



## Eden Catchment – Water Quality Update

Spring 2025

SES Water closely monitors water quality in the River Eden and Bough Beech reservoir to ensure we can continue to treat our drinking water to the highest standard. Contamination can come from many different sources including the wastewater sector, industry, amenity and agriculture. Given the rural nature of the Eden catchment, pesticides (particularly those applied during autumn/winter) pose one of our biggest challenges to the production of wholesome drinking water.

SES Water is launching a five-year Water Industry National Environment Programme scheme, agreed with the Environment Agency, to address the water quality challenge posed by pesticides, specifically the herbicide flufenacet (e.g. Liberator). We are continuing to shape our support for farmers with the aim of working together to not only protect our raw drinking water supply at source, but also bring benefits to the farmers themselves as well as the wider environment – look out for our catchment fund brochure, coming soon.

This document highlights some of the pesticide data we have been collecting in the catchment. Generally, pesticides in the river have not posed too much of a challenge over the past few months, although significant concentrations of flufenacet, and particularly propyzamide, have been detected.

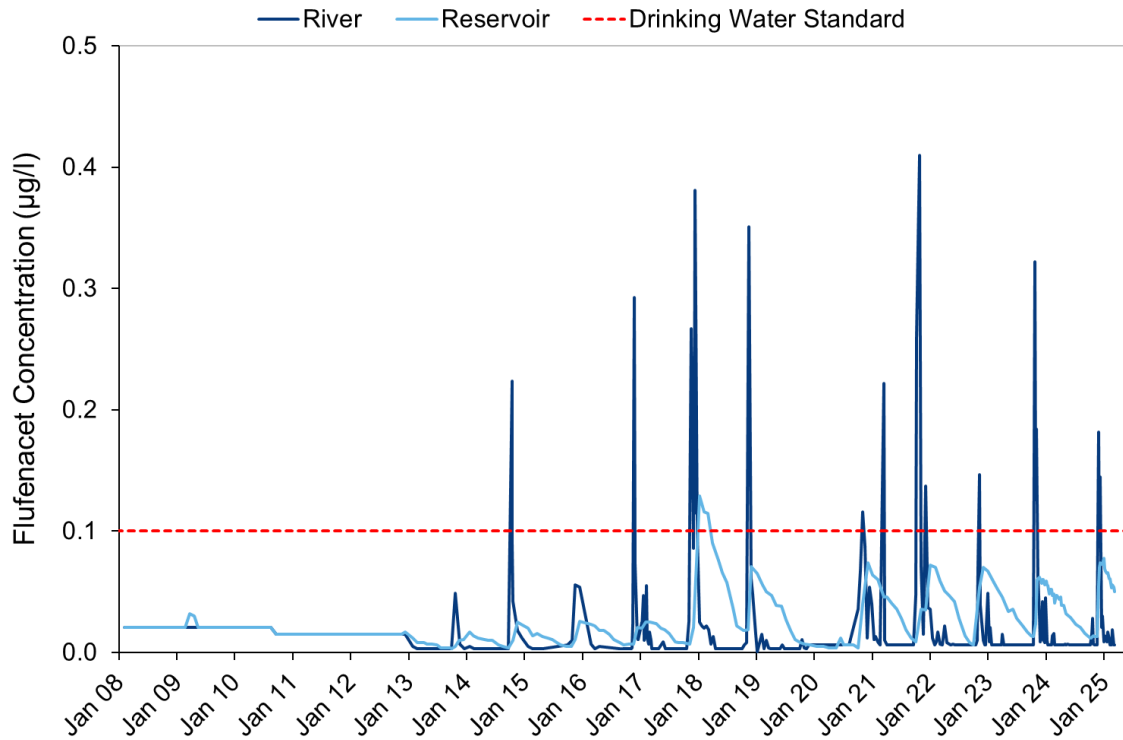
***Flufenacet*** (used for the control of grasses and broad-leaved weeds in various crops including winter wheat and winter barley, trade names include: Liberator, Shooter, Firebird)

- Recognised as an emerging risk in the Eden catchment since 2014, peak concentrations are often detected in October/November which coincides with when we usually start abstracting.
- This season, peak concentrations in the river were detected at the end of November, a little later than normal. This may be due to delayed drilling and/or applications following an exceptionally wet September (over 250% of the long-term average rainfall at Bough Beech).
- This is reflected across the catchment, with the maximum concentrations detected at most sample points as late as December.
- By December abstraction was underway, therefore some flufenacet was pumped into the reservoir. Reservoir concentrations have however remained below the drinking water standard throughout the winter of 2024-25, with treatment processes at Bough Beech reducing concentrations even further.

March 2025

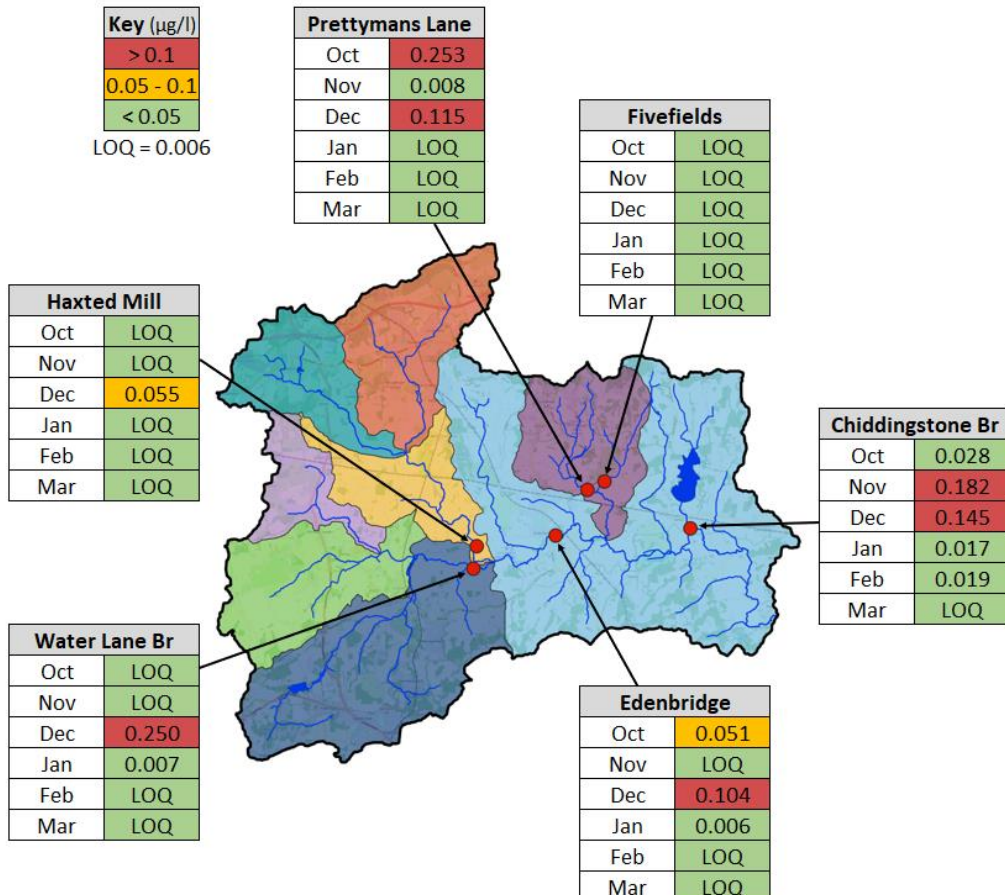
[catchment@seswater.co.uk](mailto:catchment@seswater.co.uk)

## Long-term flufenacet trend in the River Eden at Chiddingstone Bridge and Bough Beech Reservoir



### Maximum catchment flufenacet concentrations: 2024-25

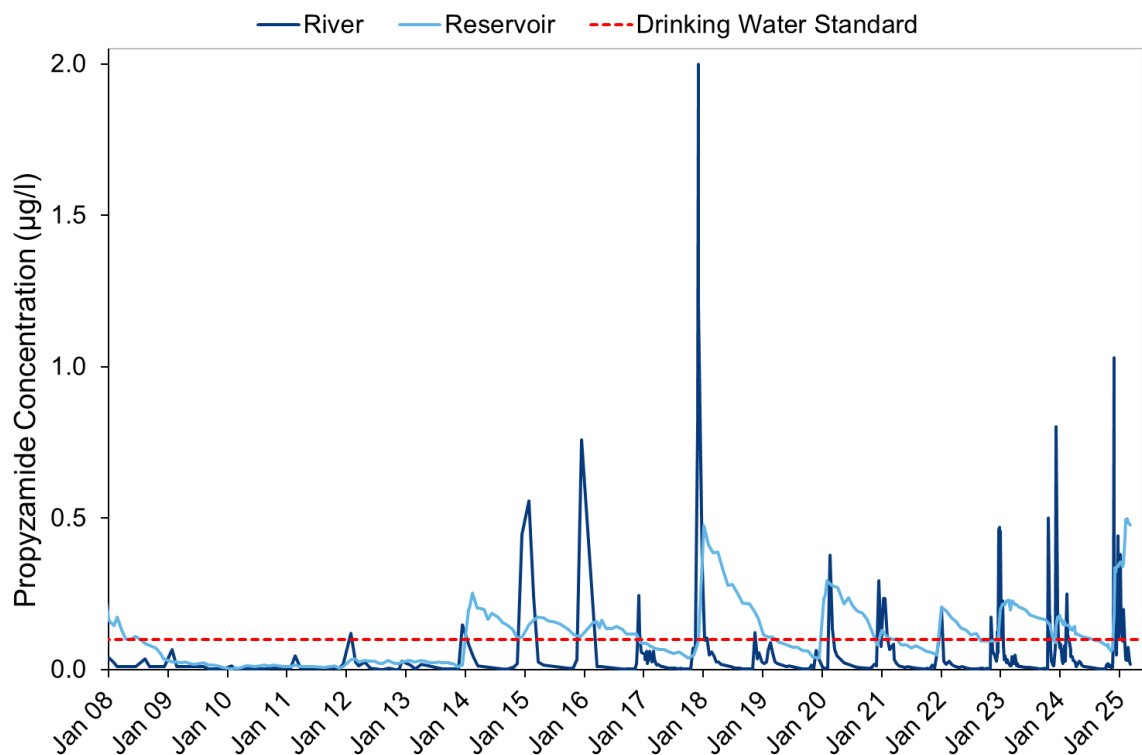
Each active has its own limit of quantification (LOQ), where concentrations are below the limit our laboratory can reliably measure.



**Propyzamide** (an important herbicide for the control of grasses in oilseed rape and beans, trade names include: Kerb flo 500, Astrokerb)

- Propyzamide is a key focus for SES Water, and we appreciate that it is a very valuable active in local farmers' arsenals. It is important that it is used responsibly to protect this product and help ensure it remains available for use.
- Elevated concentrations are detected in the winter months when the product is applied to cold, moist soil, and before the cut-off date for application of 31 January. This season, river concentrations peaked at over 10 times the drinking water standard at the end of November and remained elevated throughout December and into January.
- Similarly to flufenacet, we had started abstracting by this point in the season which has resulted in significant concentrations in the reservoir.
- However, through speaking with local farmers we had anticipated that this season would pose a greater than usual propyzamide challenge, therefore our operational teams made the most of the wet September by abstracting as much water as we could earlier in the season in order to dilute the propyzamide we were predicting to see in the latter months of the year. Communications with farmers like this is invaluable in allowing us to predict and manage water quality challenges throughout the year.

#### Long-term propyzamide trend in the River Eden at Chiddingstone Bridge



### Other pesticides:

We monitor for over 35 individual pesticides at the abstraction point in the River Eden, most of which are herbicides, along with some fungicides. Below is a graph of the eight pesticides we've detected at the highest concentrations (after propyzamide and flufenacet) over the current abstraction period (since the start of September 2024).

As you can see, this season has generally been 'good' in terms of pesticide detections (or lack of) in the River Eden. Concentrations of all pesticides have remained below 50% of the drinking water standard throughout, with the exception of a quinmerac spike at the end of November – this coincides with peaks in propyzamide and flufenacet concentrations. Peaks in concentration at this time were likely a result of run-off following heavy rain in the catchment during the week the samples was taken from the river.

With water in the river generally having low pesticide concentrations throughout the abstraction period so far, concentrations of most pesticides in Bough Beech reservoir remain low. Treatment in place at the water treatment works lowers these concentrations further in the treated water, before being distributed to customers.

**Pesticide concentrations in the River Eden over the past six months (data shown for those detected at the highest concentrations)**

