



South East Strategic Reservoir Option
Preliminary Environmental Information Report

Appendix 5.3 - Surface water monitoring data

Date: October 2025

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1 River Ock catchment water quality monitoring

1.1 Surface water

Sonde surface water quality monitoring

- 1.1.1 Surface water quality monitoring across the Ock catchment was conducted at nine sites between October/November 2024 and August 2025. The following physico-chemical parameters were monitored using multi-parameter sondes; temperature, conductivity ($\mu\text{s}/\text{cm}$), turbidity (NTU), dissolved oxygen (as % saturation and in mg/l).
- 1.1.2 The data presented below shows raw data values prior to full data cleaning and analysis. A preliminary Quality Assurance (QA) of the data has been undertaken to remove erroneous conductivity values below $0 \mu\text{s}/\text{cm}$, any negative turbidity values and all dissolved oxygen equal to or below 0 (% and mg/l). A comprehensive QA comprising of cleaning and analysis of the data will be conducted and reported in the Environmental Statement (ES).
- 1.1.3 In the summary tables, mean values highlighted in yellow indicate that the observed result exceeds the determinant's Annual Average Environmental Quality Standard (AA EQS), while maximum values highlighted in yellow indicate that the observed result exceeds the determinant's Maximum Allowable Concentration Environmental Quality Standard (MAC EQS).
- 1.1.4 Maximum temperature readings ranged from 40.22°C (MULTI_ENV_6) to 20.07°C (WQ_CHB_8) and a minimum temperature range from 9.08°C (DITCH_ENV_30) to 1.17°C (MULTI_ENV_5).
- 1.1.5 Maximum conductivity values ranged from $1473 \mu\text{s}/\text{cm}$ (MULTI_ENV_9) to $800 \mu\text{s}/\text{cm}$ (WQ_LETCOMBE_DS) with a minimum value range from $520 \mu\text{s}/\text{cm}$ (DITCH_ENV_30) to 1 (at six sites).
- 1.1.6 Maximum turbidity levels were recorded as ranging from a value of 1915.6 NTU (MULTI_ENV_5) to 1355.7 NTU (MULTI_ENV_9), with a minimum value range from 0.4 NTU (DITCH_ENV_30) to 0 NTU at three sites.
- 1.1.7 Maximum dissolved oxygen percentage values range from 269.8% (MULTI_ENV_9) to 100.7% (WQ_CHB_8). Minimum values ranged from 33% (MULTI_ENV_5) to 0.7% (MULTI_ENV_17). For dissolved oxygen in mg/l , maximum values ranged from $20.56 \text{mg}/\text{l}$ (MULTI_ENV_9) to $9.77 \text{mg}/\text{l}$ (DITCH_ENV_30) with minimum values ranging from $3.63 \text{mg}/\text{l}$ (MULTI_ENV_5) to $0.09 \text{mg}/\text{l}$ (MULTI_ENV_17).
- 1.1.8 A summary of surface water quality monitoring data collected from the Ock catchment is provided in Table 1.1 and monitoring locations are shown on PEI Report Figure 5.3.

Table 1.1 Summary of water quality sonde monitoring data from the River Ock and tributaries

Sites		MULTI_ENV_17	MULTI_ENV_5	MULTI_ENV_6	MULTI_ENV_8	MULTI_ENV_9	WQ_CCB_4	WQ_CHB_8	WQ_LETCOMBE DS	DITCH_ENV_30
Monitoring range		11/10/24 – 26/08/25	11/10/24 – 26/08/25	11/10/24 - 26/08/25	11/10/24 - 26/08/25	11/10/24 - 26/08/25	14/10/24 - 26/08/25	11/10/24 - 26/08/25	14/10/24 - 26/08/25	11/10/24 - 26/08/25
Temperature (°C)	Max	29.31	30.84	40.22	31.49	33.17	36.73	20.07	20.38	23.51
	Min	2.95	1.17	1.85	1.65	2.07	1.67	4.97	6.07	9.08
Conductivity (µs/cm)	Max	1453	899	891	946	1473	1169	1123	800	1279
	Min	1	1	1	1	1	1	94	23	520
Turbidity (NTU)	Max	1429	1915.6	1547.8	1367.5	1355.7	1625.3	1746.2	1422.9	1499.6
	Min	0	0.2	0.1	0.2	0	0	0.1	0.2	0.4
DO (%)	Max	183.4	130.5	107.5	136	269.8	211.7	100.7	106.6	101
	Min	0.7	33	2.8	2.4	13.9	5.7	1.1	3.7	2.2
DO (mg/L)	Max	18.91	14.6	13.1	14.56	23.56	20.04	10.51	11.84	9.77
	Min	0.09	3.63	0.35	0.31	1.49	0.55	0.14	0.42	0.24

Spot surface water quality monitoring

- 1.1.9 Surface water spot quality monitoring across the Ock catchment was conducted at 12 sites between June 2024 and April 2025. Two of these sites (Multi_Env_26 and Ditch_Env_31) are situated on the River Thames and are therefore included in Section 2. Four of the sites, including Ditch_Env_31 had a full suite (118 determinands set out in the Water Framework Directive (WFD) Directions) of monitoring undertaken, with the remaining eight sites monitored under a partial suite. The partial suite consists of WFD general physico-chemical parameters along with additional parameters that fail WFD compliance in the Ock operational catchment.
- 1.1.10 The summary results for the 10 monitoring sites in the Ock operational catchment are presented below. Each table consists of summary statistics including mean, minimum and maximum values. The results are split into each WFD waterbody in the catchment, and include Cow Common Brook and Portobello Ditch waterbody, Ock and tributaries (Land Brook confluence to Thames) waterbody, Childrey Brook and Norbrook at Common Barn waterbody and the Letcombe Brook waterbody.
- 1.1.11 The data presented below shows raw data values prior to full data cleaning and analysis. An preliminary QA of the data has been undertaken to remove erroneous conductivity values below 0 µs/cm, any negative turbidity values and all dissolved oxygen equal to or below 0 (% and mg/l). A comprehensive QA comprising of cleaning and analysis of the data will be conducted and reported in the ES.
- 1.1.12 Highlighted results show an exceedance of the respective Maximum Allowable Concentration Environmental Quality Standard (MAC EQS) and Annual Average Environmental Quality Standard (AA EQS).
- 1.1.13 For the Cow Common Brook and Portobello Ditch waterbody (Table 1.2) WFD exceedances in both mean and max values for determinands including Benzo(a)pyrene above MAC EQS at 0.0473 µg/L and mercury above MAC EQS at 2.9 µg/L. In addition, PFOS AA EQS was exceeded at one site, at 0.0182 µg/L, whilst Cypermethrin exceeded both AA EQS and MAC EQS across four sites, with a maximum value of 0.00165.
- 1.1.14 Similarly, for the Ock and tributaries (Land Brook confluence to Thames) WFD waterbody (Table 1.3), there were exceedances in the AA EQS for Cypermethrin (0.000089 µg/L) and Benzo(a)pyrene (0.00857 µg/L).
- 1.1.15 Only partial suites were undertaken on the Childrey Brook and Norbrook at Common Barn waterbody (Table 1.4) and the Letcombe Brook waterbody (Table 1.5). Exceedance of the AA EQS were recorded for PFOS (0.000778 µg/L) and Cypermethrin (0.0000809 µg/L) at CHB 8 in the Childrey Brook and Norbrook at Common Barn waterbody. Similarly, in the Letcombe Brook the AA EQS for Cypermethrin was also exceeded at 0.000106 µg/L.

Table 1.2 Cow Common Brook and Portobello Ditch WFD waterbody water quality spot sampling results

Sites			Multi-Env 5 (partial suite)			Multi-Env 6 (partial suite)			Multi-Env 8 (partial suite)			Multi-Env 9 (partial suite)			CCB 4 (full suite)			Multi-Env 17 (full suite)		
Monitoring range			04/06/2024 – 15/04/2025			04/06/2024 – 15/04/2025			04/06/2024 – 14/04/2025			04/06/2024 – 15/04/2025			05/06/2024 – 15/04/2025			05/06/2024 – 15/04/2025		
WFD classification item	WFD Determinand	units	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem) (Ammoniacal as N)	mg/L N	0.06	0.02	0.16	0.05	0.02	0.10	0.12	0.02	0.70	0.07	0.02	0.33	0.05	0.02	0.15	0.06	0.02	0.30
	Dissolved oxygen		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phosphate (SRP used)	mg/L P	0.93	0.39	2.40	0.72	0.28	2.00	0.56	0.26	1.60	0.21	0.02	0.89	0.39	0.01	1.20	0.24	0.04	1.90
	Temperature		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	pH		7.97	7.70	8.30	7.96	7.70	8.30	7.91	7.60	8.10	7.85	7.60	8.10	7.90	7.80	8.10	7.77	7.50	8.00
Priority hazardous substances	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.00	0.04	0.01	0.00	0.05
	Dioxins and dioxin-like compounds		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor and cis-Heptachlor epoxide	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻²	1x10 ⁻³	1x10 ⁻²
	Hexabromocyclododecane (HBCDD)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.4x10 ⁻⁴
	Hexachlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.02	0.02	0.20	0.02	2.00
	Hexachlorobutadiene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.02	0.02	0.20	0.02	2.00
	Mercury and Its Compounds (dissolved)	µg/L	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.53	0.00	2.90	0.45	0.00	2.10
	Perfluorooctane sulphonate (PFOS) (low level in partial suites)	µg/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
	Polybrominated diphenyl ethers (PBDE)	µg/L	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³
Priority substances	Cypermethrin (Priority)	µg/L	2.95x10 ⁻⁴	8.00x10 ⁻⁵	1.65x10 ⁻³	9.64x10 ⁻⁵	8.00x10 ⁻⁵	2.30x10 ⁻⁴	1.71x10 ⁻⁴	8.00x10 ⁻⁵	5.90x10 ⁻⁴	8.00x10 ⁻⁵	8.00x10 ⁻⁵	8.00x10 ⁻⁵	1.40x10 ⁻⁴	8.00x10 ⁻⁵	5.20x10 ⁻⁴	8.00x10 ⁻⁵	8.00x10 ⁻⁵	1.10x10 ⁻⁴
	Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.01	0.01	0.00	0.03

Table 1.3 Ock and tributaries (Land Brook confluence to Thames) WFD waterbody water quality spot sampling results

Sites			WQ-OCK 1		
Monitoring range			05/06/2024 – 16/04/2025		
WFD classification item	WFD Determinand	Units	Mean	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem) (Ammoniacal as N)	mg/L N	0.05	0.02	0.15
	Dissolved oxygen	-	-	-	-
	Phosphate	mg/L P	0.17	0.01	0.34
	Temperature	-	-	-	-
	pH		8.05	7.90	8.30
Specific pollutants	Copper (dissolved)	µg/L	0.14 (average bioavailable concentration)		
	Iron (dissolved)	µg/L	27.22	5.50	67.00
	Triclosan	µg/L	0.01	0.01	0.01
	Zinc (dissolved)	µg/L	1.75 (average bioavailable concentration)		
Priority hazardous substances	Benzo(a)pyrene	µg/L	0.01	0.00	0.02
	Cadmium and Its Compounds (dissolved)	µg/L	0.02	0.02	0.03
	Dioxins and dioxin-like compounds	-	-	-	-
	Heptachlor and cis-Heptachlor epoxide	µg/L	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Hexabromocyclododecane (HBCDD)	µg/L	3.86x10 ⁻⁴	1.40x10 ⁻⁴	2.38x10 ⁻³
	Hexachlorobenzene	µg/L	0.02	0.02	0.02
	Hexachlorobutadiene	µg/L	0.02	0.02	0.02
	Mercury and Its Compounds (dissolved)	µg/L	0.40	0.00	2.00

Sites			WQ-OCK 1		
	Perfluorooctane sulphonate (PFOS)	µg/L	1.15×10^{-3}	7.10×10^{-4}	1.59×10^{-3}
		µg/L	1.63×10^{-3}	1.20×10^{-3}	2.40×10^{-3}
	Polybrominated diphenyl ethers (PBDE)	µg/L	3.50×10^{-3}	3.50×10^{-3}	3.50×10^{-3}
Priority substances	Cypermethrin (Priority)	µg/L	8.91×10^{-5}	8.00×10^{-5}	1.80×10^{-4}
	Fluoranthene	µg/L	0.01	0.00	0.01
	Lead and Its Compounds (dissolved)	µg/L	0.10	0.09	0.18
	Nickel and Its Compounds (dissolved)	µg/L	0.74 (average bioavailable concentration)		

Table 1.4 Childrey Brook and Norbrook at Common Barn WFD waterbody water quality spot sampling results

Sites			CHB 8		
Monitoring range					
WFD classification item	WFD Determinand	Units	Average	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem) (Ammoniacal as N)	mg/L N	0.06	0.02	0.12
	Phosphate	mg/L P	0.20	0.11	0.41
	pH		8.01	7.90	8.10
	Mercury and Its Compounds (dissolved)	µg/L	0.05	0.00	0.59
	Perfluorooctane sulphonate (PFOS) (perfluoro-1-octanesulfonic acid (PFOS), low level	µg/L	7.78x10 ⁻⁴	4.80x10 ⁻⁴	1.27x10 ⁻³
	Polybrominated diphenyl ethers (PBDE)	µg/L	3.50x10 ⁻³	3.50x10 ⁻³	3.50x10 ⁻³
Priority substances	Cypermethrin (Priority)	µg/L	8.09x10 ⁻⁵	8.00x10 ⁻⁵	9.00x10 ⁻⁵

Table 1.5 Letcombe Brook WFD waterbody water quality spot sampling results

Sites			DS Letcombe Brook		
Monitoring range			09/10/2024 – 16/04/2025		
WFD classification item	WFD Determinand	Units	Average	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem) (Ammoniacal as N)	mg/L N	0.20	0.02	0.34
	Phosphate	mg/L P	0.18		0.30
	pH		7.94	7.80	8.20
	Mercury and Its Compounds (dissolved)	µg/L	0.00	0.00	0.01
	Perfluorooctane sulphonate (PFOS) (perfluoro-1-octanesulfonic acid (PFOS), low level	µg/L	6.04×10^{-4}	3.90×10^{-4}	8.30×10^{-4}
	Polybrominated diphenyl ethers (PBDE)	µg/L	3.50×10^{-3}	3.50×10^{-3}	3.50×10^{-3}
Priority substances	Cypermethrin (Priority)	µg/L	1.06×10^{-4}	8.00×10^{-5}	1.60×10^{-4}

2 River Thames water quality monitoring

- 2.1.1 A summary of surface water quality monitoring in the River Thames is provided in Table 2.1 to Table 2.7 and monitoring locations are shown on PEI Report Figure 5.3.
- 2.1.2 Surface water spot quality monitoring across various River Thames WFD waterbodies was conducted at 11 sites between December 2020 to December 2024 (not all sites monitored for this period). The WFD waterbodies covered by this monitoring include Thames to Evenlode (Table 2.2), Thames (Reading to Cookham) (Table 2.3), Thames (Cookham to Egham) (Table 2.4), Thames (Egham to Teddington) (Table 2.5), Thames (Leach to Evenlode) (Table 2.6) and Wraysbury Reservoir (Table 2.7). A total of 176 determinands were sampled as part of this monitoring, including WFD parameters.
- 2.1.3 As with the River Ock catchment data, the data presented below shows raw data values prior to full data cleaning and analysis. A preliminary QA of the data has only been undertaken to remove erroneous conductivity values below 0 µs/cm, any negative turbidity values and all dissolved oxygen equal to or below 0 (% and mg/l). A comprehensive QA comprising of cleaning and analysis of the data will be conducted and reported in the ES.
- 2.1.4 In the Thames to Evenlode waterbody, there were three sample sites included within the most recent monitoring programme, and two sites sampled within the monitoring programme which began in 2021 as part of Thames Waters' SRO water quality assessment. Results show exceedances in several specific pollutant AA EQS', including parameters such as Chlorothalonil (0.11375 µg/L), Diazinon (0.0325 µg/L) and Manganese (838.75 µg/L). In addition, several priority hazardous and priority substances also exceeded AA EQS and also MAC EQS. Determinands such as Dichlorvos, Benzene, Aclonifen and Bifenox.
- 2.1.5 The Thames (Reading to Cookham) waterbody also had exceedances in several determinands such as Chromium (7 µg/L) compared to an EQS of 3.4 µg/L. Other AA EQS exceedances included Permethrin (0.001133 µg/L) and Benzo(a)pyrene (0.006677 µg/L). There were also several determinands that exceeded MAC EQS' such as Benzo(a)pyrene, Benzo(b) pyrene and Benzo(ghi)pyrene.
- 2.1.6 Thames (Egham to Teddington) exceeded AA EQS for Acid Neutralising Capacity at both monitoring sites (4116.667 and 3754.167 mg/l). Similar exceedances identified in the above waterbodies were also recorded in this waterbody, including Benzo(a)pyrene (0.009794 µg/L), Cypermethrin (0.000104 µg/L) and Fluoranthene (0.010658 µg/L). MAX EQS exceedances were also recorded in Benzo(a)pyrene, Benzo(b) pyrene and Benzo(ghi)pyrene and Benzo(k)pyrene, along with additional determinands including Mercury.
- 2.1.7 There is limited data collected for the Thames (Leach to Evenlode) and Wraysbury Reservoir waterbodies, with only an exceedance in the AA EQS for Benzo(a)pyrene recorded at Wraysbury Reservoir (0.002332 µg/L).

Table 2.1 Summary of water quality sonde monitoring data from the River Thames

Sites		AT_DATCHET_RV R_THAMES_E	AT_SUNNYMEADS_ RIVER_THAMES_E	AT_BELL_WEIR_R IVER_THAMES_E	AT_CHERTSEY_R IVER_THAMES_E	AT_WALTON_RIV ER_THAMES_E	AT_SESRO_RIVE R_THAMES_E	AT_FARMOOR_ INTAKE_E	AT_FARMOOR_R ESERVOIR	AT_RIVER THAMES AND ABINGDON
Monitoring range		16/05/22 – 30/06/25	25/01/21 - 30/06/25	08/12/20 - 30/06/25	25/01/2021 - 30/06/25	28/01/21 - 30/06/25	19/01/21 - 30/06/25	29/09/21 - 30/06/25	28/02/24 - 30/06/25	12/10/23 - 30/06/25
Temperature	Average	13.42	12.88	13.06	13.12	13.02	12.59	12.16	12.95	11.97
	Max	24.44	24.25	24.40	24.79	24.77	26.24	24.21	23.62	24.59
	Min	2.05	1.73	1.66	1.70	1.77	1.30	1.44	4.34	1.90
Conductivity	Average	13.42	661.74	657.63	677.92	644.07	654.26	614.44	533.82	614.44
	Max	24.44	814.00	815.00	841.00	782.00	880.00	802.00	603.97	802.00
	Min	2.05	287.00	429.94	432.00	426.00	339.00	395.68	406.85	395.68
Turbidity	Average	0.26	10.52	9.24	11.91	12.85	31.27	1.31	1.31	24.18
	Max	0.65	157.50	110.58	844.50	417.80	1,181.80	102.06	102.06	948.03
	Min	0.02	0.70	0.75	0.60	1.40	0.40	0.09	0.09	1.52
DO (%)	Average	12.17	101.23	107.17	100.29	98.61	90.28	92.91	108.98	91.57
	Max	1,115.10	176.90	173.70	234.48	243.80	223.44	143.30	216.28	164.81
	Min	0	11.50	41.17	54.10	55.60	17.60	61.12	83.40	52.84
DO (mg/L)	Average	101.15	10.82	11.39	10.64	10.50	9.74	10.07	11.52	9.98
	Max	196.70	17.29	17.12	22.56	23.40	22.96	16.45	19.55	16.93
	Min	57.50	1.07	3.88	4.70	4.87	1.68	6.23	9.02	5.03
pH	Average	8.10		8.07	8.08		7.99	8.09	8.37	8.01
	Max	8.60		8.56	8.84		8.74	9.56	8.87	8.65
	Min	7.63		7.60	7.66		7.29	7.47	8.02	7.44

Table 2.2 Summary of water quality spot sampling results for the Thames to Evenlode WFD waterbody

Sites			Ditch Env 30 (partial suite)			Multi-Env 26 (partial suite)			Ditch Env 31 (full suite)			River Thames at discharge/intake location (Culham)			River Thames U/S Abingdon STW		
Monitoring Period			05/06/2024 - 15/04/2025			15/01/2025 - 16/04/2025			15/01/2025 - 16/04/2025			25/01/2021 - 04/12/2024			19/09/2023 - 04/12/2024		
WFD classification item	WFD Determinand	Units	Average	Min	Max	Average	Min	Max	Average	Min	Max	Average	Min	Max	Average	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem)	mg/L N	0.88	0.02	3.80	0.62	0.02	1.00	0.32	0.24	0.35	0.13	0.02	0.86	0.17	0.02	1.90
	Dissolved oxygen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Phosphate	mg/L P	0.86	0.28	1.90	0.63	0.54	0.76	1.23	0.15	3.00	0.14	0.01	0.32	0.12	0.01	0.23
	Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	pH		7.57	7.20	7.90	7.58	7.50	7.70	7.43	7.20	7.70	8.06	7.90	8.40	8.03	7.80	8.20
Specific pollutants	Arsenic (dissolved)	µg/L	-	-	-	-	-	-	2.93	1.00	4.90	1.05	0.16	1.90	1.06	0.74	1.60
	Chlorothalonil	µg/L	-	-	-	-	-	-	0.11	0.04	0.35	0.04	0.04	0.04	0.04	0.04	0.04
	Chromium (VI) (dissolved)	µg/L	-	-	-	-	-	-	0.05	0.05	0.05	2.94	0.05	7.00	0.11	0.05	0.94
	Copper (dissolved)	µg/L	-	-	-	-	-	-	0.03 (average bioavailable concentration)			0.13 (average bioavailable concentration)			0.10 (average bioavailable concentration)		
	Diazinon	µg/L	-	-	-	-	-	-	0.03	0.01	0.10	0.01	0.01	0.01	0.01	0.01	0.01
	Dimethoate	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	0.02	0.02	0.02	0.02	0.02	0.02
	Iron (dissolved)	µg/L	-	-	-	-	-	-	1594.75	39.00	5200.00	37.36	5.50	270.00	57.43	6.40	230.00
	Manganese (dissolved)	µg/L	-	-	-	-	-	-	154.37 (average bioavailable Concentration)			4.66 (average bioavailable concentration)			4.57 (average bioavailable concentration)		
	Pendimethalin	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	0.02	0.02	0.05	0.02	0.02	0.05
	Permethrin	µg/L	-	-	-	-	-	-	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001
	Triclosan	µg/L	-	-	-	-	-	-	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Zinc (dissolved)	µg/L	-	-	-	-	-	-	0.84 (average bioavailable concentration)			1.41 (average bioavailable concentration)			0.58 (average bioavailable concentration)		
Priority hazardous substances	Benzo(a)pyrene	µg/L	-	-	-	-	-	-	0.01	0.00	0.02	0.00	0.00	0.04	0.01	0.00	0.02
	Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	0.00	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.02
	Benzo(g-h-i)perylene	µg/L	-	-	-	-	-	-	0.00	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.02

Sites			Ditch Env 30 (partial suite)			Multi-Env 26 (partial suite)			Ditch Env 31 (full suite)			River Thames at discharge/intake location (Culham)			River Thames U/S Abingdon STW		
	Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.01
	Cadmium and Its Compounds (dissolved)	µg/L	-	-	-	-	-	-	0.02	0.02	0.02	0.02	0.02	0.08	0.02	0.02	0.02
	Di(2-ethylhexyl)phtalate (Priority hazardous)	µg/L	-	-	-	-	-	-	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
	Dioxins and dioxin-like compounds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heptachlor and cis-Heptachlor epoxide	µg/L	-	-	-	-	-	-	3.25x10 ⁻³	1x10 ⁻³	1x10 ⁻²	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Hexabromocyclododecane (HBCDD)	µg/L	-	-	-	-	-	-	1.80x10 ⁻⁴	1.40x10 ⁻⁴	3x10 ⁻⁴	2.07x10 ⁻⁴	1.40x10 ⁻⁴	2.04x10 ⁻³	1.44x10 ⁻⁴	1.40x10 ⁻⁴	1.80x10 ⁻⁴
	Hexachlorobenzene	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	0.02	0.02	0.02	0.02	0.02	0.02
	Hexachlorobutadiene	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	0.02	0.02	0.02	0.02	0.02	0.02
	Hexachlorocyclohexane (alpha-hexachlorocyclohexane (α-HCH), beta-hexachlorocyclohexane (β-HCH), delta-hexachlorocyclohexane (δ-HCH), gamma-hexachlorocyclohexane (γ-HCH, lindane))	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	-	-	-	-	-	-
		µg/L	-	-	-	-	-	-	0.07	0.02	0.20	-	-	-	-	-	-
		µg/L	-	-	-	-	-	-	0.07	0.02	0.20	-	-	-	-	-	-
		µg/L	-	-	-	-	-	-	0.07	0.02	0.20	-	-	-	-	-	-
	Mercury and Its Compounds (dissolved)	µg/L	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	2.40	0.01	0.00	0.18	0.00	0.00	0.00

Sites			Ditch Env 30 (partial suite)			Multi-Env 26 (partial suite)			Ditch Env 31 (full suite)			River Thames at discharge/intake location (Culham)			River Thames U/S Abingdon STW		
	Nonylphenol	µg/L	-	-	-	-	-	-	0.06	0.04	0.11	0.04	0.04	0.10	0.04	0.04	0.08
	Pentachlorobenzene	µg/L	-	-	-	-	-	-	0.02	0.01	0.07	0.01	0.01	0.01	0.01	0.01	0.01
	Perfluorooctane sulphonate (PFOS)	µg/L	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	-	-	-	-	-	-
	(perfluoro-1-octanesulfonic acid (PFOS), low level, perfluoro-1-octanesulfonic acid (PFOS Sum L and br))	µg/L	-	-	-	-	-	-	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01
	Polybrominated diphenyl ethers (PBDE)	µg/L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	No sum - All 7 at Limit of Detection of 0.0005					
	Quinoxifene	µg/L	-	-	-	-	-	-	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Tributyltin Compounds	µg/L	-	-	-	-	-	-	1.18x10 ⁻⁴	3x10 ⁻⁵	2x10 ⁻⁴	9.35x10 ⁻⁵	3x10 ⁻⁵	1.30x10 ⁻³	7.06x10 ⁻⁵	3x10 ⁻⁵	2x10 ⁻⁴
Priority substances	Aclonifen	µg/L	-	-	-	-	-	-	0.33	0.10	1.00	0.10	0.10	0.10	0.10	0.10	0.10
	Alachlor	µg/L	-	-	-	-	-	-	0.07	0.02	0.20	0.02	0.02	0.02	0.02	0.02	0.02
	Bifentox	µg/L	-	-	-	-	-	-	0.04	0.01	0.12	0.01	0.01	0.01	0.01	0.01	0.01
	Cybutryne	µg/L	-	-	-	-	-	-	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³
	Cypermethrin (Priority)	µg/L	4.5x10 ⁻⁴	2.1x10 ⁻⁴	1.03x10 ⁻³	3.53x10 ⁻⁴	2.30x10 ⁻⁴	4.90x10 ⁻⁴	8x10 ⁻⁵	8x10 ⁻⁵	8x10 ⁻⁵	1.09x10 ⁻⁴	8x10 ⁻⁵	5.5x10 ⁻⁴	8.25x10 ⁻⁵	8x10 ⁻⁵	1.1x10 ⁻⁴
	Dichlorvos (Priority)	µg/L	-	-	-	-	-	-	3.25x10 ⁻³	1x10 ⁻³	1x10 ⁻²	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1.25x10 ⁻³	1x10 ⁻³	5x10 ⁻³
	Fluoranthene	µg/L	-	-	-	-	-	-	0.00	0.00	0.01	0.00	0.00	0.04	0.01	0.00	0.02
	Lead and Its Compounds (dissolved)	µg/L	-	-	-	-	-	-	0.15	0.09	0.27	0.21	0.09	1.60	0.12	0.09	0.26
	Nickel and Its Compounds (dissolved)	µg/L	-	-	-	-	-	-	0.42 (average bioavailable concentration)			0.69 (average bioavailable concentration)			0.62 (average bioavailable concentration)		
	Terbutryn	µg/L	-	-	-	-	-	-	0.03	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.02
	Trichloromethane	µg/L	-	-	-	-	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table 2.3 Summary of water quality spot sampling results for the Thames (Reading to Cookham) WFD waterbody

Site			River Thames at Hambleden Lock			River Thames at Cookham Bridge		
Monitoring range			25/01/2025 – 20/09/2021			25/01/2021 – 11/04/2022		
WFD classification item	WFD Determinand	Units	Average	Min	Max	Average	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem)	mg/L N	0.14	0.02	1.10	0.12	0.02	1.10
	Dissolved oxygen		-	-	-	-	-	0.00
	Phosphate	mg/L P	0.14	0.01	0.27	0.13	0.01	0.27
	Temperature		-	-	-	-	-	0.00
	pH		8.07	7.90	8.20	8.09	7.90	8.30
Specific pollutants	Chromium (VI) (dissolved)	µg/L	7.00	7.00	7.00	7.00	7.00	7.00
	Copper (dissolved)	µg/L	No parameter data for bioavailable calculation			No parameter data for bioavailable calculation		
	Iron (dissolved)	µg/L	20.77	5.50	73.00	36.64	5.50	400.00
	Manganese (dissolved)	µg/L	No parameter data for bioavailable calculation			No parameter data for bioavailable calculation		
	Permethrin	µg/L	1.13x10 ⁻³	1.00x10 ⁻³	2.00x10 ⁻³	1.11x10 ⁻³	1.00x10 ⁻³	2.00x10 ⁻³
	Triclosan	µg/L	0.01	0.01	0.01	0.01	0.01	0.01
	Zinc (dissolved)	µg/L	No parameter data for bioavailable calculation			No parameter data for bioavailable calculation		
Priority hazardous substances	Benzo(a)pyrene	µg/L	0.01	0.00	0.02	0.01	0.00	0.04
	Benzo(b)fluoranthene	µg/L	0.00	0.00	0.02	0.01	0.00	0.03
	Benzo(g-h-i)perylene	µg/L	0.00	0.00	0.01	0.01	0.00	0.03
	Benzo(k)fluoranthene	µg/L	0.00	0.00	0.01	0.00	0.00	0.02
	Cadmium and Its Compounds (dissolved)	µg/L	0.02	0.02	0.02	0.02	0.02	0.03
	Dioxins and dioxin-like compounds		-	-	-	-	-	0.00
	Heptachlor and cis-Heptachlor epoxide	µg/L	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Hexabromocyclododecane (HBCDD)	µg/L	1.50x10 ⁻⁴	1.40x10 ⁻⁴	2.70x10 ⁻⁴	1.44x10 ⁻⁴	1.40x10 ⁻⁴	1.90x10 ⁻⁴
	Hexachlorobenzene	µg/L	0.02	0.02	0.09	0.02	0.02	0.03
	Hexachlorobutadiene	µg/L	0.02	0.02	0.02	0.02	0.02	0.02
	Mercury and Its Compounds (dissolved)	µg/L	0.02	0.00	0.11	0.01	0.00	0.04
	Perfluorooctane sulphonate (PFOS)	µg/L	0.01	0.00	0.01	0.01	0.00	0.01
	Polybrominated diphenyl ethers (PBDE)	µg/L	No sum - All 7 at Limit of Detection of 0.0005					
	Tributyltin Compounds (as tributyltin cation)	µg/L	5.87x10 ⁻⁵	3x10 ⁻⁵	9x10 ⁻⁵	6.37x10 ⁻⁵	3x10 ⁻⁵	1.30x10 ⁻⁴
Priority substances	Cypermethrin (Priority)	µg/L	9.33x10 ⁻⁵	8x10 ⁻⁵	2.30x10 ⁻⁴	8.68x10 ⁻⁵	8x10 ⁻⁵	2.10x10 ⁻⁴
	Fluoranthene	µg/L	0.01	0.00	0.02	0.01	0.00	0.03
	Lead and Its Compounds (dissolved)	µg/L	0.11	0.09	0.19	0.18	0.09	0.95
	Nickel and Its Compounds (dissolved)	µg/L	No parameter data for bioavailable calculation			No parameter data for bioavailable calculation		

Table 2.4 Summary of water quality spot sampling results for the Thames (Cookham to Egham) WFD waterbody

Sites			River Thames at Datchet intake			River Thames at Sunnymeads intake			River Thames at Bell Weir, Egham		
Monitoring range			16/05/2022 – 04/12/2024			25/01/2021 – 21/05/2024			25/01/2021 – 04/12/2024		
WFD classification item	WFD Determinand	Units	Average	Min	Max	Average	Min	Max	Mean	Min	Max
Physico-chemical quality elements	Acid Neutralising Capacity (ANC, unfiltered)	mg/l	4583.33	4400.00	5000.00	4225.49	3500.00	5000.00	4120.83	3500.00	5000.00
	Ammonia (Phys-Chem) (Ammoniacal nitrogen as N)	mg/L N	0.16	0.16	0.16	0.08	0.02	0.48	0.10	0.02	0.48
	Dissolved oxygen	-	-	-	-	-	-	-	-	-	-
	Phosphate	mg/L P	0.11	0.01	0.19	0.13	0.01	0.29	0.15	0.01	0.29
	Temperature	-	-	-	-	-	-	-	-	-	-
	pH		8.10	7.90	8.30	8.14	7.90	8.50	8.13	7.90	8.50
Specific pollutants	Arsenic (dissolved)	µg/L	1.04	0.77	1.60	0.84	0.39	1.20	0.80	0.39	1.20
	Copper (dissolved)	µg/L	No parameter data for bioavailable calculation			0.18 (average bioavailable concentration)			No parameter data for bioavailable calculation		
	Iron (dissolved)	µg/L	36.75	5.50	90.00	35.04	5.50	460.00	18.83	5.50	460.00
	Manganese (dissolved)	µg/L	No parameter data for bioavailable calculation			2.99 (average bioavailable concentration)			No parameter data for bioavailable calculation		
	Toluene	µg/L	0.10	0.10	0.10	0.38	0.10	13.60	0.18	0.10	13.60
	Zinc (dissolved)	µg/L	No parameter data for bioavailable calculation			1.72 (average bioavailable concentration)			No parameter data for bioavailable calculation		
Priority hazardous substances	Benzo(a)pyrene	µg/L	0.00	0.00	0.01	0.01	0.00	0.04	0.01	0.00	0.04
	Benzo(b)fluoranthene	µg/L	0.00	0.00	0.01	0.01	0.00	0.03	0.01	0.00	0.03
	Benzo(g-h-i)perylene	µg/L	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.00	0.02
	Benzo(k)fluoranthene	µg/L	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.02
	Cadmium and Its Compounds (dissolved)	µg/L	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03
	Dioxins and dioxin-like compounds	-	-	-	-	-	-	-	-	-	-
	Heptachlor and cis-Heptachlor epoxide	µg/L	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Hexabromocyclododecane (HBCDD)	µg/L	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.4x10 ⁻⁴	1.72x10 ⁻⁴	1.4x10 ⁻⁴	6.6x10 ⁻⁴	1.54x10 ⁻⁴	1.4x10 ⁻⁴	6.6x10 ⁻⁴
	Hexachlorobenzene	µg/L	0.02	0.02	0.02	0.02	0.02	0.07	0.02	0.02	0.07
	Hexachlorobutadiene	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Mercury and Its Compounds	µg/L	0.00	0.00	0.00	0.01	0.00	0.10	0.05	0.00	0.10
	Perfluorooctane sulphonate (PFOS)	µg/L	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
	Polybrominated diphenyl ethers (PBDE)	µg/L	No sum - All 7 at Limit of Detection of 0.0005								

Sites			River Thames at Datchet intake			River Thames at Sunnymeads intake			River Thames at Bell Weir, Egham		
	Tributyltin Compounds (as tributyltin cation)	µg/L	9.83x10 ⁻⁵	4x10 ⁻⁵	2x10 ⁻⁴	8.16x10 ⁻⁵	3x10 ⁻⁵	2x10 ⁻⁴	1.14x10 ⁻⁴	4x10 ⁻⁵	2x10 ⁻⁴
	Trifluralin (Priority hazardous)	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Priority substances	Atrazine	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Benzene	µg/L	0.10	0.10	0.10	0.14	0.10	1.00	0.18	0.10	1.00
	Cypermethrin (Priority)	µg/L	8x10 ⁻⁵	8x10 ⁻⁵	8x10 ⁻⁵	1.04x10 ⁻⁴	8x10 ⁻⁵	8.9x10 ⁻⁴	1.33x10 ⁻⁴	8x10 ⁻⁵	8.90x10 ⁻⁴
	Fluoranthene	µg/L	0.01	0.00	0.01	0.01	0.00	0.06	0.01	0.00	0.06
	Lead and Its Compounds (dissolved)	µg/L	0.11	0.09	0.16	0.10	0.09	0.29	0.11	0.09	0.29
	Nickel and Its Compounds (dissolved)	µg/L	No parameter data for bioavailable calculation			0.77 (average bioavailable concentration)			No parameter data for bioavailable calculation		
	Simazine	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Other Pollutants	Aldrin	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Dieldrin	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Endrin	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	Isodrin	µg/L	0.02	0.02	0.02	0.02	0.02	0.07	0.02	0.02	0.07
	para - para DDT	µg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Table 2.5 Summary of water quality spot sampling results for the Thames (Egham to Teddington) WFD waterbody

Sites			River Thames at Chertsey			River Thames at Affinity Water Walton Intake (Desborough Island)		
Monitoring range			25/01/2021 – 21/09/2022			25/01/2021 – 21/09/2022		
WFD classification item	WFD Determinand	Units	Average	Min	Max	Average	Min	Max
Physico-chemical quality elements	Acid Neutralising Capacity (ANC, unfiltered)	mg/l	4116.67	3200.00	4500.00	3754.17	3000.00	4400.00
	Ammonia (Phys-Chem) (Ammoniacal nitrogen as N)	mg/L N	0.15	0.02	1.60	0.14	0.02	1.80
	Biochemical Oxygen Demand (BOD)	mg/l	3.57	1.00	12.00	4.09	1.00	13.00
	Dissolved oxygen		-	-	-	-	-	-
	Phosphate	mg/L P	0.16	0.01	0.32	0.16	0.01	0.31
	Temperature		-	-	-	-	-	-
	pH		8.15	7.80	8.30	8.07	7.90	8.40
Specific pollutants	Arsenic (dissolved)	µg/L	0.82	0.43	1.10	0.85	0.46	1.20
	Chlorothalonil	µg/L	0.04	0.04	0.04	0.04	0.04	0.04
	Copper (dissolved)	µg/L	2.10	1.30	3.00	2.25	1.50	3.10
	Diazinon	µg/L	0.01	0.01	0.01	0.01	0.01	0.01
	Dimethoate	µg/L	0.02	0.02	0.02	0.02	0.02	0.02
	Iron (dissolved)	µg/L	22.11	5.50	150.00	45.81	5.50	250.00
	Manganese (dissolved)	µg/L	3.42	0.61	9.50	10.88	1.90	23.00
	Pendimethalin	µg/L	0.02	0.02	0.13	0.02	0.02	0.10
	Zinc (dissolved)	µg/L	6.33	1.60	19.00	8.12	1.10	40.00
Priority hazardous substances	Benzo(a)pyrene	µg/L	0.01	0.00	0.07	0.01	0.00	0.03
	Benzo(b)fluoranthene	µg/L	0.01	0.00	0.08	0.01	0.00	0.02
	Benzo(g-h-i)perylene	µg/L	0.01	0.00	0.07	0.01	0.00	0.02
	Benzo(k)fluoranthene	µg/L	0.01	0.00	0.05	0.01	0.00	0.02
	Cadmium and Its Compounds (dissolved)	µg/L	0.02	0.02	0.03	0.02	0.02	0.03
	Dioxins and dioxin-like compounds		-	-	-	-	-	-
	Heptachlor and cis-Heptachlor epoxide	µg/L	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Hexabromocyc Limit of Detection odecane (HBCDD)	µg/L	1.45x10 ⁻⁴	1.4x10 ⁻⁴	2x10 ⁻⁴	1.76x10 ⁻⁴	1x10 ⁻⁴	4.80x10 ⁻⁴
	Hexachlorobenzene	µg/L	0.02	0.02	0.02	0.02	0.02	0.06
	Hexachlorobutadiene	µg/L	0.02	0.02	0.02	0.02	0.02	0.02
	Hexachlorocyclohexane	µg/L	0.02	0.02	0.02	0.02	0.02	0.02
	Mercury and Its Compounds	µg/L	0.01	0.00	0.05	0.03	0.00	0.45
	Nonylphenol	µg/L	0.04	0.04	0.05	0.04	0.04	0.05
	Pentachlorobenzene	µg/L	0.01	0.01	0.01	0.01	0.01	0.01
	Perfluorooctane sulphonate (PFOS)	µg/L	0.01	0.00	0.01	0.00	0.00	0.01

Sites			River Thames at Chertsey			River Thames at Affinity Water Walton Intake (Desborough Island)		
	Polybrominated diphenyl ethers (PBDE)	µg/L	No sum - All 7 at Limit of Detection of 0.0005					
	Quinoxifen	µg/L	0.10	0.10	0.10	0.10	0.10	0.10
	Tributyltin Compounds (as tributyltin cation)	µg/L	1.25x10 ⁻⁴	5.00x10 ⁻⁵	2.90x10 ⁻⁴	1.21x10 ⁻⁴	2.00x10 ⁻⁵	4.00x10 ⁻⁴
Priority substances	Aclonifen	µg/L	0.10	0.10	0.10	0.10	0.10	0.10
	Alachlor	µg/L	0.02	0.02	0.02	0.02	0.02	0.03
	Benzene	µg/L	0.18	0.10	1.00	0.18	0.10	1.00
	Bifenox	µg/L	0.01	0.01	0.01	0.01	0.01	0.01
	Cybutryne	µg/L	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³	2.5x10 ⁻³
	Cypermethrin (Priority)	µg/L	1.04x10 ⁻⁴	8x10 ⁻⁵	3.40x10 ⁻⁴	1.02x10 ⁻⁴	8x10 ⁻⁵	2.6x10 ⁻⁴
	Dichlorvos (Priority)	µg/L	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³	1x10 ⁻³
	Fluoranthene	µg/L	0.01	0.00	0.07	0.01	0.00	0.04
	Lead and Its Compounds (dissolved)	µg/L	0.16	0.09	0.84	0.15	0.09	0.87
	Nickel and Its Compounds (dissolved)	µg/L	1.53	0.50	2.00	1.83	0.50	2.50
	Octylphenol	µg/L	0.01	0.01	0.01	0.01	0.01	0.01
	Terbutryn	µg/L	0.02	0.02	0.02	0.02	0.02	0.02

Table 2.6 Summary of water quality spot sampling results for the Thames (Leach to Evenlode) WFD Water Body

Site			River Thames at Farmoor Reservoir intake		
Monitoring range			12/12/2023 – 04/12/2024		
WFD classification item	WFD Determinand	Units	Average	Min	Max
Physico-chemical quality elements	Ammonia (Phys-Chem) (Ammoniacal as N)	mg/L N	0.03	0.02	0.09

Table 2.7 Summary of water quality spot sampling results for the Wraysbury Reservoir WFD waterbody

Site			Wraysbury Reservoir Water Body		
Monitoring range			27/07/2023 – 14/11/2023		
WFD classification item	WFD Determinand	Units	Average	Min	Max
Priority hazardous substances	Benzo(a)pyrene	µg/L	2.33x10 ⁻³	1.7x10 ⁻⁴	1.26x10 ⁻²
	Perfluorooctane sulphonate (PFOS)	µg/L	4.4x10 ⁻³	2x10 ⁻⁴	9.73x10 ⁻³
Priority substances	Fluoranthene	µg/L	4.13x10 ⁻³	1x10 ⁻³	1.69x10 ⁻²

3 Hydrometric monitoring

Spot flow monitoring

- 3.1.1 Monthly spot flow monitoring has been undertaken since May 2024 at six sites. Table 3.1 below presents a data summary from these sites up until May 2025.
- 3.1.2 Flow sampling issues were observed at sites FM_LDM_1, FM_OFD_1 and FM_PTB_1, however, all six sites have a recording of 0 m³/s within the data, due to observations of pooled water or no measurable flow.
- 3.1.3 All recordings at FM_LDM_1 were taken using a float test due to flow conditions. At FM_OFD_1 there were six months where a reading was not possible due to either pooled water or no measurable flow. Similarly, at FM_PTB_1, all seven readings were taken using a float test, with the other five months not measured due to pooled water or no measurable flow.
- 3.1.4 The site with the greatest flow is FM_CCB_3 at 0.2853 m³/s which also has the greatest maximum flow of 2.55 m³/s. However, this site also has the highest standard deviation in flow measurements (0.6962 m³/s), likely due to flooding observed at the time of survey.

Table 3.1 Data summary from the sites up until May 2025

	FM_CCB_1	FM_CCB_3	FM_CCB_4	FM_LDM_1	FM_OFD_1	FM_PTB_1
Average (m ³ /s)	0.0334	0.2853	0.1401	0.0183	0.0317	0.0115
Min (m ³ /s)	0	0	0.0004	0	0	0
Max (m ³ /s)	0.1767	2.5500	0.7410	0.1440	0.2530	0.1360
SD (m ³ /s)	0.0517	0.6962	0.2181	0.0402	0.0722	0.0374
Count	12	12	13	4	6	7

Ditch water level monitoring

- 3.1.5 Ditch water level monitoring results, undertaken between October 2024 and May 2025, indicate that many ditches become completely dry during dry weather; although, water levels can rise by over a metre in wet conditions. A summary is provided in Table 3.2 below and monitoring locations are shown on PEI Report Figure 5.4.

Table 3.2 Ditch water level monitoring

Parameter	Ditch 13	Ditch 16	Ditch 17	Ditch 19	Ditch 24	Ditch 25	Ditch 30	Ditch 9
Mean pressure (cmH ₂ O)*	1044.94	1046.75	TBC	1040.91	1050.86	1059.13	1090.96	1039.19
Mean temperature (Celsius)	8.85	9.12*	8.74	7.62	8.21	8.41	12.75	8.88*
Mean Water Level Above Bed (cm)	13.6	20.59*	29.0	7.0	11.5	24.1	56.5	13.13*

*Data shown are for the period October 2024 to January 2025.



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