



NRA

**PESTICIDES IN THE AQUATIC
ENVIRONMENT**

Regional Data Appendix

*National Rivers Authority
Anglian Region*



NRA

National Rivers Authority

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ENVIRONMENT**

Regional Data Appendix

Report of the National Rivers Authority

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ENVIRONMENT AGENCY



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INTRODUCTION

This data appendix is issued in support of the NRA's Water Quality Series Report No. 26 "Pesticides in the Aquatic Environment". It should be read in conjunction with the report.

The data show all pesticides which exceeded a 0.1 $\mu\text{g/l}$ standard in each of the eight NRA Regions in 1992 and 1993, for surface freshwaters, estuaries and coastal waters and groundwaters. These waters are not necessarily used to supply drinking water and the results do not reflect the quality of drinking water from the tap where a limit of 0.1 $\mu\text{g/l}$ is specified in the Drinking Water Directive. Treated drinking water data are given in the Annual Report of the Drinking Water Inspectorate.

The tables show the total number of samples taken, the range of limits of detection (LOD) used in the analysis, the percentage of samples in which the pesticide was detected and the percentage detected above 0.1 $\mu\text{g/l}$, and also the 95 percentile.

Table 1. Pesticides exceeding 0.1 µg/l in surface freshwaters in Anglian Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Simazine	303	0.025-0.075	92	39	0.33	*Chlorpropham	28	0.01	68	43	633.04
Atrazine	278	0.025-0.1	92	38	0.46	Simazine	313	0.025-0.09	89	32	0.38
Isoproturon	191	0.1	29	29	0.50	Isoproturon	200	0.05	42	31	0.36
Mecoprop	251	0.1-0.5	32	28	0.63	Atrazine	313	0.005-0.027	86	30	0.29
Dicamba	223	0.1-0.26	9	9	0.30	Mecoprop	245	0.05-0.1	37	23	0.29
MCPA	223	0.1	12	9	0.21	*Carbendazim	40	0.1-0.15	10	10	0.12
Pentachlorophenol	243	0.01-0.1	24	9	0.14	Diuron	197	0.05	22	10	0.19
Terbutryn	224	0.025-0.042	32	7	0.14	Bentazone	196	0.05	25	9	0.26
Diuron	191	0.1	6	6	0.07	Trietazine	310	0.02-0.026	20	6	0.16
Diazinon	42	0.01-0.02	5	5	0.03	MCPA	235	0.05-0.1	10	6	0.07
Chlorotoluron	191	0.1	5	5	0.03	Propyzamide	197	0.025	18	5	0.11
Gamma HCH	469	0.001-0.02	89	5	0.15	Terbutryn	310	0.02-0.1	17	4	0.07
Trietazine	304	0.025	15	4	0.12	Gamma HCH	482	0.001-0.01	86	4	0.11
2,4 D	212	0.05-0.1	4	4	0.05	Metazachlor	197	0.025	23	3	0.06
Dieldrin	458	0.001-0.051	6	4	0.16	2,4,D	233	0.05-0.1	5	3	0.03
Dichlorprop	210	0.1	3	3	0.04	Dicamba	235	0.05-0.1	5	3	0.04
2,3,6 TBA	222	0.1	3	3	0.02	Dieldrin	470	0.0007-0.06	7	3	0.05

Table 1 continued

1992						1993					
Pesticide	Total Number of Samples	Range of LOD $\mu\text{g/l}$	% of Samples > LOD	% of Samples > 0.1 $\mu\text{g/l}$	95 Percentile $\mu\text{g/l}$	Pesticide	Total Number of Samples	Range of LOD $\mu\text{g/l}$	% of Samples > LOD	% of Samples > 0.1 $\mu\text{g/l}$	95 Percentile $\mu\text{g/l}$
Bromoxynil	186	0.05	9	2	0.15	2,3,6 TBA	235	0.05-0.1	3	3	0.02
Carbetamide	191	0.1	1	1	0.004	Benazolin	196	0.05-0.1	9	3	0.03
Ioxynil	186	0.05	1	0.5	0.02	Ethofumesate	197	0.025	16	3	0.03
Methabenzthiazuron	190	0.1	0.5	0.5	0.004	Chlorotoluron	197	0.05	4	2	0.02
Propyzamide	191	0.025-0.1	3	0.5	0.01	Bromoxynil	200	0.025-0.1	4	2	0.04
Prometryn	224	0.025-0.075	3	0.4	0.005	Metalaxyl	197	0.05	6	2	0.02
Chlorothalonil	406	0.001-0.01	0.5	0.2	0.004	Clopyralid	196	0.05-0.1	3	2	0.01
						Linuron	197	0.05	1	1	0.09
						Tri-allate	197	0.025	10	1	0.04
						Dimethoate	202	0.01-0.04	10	1	0.03
						Phenmedipham	106	0.05	1	1	0.004
						Dichlorprop	233	0.05-0.1	1	1	0.003
						Pentachlorophenol	273	0.01-0.1	11	1	0.02
						Pirimiphos methyl	198	0.01-0.025	1	0.5	0.007
						Diazinon	202	0.01-0.025	2	0.5	0.01
						Chlorpyrifos methyl	204	0.01-0.025	1	0.4	0.007
						Tecnazene	437	0.001-0.5	3	0.2	0.02

* Special investigations

Table 2. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in Anglian Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	15	0.025	67	33	0.19	Diuron	51	0.05	37	31	0.25
Diuron	6	0.05-0.1	50	33	0.18	Isoproturon	51	0.05	43	25	0.38
Simazine	15	0.025	60	13	0.12	Simazine	51	0.025	51	14	0.14
Pentachlorophenol	47	0.01	74	11	0.31	Atrazine	51	0.025-0.026	51	12	0.12
						Methabenzthiazuron	49	0.05	2	2	0.01
						Pentachlorophenol	87	0.01-0.1	37	1	0.04

Table 3. Pesticides exceeding 0.1 µg/l in groundwaters in Anglian Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	81	0.025	38	15	0.25	Atrazine	42	0.025	60	40	0.41
Mecoprop	79	0.05-0.1	3	3	0.02	Simazine	42	0.025-0.057	45	19	0.23
Isoproturon	80	0.05-0.1	3	3	0.05	Bentazone	34	0.05	18	15	0.19
Simazine	81	0.025	21	2	0.07	Terbutryn	42	0.025	12	7	2.36
Terbutryn	81	0.025	6	2	0.24	Trietazine	42	0.025	10	5	0.33
Bromoxynil	75	0.06	1	1	0.05	Chlorotoluron	27	0.05	7	4	0.28
Chlorotoluron	80	0.05-0.1	3	1	0.01	Mecoprop	27	0.05-0.1	4	4	0.05
Trietazine	81	0.025	4	1	0.04	2,3,6 TBA	27	0.05-0.1	4	4	0.03
Dicamba	93	0.05-0.1	1	1	0.01	Ethofumesate	31	0.025-0.03	6	3	0.04
2,3,6 TBA	93	0.05-0.1	1	1	0.02	Diuron	33	0.05	6	3	0.4
						Clopyralid	30	0.05-0.1	3	3	0.02

Table 4. Pesticides exceeding 0.1 µg/l in surface freshwaters in Northumbria & Yorkshire Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
*Mecoprop	63	0.2-0.5	81	81	35.29	*Mecoprop	61	0.1-0.2	70	67	34.14
*MCPA	63	0.2-0.5	70	70	31.75	*MCPA	61	0.1-0.2	57	57	28.98
*Dichlorprop	30	0.2-0.5	57	57	2.31	*Dichlorprop	18	0.1-0.2	50	50	2.62
*2,4 D	60	0.2-10	50	50	5.67	*2,4 D	55	0.1-0.2	51	47	5.28
Isoproturon	16	0.01-0.05	38	25	0.41	*2,4 DB	56	0.1-0.5	32	30	2.57
*MCPB	62	0.2-1	21	21	2.1	*MCPB	59	0.1-0.5	31	29	2.6
Pentachlorophenol	1185	0.02-2.0	24	20	0.45	PCSD/eulan	351	0.01-0.1	30	21	0.23
Atrazine	192	0.008-3	32	16	0.18	Pentachlorophenol	1032	0.02-0.2	20	18	0.44
Simazine	195	0.005-1.4	18	11	0.13	Atrazine	307	0.005-4.0	62	16	0.20
Permethrin	516	0.01-0.15	23	10	0.11	Simazine	290	0.005-2.0	52	12	0.25
Diazinon	280	0.005-0.6	13	7	0.11	Permethrin	469	0.01-0.5	17	8	0.12
Diuron	16	0.01-0.05	19	6	0.05	Diazinon	416	0.005-0.3	22	7	0.12
Chlorfenvinphos	254	0.002-0.05	4	3	0.02	Propetamphos	488	0.005-0.2	15	6	0.08
Propetamphos	285	0.002-0.06	8	3	0.06	Chlorfenvinphos	510	0.005-0.1	13	5	0.06
Gamma HCH	1525	0.001-0.009	73	1	0.04	Ioxynil	25	0.1-0.2	4	4	0.12
Azinphos methyl	247	0.05-0.1	1	0.8	0.004	Bromoxynil	27	0.1-0.2	4	4	0.13
Heptachlor	384	0.002-1	0.5	0.5	0.07	Gamma HCH	1430	0.001-2	69	1	0.04
Dieldrin	1447	0.001-0.01	18	0.5	0.01	Cyfluthrin	460	0.01-0.1	0.6	0.2	0.001
Azinphos ethyl	297	0.001-0.2	1	0.3	0.004	Fenitrothion	491	0.005-0.2	0.4	0.2	0.001
Dichlorvos	320	0.001-0.6	1	0.3	0.004	Malathion	497	0.005-0.1	1	0.2	0.0008
Fenitrothion	322	0.001-0.5	1	0.3	0.003	Azinphos ethyl	518	0.001-0.1	0.1	0.1	0.0006
Fenthion	287	0.005-0.3	0.3	0.3	0.001						
Cypermethrin	519	0.001-0.1	0.5	0.1	0.003						

* Pesticides associated with a manufacturing discharge. These pesticides are not illustrated in the regional summary histograms, because they result from a manufacturing site.

Table 5. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in Northumbria & Yorkshire Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Pentachlorophenol	264	0.02-0.2	68	38	1.17	Pentachlorophenol	83	0.02-0.2	24	14	0.16

Table 6. Pesticides exceeding 0.1 µg/l in groundwaters in Northumbria & Yorkshire Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Diazinon	283	0.005-0.05	2	1	0.009						
Azinphos ethyl	261	0.08	1	0.7	0.006	No exceedences of 0.1 µg/l					
Azinphos methyl	284	0.06-0.08	0.7	0.3	0.003						

Table 7. Pesticides exceeding 0.1 µg/l in surface freshwaters in North West Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
MCPA	5	0.1	40	40	0.14	Pentachlorophenol	291	0.1-0.5	13	12	0.16
Pentachlorophenol	350	0.05-1	26	26	0.30	Azinphos methyl	121	0.01-0.4	9	7	0.08
Atrazine	196	0.1-1.0	11	11	1.54	Permethrin	47	0.1	13	6	0.12
Permethrin	42	0.001-0.1	10	10	0.23	Atrazine	106	0.005-1.0	10	0.9	0.009
Simazine	198	0.1-1.0	5	5	0.25	A HCH	269	0.003-0.05	0.7	0.3	0.004
Hexachlorobenzene	214	0.05	5	4	0.05						
Gamma HCH	402	0.001-0.02	47	1	0.05						
pp DDT	221	0.001-0.006	1	0.9	0.005						
A HCH	404	0.005-0.054	0.2	0.2	0.002						

Table 8. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in North West Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Pentachlorophenol	106	0.1	8	7	0.07	Azinphos methyl	11	0.01-0.4	9	9	0.07
Gamma HCH	93	0.001-0.003	53	4	0.08	Pentachlorophenol	277	0.1-0.5	1	1	0.01
Atrazine	101	1.0	2	2	0.15	Trifluralin	251	0.005-0.006	0.8	0.8	0.009
Hexachlorobenzene	175	0.05	5	2	0.03	A HCH	277	0.003-0.054	3	0.7	0.009
						Simazine	193	1.0	3	0.5	0.02
						DDT op	273	0.005-0.006	0.4	0.4	0.001
						pp DDT	273	0.001-0.005	1	0.4	0.004
						Aldrin	274	0.001-0.005	1	0.4	0.003
						Dieldrin	277	0.001-0.006	0.4	0.3	0.001

No specific groundwater monitoring is undertaken in the Region. The water company would inform the NRA of any exceedences, but to date no confirmed exceedences have been reported.

Table 9. Pesticides exceeding 0.1 µg/l in surface freshwaters in Severn-Trent Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
2,4 D	189	1.0	30	30	1.01	Mecoprop	598	0.025	42	20	0.32
Isoproturon	508	0.1-0.5	20	19	0.56	Atrazine	858	0.02-0.1	52	14	0.28
Atrazine	1241	0.02-0.2	54	14	0.27	MCPA	605	0.025	24	11	0.15
Mecoprop	840	0.025-1.0	33	13	0.28	Simazine	855	0.02-0.1	46	10	0.17
Simazine	1244	0.02-0.25	43	12	0.20	2,4 DCPA	607	0.025	25	9	0.12
Chlorotoluron	794	0.1-0.5	7	7	0.15	2,4 D	597	0.025-0.152	23	9	0.11
Diuron	311	0.1	10	6	0.36	Fluocifuron	158	0.1-1.0	6	6	0.1
2,4 DCPA	668	0.025-1.0	9	4	0.18	Pentachlorophenol	2024	1.0-50.0	5	5	0.38
Diazinon	1153	0.02-0.1	19	4	0.08	Isoproturon	477	0.1	3	3	0.09
Sulcofuron	182	0.1-0.5	3	3	0.03	Diazinon	924	0.02-0.1	15	3	0.05
Dichlobenil	642	0.02-0.25	5	4	0.08	Linuron	532	0.1	2	2	0.08
MCPA	789	0.025-5.0	11	3	0.16	Diuron	373	0.1	2	2	0.13
Linuron	807	0.1	2	2	0.10	Propazine	680	0.02-0.1	6	2	0.02
Pentachlorophenol	2060	1.0-180	2	2	0.13	Dichlobenil	541	0.02-0.25	5	1	0.02
Fluocifuron	182	0.1-0.5	2	2	0.04	Dichlorprop	330	0.025	14	1	0.03
Propazine	727	0.02-0.1	5	1	0.01	Gamma HCH	1370	0.005-0.025	23	1	0.4
Pirimiphos methyl	473	0.02-0.5	2	1	0.02	Sulcofuron	158	0.1-1	1	0.6	0.007
Chlorfenvinphos	1079	0.02-0.1	4	1	0.01	Propetamphos	922	0.02-0.1	5	0.4	0.01

Table 9 continued

1992						1993					
Pesticide	Total Number of Samples	Range of LOD $\mu\text{g/l}$	% of Samples > LOD	% of Samples > 0.1 $\mu\text{g/l}$	95 Percentile $\mu\text{g/l}$	Pesticide	Total Number of Samples	Range of LOD $\mu\text{g/l}$	% of Samples > LOD	% of Samples > 0.1 $\mu\text{g/l}$	95 Percentile $\mu\text{g/l}$
Carbetamide	116	0.1	0.8	0.8	0.005	Dichlorvos	787	0.05-0.25	2	0.4	0.007
Bromoxynil	812	1.0	0.7	0.7	0.08	Chlorfenvinphos	913	0.02-0.1	2	0.3	0.005
Trifluralin	1198	0.005-0.5	3	0.6	0.01	2,4, DB	326	0.025	0.6	0.3	0.002
Propetamphos	1216	0.02-0.1	8	0.6	0.02	Ioxynil	427	1.0	0.2	0.2	0.007
Gamma HCH	1547	0.005-0.5	12	0.4	0.01	Malathion	912	0.02-0.1	0.7	0.1	0.001
Ioxynil	806	1.0	0.3	0.3	0.02						
Dichlorprop	270	0.025-0.05	4.43	0.37	0.008						
MCPB	792	0.025-1.0	0.3	0.2	0.008						
Dichlorvos	1114	0.05-0.25	0.6	0.1	0.002						

Table 10. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in Severn-Trent Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Isoproturon	3	0.1	33	33	2.45	Linuron	6	0.1	17	17	0.48
Atrazine	12	0.02-0.1	42	17	0.16	Isoproturon	7	0.1	14	14	0.28
Diuron	7	0.1	29	14	0.31						
Simazine	12	0.02-0.1	42	8	0.13						
Diazinon	12	0.02-0.1	17	8	0.08						
Propazine	12	0.02-0.1	8	8	0.06						
Chlorotoluron	14	0.1	7	7	0.03						
Linuron	14	0.1	7	7	0.06						

Table 11. Pesticides exceeding 0.1 µg/l in groundwaters in Severn-Trent Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Trietazine	25	0.02-0.04	8	8	0.47						
Terbutryn	25	0.02-0.04	8	8	0.44	No exceedences of 0.1 µg/l					
Isoproturon	25	0.1	8	4	0.05						
Linuron	25	0.1	4	4	0.04						

Table 12. Pesticides exceeding 0.1 µg/l in surface freshwaters in Southern Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	202	0.02	70	23	0.28	Diuron	21	0.02	86	71	2.38
Simazine	200	0.02	46	22	0.31	Simazine	132	0.02	57	20	0.30
D HCH	230	0.005	8	34	0.05	Atrazine	133	0.02	82	16	0.47
Diuron	5	0.05	100	100	2.45	D HCH	178	0.005	8	4	0.22
E HCH	229	0.005	4	0.4	0.006	E HCH	162	0.005	7	2	0.03
Pentachlorophenol	189	0.05-0.1	3	1	0.01	A HCH	151	0.005	8	2	0.02
						Pentachlorophenol	124	0.02-0.05	14	2	0.05
						Dichlorvos	151	0.02	1	1	0.02
						Gamma HCH	175	0.005	53	0.5	0.04
						B HCH	178	0.005	3	0.5	0.003

Table 13. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in Southern Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Simazine	6	0.02	67	50.0	0.4	Pentachlorophenol	212	0.02-0.05	7	1	0.02
Atrazine	8	0.02	88	13	0.13						
Azinphos methyl	202	0.02	0.5	0.5	0.004						
Parathion	206	0.02	1	0.5	0.004						
Gamma HCH	279	0.005	7	0.3	0.006						

Table 14. Pesticides exceeding 0.1 µg/l in groundwaters in Southern Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	16	0.02	38	6	0.35	Isoproturon	7	0.02	14	14	0.07

Table 15. Pesticides exceeding 0.1 µg/l in surface freshwaters in South Western Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Mecoprop	265	0.05-0.5	18	18	0.48	2,4 D	33	0.4	52	52	3.27
Atrazine	977	0.009-0.2	43	6	0.09	Mecoprop	314	0.2	41	41	1.25
Ioxynil	16	0.3	6	6	0.07	Atrazine	970	0.008-0.155	55	11	0.15
Sulcofuron	170	0.06-1	6	5	0.33	MCPA	313	0.4	8	8	0.25
Propetamphos	173	0.005	13	2	0.02	Tecnazene	111	0.01-0.011	19	8	2.36
MCPA	258	0.4-0.9	2	2	0.04	Isoproturon	562	0.02-0.08	11	5	0.09
Isoproturon	857	0.02-0.8	7	2	0.04	Simazine	978	0.005-0.1	29	2	0.04
Flucofuron	146	0.06-0.6	1	1	0.02	Hexachlorobenzene	689	0.001-0.051	7	2	0.07
Simazine	1052	0.001-0.02	19	0.7	0.02	PCSD/eulan	470	0.05-4.1	1	0.8	0.02
Trifluralin	187	0.002-0.01	11	0.5	0.009	Propetamphos	399	0.005-0.05	7	0.7	0.01
Chlorotoluron	858	0.02-0.5	4	0.3	0.008	Azinphos methyl	149	0.106-5.7	0.6	0.6	0.004
Gamma HCH	2267	0.001-0.03	45	0.2	0.02	Diazinon	467	0.0047-0.05	8	0.4	0.007
Dieldrin	1979	0.001-0.008	23	0.1	0.003	Chlorotoluron	570	0.02-0.05	3	0.3	0.006
						Pentachlorophenol	338	0.05	0.3	0.3	0.001
						Dieldrin	2254	0.0006-0.038	18	0.3	0.004
						Trifluralin	1947	0.002-0.082	4	0.2	0.004
						Gamma HCH	2530	0.0005-0.029	42	0.1	0.012
						Flucofuron	598	0.025-0.6	4	0.1	0.013
						Sulcofuron	598	0.025-1	4	0.1	0.02

Table 16. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in SouthWestern Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	9	0.01	89	11	0.1	Atrazine	11	0.009-0.01	73	18	0.18
Simazine	29	0.001-0.005	14	3	0.07	PCSD/culan	45	0.05-0.36	9	9	0.13
						Hexachlorobenzene	189	0.001-0.012	13	5	0.11
						Pentachlorophenol	125	0.05	5	3	0.03
						Gamma HCH	603	0.0005-0.026	89	1	0.04
						Dieldrin	591	0.0006-0.011	33	0.1	0.005

Table 17. Pesticides exceeding 0.1 µg/l in groundwaters in South Western Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Dichlorvos	4	0.02	25	25	0.13	Atrazine	446	0.009-0.052	27	8	0.09
Atrazine	407	0.001-0.02	29	9	0.09	Simazine	445	0.005-0.02	15	0.6	0.03
Simazine	394	0.004-0.02	13	0.5	0.02						

Table 18. Pesticides exceeding 0.1 µg/l in surface freshwaters in Thames Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	446	0.02-0.05	88	49	0.54	Diuron	442	0.02	69	54	1.74
Diuron	172	0.02-0.1	59	40	1.02	Atrazine	428	0.02	85	34	0.37
Simazine	447	0.005-0.05	80	36	0.53	Chlorotoluron	443	0.02	44	26	0.82
Mecoprop	4	0.02	50	25	1.24	Simazine	431	0.005-0.035	70	20	0.24
MCPA	4	0.02	50	25	0.34	Linuron	440	0.02	52	15	0.20
Chlorotoluron	168	0.02-0.1	43	16	0.60	Isoproturon	444	0.02-0.06	23	15	0.27
Isoproturon	168	0.02-0.1	29	10	0.16	Pentachlorophenol	455	0.02-0.2	36	3	0.09
Linuron	168	0.01-0.1	62	4	0.11	Gamma HCH	469	0.001-0.014	79	1	0.05
Pentachlorophenol	468	0.2	3	3	0.05	Permethrin	409	0.01-0.03	1	0.2	0.002
Gamma HCH	476	0.005-0.008	88	0.6	0.06	Tecnazene	462	0.001-0.055	6	0.2	0.003
Diazinon	172	0.02-0.05	1	0.5	0.01	Azinphos ethyl	398	0.02	0.7	0.5	0.003

Table 19. Pesticides exceeding 0.1 µg/l in estuaries and coastal waters in Thames Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Simazine	82	0.005-0.05	82	56	0.51	Diuron	70	0.02	88.57	59	1.18
Atrazine	76	0.02-0.05	80	46	0.28	Chlorotoluron	70	0.02	56	27	0.32
Chlorotoluron	28	0.02-0.1	61	39	0.78	Atrazine	69	0.02	78	23	0.18
Diuron	28	0.02-0.1	68	36	0.29	Simazine	64	0.02	78	14	0.16
Pentachlorophenol	79	0.05-0.5	5	5	0.05	Isoproturon	70	0.02-0.08	20	10	0.10
						Linuron	70	0.02	43	4	0.12

Table 20. Pesticides exceeding 0.1 µg/l in groundwaters in Thames Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
No groundwater monitoring was undertaken in 1992						Atrazine	92	0.02	48	15	0.16
						Linuron	94	0.02	64	6	0.15
						Diuron	95	0.02	15	5	0.12
						Isoproturon	95	0.02-0.03	7	4	0.03
						Chlorotoluron	95	0.02	17	3	0.06
						Mecoprop	85	0.02-0.03	6	1	0.01
						Simazine	95	0.02	29	1	0.05

Table 21. Pesticides exceeding 0.1 µg/l in surface freshwaters in Welsh Region

1992						1993					
Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l	Pesticide	Total Number of Samples	Range of LOD µg/l	% of Samples > LOD	% of Samples > 0.1 µg/l	95 Percentile µg/l
Atrazine	361	0.01-0.1	18	2	0.04	MCPB	38	0.1	5	5	0.05
Simazine	357	0.01-0.1	9	2	0.04	Atrazine	969	0.005-0.1	18	4	0.08
Propetamphos	185	0.005-0.008	7	2	0.04	Mecoprop	858	0.1-0.11	4	3	0.04
Chlorfenvinphos	372	0.005-0.02	3	1	0.02	MCPA	857	0.1	3	3	0.03
Diazinon	376	0.003-0.01	6	1	0.007	Simazine	973	0.005-0.1	10	2	0.05
Pentachlorophenol	837	0.01-0.1	0.4	0.2	0.003	Diuron	562	0.1	2	2	0.03
						Isoproturon	1266	0.01-0.1	1	1	0.009
						Terbutryn	528	0.005-1.0	0.4	0.4	0.001
						Chlorotoluron	616	0.1	0.5	0.3	0.003
						Diazinon	955	0.005-0.01	4	0.3	0.004
						Chlorfenvinphos	943	0.005-0.01	1	0.2	0.002
						Linuron	558	0.1	0.3	0.2	0.002
						Malathion	975	0.001-0.01	0.5	0.1	0.0004

Monitoring of estuaries and coastal waters is undertaken but the results from 1992 were unavailable for this report. Results from 1993 do not indicate any exceedences of 0.1 µg/l.

Groundwater monitoring is currently restricted to those emerging as springs and this is reported in the freshwater part of the programme. It is anticipated that specific borehole monitoring will commence in 1996.