# ENVIRONMENT AGENCY Thames Region

# BACTERIOLOGICAL MONITORING OF FRESHWATER RIVERS IN THE THAMES REGION 1995

# Report Compiled By

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# 1. INTRODUCTION

The aim of the 1995 bacteriological survey was to continue the region-wide initiative of previous years to assess the levels of faecal bacteria present in the river catchment watercourses. The data obtained is used mainly in connection with the Catchment Management Plans to give an assessment of the bacteriological status of the watercourse in each catchment. This data also highlights "hot spots" which can be identified and followed up by Pollution Officers.

This report presents the data from samples collected during 1995 and summarises the results obtained.

## 2. METHODS

Sites are sampled along the length of each watercourse quarterly to create bacteriological "profiles". Samples are also taken from the confluences with main rivers to assess their influence on the receiving watercourse. Sampling quarterly eliminates bias towards sampling in any one season.

Analysis of all samples is handled by external contractors. For 1995 two contractors covered the Region since the samples must be processed within six hours of sampling to comply with Section 3.2.4. of the NRA Manual of Standard Methods for Microbiological Analysis. The contractors employed were, Reading Scientific Services Laboratory at Reading and the ADAS Laboratory at Cambridge.

#### 3. RESULTS

The data is presented in the Appendix. The map shows the annual geometric mean for faecal coliforms at each site sampled. This is presented in the form of a coloured spot for each of 4 ranges of faecal coliforms per 100ml as follows:

0 - 1,000	Low	Blue
1,001 - 10,000	Moderate	Green
10,001 - 100,000	High	Orange
>100,000	Very high	Red

#### 4. DISCUSSION OF RESULTS

From quarter to quarter it can be seen that some sites show variability between coliform bacteria counts. It is suggested that some of this variability may be attributed to the effects of localised weather conditions leading to short term turbidity and urban or agricultural runoff. On occasion the high levels seen at some sites in the "profiles" reflect the effect on the receiving waters of the discharges of sewage effluents.

#### 4.1. River Roding

The upper and middle catchment of the River Roding is dominated by agriculture but in the lower reaches it becomes more urbanised passing through a densely populated area before joining the Thames at Barking. There are two major sewage works, Stanford Rivers and Theydon Bois which contribute to the organic loading of the river.

In general the faecal coliform geometric means for the 1995 sites fall in the low range (0 - 1,000 cells/100ml) and have only exceeded these background levels on occasions, mainly in the lower reaches. These results are directly comparable to the same survey carried out in 1992 suggesting that there has been little change in the bacteriological status of the River Roding since then.

## 4.2. Brookhouse Brook /Garnish Hall Brook

The Brookhouse Brook is a tributary of the River Roding and drains a predominantly rural catchment. It enters the Roding at Abridge. The main discharge to this watercourse is of sewage effluent from Epping STW at Fiddlers Hamlet.

The discharge of effluent from the sewage works appears to be having a significant effect on this watercourse. The faecal coliform levels in the river below the STW are consistently high throughout the year even exceeding 250,000 cells /100ml on occasions.

The Garnish Hall Brook is a tributary of the Brookhouse Brook and drains a predominantly rural area. It enters the Brookhouse Brook between the M11 motorway and Hobbs Cross Farm. The geometric mean for faecal coliforms is 1,211 cells/100ml which puts it in the moderate range.

#### 4.3. River Ingrebourne

This river drains a predominantly urban catchment and is subjected to the associated problems. There are two major sewage works which discharge to the Ingrebourne, one in the upper reaches, Brentwood, the other, Riverside, just above the confluence with the Thames.

In general the geometric mean levels of faecal coliforms in the Ingrebourne were found to be moderate (1,001 - 10,000 cells/100ml). However the upper (Brentwood) and lower (above Thames) limits of the survey showed that on occasion these levels were exceeded. The lower site above the confluence with the Thames appears to reflect the effect that Riverside STW is having on the receiving water.

## 4.4. River Rom/Beam

This river drains a predominantly urban catchment and is therefore subjected in the main to urban run-off. There are no major sewage treatment works in this catchment.

In general the geometric mean levels of faecal coliforms were of moderate levels (1,001 - 10,000 cells/100ml). However, two sites located below the town of Romford showed levels that consistently exceeded this range. The last survey on this river was carried out in 1993 and it appears that the bacteriological status was very similar to that of 1995.

#### 4.5. River Colne (N.E.Area)

The River Colne covers an area of 1016 sq.kms. Its perennial source is in Hertfordshire and it enters the Thames on the left bank in Staines. Various tributaries join it at points along its

length and the GUC runs through the catchment. Two major sewage works discharge directly to the Colne whilst several others discharge via its tributaries.

18 sites were sampled throughout the length of the river and in general the geometric mean levels of faecal coliforms were below 2,000 cells/100ml. On occasion individual sites exceeded this level but all remained within the upper limit of the moderate range (10,000 cells/100ml). Overall the results were slightly lower than those obtained from the survey in 1993.

## 4.6. River Colne Tributaries

The nine sites chosen were each located above their confluences with the Colne with the aim of assessing the influences that these tributaries have on the main river.

The Hillfield Brook was found to be dry at the August sampling. The geometric mean levels of faecal coliforms for the Chess, Wraysbury, Ver and Gade/GUC were low, all being in the range 0 - 1,000 cells/100ml, all the others were below 4,000 cells/100ml. Occasionally individual samples exceeded these values. In general it appears that the tributaries do not have an overall influence on the bacteriological quality of the Colne.

#### 4.7. River Crane Catchment

The Crane catchment is predominantly an urban catchment and is subjected to the associated problems. There are no major sewage works discharging into the Crane or its tributaries.

The nine sites selected cover the Roxbourne, Crane, Yeading and Duke of Northumberlands River. The Roxbourne consistently showed the faecal coliform levels to be in the range of 10,000 to 100,000 cells/100ml. All the other sites gave geometric mean faecal coliform levels in the lower range and did not exceed 4,000 cells/100ml.

#### 4.8. River Thames

48 sites were sampled on the freshwater River Thames between Somerford Keynes and Teddington. 28 of the sites were in West Area and 20 in South East Area. The Thames is a large, lowland river receiving faecal material from both diffuse and point sources. The assimilative capacity of the river reflects its size in relation to the discharges it receives. This ensured that all sites sampled on the main river had low or moderate geometric mean faecal coliform levels, ranging from 90 cells/100ml at Swinford Intake to 8,456 cells/100ml 50m downstream of Ashton Keynes STW. The result from the latter site was atypically high for the freshwater Thames because of its proximity to the STW.

The Northfield Brook was sampled as part of this survey. The effluent from Oxford STW raised the geometric mean faecal coliform count from 2,655 cells/100ml at Minchery Farm to 15,238 cells/100ml at Sandford.

#### 4.9. Upper Thames Tributaries

The three sites sampled on the Ampney Brook had calculated geometric mean faecal coliform levels ranging from 104 - 199 cells/100ml. The sites monitored on the Swill Brook had

calculated geometric mean faecal coliform levels of 331 cells/100ml and 296 cells/100ml respectively. This reflects the lack of local input of faecal material.

The sites monitored on the River Key and the Derry Brook show more variable faecal content, with the Key at Purton Stoke and the Derry Brook at Sambourn Bridge, Minety being intermittently affected by unidentified sources of faecal material.

## 4.10. Mole Catchment

Crawley STW was responsible for increasing the geometric mean faecal coliform counts of the Gatwick Stream from 1,805 cells/100ml at Tinsley Green to 14,707 cells/100ml at the site immediately upstream of the River Mole.

Crawley STW, via the Gatwick Stream was responsible for increasing the geometric mean faecal coliform counts of the River Mole from 1,927 cells/100ml at the site immediately upstream of the Gatwick Stream, to 13,760 cells/100ml at the sampling site above Horley STW. The effects of Horley, Dorking and Leatherhead STW were less marked because of the greater proportion of treated effluent in the river above each of the works. The hydrological character of the Mole, tends to make the range of bacterial determinations wide from any one site.

#### 4.11. Wey Catchment

The abstraction site on the Tillingbourne at Shalford had a geometric mean faecal coliform count of 682 cells/100ml, reflecting the low levels of faecal contamination at this site.

The two sites monitored on the River Wey had geometric mean faecal coliform counts of 1,808 and 1,911 cells/100ml respectively.

#### 4.12. River Blackwater

The three sites monitored on the River Blackwater had geometric mean faecal coliform counts ranging from 6,444 cells/100ml at immediately upstream of the Whitewater, (the most downstream site) to 18,672 cells/100ml downstream of Sandhurst STW. Previous surveys also indicated that the entire length of the Blackwater from Aldershot downstream contained faecal coliforms at high or moderate levels. This is consistent with the dominant proportion of the flow comprising treated sewage effluent.

#### 4.13. River Leach/Great Brook/Shill Brook

The generally good quality of the Leach and Great Brook is reflected in the calculated geometric mean faecal coliform results, which are uniformly low for all sites sampled.

Carterton STW was responsible for the increase in geometric mean faecal coliform counts in the Shill Brook, from 37 cells/100ml immediately upstream of the works, to 6,417 cells/100ml at Black Bourton.

#### 4.14. Wye Catchment

The bacteriological quality of the River Wye was dominated by the effect of High Wycombe STW. The STW effluent raised the calculated geometric mean faecal coliform counts by an order of magnitude, from upstream low levels to downstream moderate levels, and this effect persisted along the entire downstream length of the river.

The two tributaries sampled were found to have bacterial water quality similar to the headwater of the Wye.

## 4.15. Miscellaneous Abstraction Sites

These are the surface water abstraction sites which were not included in other routine sampling programmes. All had calculated geometric mean levels of faecal coliforms of < 900 cells/100ml.

# APPENDIX

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BACTERIOLOGICAL SURVEY 19	995									
	NGR	1st Quarter	1st Quarter	2nd Quarter	2nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric
		TC	FC	TC	FĊ	тС	FC	TC	FC	Mean
ROM/BEAM		14.2.95.	14.2.95,	10.5.95	10.5.95	24.8.95	24.8.95	29.11.95	29.11.95	
Bourne Bridge	TQ50209440	1900	1600	440	390	dry	dry	2100000	9600	1816
Collier Row	TQ49309100	8600	6100	19000	3900	37000	3900	990000	· 1400	3376
A12 Romford	TQ50408950	6000	2900	210000	5500	24000	5100	1800000	30000	. 7028
Old Church Road	TQ51408812	11000	3700	170000	34000	87000	9800	1100000	20000	12530
Roneo Corner A124	TQ51618744	7000	4100	390000	96000	1500000	120000	370000	1300	15741
Above Ravensbourne	TQ51758623	7200	7000	29000	3100	520000	25000	30000	700	4144
Dagenham Chase	TQ51738560	7300	4600	30000	10000	270000	26000	110000	100	3306
A13 Dagenham	TQ50308310	6000	3800	31000	3200	2200	280	60000	300	1005
Havering stuice	TQ49958150	5000	5000	14000	1000	9600	280	710000	3200	1454
PODNO		01.0.05	01.0.05	16 5 05	10 5 05	0.0.05	0 0 05	21.10.05	21.10.05	
	TI 50404500	21.2.95.	21.2.95.	10.0.90	10.3.95	0.0.90	0.0.95.	31,10.50	31.10.95	500
Broad Bridge, Aymorpe Hoding	1158101560	900	400	2100	1400	900	460	1400	500	599
Fyrield	1157150675	2000	1600	470	400	300	460	1500	270	531
High Ongar Bridge	TL55100410	1400	. 410	230	120	1000	440	160	130	230
Langford Bridge	TL55900141	2500	1200	1500	1000	1100	220	800	200	4/9
Passingford Bridge	TQ50309745	2900	4100	120	40	400	50	1400	1200	315
Abridge	TQ46709710	2800	1200	4200	1000	3600	400	2000	1400	905
Luxborough Lane, Chigwell	TQ42289306	- 2200	1400	3400	. 1140	24000	12000	1400	900	2037
Woodford Bridge	TQ41479085	3400	1800	. 3300	1500	1300	• 360	1400	1000	993
liford Golf Course	TQ42308710	2800	2300	3700	900	. 2000	1900	50000	20000	2978
BROOKHOUSE BROOK		21.3.95	21.3.95	13.6.95	13.6.95	5.9.95	5.9.95	29.11.95	29.11.95	
Stewards Green	TL46900090	5000	420	33000	4500	22000	6500	2000000	16000	3744
u/s Fiddlers Hamlet STW	TL 47700080	1250	300	1500	940	31000	9700	180000	18000	2649
d/s Fiddlers Hamlet STW	TI 47800040	62000	40000	800000	340000	910000	150000	460000	8700	64906
u/s Hobbs Cross Farm	TO47709940	44000	33000	500000	260000	880000	78000	1700000	200000	107560
Brook House	TQ47809800	21000	8100	310000	160000	210000	35000	480000	6000	22840
	÷	01 0 05	01.9.05	12 6 05	12 0 05	5.0.05	5005	20.11.05	20.11.05	
d/s Hobbs Cross Road	TO47509960	21.3.55	21.3.55	13.0.95	740	17000	3.5.55	29.11.50	29.11.50	1211
				1110		1, 000	,	·	10000	
INGREBOURNE		7.3.95.	7.3.95.	31.05.95	31.05.95.	5.9.95	5.9.95	21.11.95	21.11.95	
London Road, Brentwood	TQ57909300	84000	10300	15400	6600	31000	7300	3500	4000	6675
A12 Brentwood	TQ56409220	4700	1100	4400	740	27000	3000	4000	1200	1308
Harold Court Road	TQ55909140	42000	12000	28000	2300	36000	. 5400	70000	8900	6035
Cockabourne Bridge	TQ55199037	21000	<b>770</b> 0	7000	4200	26000	3800	5100	1900	3909
Hacton Lane, Upminster	TQ54908510	11000	4800	16000	2400	46000	13000	9600	2400	4354
A13 Bainham	TO52378262	11700	5500	5500	2900	0033	1300	7100	4100	3036
u/s Thames, Reinham	TQ51098109		43000	Not sampled	int sampled	_ 3000				
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	Courses Rd. Colney Heath	TI 20600570	21/20.2.33.	21/20.2.00.	22/20.0.00	22720.0.00. 40	drv	drv S	dry	dry	56	
	London Colney	TI 18200360	210	100	1600	170	460	400	2400	800	272	
	Above Ver	TI 14200130	1800	360	190	10	530	270	470	200	118	
	100m below Ver	TI 14100130	370	160	670	140	700	500	1200	360	252	
	Bushey Mill Lane, Watford	TQ12109810	400	200	40000	5900	21000	7400	450	240	1203	
	Wagenhall Lane, Watford	TQ11209540	1600	580	39000	3900	19000	5700	5100	590	1660	
	Hampermill, Oxhev	TQ09809390	2200	500	18000	1500	29000	3100	5600	450	1011	
	Tolpits Lane, Watford	TQ07709410	2100	240	7800	560	12000	880	780	60 -	290	
	Springwell Lane	TQ05409310	2600	1400	4200	270	1500	200	2700	820	499	
	u/s Maple Lodge STW (Colne/GUC)	TQ04209220	3500	1000	5400	180	1400	420	2300	620	. 465	
	Coppermill Lane	TQ04109120	14000	2200	2100	310	2400	370	3000	1000	709	
	Moonleid Rd, Harefield	TQ04508840	2600	800	4300	990	10000	1300	15000	3000	1326	
	Denham Gauging Station	TQ05208630	2500	1500	5700	960	4100	740	27000	5000	1519	
	Longbridge, Uxbridge	TQ04508350	- 3400	- 1100	1400	330	4100	670	4800	2700	506	
	d/s Frays (Cricket Field Ro)	TQ05247885	7800	600	5600	3400	15000	5000	14000	2600	2269	
	Accommodation Lane, Harmondsw	tITQ05507760	1600	1600	2500	380	6200	920	10000	1300	923	
	Stanwell Moor	TQ03707445	3600	1000	5000	390	14000	1300	3500	1200	883	
3	Above Thames	TQ03307160	4400	100	3900	280	2700	400	3000	550	280	
	COLNE TRIBUTARIES	1. <b>1.</b> 1	-21.3.95 -	21.3.95.	5.6.95	. 5.6.95.	29,8.95	29.8.95	<b>28.11.95</b>	28.11.95		
	Tykeswater u/s Colne	TL15600150	130	80	6200	1300	520	370	4000000	80000	1324	
	Ver u/s Colne	TL14200140	50	10	3200	450	10000	4000	210000	2600	465	
	Hillfield Brook u/s Coine	TQ11919712	12000	6300	6000	2200	dry	dry	1600000	2100	3076	
	Hansbourne u/s Colne	TQ10809470	7200	. 1040	7300	4000	4500	2300	700000	10000	3128	
	Gada/GUC Rickmansworth	TQ07309430	2100	360	4400	1400	1400	410	1400	100	379	
	Chess u/s Coine	TQ06609470	220	. 90	300	190	2700	2400	7000	300	333	
	Misbourne d/s Gerrards X STW	TQ02908760	.3400	1700	6000	1500	43000	20000	1100000	4000	2125	
	Frays u/s Coine	TQ05407900	9900	6000	15000	2500	11000	2600	560000	2100	3008	
	Wraysbury u/s Colne	TQ03307170	3300	1100	4100	1050	2700	530	140000	1500	9/9	
	CRANE CATCHMENT	11.	21.2.95.	21.2.95.	10.5.95.	10.5.95	7.8.95	7.8.95	23.10.95	23.10.95		
	Roxbourne, Rayners Lane	TQ13558655	20000	13000	110000	13000	110000	15000	170000	7800	11858	
	Yeading Bk East u/s Priors Farm	TQ11178452	5000	1600	4500	880			90000	16000	2824	
	Yeading Bk West, Western Avenue	TQ08378453	14000	2600	3700	510	1800	300	17000	3100	1053	
	Yeading Bk, North Hyde Road	TQ10417889	- 12000	2600	3600	1200	41000	2100	48000	3900	2248	
**	Crane at The Causeway	TQ10637551	14000	4000	8700	2100			16000	1160	2136	
	Crana u/s Duke of Northumberlands	sTQ11167466		3600	6200	• • 1100	4200	280	9000	1900	1205	
	Crane at Northcote Rd	TQ16347477	31000	20000	3800	770			23000	3400	3741	
	Dukes (Upper) at River Gardens	TQ10997462	6000	1300	680	- 340			530	410	566	
· · ·	Dukes (Lower) Kidds Mill	TQ16587596	12000	3000	14000	1500			8000	3100	2407	
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TCFCFCFCFCFCFCFCFCFCFCFCFCMeanTHAMES/TRIBS11.1.9517.5.9525.7.95210.95No sampleNo sample297Ashton KeynesSU060933025001800460024002300No sampleNo sample2620Som dr Ashton Keynes SUSU06093302700190096000156001510020400No sampleNo sample8456CrickladeSU103093003100160014000167014001600160016001617Castle EatonSU14409570410094067006308004503700550624Buscci IntakeSU229098104400860530073050049012601340801Radcot Bridge, LecniadeSU229098104400860530073050049012601340801Radcot Bridge, SamptoSP330004030007004801000270420420483Cerner Wick Brook, South CSU058095027003000290050013002800No sample1165Swinford IntakeSP43900640340046030070800120200300300Swinford IntakeSP43005403400460300500200260400300300300Findmor IntakeSP4300540340010
THAMES/TRIBS       11.1.95       17.5.95       25.7.95       2.10.95         Somerford Keynes       SU08009480       500       180       800       500       200       290       No sample       No sample       297         Ashton Keynes       SU0600930       2600       1700       8100       4600       2400       2300       No sample       No sample       2620         S0m d/s Ashton Keynes STW       SU0630930       2700       1900       96000       15600       151000       20400       No sample       No sample       8456         Cricklade       SU10309380       3100       1600       14000       1670       4800       400       500       550       624         Halfpenny Bridge, Lechiade       SU2130940       4400       800       730       500       490       12600       1340       801         Radcot Bridge       SU2350950       4300       1000       3700       480       1000       2700       400       400       1310       450       184         Radcot Bridge, Bampton       SP340040       4300       70       400       1000       2800       No sample       No sample       1695         Coin, Roundhouse Intake       SP4390640
Somerford Keynes         SU10809480         500         180         800         500         200         290         No sample         No sample         297           Ashton Keynes         SU06009330         2600         1700         8100         4600         2400         2300         No sample         No sample         2620           50m d/s Ashton Keynes STW         SU06309330         2700         1900         96000         15500         151000         20400         No sample         No sample         8456           Cricklade         SU10309380         3100         1600         140000         1670         4800         400         400         1600         1617           Castle Eaton         SU14409570         4100         940         1800         3700         550         624           Buscot Intake         SU22509910         4400         800         500         730         500         490         12600         1340         801           Radcot Bridge         SU2250950         4300         1000         3700         480         1000         2700         4200         420         483           Cemey Wick Brook, South Ce         SU2409880         5600         1300         2900
Ashton Keynes         SU06009330         2600         1700         8100         4600         2400         2300         No sample         No sample         2620           50m d/s Ashton Keynes STW         SU06309330         2700         1900         96000         15600         151000         20400         No sample         No sample         8456           Cricklade         SU10309380         3100         1600         14000         1670         4800         1600         1600         1617           Castle Eaton         SU14409577         4100         940         1800         300         1400         450         3700         550         624           Buscot Intake         SU22909810         4400         860         5300         730         500         490         12600         1340         801           Radcot Bridge         SU28509950         4300         1000         3700         480         1000         2700         3000         184         184           Cemey Wick Brook, South Ce         SU2809530         27000         3000         2900         580         1900         2800         No sample         No sample         No sample         1695           Col, Roundhouse Intake         SP4
50m d/s Ashton Keynes STW         SU06309330         2700         1900         96000         15600         151000         20400         No sample         No sample         8456           Cricklade         SU10309380         3100         1600         140000         1670         4800         1600         400         160         1617           Castle Eaton         SU14409570         4100         940         1800         300         1400         400         5300         650         520           Halfpenny Bridge, Lechlade         SU21309940         4500         970         6700         630         800         450         3700         550         624           Buscot Intake         SU22909810         4400         860         5300         730         500         490         12600         1340         801           Radcot Bridge         Su2850950         4300         70         400         90         400         400         3100         450         184           Cerney Wick Brook, South Ce SU5809530         27000         3000         2900         580         1900         2800         No sample         No sample         1695           Carney Wick Brook, South Ce SU5809530         2700 <t< td=""></t<>
Cricklade         SU10309380         3100         1600         14000         1670         4800         1600         400         1600         1600         1617           Castle Eaton         SU14409570         4100         940         1800         300         1400         400         5300         650         520           Halfpenny Bridge, Lechlade         SU21309940         4500         970         6700         630         800         450         3700         550         624           Buscot Intake         SU22909810         4400         860         5300         730         500         490         12600         1340         801           Radcot Bridge         SU28509550         4300         1000         3700         480         1000         270         4200         420         483           Tadpole Bridge, Bampton         SP3340040         4300         70         400         90         400         3100         450         184           Cerney Wick Brook, South Ce         SU0508530         27000         3000         2900         580         1900         2800         No sample         No sample         1695           Coln, Roundhouse Intake         SP43900640         3400
Castle EatonSU144095704100940180030014004005300650520Halfpenny Bridge, LechladeSU21309940450097067006308004503700550624Buscot IntakeSU2290981044008605300730500490126001340801Radcot BridgeSU2850995043001000370048010002704200420483Tadpole Bridge, BamptonSP33400040430070400904004003100450184Cerney Wick Brook, South CeSU058095302700030002900580190002800No sampleNo sample1695Coln, Roundhouse IntakeSU204098805600130031004900120078029003501148Swinford IntakeSP43900640340046030070800120780200030090Trout Inn, GodstowSP4830092038001702300340200902300190177Folly Bridge, OxfordSP51400550330034063003609004403700520409Donnington BridgeSU5059690450022002000250130014602500440648Abingdon BridgeSU50596904500220020028012009001900280628 <td< td=""></td<>
Halfpenny Bridge, LechladeSU21309940450097067006308004503700550624Buscot IntakeSU2290981044008605300730500490126001340801Radcot BridgeSU2850995043001000370048010002704200420483Tadpole Bridge, BamptonSP3340040430070400904004003100450184Cerney Wick Brook, South CeSU058095302700030002900580190002800No sampleNo sample1695Coln, Roundhouse IntakeSU24009880560013003100490012078029003501148Farmoor IntakeSP4390064034004603007080012042002200171Swinford IntakeSP4390064034004603005002002602003090Trout Inn, GodstowSP4830092038001702300340200902300190177Folly Bridge, OxfordSP51400550330034063003609004403700520409Donnington Bridge, OxfordSP524004454400011002000250130014602500440648Abingdon BridgeSU5005969045000220020028012009001900280628Wi
Buscot Intake         SU22999810         4400         860         5300         730         500         490         12600         1340         801           Radcot Bridge         SU28509950         4300         1000         3700         480         1000         270         4200         420         483           Tadpole Bridge, Bampton         SP3340040         4300         70         400         90         400         400         3100         450         184           Cerney Wick Brook, South Ce         SU05809530         27000         3000         2900         580         19000         2800         No sample         No sample         1695           Coln, Roundhouse Intake         SP43900640         3400         460         300         70         800         120         780         2900         350         1148           Farmoor Intake         SP43900640         3400         460         300         70         800         120         4200         220         171           Swinford Intake         SP43900640         3400         460         300         50         200         260         •200         30         90           Toout Inn, Godstow         SP48300920         3
Radcot Bridge         SU28509950         4300         1000         3700         480         1000         270         4200         420         483           Tadpole Bridge, Bampton         SP3340040         4300         70         400         90         400         400         3100         450         184           Cerney Wick Brook, South Ce         SU05809530         27000         3000         2900         580         19000         2800         No sample         No sample         1695           Coln, Roundhouse Intake         SU20409880         5600         1300         31000         4900         1200         780         2900         350         1148           Farmoor Intake         SP43900640         3400         460         300         70         800         120         4200         220         171           Swinford Intake         SP43900640         3400         460         300         70         800         120         4200         220         171           Swinford Intake         SP4300820         3800         170         500         50         200         2300         190         177           Folly Bridge, Oxford         SP51400550         3300         340
Tadpole Bridge, Bampton       SP33400040       4300       70       400       90       400       400       3100       450       184         Cerney Wick Brook, South Ce       SU05809530       27000       3000       2900       580       19000       2800       No sample       No sample       1695         Coln, Roundhouse Intake       SU20409880       5600       1300       3100       4900       1200       780       2900       350       1148         Farmoor Intake       SP43900640       3400       460       300       70       800       120       780       2900       330       1148         Farmoor Intake       SP43900640       3400       460       300       70       800       120       4200       220       171         Swinford Intake       SP44200850       2800       170       500       50       200       260       200       300       300         Tout Inn, Godstow       SP48300920       3800       170       2300       340       200       90       2300       400       177         Folly Bridge, Oxford       SP51400550       3300       340       6300       260       900       4400       2500       409
Cerney Wick Brook, South Ce SU05809530         27000         3000         2900         580         19000         2800         No sample         No sample         1695           Coln, Roundhouse Intake         SU20409880         5600         1300         31000         4900         1200         780         2900         350         1148           Farmoor Intake         SP43900640         3400         460         300         70         800         120         4200         220         171           Swinford Intake         SP44200850         2800         170         500         50         200         260         •200         30         90           Trout Inn, Godstow         SP48300920         3800         170         2300         340         200         90         2300         190         177           Folly Bridge, Oxford         SP51400550         3300         340         6300         360         900         440         3700         520         409           Donnington Bridge, Oxford         SP52400445         44000         1100         20000         250         1300         1460         2500         440         648           Abingdon Bridge         SU50059690         4500
Coln, Roundhouse Intake       SU20409880       5600       1300       31000       4900       1200       780       2900       350       1148         Farmoor Intake       SP43900640       3400       460       300       70       800       120       4200       220       171         Swinford Intake       SP44200850       2800       170       500       50       200       260       •200       30       90         Trout Inn, Godstow       SP48300920       3800       170       2300       340       200       90       2300       190       177         Folly Bridge, Oxford       SP51400550       3300       340       6300       360       900       440       3700       520       409         Donnington Bridge, Oxford       SP52400445       44000       1100       20000       250       1300       1460       2500       440       648         Abingdon Bridge       SU50059690       45000       2200       280       1200       900       1900       280       628         Windrush, Worsham Intake       SP30201070       1100       110       26000       940       200       320       500       80       227
Farmoor IntakeSP439006403400460300708001204200220171Swinford IntakeSP44200850280017050050200260 $\cdot$ 2003090Trout Inn, GodstowSP4830092038001702300340200902300190177Folly Bridge, OxfordSP51400550330034063003609004403700520409Donnington Bridge, OxfordSP5240044544000110020000250130014602500440648Abingdon BridgeSU50059690450002200200028012009001900280628Windrush, Worsham IntakeSP3020107011001102600094020032050080227
Farmoor IntakeSP439006403400460300708001204200220171Swinford IntakeSP44200850280017050050200260•2003090Trout Inn, GodstowSP4830092038001702300340200902300190177Folly Bridge, OxfordSP51400550330034063003609004403700520409Donnington Bridge, OxfordSP5240044544000110020000250130014602500440648Abingdon BridgeSU50059690450002200200028012009001900280628Windrush, Worsham IntakeSP3020107011001102600094020032050080227
Swinford Intake       SP44200850       2800       170       500       50       200       260 $\cdot$ 200       30       90         Trout Inn, Godstow       SP48300920       3800       170       2300       340       200       90       2300       190       177         Folly Bridge, Oxford       SP51400550       3300       340       6300       360       900       440       3700       520       409         Donnington Bridge, Oxford       SP52400445       4400       1100       20000       250       1300       1460       2500       440       648         Abingdon Bridge       SU50059690       45000       2200       2000       280       1200       900       1900       280       628         Windrush, Worsham Intake       SP30201070       1100       110       26000       940       200       320       500       80       227
Trout Inn, Godstow       SP48300920       3800       170       2300       340       200       90       2300       190       177         Folly Bridge, Oxford       SP51400550       3300       340       6300       360       900       440       3700       520       409         Donnington Bridge, Oxford       SP52400445       44000       1100       20000       250       1300       1460       2500       440       648         Abingdon Bridge       SU50059690       45000       2200       200       280       1200       900       1900       280       628         Windrush, Worsham Intake       SP30201070       1100       110       26000       940       200       320       500       80       227
Folly Bridge, OxfordSP51400550330034063003609004403700520409Donnington Bridge, OxfordSP5240044544000110020000250130014602500440648Abingdon BridgeSU50059690450002200200028012009001900280628Windrush, Worsham IntakeSP3020107011001102600094020032050080227
Donnington Bridge, Oxford         SP52400445         44000         1100         20000         250         1300         1460         2500         440         648           Abingdon Bridge         SU50059690         45000         2200         2000         280         1200         900         1900         280         628           Windrush, Worsham Intake         SP30201070         1100         110         26000         940         200         320         500         80         227
Abingdon Bridge         SU50059690         45000         2200         2000         280         1200         900         1900         280         628           Windrush, Worsham Intake         SP30201070         1100         110         26000         940         200         320         500         80         227
Windrush, Worsham Intake SP30201070 1100 110 26000 940 200 320 500 80 227
Windrush, Newbridge SP40200190 1700 180 2400 370 400 340 2100 540 333
Northfield Brook, Minchery Fa SP54400240 No sample No sample 75000 14800 37000 1600 4900 790 2655
Northfield Brook, Sandford SP53400190 1100000 28000 28000 6000 107000 27200 105000 11800 15238
Farmoor Cascade SP45110647 340 80 LT100 LT100 300 270 LT1 LT1 38

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	NGR	1st Quarter	1st Quarter 2	nd Quarter 2	nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric
		тс	FC	тс	FC	тс	FC	тс	FC	Mean
		22.2.95		17.5.95		25.7.95		2.10.95	÷	
Harwell Intake	SU50539442	30000	1400	8700	1230	16000	7300	3200	610	1664
Sutton Bridge, Culham	SU50909480	4000	110	11000	630	1600	890	2400	310	372
Clifton Main Weir	SU54109400	12000	1200	7200	1260	168000	6300	8200	1470	1934
Clifton Hampden Bridge	SU54709538	31000	1200	8000	1200	140000	18900	11200	1560	2553
Days Lock	SU56809350	35000	1800	3800	1080	12100	1620	5700	520	1131
Shillingford Bridge	SU59709210	38000	3300	3400	780	2500	810	3900	550	1035
Wallingford Bridge	SU61008950	34000	1600	1900	520	1000	500	4100	560	695
South Stoke	SU59308370	39000	3800	1500	970	2800	1100	5200	2240	1736
AQMS, Cleeve	SU60108181	35000	2400	1100	50	3300	390	4800	370	363
Mapledurham Weir	SU69907670	16000	3000	1000	280	900	630	2600	380	670
Caversham Weir	SU72107420	46000	4700	6100	1100	· 400	410	4200	1470	1329
Sonning Weir	SU75307560	34000	4100	7200	3400	3000	1020	39000	1420	2120
Henley Bridge	SU76358260	43000	3300	91000	4700	1500	200	7300	630	1182
Hambleden	SU78458505	33000	3000	15000	1320	200	170	6300	350	813
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		16.2.95		11.5.95		30.8.95		10.11.95	4.0	
Marlow Weir	SU85308620	7700	970	1000	70	200	110	6200	390	232
Spade Oak	SU88308730	21000	2200	53000	1790	51000	1980	4300	1900	1962
Cookham Bridge	SU89808560	15000	1200	6300	480	11600	1360	13000	2500	1183
Boveney Weir	SU94407770	26000	2400	2900	290	4700	520	3800	790	1310
Windsor Bridge	SU96757725	54000	3800	4700	190	4500	890	10000	2300	1103
Datchet MWD Intake	SU98607670	38000	3000	3200	460	7300	. 770	15200	1760	1169
Three Valleys Intake, Sunnym	SU99807590	36000	1000	8700	350	4200	610	3800	1100	696
1km d/s Windsor STW	SU99207390	44000	2400	8300	670	10600	1010	13900	1890	1324
MWD Intake, Bell Weir, Egha	TQ01007240	37000	1300	9600	530	12700	1600	14300	3700	1421
NSWC Intake, Egham	TQ02257182	36000	2100	6800	690	10500	1260	20400	2700	1490

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· .	NGR	1st Quarter	1st Quarter 2	nd Quarter 2	nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric
×		тс	FC	тс	FC	TC .	FC	тс	FC	Mean
		16.2.95		11.5.95		30.8.95		10.11.95		
800m d/s Colne	TQ03707080	37000	1000	9600	890	3900	340	14300	3700	1029
MWD Intake, Littleton	TQ04606940	38000	1400	8500	810	5600	610	12000	2100	1098
NSWC Intake, Chertsey	TQ04906790	43000	1100	8900	430	2700	320	8700	1610	703
NSWC Intake, Walton	TQ10506810	30000	5500	9000	860	3100	420	11000	1700	1356
MWD Intake, Walton	TQ07506590	30000	4200	8300	3300	<b>260</b> 0	290	13000	1260	1500
MWD Intake, Hampton	TQ13306920	6000	360	7900	300	LT100	40	4900	490	214
Hampton Court Bridge	TQ15406850	41000	4600	11100	280	4300	450	1500	230	604
u/s Ravens Ait	TQ17406770	40000	6000	12300	380	1400	390	4100	670	879
Lower Ham Road, Kingston	TQ17907050	66000	5400	24000	340	2400	520	44000	4500	1440
Teddington	TQ17007130	55000	4800	9900	180	. 1900	270	4600	310	519

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	NGR	1st Quarter	1st Quarter 2	2nd Quarter:	2nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric
		тс	FC	тс	FC	тс	FC	тс	FC	Mean
UPPER THAMES TRIBUTARI	ES	9.2.95		31.5.95				14.11.95		
Key, Greenacres, Braydon	SU05438773	600	100	17000	4900	No sample	<sup>©</sup> No sample	700	100	366
Key, Purton Stoke	SU08809050	34000	1800	44000	15400	No sample	No sample	2400	470	2353
Key, A419 Roadbridge, Crickl	SU10809350	2700	460	28000	5200	No sample	No sample	2900	690	609
Derry Brook, Minety	SU04209120	30000	10000	120000	23500	No sample	No sample	1200	230	15330
Derry Brook, Ashton Keynes	SU04709280	5800	1400	20000	9600	No sample	No sample	2100	560	1960
Swill Brook, Oaksey Lane	ST99709270	1200	130	700	320	No sample	No sample	1600	870	331
Swill Brook, Pike Corner, Asht	t SU04299326	600	320	600	810	No sample	No sample	900	100	296
Ampney Brook, u/s Ampney N	I SP07000170	500	30	400	360	No sample	No sample	Not Sampled	Not Sampled	104
Ampney Brook, Down Ampne	SU09459686	800	. 160	600	350	No sample	No sample	1100	140	199
Ampney Brook, Sheeppen Bri	SU10509520	400	20	900	510	No sample	No sample	1000	180	. 122
			•					<ul> <li>C</li> </ul>		
MOLE CATCHMENT		14.2.95	!	9,5.95		31.8.95		7.11.95		
Gatwick Stream, Tinsley Bridg	TQ29203970	1600	3200	12600	7 <b>8</b> 0	35000	1150	18200	3700	1805
Gatwick Stream, u/s Mole	TQ27604240	3200	8500	205000	17200	64000	16000	107000	GT20000	14707
Mole, u/s Gatwick Stream	TQ27604230	8300	6800	400	10	38000	8200	12400	5300	1927
Mole, u/s Horley STW	TQ26704360	3500	7400	130000	14000	644000	17300	92000	GT20000	13760
Mole, Kinnersley Manor	TQ26304630	8500	11000	23000	4800	2700	3800	81000	15400	7456
Mole, u/s Dorking STW	TQ17805040	36000	25000	1700	480	24000	1110	10900	1350	2059
Mole, Burford Bridge, Mickleh	TQ17105190	44000	26000	68000	10300	63000	1090	25000	1940	4878
Mole, River Lane, Leatherhea	TQ14805710	8200	12000	1800	280	700	420	2600	780	1024
Mole, Mill Lane, Cobham	TQ11205990	5100	6400	39000	9500	5500	1980	36000	10700	<b>59</b> 91
Mole, Royal Mills, Esher	TQ13106560	7600	11000	1300	120	300	300	3700	830	757
Mole, u/s Thames	TQ15406830	9000	8000	4300	480	7100	1550	15300	3600	21 <b>95</b>

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		NGR	1st Quarter	1st Quarter 2	nd Quarter?	2nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric	
3		3	TC	FC	TC	FC	TC	FC	TC	FC	Mean	
	WEY CATCHMENT		14.2.95		9.5.95		31.8.95		7,11.95			
	Tillingbourne, Shalford Intake	SU99904790	600	760	2500	970	600	610	1000	480	682	
	Wey, Gauging Station, Tilford	SU87404340	4600	8600	3300	1010	2600	1000	10400	1230	1808	
	Wey, u/sTillingbourne	SU99704780	1300	6200	17000	2100	3100	640	5500	1600	1911	
		4										
	BLACKWATER		14.2.95	•	9.5.95		31.8.95		7.11.95			
	Coleford Bridge	SU87905590	20000	17000	63000	7400	85000	21300	7900	2800	9307	
	d/s Sandhurst STW	SU81906190	21000	21000	215000	16800	133000	19800	59000	17400	18672	
	u/s Whitewater	SU74306340	26000	13000	84000	9300	7700	2300	38000	6200	6444	
		10										
	LEACH		15.2.95		14.6.95		22.8.95				· · ·	
	u/s Northleach STW	SP11901410	2000	390	1000	800	4200	920	No sample	No sample	660	
	East Leach, Turville	SP20150515	1800	10	100	190	400	180	No sample	No sample	70	
	u/s Little Faringdon Trout Far	SP22150128	2300	. 90	400	220	4200	1280	No sample	No sampie	294	
	Lechlade Mill, Lechlade	SU22929965	1200	80	1100	200	2900	1620	No sample	No sample	296	
	B4449, Lechlade	SU22609910	3100	30	3100	1150	8300	270	No sample	No sample	210	
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	GREAT BROOK											
	Isle of Wight Bridge	SP33300080	4700	· 30	900	200	3000	470	No sample	No sample	141	
	Chimney Lane, Aston	SP35100180	5000	90	2700	600	2900	700	No sample	No sample	336	
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	SHILL BROOK											
	u/s Carterton STW	SP27900480	500	LT10	59000	140	Not Sampled	Not Sampled	No sample	No sample	37	
	Roadbridge, Black Bourton	SP28500400	75000	2600	72000	7700	65000	13200	No sample	No sample	6417	
	Fishers Bridge, Bampton	SP31900290	8800	1100	4700	760	500	440	No sample	No sample	717	
	u/s Great Brook	SP34310162	6500	1200	4600	850	27000	4000	No sample	No sample	1598	
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	NGR	1st Quarter	1st Quarter 2	2nd Quarter 2r	nd Quarter	3rd Quarter	3rd Quarter	4th Quarter	4th Quarter	FC Geometric
	,	тс	FC	тс	FC	тс	FC	тс	FC	Mean
WYE CATCHMENT		21.2.95		20.6.95		5.9.95		5.12.95		
Wye, Chapel Lane, High Wyc	SU84309380	200	60	300	200	1900	460	2300	310	203
Wye, Fryers Lane Recreation	SU84809380	200	40	400	250	1600	630	900	280	205
Wye, Bassetbury Lane, High	SU87809420	33000	5400	LT100	LT10	2400	430	7900	650	351
Wye, King George V, High Wy	SU89209150	31000	6000	. 27000	2900	113000	17500	12100	1370	4519
Wye, 25m d/s Wycombe Mars	SU90309040	25000	4500	17000	2800	71000	16100	10800	1120	3882
Wye, u/s Clapton Mill, Woobu	SU90409020	25000	3100	40000	2200	74000	14800	8100	890	3079
Wye, 50m u/s Soho Mill, Woo	SU91008795	23000	3000	9000	3800	105000	16100	3100	820	3503
Wye, Gauging Station, Hedso	SU89608660	20000	300	10300	2600	116000	16300	7300	780	3156
Hughenden Stream, u/s Wye	SU86209320	1500	220	800	210	700	720	41000	1090	436
Wycombe Marsh Brook, u/s	SU90059053	100	30	1300	110	32000	4900	700	150	222
MISCELLANEOUS ABSTRAC	TION SITES	16.2.95	,	29.6.95		27.9.95		7.12.95		
Cherwell, Grimsbury Intake	SP46124232	7600	950	800	40	2200	30	2000	700	168
Raw Water, Grimsbury Works	SP45854175	860	300	LT100	120	1700	10	1200	1070	140
Sor Brook, Bodicote Intake	SP45903720	· 7200	860	1900	560	3000	1350	1800	700	853
Kennet and Avon Canal, Fobn	SU70507100	. 3700	1000	1300	380	3200	420	3300	1000	609
3 ( <sup>44</sup> )		28.2.95			30					
Glyme, Blenheim Intake	SP43701520	540	220	LT100	20	LT1	20	1100	380	76
14. A		23.1.95	· ·	19.4.95		4.7.95	-1	30.10.95		1
New River Turkey Brook	TQ34409860	3100	2600	4200	700	6500	500	130	100	549
New River Hornsey Intake	TQ30708960	2200	350	400	20	400	40	370	320	97
Lee Enfield Lock Intake	TQ37309800	15000	6000	510	110	1100	230	170	90	342
Lee Chingford South Intake	TQ37409840	17000	5700	420	30	2800	320	170	100	272
Lee Chingford Supply Chn	TQ36709320	16000	5400	460	100	3000	350	100	100	371

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