

**Impacts of temperature and hydraulic regime on
discolouration and biofilm fouling in drinking water
distribution systems**

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Published version

FISH, Katherine E., SHARPE, Rebecca, BIGGS, Catherine A. and BOXALL, Joby B. (2022). Impacts of temperature and hydraulic regime on discolouration and biofilm fouling in drinking water distribution systems. PLOS Water, 1 (8): e0000033.

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Supporting data for “Impacts of temperature and hydraulic regime on discolouration and biofilm fouling in Drinking Water Distribution Systems”, Fish *et al*

S1 Table. Water quality parameters during the Accumulation phases of the Steady State and Varied Flow experiments at 8°C and 16°C. Medians (and ranges) are shown, based on water utility supply data and weekly discrete sampling.

Water Quality Parameter	8°C Experiments		16 °C Experiments		UK Standard ^C
	Steady State	Varied Flow	Steady State	Varied Flow	
Free Chlorine (mg l ⁻¹) ^A	0.45 (0.20-0.70)	0.50 (0.30-0.65)	0.43 (0.25-0.60)	0.50 (0.40-0.85)	None
Total Chlorine (mg l ⁻¹) ^A	0.55 (0.25-0.75)	0.55 (0.40-0.75)	0.50 (0.25-0.70)	0.55 (0.40-0.90)	Max 5.00
Turbidity (FTU) ^A	0.16 (0.07-0.26)	0.07 (0.07-0.16)	0.07 (0.07-0.13)	0.07 (0.07-0.13)	1.00 – 4.00 ^D
Iron (µg l ⁻¹) ^B	16.5 (5.1-67.0)	9.5 (5.2-14.0)	37.5 (25.0-68.0)	10.1 (6.2-23.0)	200.00
Manganese (µg l ⁻¹) ^B	2.6 (2.6-3.5)	2.6 (below detection – 2.6)	2.6 (below detection – 2.6)	2.6 (below detection)	50.00
Phosphorus (mg l ⁻¹) ^B	1.27 (1.21-1.31)	1.27 (1.21-1.28)	1.25 (1.22-1.27)	1.25 (1.18-1.29)	None
pH ^{A,E}	8.2 (7.8-8.6)	8.4 (8.1-8.6)	8.4 (8.1-8.6)	8.4 (7.8-8.6)	6.50 – 9.50

^A n=32-39; ^B n=4-6; ^C U.K. standards based on Drinking Water Inspectorate (DWI) or European Union (EU) legislation, except for chlorine which is based on the World Health Organisation (WHO) standard as DWI and EU do not provide one; ^D Maximum values, water leaving a treatment plant must be ≤ 1 NTU, end point water ≤ 4 NTU. ^E pH values as recorded at the water treatment works, upstream of the experimental facility, although within the UK regulatory standards, at pH values >7.5 the majority of HOCl is in the form of OCl⁻ the less active form with regard to disinfection of hypochlorous, however in the pipe loop facility the pH was 6.5-7.7.