

Franklaw Safeguard Zone 2019 Pesticide Monitoring

The River Wyre provides drinking water for an estimated 650,000 people. In 2014 it was designated a drinking water safeguard zone and therefore measures are being taken to reduce the amount of pesticides which are entering the river. MCPA and Diazinon in particular have caused the 0.01µg/l standard for drinking water quality to be exceeded on a number of occasions. In 2019, in partnership with United Utilities, the Environment Agency and Catchment sensitive farming, the Wyre Rivers Trust undertook a programme of monitoring along the upper Wyre and its tributaries to understand more about the problem of pesticides in the catchment.

Sampling Regime

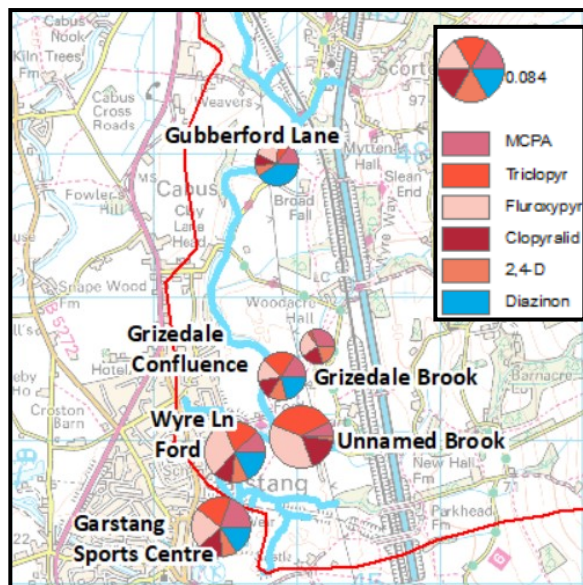
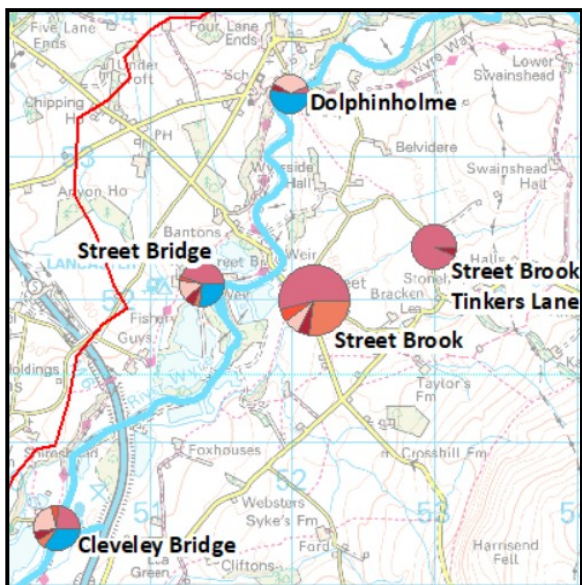
Acid herbicide samples were taken fortnightly at seven sites along the Wyre between Garstang and Dolphinhholme. Additional samples were taken during times of heavy rain and on tributaries upstream of where high concentrations had previously been found.

Uron testing for compounds such as diazinon (found in sheep dip) was undertaken from August until the end of November. Samples were taken twice weekly at seven main sites with additional sampling of some of the tributaries.

How do pesticides end up in the river?

Herbicides may be washed off treated fields, roads and railways over land or through drainage channels and subsurface drains. Spillages can result in pesticides entering watercourses directly or surface water drains from handling areas such as farmyards. Spray drift from applicator booms can also result in pesticides entering directly into watercourses.

Diazinon often enters watercourses from leakages from dip bath or drips from treated sheep or drainage pens. Improper disposal can also result in pollution.



Year	Number of exceedances of the drinking water standard
2014	14
2015	9
2016	14
2017	21
2018	18
2019	9

The results... High concentrations of MCPA were recorded at Street Brook and at an unnamed Brook that feeds into the Wyre at Wyre Lane Ford, with concentrations as high as 0.22µg/l (over twice the permitted concentration for drinking water). Diazinon was widespread and seemed to have a number of sources, particularly upstream of Dolphinhholme.

The number of exceedances recorded by United Utilities was low this year in comparison to previous years,, however there was also the first two exceedances of clopyralid, found in products such as LONTREL® and RECLAIM®.

Why is it important?

Diazinon is highly toxic to aquatic organisms; concentrations as low as 0.003µg/l have been shown to negatively affect invertebrates and can also affect key species such as salmon. Herbicides such as MCPA are moderately toxic to aquatic plants. The process of removing pesticides from drinking water quality is costly and reduces the overall efficiency of the water treatment works.

Monitoring will continue this year and we will be looking to engage with landowners to reduce the amount of pesticide pollution.



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