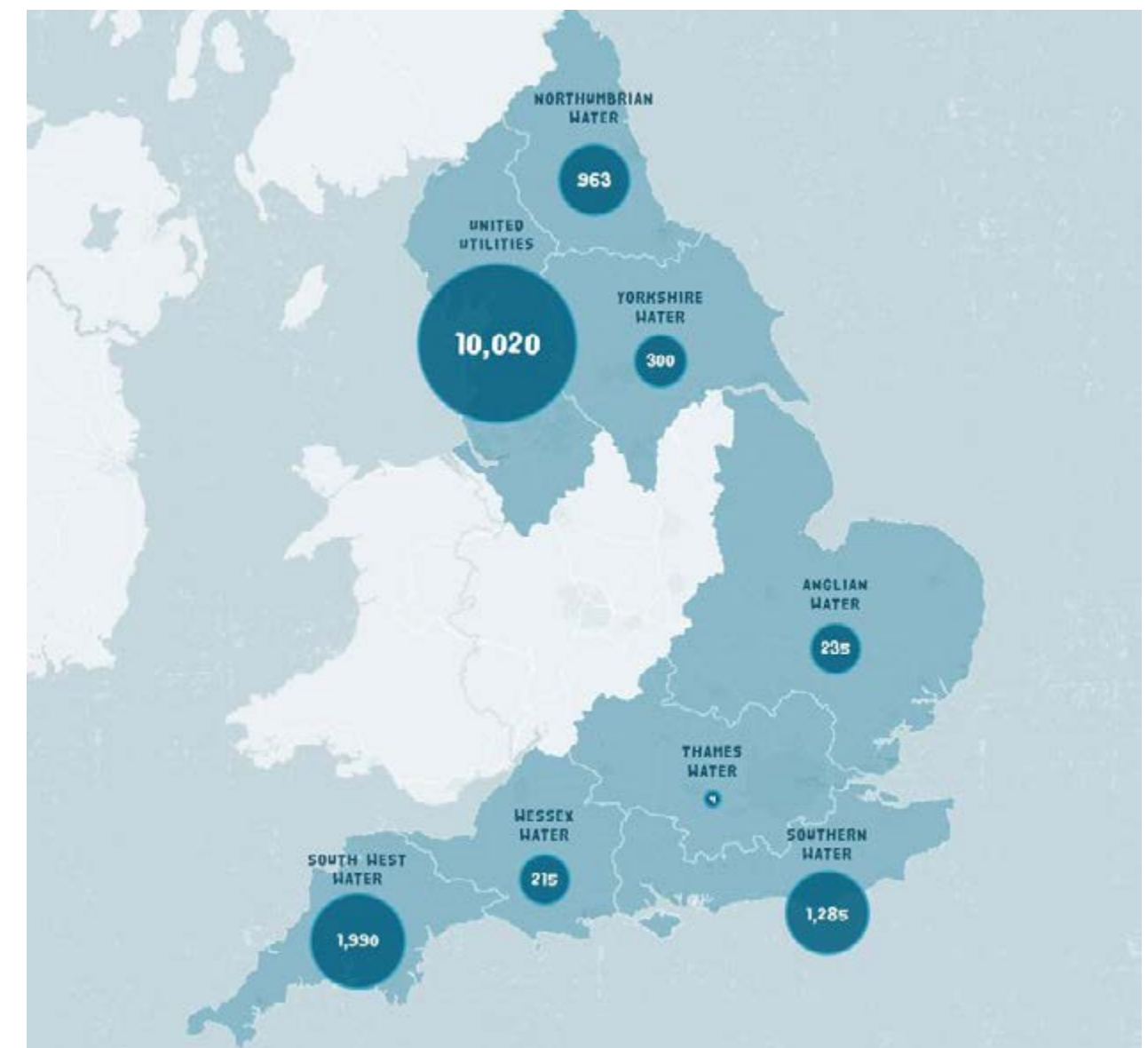
2022 BATHING SEASON SEWAGE POLLUTION

BATHING WATER FIGURES EACH WATER COMPANY

The worst offender, United Utilities, was responsible for a disgusting 2,560 discharges into bathing waters during the 2022 season. That's a total of 10,020 hours of sewage being pumped onto our most treasured beaches whilst we were on summer holidays and kids were off school. The map below shows how many hours sewage was discharged into bathing waters per water company.

WHY IS THERE NO DATA FOR SEVERN TRENT?

Currently, Severn Trent doesn't have any designated bathing waters in its region. Most designated bathing waters are coastal and the region is landlocked. We're campaigning for more inland bathing waters to be designated – so watch this space.





SEWAGE POLLUTION

IMPACT ON BATHING WATERS

Bathing water designation can be an invaluable tool in highlighting the sewage scandal and ensuring there is a legal obligation to improve the quality of our treasured waterways. But designation does not automatically save you from the stench of sewage pollution. Far from it.

Scroll through the map below to investigate which bathing waters have been impacted by sewage discharges in the 2022 bathing season. See how many times sewage has been dumped onto 'excellent' rated beaches, or look at how many hours sewage discharged onto your local beach.

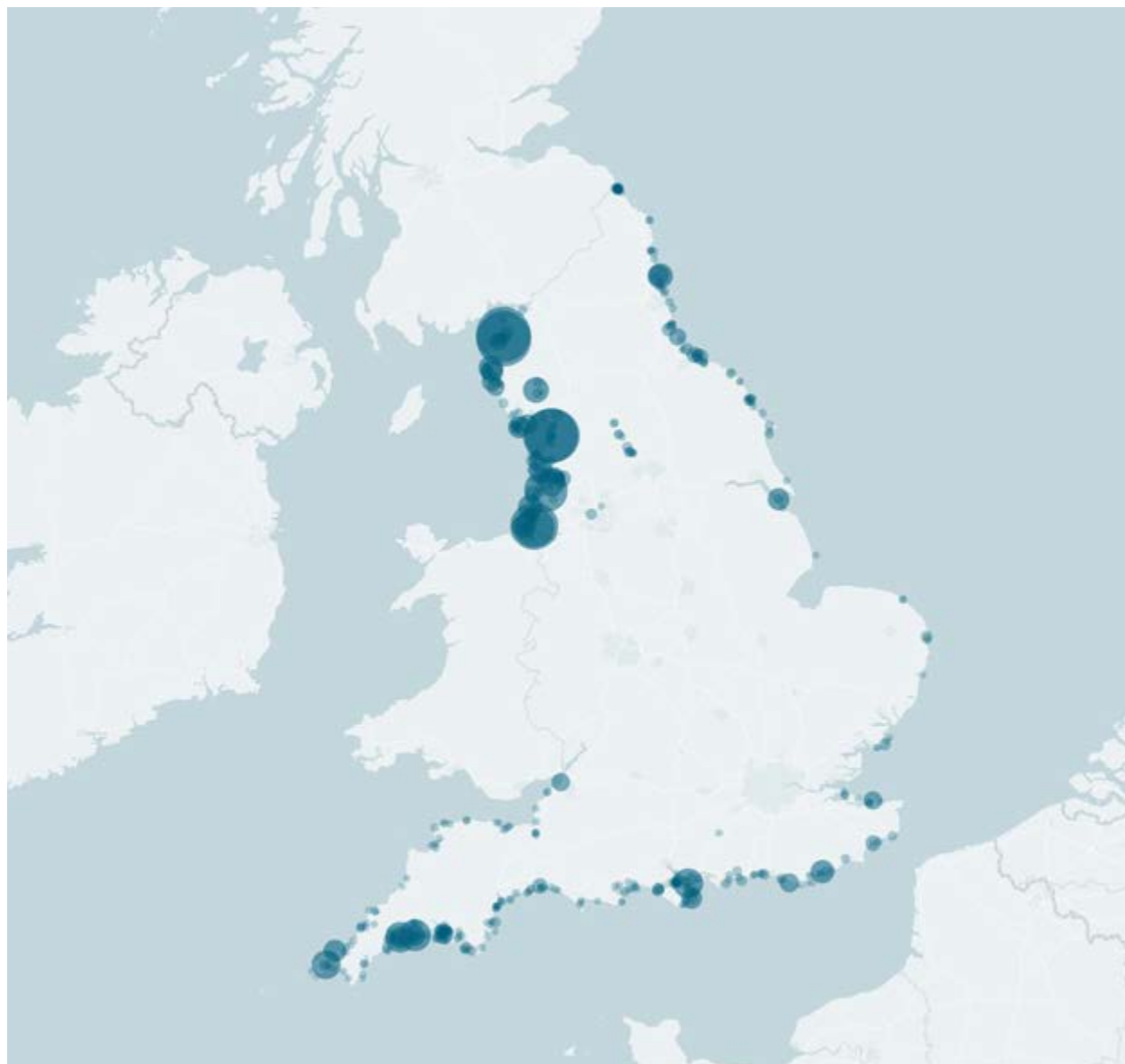


FIGURE 7

Worst 20 impacted bathing waters by sewage hours

RANK	BATHING WATER NAME	BATHING WATER CLASSIFICATION	WATER COMPANY	SEWAGE HOURS	COUNT OF SPILLS
1	Morecambe South	Good	United Utilities	3891	238
2	Allonby	Good	United Utilities	1521	237
3	St Annes	Good	United Utilities	712	278
4	Seascale	Good	United Utilities	432	131
5	Plymouth Hoe East	Good	South West Water	373	303
6	Readymoney Cove	Excellent	South West Water	339	207
7	East Looe	Good	South West Water	329	112
8	Cowes	Excellent	Southern Water	320	114
9	West Kirby	Excellent	United Utilities	291	85
10	Moreton	Excellent	United Utilities	267	77
11	Fleetwood	Good	United Utilities	249	164
12	Wallasey	Good	United Utilities	248	192
13	Walney West Shore	Excellent	United Utilities	245	156
14	Newbiggin North	Excellent	Northumbrian Water	234	86
15	Spittal	Excellent	Northumbrian Water	210	240
16	Long Rock	Good	South West Water	195	76
17	Formby	Excellent	United Utilities	182	77
18	Windermere, Rayrigg Meadow	Excellent	United Utilities	162	46
19	Southport	Good	United Utilities	159	147
20	Bexhill	Sufficient	South West Water	145	31





SEWAGE POLLUTION

ARE WATER COMPANIES MEETING THEIR TARGETS?

The government recently published a plan to tackle sewage pollution. The Storm Overflows Discharge Reduction Plan states that overflows (at coastal waters or inland) that are at, or near, a designated bathing water must be designed to achieve on average no more than three discharges per bathing season for 'good' and two for 'excellent' bathing waters to meet Environmental Quality Standards.

"GOOD" CLASSIFICATION

No more than 3 sewage discharges over the bathing season.

"EXCELLENT" CLASSIFICATION

No more than 2 sewage discharges over the bathing season.

Overflows 'near' designated bathing waters are defined as those: '5km upstream of the upper limit of the inland bathing water reach and 1km upstream of the coastal bathing water'.

WHO'S NOT ON TARGET?

In the 2022 bathing season, 38% overflows deemed to impact bathing waters classified as 'good' exceeded three discharges. 36% overflows discharged onto 'excellent' bathing waters two or more times. This means, over the bathing season 329 of sewage overflows impacting bathing waters are failing to meet Environmental Quality Standard targets.

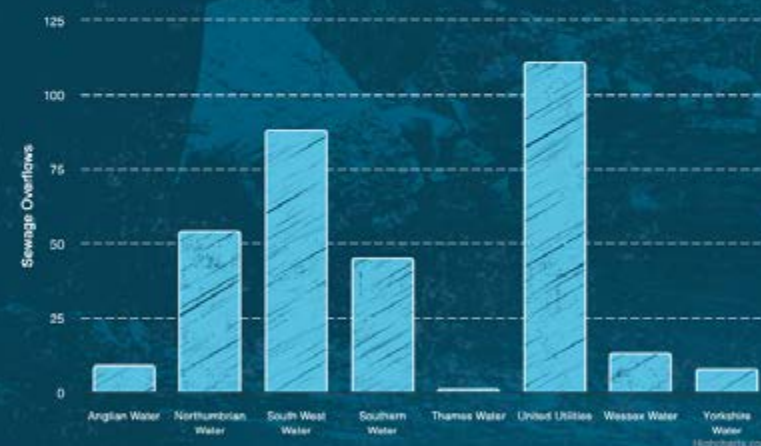
FIGURE 8
The number of sewage overflows per water company which are not currently meeting Environmental Quality Standards

LEGEND

● Sewage Overflows

ABOUT THIS CHART

This chart shows the number of sewage overflows per water company who do not meet target allocated sewage discharges per bathing season.



SOURCE: Gov UK

DOWNLOAD



ARE WE SEEING THE FULL PICTURE?

We can only analyse data that is provided to us by the water companies. If they don't provide it, we can't report. We know how crucial data reporting and transparency are to gauge the scale of the sewage problem and hold those responsible to account.

But painting a clear picture becomes difficult when water companies do not invest in the infrastructure needed to comprehensively report on how often they are discharging sewage into the water.

IS THERE MORE TO THE STORY?

The data for this year's bathing season only tracks discharges at sewage overflows which impact designated bathing water. We know there are hundreds of popular swimming sites across the UK which don't have official designation and are therefore left in the dark about the impact of sewage pollution.

The water companies have all the data. The regulators have the authority to ask for it. And yet time and time again, we're being restricted to a carefully selected set of information which fails to expose the true devastation caused by sewage pollution. What are they hiding? Is this a transparent system?

WAIT, SURELY WATER COMPANIES AREN'T REGULATING THEMSELVES?

That's right, you may not believe it but since 2009, water companies are the ones responsible for letting us know when, where and for how long they dump untreated sewage into waterways. They are also in charge of telling the Environment Agency how serious the discharge is, so effectively dictate when the EA come out to investigate it (although the EA also use additional indicators to trigger investigation).

SO HOW HONEST DO YOU THINK YOUR WATER COMPANY IS BEING?



SEWAGE OVERFLOWS WITH MISSED REPORTING

A staggering 103 sewage overflows at bathing waters across England failed to report their activity for a period of more than 2 weeks during the bathing season. This includes 44 sewage overflows were left completely unmonitored throughout the entire bathing season.

The EA requires water companies to give an explanation for any monitors which fail to report consistently. This holds water companies to account, ensuring they report on the status of any issues and what fixes are in place.

Conveniently, there isn't an option to say no action is being taken which could mean the water companies appear to be taking steps to fix monitors, when in fact they might not be doing anything at all.

The following map shows those sewage overflows (in red) which didn't report at all during this year's bathing season, and those (in orange) that lost 2 weeks or more of reporting.



WHERE'S THE DATA FROM SCOTLAND AND NORTHERN IRELAND?

You may have noticed a gap in the data on our map from Scotland and Northern Ireland...

THIS IS BECAUSE WE DON'T RECEIVE ANY.

But it's time to call them out: why aren't we getting any data from Scotland or Northern Ireland?

Northern Ireland Water is publicly owned and there is currently a lack of public funding for data reporting. Northern Ireland Water is not under the same pressure from the government to install monitors for sewage overflows by 2023. It will likely be some time before we start seeing this data.

Scotland is also publicly owned and is not held to English targets for monitors on sewage overflows by 2023. They do however have 108 sites which they regularly monitor and have documented an Urban Waters Roadmap of how they're going to make further improvements over the next three years which includes plans to publish near real-time data by 2024.

SEWAGE POLLUTION

WHAT DOES THIS ALL MEAN?

Year after year water companies continue to discard untreated sewage into our favourite coastal and inland dipping spots throughout the busy summer months.

We've revealed the top ten worst-hit bathing waters that are receiving a torrent of pollution, with popular tourist spots Morecambe South and Cowes among them (with 3891 and 320 hours of sewage discharges respectively). Wild swimming hotspot Lake Windermere ranked among the worst, with a total of 162 hours of sewage discharging into the lake.

Unsurprisingly, United Utilities was this year's worst offender with South West Water (discharging for 1,990 hours) and Southern Water (discharging for 1,285 hours) coming in behind them. But no water company came out with a clean record.

How can water companies get away with knowingly dumping dangerous untreated sewage into these holiday hotspots where our children play without consequence?

HUNDREDS OF THOUSANDS OF US VISIT BEACHES AND RIVERS DURING THE SUMMER HOLIDAYS BUT OUR KIDS ARE BEING UNKNOWNLY COVERED IN CRAP.

Climate change modelling predicts we will see more frequent extreme rainfall and flooding events in the near future. These events will put ever-increasing pressure on sewage overflows and unless drastic action is taken by water companies to improve the UK's sewage network, these events will keep triggering sewer overflows and causing risks to human health.²⁸

The Storm Overflows Discharge Reduction Plan has listed targets to significantly reduce pollution from sewage overflows at and near bathing waters.

Water companies are nowhere near meeting their targets...

WITH A DISAPPOINTING 329 'GOOD' OR 'EXCELLENT' SEWAGE OVERFLOWS IMPACTING BATHING WATERS EXCEEDING DISCHARGE TARGETS IN THE BATHING SEASON.

The state of our inland waterways is even more worrying. With only two designated as bathing waters, our inland data is lacking and locations are not consistently tested for bacteria that are harmful to human health. The true impact of the government cutting funding to Environment Agency resources means that huge stretches of our rivers are going unmonitored – meaning water users aren't able to make an informed choice as to whether they can safely enter the water.

²⁸ Harder-Lauridsen, N.M., Kuhn, K.G., Erichsen, A.C., Mølbak, K., and Ethelberg, S. (2013) Gastrointestinal Illness among Triathletes Swimming in Non-Polluted versus Polluted Seawater Affected by Heavy Rainfall, Denmark, 2010-2011, PLoS ONE, Vol.8, No.11, p.e78371

DEMAND FOR TRANSPARENCY

As the regulators start to demand more transparency from water companies, we can delve deeper into what they might be hiding, learning more about when, where and how they monitor (or choose not to).

The new Bathing Water data has allowed us to uncover a more accurate and recent picture of where sewage is discharging into bathing waters, but it is also showing us what we still can't see. Water companies are continuing to muddy the waters with their secrets, with 103 monitors around the country missing over 2 weeks of discharge information this bathing season. Shockingly, 44 sewage overflows were left completely unmonitored throughout the entire bathing season – we have no idea how much raw sewage these pipes were pouring into our bathing waters throughout the summer.

What's worse is that Northern Ireland Water and Scottish Water don't give us any information at all and are lagging way behind the rest of the UK. Why should water lovers in Scotland and Ireland be left in the dark as to what they are surfing, swimming and paddling in?

We'll be putting pressure on these water companies and the government to bring their targets to improve water quality monitoring forward and focus on ending sewage pollution.

The evidence is clear, water companies are repeatedly releasing torrents of untreated sewage into our most-loved bathing waters during the busy season and driest months of the year. Their monitoring is opaque – do the water companies even know (or care) how much sewage they are pushing out into our beloved beaches and rivers?



DRY SPILLS

DUMPING SEWAGE WHEN IT'S DRY?

Sewage overflows were designed and intended to be an 'emergency release valve' only to operate in 'exceptional rainfall events' to reduce pressure on the sewage system to avoid sewage backing up into our homes.

The Urban Waste Water Treatment Regulations only permit sewage overflows to operate in 'unusually heavy rainfall'. However, the government has admitted sewage overflows "are being used significantly beyond their original purpose".²⁹

Water companies are prohibited from making 'dry spills' from sewage overflows when there has been no rainfall. However, with water companies now allowed to self-report and with little clarity on what is classed an 'extreme rainfall event' it's unclear just how many 'dry spills' are happening and how much sewage is potentially being illegally discharged.

So, we've been investigating where there have been discharges but no significant rainfall to indicate where sewage overflows are being used when they shouldn't be. We've collated rainfall data provided by the Met Office from over 150 locations across England and Wales and linked the 455 locations on our Safer Seas & River Service (SSRS) to the nearest available data source to determine rainfall.

We've then looked at the sewage discharge notifications issued for each of these locations and if there had been any rainfall in the [2] days preceding the discharge notification. Where we had seen a discharge notification but no rainfall in the preceding [2] days, we have assumed this to be a 'dry spill'.

Take a look at the map to investigate where we have found water companies to be making 'dry spills' over the last year – that's raw sewage entering our waterways when there has been no rain.

We've uncovered 143 'dry spills' pouring raw sewage into our most popular surf and swim spots between 1st October 2021 and 30th September 2022. Of these,

92 WERE AT LOCATIONS CLASSIFIED AS 'EXCELLENT' FOR WATER QUALITY BY THE REGULATOR.

29 Storm overflows discharge reduction plan, accessed 28 September 2022, <https://www.gov.uk/government/publications/storm-overflows-discharge-reduction-plan>

LOCATIONS OF 'DRY SPILLS' IN 2022





DRY SPILLS

WHAT'S THE DAMAGE?

Figure 9 shows 'dry spills' by month and water company. We can see Southern Water was the worst offender. They were responsible for an eye-watering 39 of the 58 'dry spills' in October 2021 alone. This is just one month after the bathing season ended and at a time many people were still using the water.

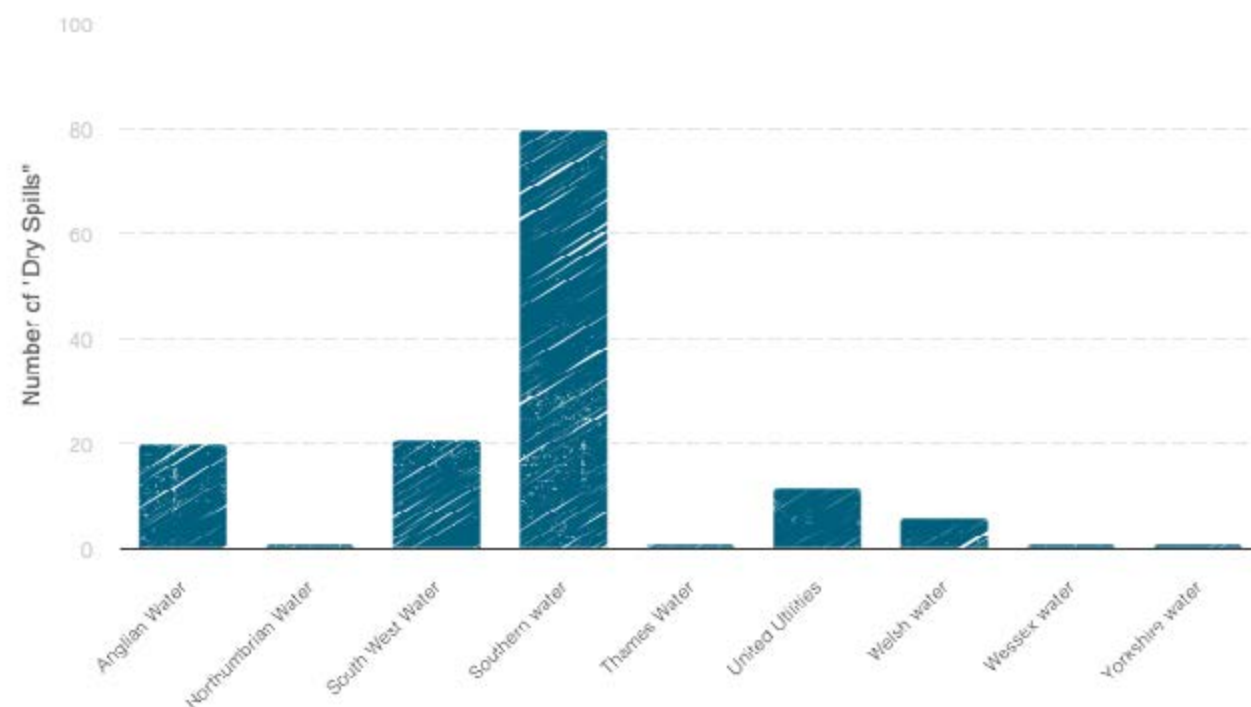
Most bathers will consider avoiding the water after heavy rain, but our analysis shows that sewage is being discharged into our precious blue spaces even when there has been no rainfall, putting us and the environment at risk.

What's worse is that in dry conditions where there is less water, the pollution entering waterways is more concentrated, so the contamination risk from the infectious organisms present in these untreated discharges is even higher.

SOUTHERN WATER IS RACKING UP THE HIGHEST LEVEL OF DRY SPILLS WITH 4X MORE THAN THE SECOND WORST OFFENDER SOUTH WEST WATER.

FIGURE 9

Total "dry spills" by water company



SOURCE: SAS Safer Seas and River Service, Met Office
Rainfall data (Oct 21 – Sept 22)

FIGURE 10

Worst 10 total "Dry spills" by location

RANK	LOCATION	WATER COMPANY	BATHING WATER CLASSIFICATION	COUNT OF SPILLS
1	Cowes	Southern Water	Excellent	7
2	Felpham	Southern Water	Good	7
3	Teignmouth Holcombe	South West Water	Excellent	5
4	Gurnard	Southern Water	Good	5
5	Southend Three Shells	Anglian Water	Excellent	4
6	Par Sands	South West Water	Sufficient	4
7	Bembridge	Southern Water	Excellent	4
8	Pagham	Southern Water	Excellent	4
9	Sandown	Southern Water	Excellent	4
10	Seagrove	Southern Water	Excellent	4

LIMITATIONS

It should be noted that we have only looked at rainfall in the 2 days before a sewage discharge notification. Each catchment is unique and therefore the lag time between a rainfall event and its impact on a sewage overflow could be longer.

However, we consider [2] days to be a conservative time period. The SSRS also only provides sewage discharge notifications for designated bathing waters and popular swim spots rather than individual sewage overflows. So where one sewage overflow impacts multiple locations we will be overestimating the number of 'dry spills'.

On the other hand, where multiple sewage overflows impact one location, we will be underestimating the number of 'dry spills'.

Finally, we are unable to comprehensively consider more complex situations such as the effect of periods of drought – when there can be a large increase in surface water after a downpour due to the ground being too dry to absorb it.





DRY SPILLS

PROFITEERING OFF POLLUTION

Over the last decade, water companies have racked up tens of millions of pounds of fines. This year 11 water companies have been fined including Thames Water who have racked up a £51 million bill and Southern Water has been fined £28.3 million.

This pales in comparison to last year when Southern Water was sentenced to pay a record £90 million in fines after pleading guilty to widespread pollution of 6,971 unpermitted discharges.³⁰ But are water companies just breaking the law and then paying their way out? Despite mounting costs from fines and dwindling profits, water companies are still rewarding shareholders with dividends and CEOs with bonuses. That's money that could have been used to meet their statutory duties.

FAT CAT SEWER RATS

In the last financial year, water companies paid out a cumulative total of £16.5 million to CEOs (Figure 14). Yorkshire Water paid out a chunky £1.4 million to their CEO despite achieving a shameful Environment Performance Assessment rating of two out of four.

That's millions of pounds to do half as well as they should be when it comes to environmental protection. Southern Water and Southwest water achieved a pitiful rating of one out of four stars, both dropping from last year's ratings. Yet still managed to reward their CEOs with over £2 million cumulatively.

³⁰ Eleven water companies fined and forced to give money off customers' bills, accessed 26 October 2022, <https://news.sky.com/story/eleven-water-companies-fined-and-forced-to-give-money-off-customers-bills-12711127>

FIGURE 11

EPA rating over the last 5 years per water company

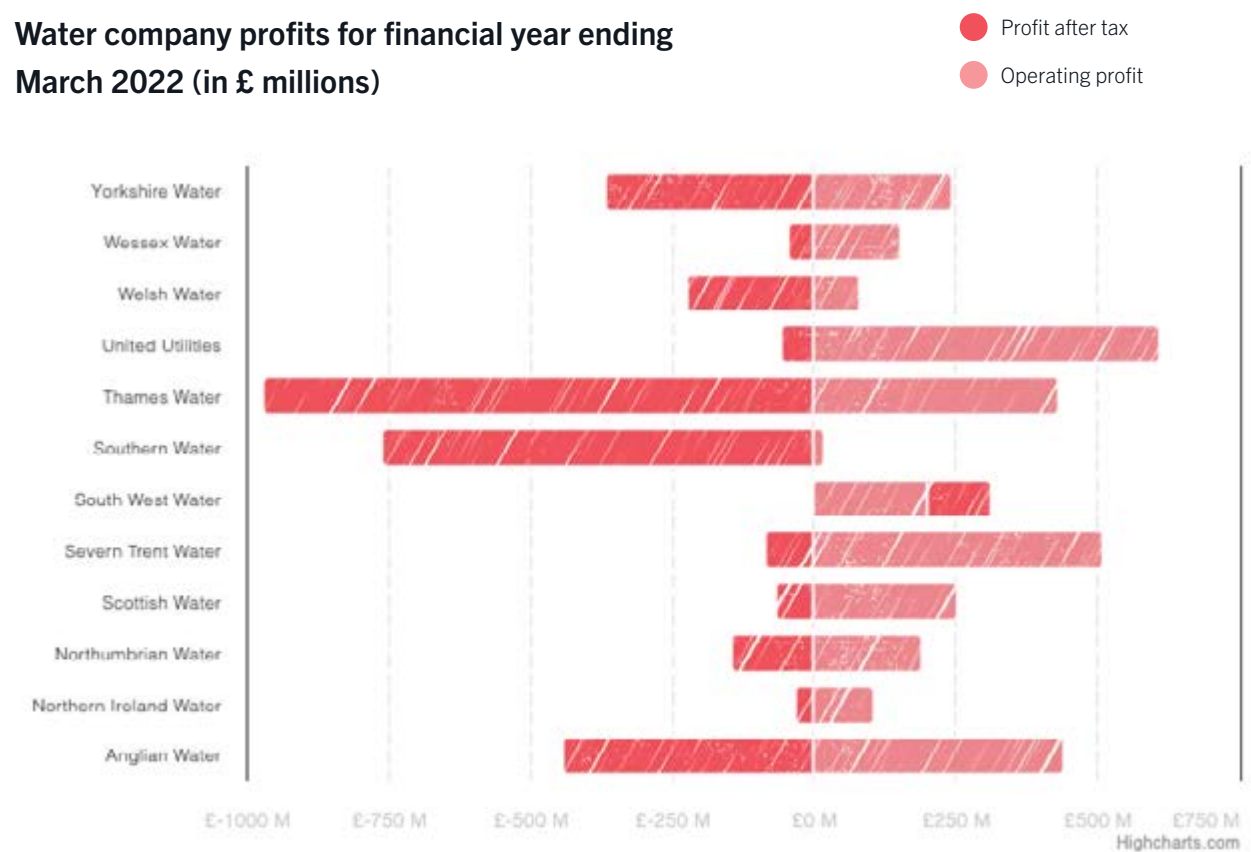
	2017	2018	2019	2020	2021
Anglian Water	3	3	2	3	2
Northumbrian Water	2	4	2	4	4
Severn Trent Water	4	3	4	4	4
South West Water	2	2	2	2	1
Southern Water	3	2	1	2	1
Thames Water	3	3	3	3	2
United Utilities	4	3	3	4	4
Wessex Water	4	3	4	4	2
Yorkshire Water	3	2	3	4	2

Highcharts.com

SOURCE: Environment Agency

FIGURE 12

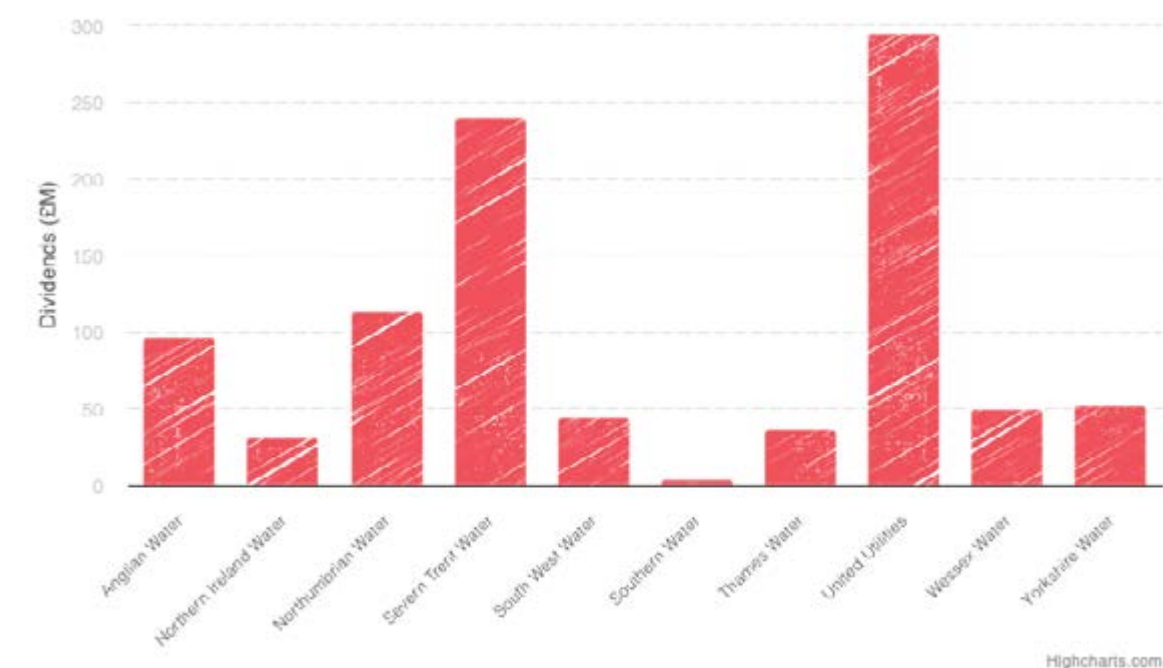
Water company profits for financial year ending March 2022 (in £ millions)



SOURCE: Water Company Annual Finance Reports (April 21 – March 22)

FIGURE 13

Water company dividends paid for financial year ending March 2022 (in £ millions)



SOURCE: Water Company Annual Finance Reports (April 21 – March 22)





DRY SPILLS

PROFITEERING OFF POLLUTION (CONTINUED)

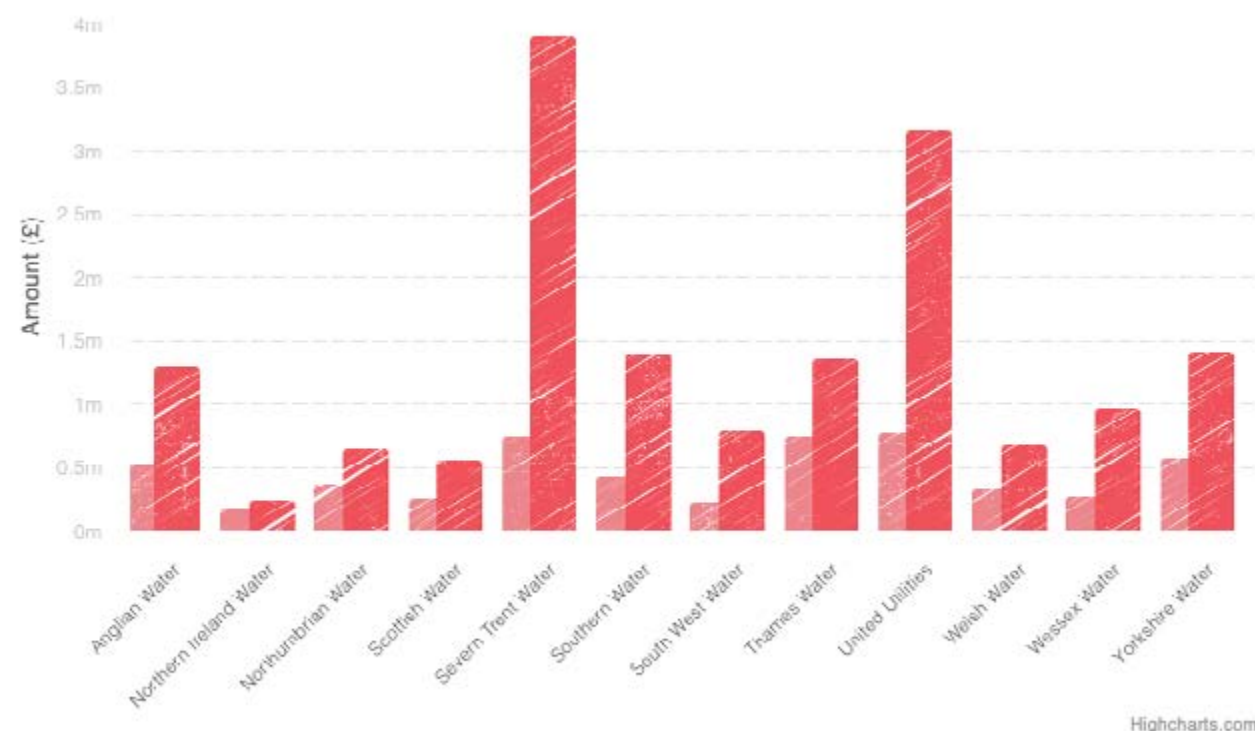
Despite nearly every water company recording a loss for the year ending 31st March 2022, the majority of them still paid out dividends to shareholders (Figure 13), paying out a combined total of £965 million.

How do water companies have the money for shareholder pay-outs when they are reporting losses, failing their statutory duties to appropriately maintain the UK sewerage system and being rated poorly for their environmental performance?

THE ANSWER IS THEY DON'T.

FIGURE 14

Water company CEO remuneration for financial year ending March 2022 (in £)



SOURCE: Water Company Annual Finance Reports (April 21 – March 22)

- Basic pay
- Total remuneration

BILLION POUND BAILOUTS

Back in September, Yorkshire Water became the most recent water company to be bailed out, receiving a £1 billion cash injection from shareholders. In their annual report directors concluded that “Yorkshire Water would have significant liquidity and covenant headroom on facilities available to manage its business risks over a period of at least 12 months from the date of approval of the Financial Statements”.³¹

Looking into 2022 financial statements, Yorkshire Water was the only company not to report a cash flow statement for the year (after applying for an exception). What were the motives behind this? Considering less than 6 months after making this statement, they received a massive bailout to ‘inject money into a business or organisation that would otherwise face imminent collapse’. That’s not the message they were giving us back in March.

AND WHILST WATER COMPANY BOSSES AND SHAREHOLDERS CONTINUE TO LINE THEIR POCKETS, THE REST OF THE COUNTRY IS IN THE MIDDLE OF A COST OF LIVING CRISIS.

³¹ Yorkshire Water – Reports, accessed 21 October 2022, <https://www.yorkshirewater.com/about-us/reports/>





DRY SPILLS

WHAT DOES THIS ALL MEAN?

Let's be very clear. It is illegal for water companies to be pumping sewage into rivers and seas from sewage overflows when there has been no rain.

Our analysis suggests that there have been almost 150 'dry spills' affecting popular swim spots in England and Wales.

41 of these 'dry spills' occurred during the 2022 bathing season. A summer that was declared the hottest summer on record, when hundreds of thousands of people flocked to our rivers and beaches to stay cool. And who knows how many 'dry spills' are happening across the rest of the country that we're unable to investigate due to a lack of data. Why is this happening?

WE WOULD LOVE TO HEAR FROM WATER COMPANIES WHY THEIR SEWAGE OVERFLOWS ARE SPEWING OUT SEWAGE INTO WATERWAYS DURING DRY WEATHER.

FISHY FINANCES

Under the Water Industry Act, water companies have statutory obligations to operate, maintain and improve sewage systems capable of effectually dealing with the sewage we produce in the UK.³² But as privately-owned companies under the thumbs of shareholders, they are simply profiteering off pollution. In 1989, water companies were handed debt-free companies with the government taking on £5 billion in debts and paying out £1.5 billion of public money to invest in and improve infrastructure.³³

Since then, the industry has amassed debts of almost £50 billion and paid out an eye-watering £59 billion in shareholder dividends.³⁴ The 40% increase in bills since privatisation has mainly been driven by the interest payments on the debt that's been built up.³⁵

This year three water companies have even been forced into 'bailout' deals as a result of weak financial resilience. Yorkshire Water's recent billion-pound bailout follows a similar rescue by shareholders for Thames Water and Northumbrian Water. They follow Southern Water, which was saved from administration last summer. Ofwat, who have been overseeing these privatised companies for the last 33 years, seem content to watch the companies amass crippling debt while shareholder dividends are siphoned out overseas. The new CEO of Ofwat has said they will block shareholder dividends for water companies in financial difficulty. Yet Yorkshire Water still paid out nearly £53 million in dividends last year.³⁶

Water companies are deliberately choosing not to invest in their infrastructure and knowingly pumping out sewage into waterways to avoid the costs of treating sewage. In 2020, Southern Water was slammed with a £90 million fine for illegally dumping sewage and deliberately misleading regulators. Just last year, the Environment Agency and Ofwat launched its biggest ever investigation into six water companies for illegal sewage discharges at over 2,000 treatment plants.

And all the while Fat Cat CEOs are creaming ever bigger salaries off the top, seemingly being rewarded for poor financial management, ever-deteriorating environmental performance, and filling our waterways with sewage pollution. No wonder the former Chair of the Environment Agency called for prison sentences for water company CEOs. Their behaviour is criminal.

A COMPLICIT GOVERNMENT

The government is not only turning a blind eye but is complicit in the sewage scandal. They have gutted regulator funding, reducing it from £120 million to £50 million over the last decade. This has made holding water companies to account an almost impossible task. Instead, the government have 'stripped red tape', allowing water companies to self-report on their pollution. Despite desperate calls from environmental experts and campaigners to rethink, the government launched their Storm Overflow Discharge Reduction Plan in August full of worryingly weak targets. The plan reversed previous legislation which has essentially given free rein to water companies to keep dumping sewage into our waterways for the next 28 years. When faced with a crisis of ocean health, the government has done little more than kick the can down the road and continue to placate the offending water companies. And now the government is under investigation by the newly formed environmental watchdog, the Office of Environmental Protection concerning whether they have seriously breached environmental law in not adequately enforcing regulation of combined sewer overflows.

The former Prime Minister, Liz Truss simply twisted the knife in the wound. During her short reign of power from September – October 2022 she launched an attack on nature, unleashing a torrent of deregulation of environmental protections in favour of short-term economic gain and pushing through a bill to scrap 570 key environment laws derived from EU directives. If these laws (that govern sewage, water quality as well as habitat protection) aren't re-written by December 2023 – they will now disappear. In his acceptance speech, Rishi Sunak pledged to 'deliver on protecting the environment'. Failure to do so will mean National Parks, protected areas and the rivers and waterways of the UK will continue to suffer.

WATER COMPANIES SEEM TO BE TURNING ON THE SEWAGE POLLUTION TAP TO WASH AWAY THEIR WORRIES AND MAXIMISE PROFIT WITH RECKLESS ABANDON, WHILE THE GOVERNMENT SITS BACK TO WATCH.

32 Participation, E. Water Industry Act 1991, accessed 28 October 2022, <https://www.legislation.gov.uk/ukpga/1991/56/section/94>

33 (2017) Privatised water costs consumers £2.3bn more a year Financial Times

34 Hall, D. Water and sewerage company finances 2021: dividends and investment – and company attempts to hide dividends, p.17

35 Hall (2020) Privatised water: a system in need of repair?, accessed 24 October 2021, <https://www.gre.ac.uk/news/articles/public-relations/2018/privatised-water-failure>

36 Debt warning and fines turn tide against water companies | Business | The Times, accessed 20 October 2022, <https://www.thetimes.co.uk/article/penalties-and-warning-over-debts-turn-tide-against-water-companies-6rjfbxf5>





CONCLUSION

THE SEWAGE SCANDAL IS PLAIN TO SEE

Water companies keep dirty secrets behind opaque data. CEOs stuff their pockets with cash, rewarded for abysmal environmental performance and poor financial management. Shareholders suck money out of our essential water and sewerage services, shipping profits offshore. Government ‘cuts red tape’ allowing the water industry to govern itself whilst the regulators are left crippled to stand by and watch. All the while the disgraceful trend of dumping sewage into our waterways up and down the country persists destroying the environment and making us sick.

ENOUGH IS ENOUGH

This year tens of thousands of people are rising up across the country to demand an end to sewage pollution. From national charities to local communities, from river swimmers to ocean paddlers, we’ve been taking to the streets to expose the truth behind a rotten industry and demand an end to sewage pollution now. We need an overhaul of the government’s action plan with faster and wider targets, environmental regulators enabled to hold polluters to account, a financial regulator that enacts on its powers to cut CEO bonuses and dividend pay-outs, and water companies to invest in meeting statutory duties to protect the environment. The future of the ocean and rivers depend on it.

**WE’RE SICK OF SEWAGE
IT’S TIME TO
#ENDSEWAGEPOLLUTION
NOW!**





WE'RE CALLING FOR...



AN ENHANCED WATER-QUALITY TESTING REGIME

We need an enhanced, world leading testing regime which

gives a true picture of the UK's water quality, tests for emerging threats to humans such as antibiotic resistant bacteria, viruses, microplastics, and the effects pollution is having on the environment.

We need to increase the number of inland bathing and recreation sites designated as bathing waters. We want 200 designated inland bathing waters by 2030.

We need accurate real-time water quality information available all-year round for all UK inland and coastal bathing areas as well as popular water usage areas.



WORLD-LEADING WATER QUALITY LEGISLATION

We need sewage legislation that sets ambitious and legally binding

targets to end untreated sewage discharge in all bathing waters by 2030 and to reduce all untreated sewage discharges by 90% by 2030.

We need well-funded environmental regulators to uphold world leading water quality standards and hold polluters to account.



NATURE-BASED SOLUTIONS TO SEWAGE POLLUTION

We need increased investment and associated targets for the

restoration of natural habitats to reduce pressure on the water systems and help prevent sewage overflows.



INVESTMENT FROM WATER COMPANIES AND OTHER SYSTEMIC POLLUTERS

We need water companies to invest urgently in their sewage infrastructure and end the use of sewage overflows.

We need the agricultural industry to amend practices to improve water quality, and for government to provide effective support to encourage this.

We need Water Companies to put the environment and public health ahead of private profit.

CALL ON YOUR MP TO PIPE UP FOR OUR RIVERS AND SEAS

Take action and write to your MP about an issue raised in this report or one of our campaign calls above. You could also ask them to read our report, or the MP Briefing.

When you write, we recommend asking them to tackle a specific issue and lead with a clear ask.

You could:



Ask your MP to invite the environment minister or Prime Minister to support one of the calls in this report.



Ask your MP to write to or meet your water company to demand they take stronger action on the issue, and put the environment before dividends.



Invite your MP to visit your local swim spot. Tell them about the issues you face and your fears about water quality.





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COMPANY REGISTERED NUMBER: 02920815 | CHARITY REGISTERED NUMBER: 1145877