



# Did you know...

...that some of the chemicals we use in our homes and gardens can be found in the River Chess?



# CHEMICALS OF CONCERN

Contaminants of emerging concern are chemicals recently discovered in the environment for which concerns about harmful effects exist. In many cases, sewage treatment works are not designed to remove these chemicals and the chemical effects are under-researched or lack regulation.

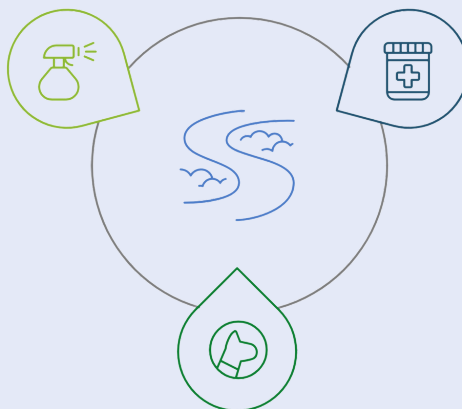
During 2023, volunteers collected water samples from eight sites across the River Chess and sent them to Imperial College London for analysis.

## Which chemicals pose a potential risk to the wildlife in the River Chess?

### Bug Spray

A neonicotinoid chemical called acetamiprid, used in some bug sprays, was detectable in the River Chess at levels thought to pose a moderate risk to wildlife in the river.

Neonicotinoids are a group of chemicals designed to kill insects and are associated with declines in bee populations. We don't currently know how this pesticide is reaching the river.



### Medication

Some medicines are not effectively removed from household wastewater by sewage treatment works.

Antibiotics, antidepressants and anti-inflammatories alongside other medication were all found in the River Chess at low levels.

The highest concentrations were found downstream of Chesham sewage treatment works.

### Flea Treatment

Fipronil, a chemical used in some flea and tick treatments for cats and dogs, was detected in the River Chess.

Current research suggests that this chemical reaches rivers via wastewater from our homes through owner handwashing, people washing their pets and their pet's bedding and clothes.



# IMPACT ON THE RIVER CHESS

What do medications, flea treatments, and bug sprays contain?

They contain various chemicals designed to target and eliminate pests or alleviate health issues.

Why is it bad that these chemicals are in the river?

There is evidence to suggest they can be harmful to invertebrates and amphibians.



How does this affect the health of the river?

The River Chess is a chalk stream – a biodiverse and globally unique system. The chemicals may be lowering biodiversity and reducing the number of different insects and animals that can thrive in the river. Insects are an important food for fish such as brown trout and grayling which are iconic species of chalk streams.



Why is it important to be aware of these chemicals?

So that you can make informed choices about the use and/or disposal of these chemicals to prevent them entering the river.



# WHAT CAN YOU DO TO HELP?



## Don't flush unused medication

Proper disposal of prescription drugs is crucial. Contact your GP for advice.



## Consider non-topical flea treatment

Discuss alternatives with your vet.



## Limit use of bug sprays

Consider alternatives to garden sprays that contain acetamiprid.

LEARN

MORE

**SCAN ME!**



**Read about river health and contaminants of emerging concern in the River Chess in our Citizen Science report.**

For more information about how animal flea treatments end up in rivers and why this is important, visit:

**[chesssmarterwatercatchment.org/imperialreport](https://chesssmarterwatercatchment.org/imperialreport)**