

IN-PERSON EVENTS | Involving. Informing. Inspiring

CIWEM Urban Drainage Group Annual Conference 2022

8 – 10 November 2022

Hilton Birmingham Metropole

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‘Would you like some Chlorine with that Madam?’

**Jo Bradley, UK Director of Operations
Stormwater Shepherds UK**





**We are a Charity
dedicated to the
reduction of pollution
from urban surfaces,
including microplastics
and plastic litter**



Zero Pollution Ambassadors

Act | Educate | Advise

How far should we go in our bid to make rivers safe to swim in?

- Rivers are the habitat of all the wonderful insects, micro-organisms, fish and amphibians that make them their home.
- For many of these creatures, good oxygen levels and an absence of toxins are really important for them to thrive.
- For them, a small organic pollution, such as a septic tank discharge, only affects a small area and they can happily live 'around' it. (Even though there is no excuse for pollution!)
- Ditto an intermittent organic pollution that only occurs when it rains hard
- Is the push for CSOs near swimming spots to be fixed skewing our focus?

If you want it to be 'sterile' before you'll swim in it, then the water must be disinfected and we are **NOT** chlorinating our rivers so that people can swim in them!

**Should we be
spending all the
money on making
rivers fit to swim in,
or focussing on
making rivers healthy
habitats for wildlife?
They are not
necessarily the same
thing.**

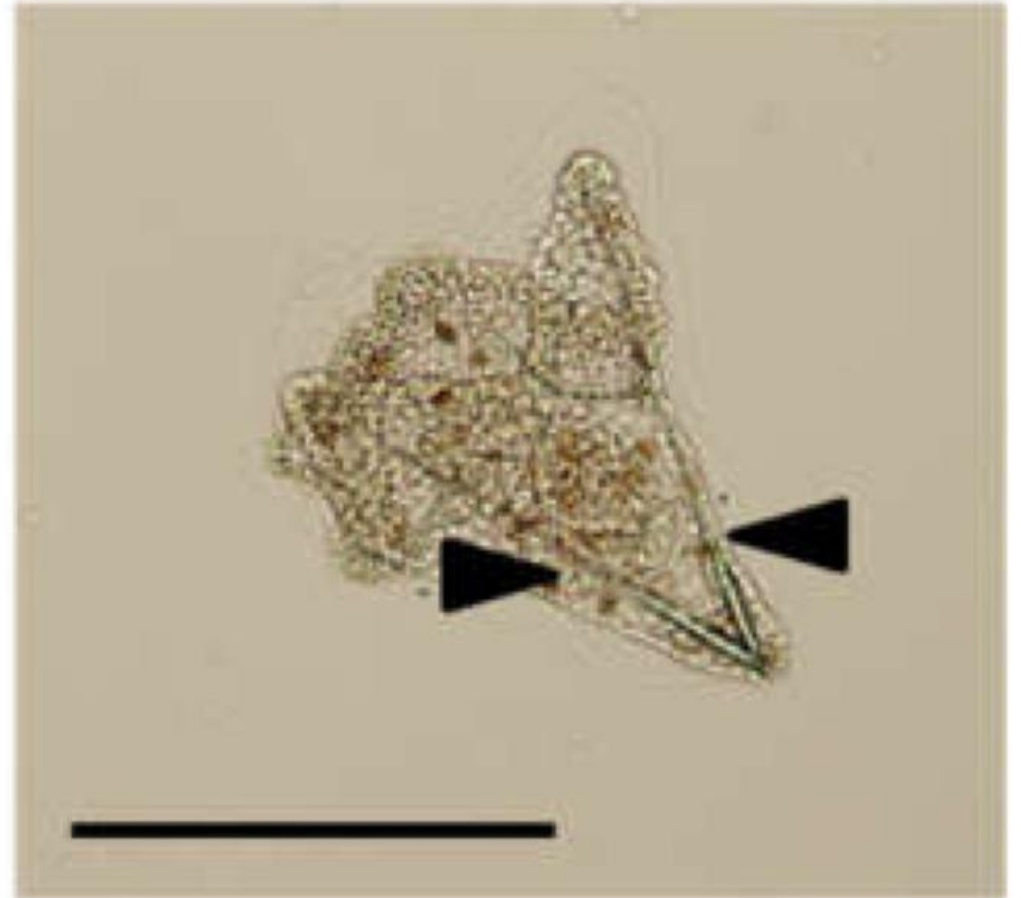


Toxic pollution or harmful pathogens?

- Toxic pollutants kill aquatic creatures. Sometimes they deform them or stunt their growth. Some of them affect the ability to reproduce
- They build up in the river sediment so that their effects carry on for years.
- Some of them are 'activated' by sunlight so they exist in the tissues of the creature and they only cause harm when the creature is exposed to sunshine.
- Some of them become more toxic as they biodegrade.
- They affect every type of creature, right down to the microscopic organisms in the sediment and then all the way up the food chain.

**Toxicities of Polycyclic Aromatic
Hydrocarbons for
Aquatic Animals; Honda & Suzuki
2020 Institute of Nature and
Environmental Technology, Japan**

(b) 4-OHBaA



There are many sources of pollution and they all deserve our attention (and money)

- Agricultural runoff & discharges
- Treated sewage effluent
- Diffuse urban pollution & road runoff
- Private sewage treatment plants & septic tanks
- Storm overflows
- Minewaters & tip leachate
- Industrial discharges & trade effluents
- Contaminated surface waters



**But, for a minute, let's
resign ourselves to the
fact that the lion's
share of the money &
the attention is
focussed on storm
overflows for now.**



Which storm overflows should be prioritised for remediation?

- The ones that discharge into swimming rivers?
- The ones that discharge into protected habitats or near the habitats of protected species?
- The ones that discharge near people's homes?
- The ones that contain a large proportion of trade effluent and urban runoff?
- The ones that are causing the most harm to the river quality?
- Dry weather or low flow discharges?
- The water companies can't do them all at once, so there needs to be an order of priority.

**Beyond the effects of
river-swimming-activists
on the water company
investment planning,
what other effects do
river-swimmers have on
the aquatic
environment?**



This probably
doesn't
disturb the
wildlife too
much.

Photo: [Yorkshirepost.co.uk](https://www.yorkshirepost.co.uk)



But what about this?



Photo: Community-life.co.uk

And this
certainly did.
Birds were seen
to abandon
their nests.
How can that
be OK?

Photo: Sophia Evans/The Guardian



And what pollutants do we introduce into the water?

- Flea treatments
- Sunscreen
- Insect repellent
- Litter
- Faecal Indicator Organisms

Pet flea treatments poisoning rivers across England, scientists find

Discovery is 'extremely concerning' for water insects, and fish and birds that depend on them



📷 Research found chemical fipronil in 99% samples from 20 rivers in England. Photograph: Danny Lawson/PA

If we agree to focus on CSOs affecting river swimmers, how can the pollution be reduced?

- Reduce the frequency and volume of spills
- Ultraviolet disinfection – storm sewage too dirty and energy costs & carbon impact too high
- Chlorination – too difficult for variable, uncontrolled, infrequent discharges and can lead to creation of disinfection byproducts



Image from xylem.com

There are other sources of harmful pathogens

- Agricultural runoff
 - Road runoff
 - Septic tanks and private discharges
 - Wildlife
-
- We can't disinfect them all



Proportionate messaging & listening

- So how do we manage society's expectations for overflow spill reductions?
 - Make it clear that river-swimming is not the only outcome for investment in pollution control.
 - Listen to other groups who use and enjoy rivers – paddlers, anglers, walkers etc.
 - Remember to include groups who represent the needs of nature in all its guises, from micro-organisms and fungi to fish & mammals.
 - 'Package' any messages about river-swimming and pollution with reminders about the Countryside Code and respect for wildlife.
 - Keep CSOs in perspective

Everyone and every
creature has needs;
we must hear them
all, not just those who
shout the loudest.

Hear the quiet ones
too.



In conclusion

- If you want to swim in safe, clean water, go to a swimming pool.
- If you want to swim in rivers & lakes, there will always be a risk from multiple pollutants so take the time to understand and to assess the level of risk and decide what level of risk you are willing to take.
- The remediation of CSOs to reduce the volume and frequency of spills remains a significant component of the reduction of water pollution in the UK.
- But it must take its rightful place alongside the management of other sources of pollution that also need to be controlled and managed.
- The investment in improvements should reflect the needs of the river and the surrounding environment.

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Q&A Session

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