

## Bacteriological survey of the River Lim in Lyme Regis, February 2023

### Data collection

Water samples were collected on both 14<sup>th</sup> and 22<sup>nd</sup> February at five sites on the River Lim between Woodmead Road Bridge and the routine EA sampling point 'Lim at Beach' (see map in Figure 1). A sample was also collected from the surface water outfall immediately downstream of Woodmead Road Bridge on 14<sup>th</sup> February. At the time of sampling this outfall was discharging grey water with a high ammonia content (>10 mg/l) indicating it was contaminated with domestic sewage. All samples were analysed at the Blandford laboratory using a Fluidion Alert Lab system with *E. coli* reagent.

### Results

*E. coli* concentrations obtained from the Fluidion Alert Lab system are given in Table 1. The data are summarised graphically in Figures 2 and 3.

Absolute and relative *E. coli* concentrations were similar on both sampling occasions. *E. coli* concentrations increased markedly between Woodmead Road Bridge and the Town Mill indicating multiple sources of faecal contamination between these sites. The largest increase in *E. coli* concentrations was between Jordan Flats and Gosling's Bridge. Two problematic surface water outfalls with a history of contamination are known to discharge to the river between these sites.

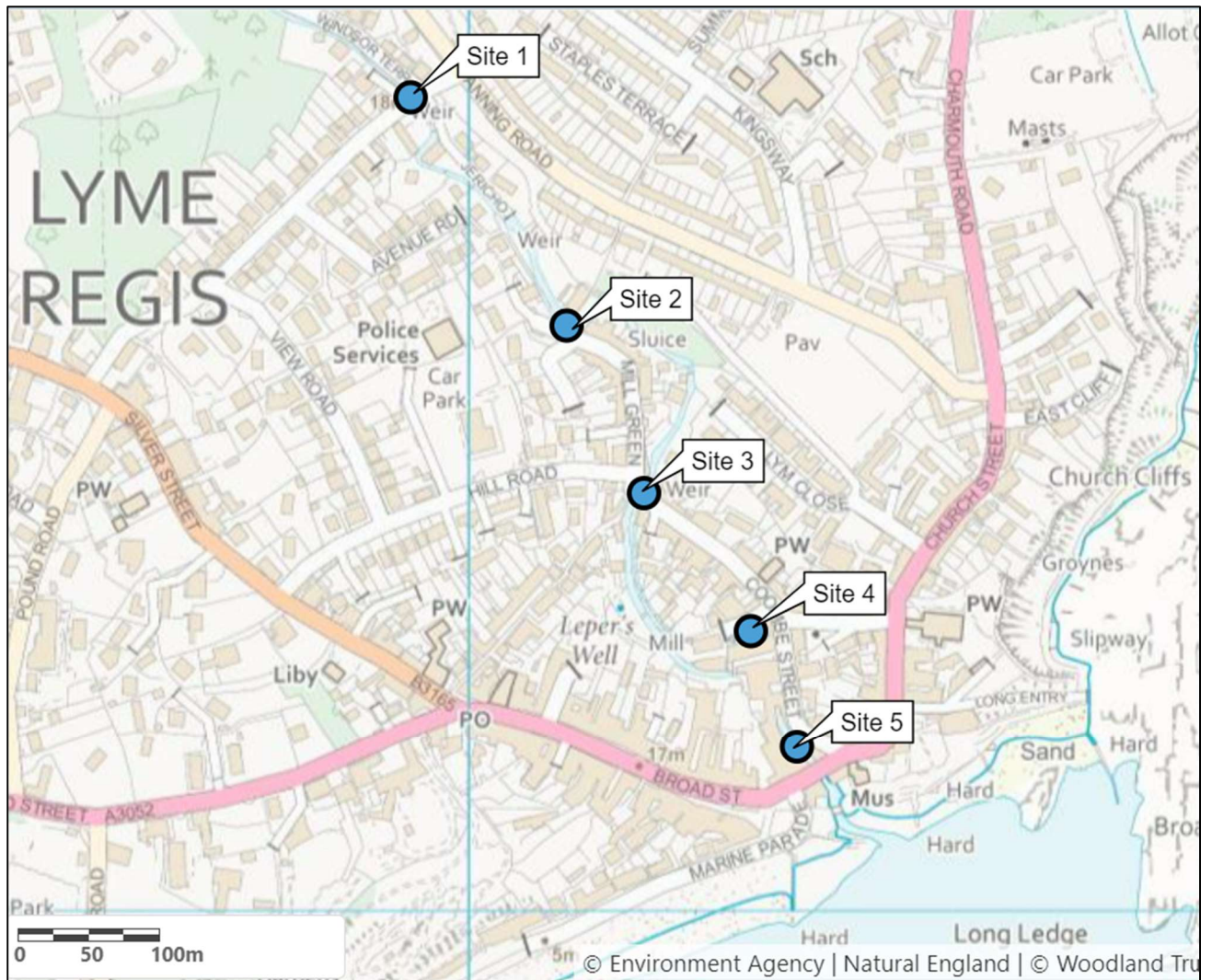
The high *E. coli* result for the surface water outfall at Woodmead Road Bridge confirmed that it was contaminated with faecal bacteria.

**Table 1.** *E. coli* results (number per 100ml) obtained using a Fluidion Alert Lab system

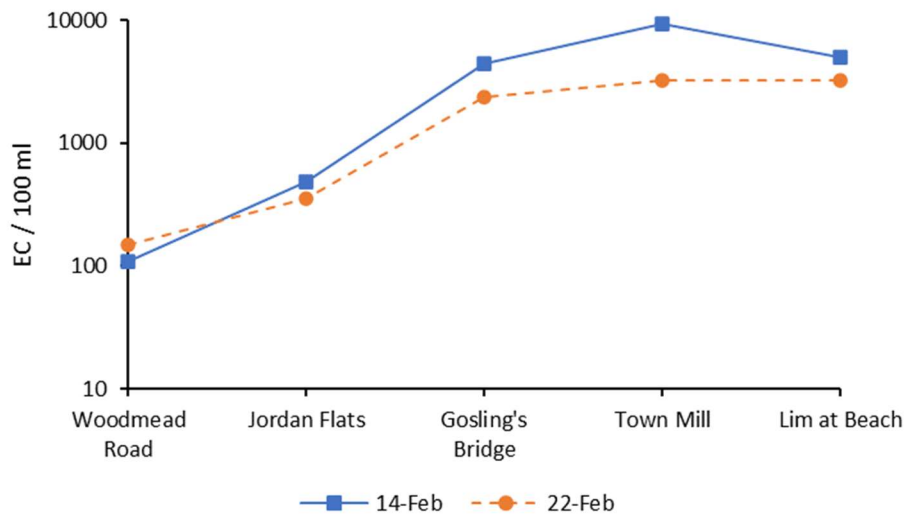
Site	Site Name	14.02.2023	22.02.2023
1	Lim at Woodmead Road	110	149
2	Lim at Jordan Flats	482	356
3	Lim at Gosling's Bridge	4,405	2,343
4	Lim at Town Mill	9,326	3,252
5	Lim at Beach	4,992	3,252
-	Surface water outfall d/s Woodmead Road	27,200	-
-	Blank (deionised water)	-	<4

### Conclusions and recommendations

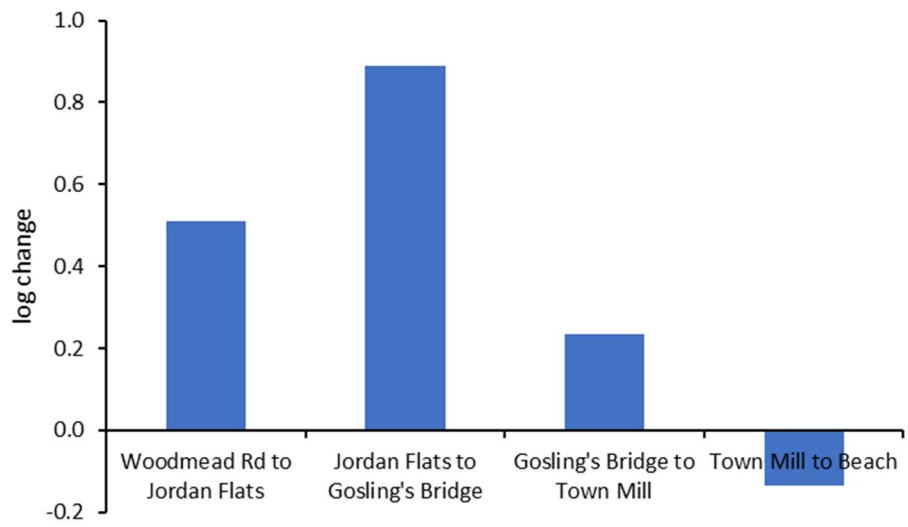
The survey results clearly demonstrate that under baseflow conditions there is an increase in levels of *E. coli* in the River Lim as it flows through Lyme Regis. Given that no storm overflows were discharging to the river at the time, the most likely source of this increase is contaminated surface water drainage. Several contaminated surface water outfalls between Woodmead Road and Gosling's Bridge, including the outfall at Woodmead Road, have been identified and mapped. This report will be shared with South West Water.



**Figure 1.** Map of sampling sites on the River Lim



**Figure 2.** *E. coli* concentrations in the River Lim on 14<sup>th</sup> and 22<sup>nd</sup> February 2023



**Figure 3.** Average log increase in *E. coli* between adjacent sampling points