



An audit of performance in the
AQC inspection of standard biological
Macro-invertebrate samples in 2002:
The Environment Agency

Centre for Ecology and Hydrology

CEH Report Ref: C00158/31

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CEH Report Ref: C00158/31

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125834

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Tel: 01454 624400 Fax: 01454 624409

IC Code: BHNR

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Statement of Use

Information in this document is to help biologists in the Agency to identify where analytical errors occur so that they can be reduced or eliminated. Data in the tables provide measures of the accuracy of data produced in the Agency's internal Analytical Quality Control (AQC) scheme. This covers samples analysed in accordance with the standard methods for the River Invertebrate Prediction and Classification System (RIVPACS) and analysed to the level required for the Biological Monitoring Working Party (BMWP)-score system, including the General Quality Assessment (GQA) classification. Information in this report may be used to determine the AQC parameters used in individual laboratories as well as for estimating errors in the primary data from information obtained from AQC inspections.

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1. INTRODUCTION

The collection of standard macro-invertebrate samples and their analysis to the level required for the Biological Monitoring Working Party (BMWP) system is the most widely used biological technique for evaluating river quality in the water industry in the United Kingdom. Used with the computer model RIVPACS (River Invertebrate Prediction and Classification System) developed by the Centre for Ecology and Hydrology (CEH), they are the basis for the Agency's biological classification of water quality. This is used for national General Quality Assessment (GQA) river quality surveys, one of the government's Headline Indicators of environmental quality, as well as for purely operational purposes including Catchment Abstraction Management Strategies, drought orders and drought permits, and determining appropriate discharge consents. These samples are also used for assessing pollution and setting priorities for capital investment. Data from these samples are made available to the public. An independent audit of these biological samples is required to ensure that a high and consistent standard of sorting and identification is maintained, to assess the proficiency of the internal laboratory analytical quality control (AQC) inspection and to demonstrate the quality of the data to its users.

In 2002, biological monitoring of rivers was undertaken by the Environment Agency (The Agency) in England and Wales, the Scottish Environment Protection Agency (SEPA) in Scotland, the Environment & Heritage Service ((EHS) in Northern Ireland and the Government Laboratory in the Isle of Man. Each organisation employed standard collection procedures (Murray-Bligh 1999a) to ensure that the data collected were compatible with RIVPACS. Each Agency laboratory appointed at least one experienced analyst to act as an internal analytical quality control (AQC) inspector. These inspectors re-sorted a random selection of 1 in every 10 of their laboratory's standard samples. In addition, CEH was contracted to undertake an independent external audit of the quality of the laboratories' analyses of standard biological samples. This commission was consistent with the audit performed by CEH staff for the national River Quality Surveys in 1990, 1995 and 2000 and for biological monitoring and assessment surveys in each other year since 1991. The audit for the Agency comprised two elements. The AQC Audit provided a measure of the quality of the AQC inspection and was used to adjust the control parameters of the AQC scheme for each laboratory. The Primary Audit provided an independent measure of the quality of the data from each laboratory (data was not adjusted for errors identified by the audit) and hence the errors in biotic indices calculated from that data. The net error in number of BMWP-scoring taxa (bias) was used to determine confidence limits of EQIs, the probabilities of sites belonging to each grade of the Agency's GQA environmental quality classification and the probabilities of changes or differences in grade (see Section 5).

This report presents the results of the audit of 471 samples that were sorted and identified by the Agency's AQC Inspectors. The results of the Primary Audit, detailing the quality of the Agency's primary analysis of 519 samples, are reported separately (Gunn *et al.*, 2003).

2. SAMPLE SELECTION

Samples for audit were selected internally by each of the organisations being audited. The precise manner of sample selection, which biologists would be monitored and the number of audit samples from each season, were left to the discretion of the organisation, within the limits of the total number of samples that CEH was contracted to audit. The standard method of selection used by the Agency is described in Murray-Bligh (1999b). Each Agency laboratory should have randomly selected for audit 20 samples that had been analysed twice (once for primary analysis and once for internal AQC inspection). However, if there were insufficient AQC-inspected samples to make up the laboratory's quota by the deadline for dispatch to CEH, primary samples that had been analysed just once were sent instead. The biologists analysing these samples had no prior knowledge of which samples were to be audited.

3. SAMPLE PROCESSING

The normal protocol for Agency biologists was to sort their samples, either live or preserved, in the laboratory. Samples were sorted for all families of aquatic macro-invertebrates and examples of each taxon were removed. The specimens were placed in a vial of preservative (70% industrial alcohol) and the taxa present were recorded on a standard data sheet. The vial of animals and the bulk of the sample were then returned to the sample container and preservative added. Samples were re-sorted for internal AQC inspection in the same manner as the primary analysis. The AQC inspector's task included confirming the identification of the contents of the vial and ensuring that the results recorded on the data sheet were correct. Any additional taxa found in the AQC inspection were to be put in a separate vial so that the contents of the primary analyst's vial was not altered, although this instruction was not always followed.

Each sample available to CEH for audit should have included:

- i) A vial or vials containing representatives from each family.
- ii) A data sheet containing a list of the families to be found in the vial(s).
- iii) The preserved sample.

When these three elements were present, the sequence of operations at CEH was as follows:

- a) The remainder of the sample was sorted, without reference to the data sheet or to the vial of animals, and the families of aquatic macro-invertebrates were identified.
- b) The families contained within the vial(s) were identified.
- c) The list of families recorded on the data sheet was compared with those found in the sample by the CEH auditor.
- d) The list of families recorded on the data sheet was compared with those identified from the vial(s) by the CEH auditor.
- e) "Losses", "gains" and "omissions" from the list of families recorded on the data sheet were noted. In the case of "gains", each additional family was identified to species, where possible, so that species causing repeated errors could be noticed. Any "gains" represented in the sample by a single specimen were noted as such.
- f) For each "loss" or "gain", the CEH auditor selected a code from a list at the foot of the result sheet to indicate the most likely cause of the error.

Definitions

Losses are taxa recorded as present by the analyst whose quality was being audited, but that were not found in the vial or sample by the auditor. Gains are taxa found in the vial or sample by the auditor, that were not recorded as present by the analyst whose quality was being audited. Omissions are taxa that were recorded as present by the analyst whose quality is being audited, and that the auditors found in the sample, but not in the vial.

Occasionally a sample did not include a vial containing representative examples of the families recorded on the data sheet, while some arrived with the vial damaged in transit such that the representative specimens were no longer separated. For these samples, only operations a), c), e) and f) above were appropriate.

Several directives were issued to CEH relating to the treatment of macro-invertebrate taxa. Every taxon recorded on the data sheet must have been supported by a voucher specimen of that family in the vial (or, for very large specimens, left in the sample). The only exceptions to this rule were the native crayfish, *Austropotamobius pallipes*, the medicinal leech, *Hirudo medicinalis* and the pearl mussel, *Margaritifera margaritifera*, all of which are protected species. Animals deemed to have been dead at the time of sampling, cast insect skins, pupal exuviae and empty mollusc shells were to be excluded

from the list of families recorded on the data sheet as present. Isolated posterior ends of "living" specimens were not acceptable as records of a taxon. In these cases, a head or any part of the thorax, if they looked "healthy", were acceptable as a record but an isolated abdomen was deemed unacceptable. Terrestrial representatives of families were also to be excluded from the audit. Clambidae, Chrysomelidae and Curculionidae, which appear in the original BMWP list, were excluded because most representatives of these families are terrestrial and they are excluded from the BMWP-score system as currently used in the UK, including the Agency's GQA classification. Trichopteran pupae were to be included in the listing of families as they were to be identified by Agency biologists.

4. REPORTING

The results of each sample audit were recorded on a standard report form (see Figs 1 & 2) and sent to the Agency's Project Manager and to the Area and Regional Biologists. For audit samples where a vial of animals was included, the comparison between the families recorded on the data sheet and the taxa found in the vial by CEH was shown in the section of the report form headed "VIAL". Discrepancies could be caused by misidentifications or by mistakes in recording the results on the data sheet. Families not recorded on the data sheet but found by CEH in the remainder of the sample were entered in the section of the report form headed "SAMPLE" under "Additional taxa found in sample". For Primary Audit results, this section also included taxa added by the internal AQC inspector. Taxa recorded here represent families missed by the analyst(s) on sorting the sample. When the families listed as "losses" in the first section of the report form were compared with the full list of families recorded in the sample by CEH, some apparent losses from the vial were offset by the presence of those families in the remainder of the sample. These taxa were therefore listed both as "losses" from the vial and as "gains" from the sample and were neither a net loss nor a net gain. These families were marked with an asterisk in both sections to highlight this fact. These errors were recorded as "omissions". They were usually caused by an analyst forgetting to place an example of the taxon in the vial, although occasionally they occurred when an animal in the vial had been misidentified, but the CEH auditor subsequently found the recorded taxon in the sample.

Species identifications, state of development (e.g. adult or larval coleopterans) and the presence of a single representative of a family were recorded in the centre section of the audit report form.

CEH was asked to interpret each error to suggest its probable cause. An error code, selected from a list of options at the foot of each result sheet, was entered against each taxon in the column headed "Presumed cause of error". Where an error was modified by the findings of the internal AQC inspector, a code to indicate this was selected instead (either code 11 or 12).

For those samples in which the vial of animals was damaged or missing, the "VIAL" sections of the report form were not applicable (N/a). Families not on the list but present in the sample were entered in the section under "SAMPLE" and "Additional taxa found in sample", as before. Families recorded on the list but not found by CEH were indicated in the section headed "Taxa not found in sample." If the vial of animals had been retained by the sorter, entries in this box could include the sole representative of a family which was removed, a family seen at the site which escaped or was released (without mention being made on the data sheet), inaccurate identification or the wrong family box being ticked on the data sheet.

The final section of the result sheet summarises the audit, giving details of the numbers of "losses", "gains" and "omissions" of families included in the BMWP scoring system only, together with the net effects on BMWP score and the number of scoring taxa.

Figure 1. An example of a Primary Audit result sheet

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES

REGION: Example	LABORATORY: Example	DATE: 12 April 2002
WATER-COURSE: Beautiful River	PRIMARY ANALYST: XX	AQC ANALYST: YY
SITE: Utopia	CODE: 0001/AQC01	SORT/AQC METHOD: Live/Preserved

RESULTS OF PRIMARY AUDIT

Family name	Presumed cause of error (see footnotes)
<u>VIAL</u>	
<u>Taxa not found in vial</u>	
Planorbidae	12
Terrestrial snail in vial	
Baetidae *	1
Limnephilidae	7
<u>Additional taxa found in vial</u>	
Lepidostomatidae	7
Lepidostoma hirtum (Fabricius)	
<u>SAMPLE</u>	
<u>Taxa not found in sample</u> (for samples where vial is broken or absent)	
N/a	
<u>Additional taxa found in sample</u>	
Baetidae *	1
Baetis rhodani (Pictet)	
Hydrophilidae (incl. Hydraenidae)	9
Hydraena gracilis Germar (a) 1 only	
Hydroptilidae	11
Hydroptila sp. (p)	
Psychomyiidae (incl. Ecnomidae)	11
Psychomyia pusilla (Fabricius) 1 only	

SUMMARY OF AUDIT (For BMWP taxa only)

LOSSES: 2 GAINS: 4 OMISSIONS: 1

NET EFFECTS:
ON BMWP SCORE 19
ON NO. OF SCORING TAXA 2

1 No representative of family in vial
2 Alternative terrestrial specimen in vial
3 Posterior end only in vial
4 Empty shell or case or cast skin in vial

5 Specimen dead at time of sampling
6 Taxon in vial but not recorded
7 Mis-identification
8 Typographical error - wrong box ticked

9 Taxon missed in sorting
10 Unexplained error
11 Taxon added in internal AQC
12 Recorded taxon that was rejected by AQC analyst

Omission (*) = Recorded, not in vial but found by CEH in sample (no net loss or gain)

Figure 2. An example of an AQC Audit result sheet

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES

REGION: Example

LABORATORY: Example

DATE: 12 April 2002

WATER-
COURSE: Beautiful River

PRIMARY
ANALYST: XX

AQC
ANALYST: YY

SITE: Utopia

CODE: 0001/AQC01

SORT/AQC
METHOD: Live/Preserved

RESULTS OF AQC AUDIT

Family name	Presumed cause of error (see footnotes)
<u>VIAL</u>	
<u>Taxa not found in vial</u>	
Baetidae *	1
Limnephilidae	7
<u>Additional taxa found in vial</u>	
Lepidostomatidae	7
Lepidostoma hirtum (Fabricius)	
<u>SAMPLE</u>	
<u>Taxa not found in sample</u> (for samples where vial is broken or absent)	
N/a	
<u>Additional taxa found in sample</u>	
Baetidae *	1
Baetis rhodani (Pictet)	
Hydrophilidae (incl. Hydraenidae)	9
Hydraena gracilis Germar (a) 1 only	

SUMMARY OF AUDIT (For BMWP taxa only)

LOSSES: 1 GAINS: 2 OMISSIONS: 1

NET EFFECTS:

ON BMWP SCORE 8
ON NO. OF SCORING TAXA 1

1 No representative of family in vial
2 Alternative terrestrial specimen in vial
3 Posterior end only in vial
4 Empty shell or case or cast skin in vial

5 Specimen dead at time of sampling
6 Taxon in vial but not recorded
7 Mis-identification
8 Typographical error - wrong box ticked

9 Taxon missed in sorting
10 Unexplained error
11 Taxon added in internal AQC
12 Recorded taxon that was rejected by AQC analyst

Omission (*) = Recorded, not in vial but found by CEH in sample (no net loss or gain)

5. RESULTS

The results of the AQC Audit for 2002 for the Agency are presented in Tables 1 to 58. A summary of the basic audit results in terms of losses, gains and omissions (of BMWP taxa only) is followed by the statistics of these regional audit results based on the target of acceptability for AQC inspectors of no more than 0.5 missed taxa per sample on average. These data are presented for each analyst, for their Area laboratory and for the Region as a whole. Then follows information on the net effects of the AQC Audit on the BMWP score and number of scoring taxa. Following this are listings for the Region of the taxa missed at family and species levels in the 2002 AQC Audit. Tables 59 and 60 summarise the statistics and net effects of the 2002 AQC Audit for the whole of the Agency. Tables 61 and 62 list all taxa, at family and species levels respectively, missed in sorting by the Agency's AQC inspectors. Data for the Primary Audit are presented in a separate report (Gunn *et al.*, 2003).

Estimating sample biases for the compare module of RIVPACS III+

The underestimation of the number of BMWP-scoring taxa is termed bias for the purpose of the compare module of RIVPACS III+. An estimate of bias is provided by the net gains (number of gains minus number of losses) in the Primary Audit. Values are listed in the Primary Audit report (Gunn *et al.*, 2002) and can be used directly for RIVPACS. When basing bias on results from internal AQC inspections, it is necessary to add the net gains owing to errors made in AQC inspection to the net gains reported by the AQC. Errors made in AQC inspection for each laboratory, Region and the Agency as a whole are listed in Table 60 in the column "mean net effect on no. of taxa". To estimate the bias over a different period to that covered by this audit, the value in Table 60 can still be used if the quality of AQC inspection is consistently good for the period under consideration (mean number of gains should be no more than 0.5, see Table 59). If the AQC inspection was of poor or varying quality, it is necessary to refer to the individual AQC Audit result sheets for individual audit samples. Note that estimates of bias should be based on the results of at least 20 audited samples. Further instructions are given in Clarke *et al.* (1997).

6. ACKNOWLEDGEMENTS

Grateful thanks to the Agency's project leader, John Murray-Bligh, who provided invaluable assistance in the development of the audit methodology and who has been a reliable source of helpful advice throughout the period of the audit

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AUDIT OF ANGLIAN REGION'S AQC INSPECTORS

Table 1 The 20 samples audited for Northern Area of Anglian Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Welland	Tinwell Mill	AH	08/04/2002	0	1	0
Harpers Brook	A6116	AH	23/04/2002	0	0	1
Willow Brook	Deene Park	AH	17/07/2002	0	0	0
Slade Brook	Pythchley RB	AH	17/07/2002	0	1	0
Slea	Bonemill Bridge	AH	10/10/2002	0	2	0
Welland	Tinwell Mill	AH	10/10/2002	0	2	0
East Halton Beck	College Bridge	AH	30/10/2002	0	0	0
Gwash	Tickencote	AH	08/11/2002	1	2	0
Waring	Belchford	HW	20/03/2002	0	0	0
Long Eau	Three Bridges	HW	09/04/2002	1	4	0
Scopwick Beck	Kirkby Green	HW	24/05/2002	0	1	0
Welland	Duddington	HW	15/11/2002	1	1	0
Upper Witham	Claypole	HW	05/12/2002	0	0	0
Welland	Deeping	JF	15/03/2002	0	0	0
Skellingthorpe MD	u/s Skellingthorpe STW	JF	17/07/2002	0	2	0
Winceby Beck	Magworthingham Ford	JF	15/11/2002	0	0	0
Town Drain	Old A16	JF	02/12/2002	0	0	0
Land Drain	Saxby Carrs	JF	04/12/2002	1	0	0
Lymn	Partney	RPC	19/04/2002	0	0	0
Willow Brook	Deene Park	RPC	25/10/2002	0	0	0

Table 2 The 17 samples audited for Central Area of Anglian Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Willingham Lode	Willingham Culvert	KJP	12/03/2002	1	0	0
Nightlayers Fen Drain	PS Chatteris	KJP	21/03/2002	1	0	0
Lark	Hengrave Bridge	KJP	16/04/2002	0	0	0
Lark	Tollgate Bridge	KJP	29/05/2002	0	0	0
Old Bedford	Bridge Welney	KJP	30/05/2002	0	2	2
Nightlayers Fen	Chatteris PS	KJP	18/09/2002	0	1	0
Gaywood	A1076 Kings Lynn	KJP	24/09/2002	1	5	0
Padbury Brook	B4034 Thornborough	KJP	09/10/2002	0	2	0
Little Ouse	Knettishall	MAC	09/04/2002	2	1	0
Sapiston	Broadgrass Green	MAC	17/04/2002	0	2	0
Ash Brook	Ashbrook	MAC	15/05/2002	0	2	0
Counter Drain	Salters Lode	MAC	05/06/2002	0	2	0
Thet	Nuns Bridge	WTC	07/06/2002	1	3	2
Hiz	Cadwell Arch	WTC	31/10/2002	1	2	0
Barton Brook	Iron Bridge	WTC	05/11/2002	0	4	0
Wissey	Ickburgh Bridge	WTC	22/11/2002	0	4	0
Burwell Lode	Factory Bridge	WTC	10/12/2002	0	3	0

Table 3 The 20 samples audited for Eastern Area of Anglian Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Bumstead Brook	Watsoe Bridge	CSA	07/03/2002	0	0	0
Intwood Stream	Intwood Farm	CSA	09/04/2002	1	2	0
Stour	Stratford St Mary	CSA	03/10/2002	0	1	1
Dove	Thorndon Bridge	HJB	Not given	0	2	0
Holland Brook	Rice Bridge	HJB	11/04/2002	0	1	0
Stour	Liston Weir	HJB	11/04/2002	0	0	0
Pant	Lt. Sampford Bridge	HJB	03/05/2002	0	1	0
Asheldham Brook	Weighbridge PFP	HJB	17/05/2002	0	4	0
Stour	Kedington Mill	HJB	17/10/2002	1	1	0
Stiffkey	Wighton Bridge	HJB	20/11/2002	0	1	0
Gipping	Old Newton Bridge	HJM	14/10/2002	0	1	0
Brain	u/s Bulford Mill	HJM	06/11/2002	0	0	0
Wensum	Hellesdon Mill	JHS	25/04/2002	0	0	0
Brett	Higham Bridge	JHS	24/09/2002	0	0	0
Bure	Wroxham Rail Bridge	JHS	03/10/2002	0	1	0
Ant	u/s Dilham Grange	RDB	15/03/2002	0	1	0
Chelmer	North End Rd Br	RDB	04/04/2002	0	0	1
Shottisham	Shottisham Mill	RDB	19/04/2002	0	0	0
Holland Brook	Holland Main R/B	RDB	24/10/2002	0	0	0
Goldsands Brook	Ditch @ Muscle	RDB	13/11/2002	0	1	0

Table 4 Statistics of the 2002 AQC Audit for Anglian Region

Analyst/Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Northern	20	0.80	0.25	4	1.05	0.29
AH	8	1.00	0.33	2	1.25	0.37
HW	5	1.20	0.73	4	1.60	0.93
JF	5	0.40	0.40	2	0.60	0.40
RPC	2	0	0	0	0	0
Central	17	1.94	0.37	5	2.59	0.44
KJP	8	1.25	0.62	5	1.88	0.74
MAC	4	1.75	0.25	2	2.25	0.25
WTC	5	3.20	0.37	4	4.00	0.55
Eastern	20	0.85	0.22	4	1.05	0.25
CSA	3	1.00	0.58	2	1.67	0.88
HJB	7	1.43	0.48	4	1.57	0.48
HJM	2	0.50	0.50	1	0.50	0.50
JHS	3	0.33	0.33	1	0.33	0.33
RDB	5	0.40	0.24	1	0.60	0.24
Anglian Region	57	1.16	0.17	5	1.51	0.21
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 5 Net effects of the AQC Audit on BMWP score and number of scoring taxa for Anglian Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Northern	20	3.70	1.33	19	0.60	0.22	3
AH	8	5.00	1.82	14	0.88	0.30	2
HW	5	5.40	3.53	19	0.80	0.58	3
JF	5	1.40	2.82	12	0.20	0.49	2
RPC	2	0	0	0	0	0	0
Central	17	7.65	2.10	25	1.53	0.41	4
KJP	8	4.25	2.62	15	0.88	0.61	4
MAC	4	5.75	3.42	12	1.25	0.75	2
WTC	5	14.60	4.01	25	2.80	0.58	4
Eastern	20	4.20	1.22	18	0.75	0.22	4
CSA	3	7.00	3.79	13	0.67	0.33	1
HJB	7	6.71	2.64	18	1.29	0.52	4
HJM	2	1.50	1.50	3	0.50	0.50	1
JHS	3	1.00	1.00	3	0.33	0.33	1
RDB	5	2.00	1.38	7	0.40	0.24	1
Anglian Region	57	5.05	0.90	25	0.93	0.17	4
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 6 The families missed in sorting by Anglian Region's AQC inspectors

Family	n	% of Anglian Region's missed families in AQC Audit
Empididae	11	12.09
Psychodidae	8	8.79
Elmidae	5	5.49
Hydracarina	4	4.40
Planorbidae	3	3.30
Limnephilidae	3	3.30
Ephydriidae	3	3.30
Hydroptilidae	3	3.30
Planariidae (incl. Dugesiidae)	3	3.30
Scirtidae	3	3.30
Corixidae	2	2.20
Chironomidae	2	2.20
Rhyacophilidae (incl. Glossosomatidae)	2	2.20
Baetidae	2	2.20
Simuliidae	2	2.20

Table 6 continued

Family	n	% of Anglian Region's missed families in AQC Audit
Hydrophilidae (incl. Hydraenidae)	2	2.20
Ephemerellidae	2	2.20
Haliplidae	2	2.20
Erpobdellidae	2	2.20
Valvatidae	2	2.20
Polycentropodidae	2	2.20
Gyrinidae	1	1.10
Goeridae	1	1.10
Gammaridae (incl. Crangonyctidae & Niphargidae)	1	1.10
Dendrocoelidae	1	1.10
Calopterygidae	1	1.10
Caenidae	1	1.10
Dolichopodidae	1	1.10
Notonectidae	1	1.10
Tabanidae	1	1.10
Stratiomyidae	1	1.10
Pyralidae	1	1.10
Psychomyiidae (incl. Ecnomidae)	1	1.10
Piscicolidae	1	1.10
Leptoceridae	1	1.10
Osmylidae	1	1.10
Hydrobiidae (incl. Bithyniidae)	1	1.10
Nemouridae	1	1.10
Muscidae	1	1.10
Lymnaeidae	1	1.10
Veliidae	1	1.10
Leptophlebiidae	1	1.10
Hydropsychidae	1	1.10
Physidae	1	1.10
Total	91	100

Table 7 The species missed in sorting by Anglian Region's AQC inspectors

Species	n	% of Anglian Region's missed species in AQC Audit
Hemerodromia group	7	7.29
Hydracarina indet	4	4.17
Clinocerinae	4	4.17
Armiger crista (L.)	3	3.13
Elmis aenea (Muller)	3	3.13
Ephydridae indet	3	3.13
Hydroptila sp.	3	3.13
Limnephilidae indet	3	3.13
Ephemerella ignita (Poda)	2	2.08
Haliplus sp.	2	2.08
Pericoma fallax Eaton	2	2.08
Elodes sp.	2	2.08
Pericoma trivialis group	2	2.08
Polycentropus flavomaculatus (Pictet)	2	2.08
Rhyacophila-sp.	2	2.08
Psychodidae indet	2	2.08
Erpobdella octoculata (L.)	1	1.04
Tanypodinae	1	1.04
Cloeon dipterum (L.)	1	1.04
Erpobdellidae indet	1	1.04
Dendrocoelum lacteum (Muller)	1	1.04
Glyptotaelius pellucidus (Retzius)	1	1.04
Tinodes waeneri (L.)	1	1.04
Dugesia tigrina (Girard)	1	1.04
Dolichopodidae indet	1	1.04
Enochrus melanocephalus (Olivier)	1	1.04
Cyphon sp.	1	1.04
Goera pilosa (Fabricius)	1	1.04
Corixidae indet	1	1.04
Valvata cristata Muller	1	1.04
Chrysops sp.	1	1.04
Chironomini	1	1.04
Calopteryx splendens (Harris)	1	1.04
Caenis robusta Eaton	1	1.04
Baetis rhodani (Pictet)	1	1.04
Athripsodes sp.	1	1.04
Valvata piscinalis (Muller)	1	1.04
Amphinemura sulcicollis (Stephens)	1	1.04
Crangonyx pseudogracilis Bousfield	1	1.04
Nymphula stagnata (Donovan)	1	1.04
Psychoda severini Tonnoir	1	1.04
Prodiamesinae	1	1.04
Potamopyrgus antipodarum (Gray)	1	1.04
Polycelis nigra group	1	1.04
Planariidae indet	1	1.04

Table 7 continued

Species	n	% of Anglian Region's missed species in AQC Audit
<i>Piscicola geometra</i> (L.)	1	1.04
<i>Physa fontinalis</i> (L.)	1	1.04
<i>Pericoma neglecta</i> Eaton	1	1.04
<i>Oxycera</i> sp.	1	1.04
<i>Oulimnius tuberculatus</i> (Muller)	1	1.04
<i>Oulimnius</i> sp.	1	1.04
<i>Helophorus</i> sp.	1	1.04
<i>Orectochilus villosus</i> (Muller)	1	1.04
<i>Habrophlebia fusca</i> (Curtis)	1	1.04
<i>Notonecta</i> sp.	1	1.04
<i>Lymnaea peregra</i> (Muller)	1	1.04
<i>Limnophora</i> sp.	1	1.04
<i>Riolus subviolaceus</i> (Muller)	1	1.04
<i>Laccobius</i> (<i>Laccobius</i>) <i>biguttatus</i> Gerhardt	1	1.04
<i>Velia</i> sp.	1	1.04
<i>Simulium</i> (<i>Boophthora</i>) <i>erythrocephalum</i> (de Geer)	1	1.04
<i>Agapetus</i> sp.	1	1.04
<i>Hesperocorixa linnei</i> (Fieber)	1	1.04
<i>Simulium</i> (<i>Simulium</i>) <i>ornatum</i> group	1	1.04
<i>Hydropsyche angustipennis</i> (Curtis)	1	1.04
<i>Osmylus fulvicephalus</i> (Scopoli)	1	1.04
Total	96	100

AUDIT OF MIDLANDS REGION'S AQC INSPECTORS

Table 8 The 20 samples audited for Upper Severn Area of Midlands Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Perry	Platt Bridge	1	12/04/2002	1	0	0
Snakescroft	d/s Bishops Castle WRW	1	26/04/2002	3	0	0
Severn	Caerhowel Bridge	1	14/06/2002	0	0	0
Morda	u/s Confluence	1	14/08/2002	1	0	0
Common	A5 Babbinswood	1	14/08/2002	0	0	0
Twrch	Pont Twrch	1	18/09/2002	0	0	0
SW Canal	Junction Birmingham	1	18/09/2002	1	0	0
Lightmoor Brook	d/s Doseley	1	20/09/2002	1	1	0
Lightmoor Brook	u/s St Lukes	1	06/11/2002	1	0	0
Finchfield Brook	d/s Smeston School STW	1	07/11/2002	0	0	0
Cyfronydd Trib	d/s Hydan Fawr Trib	1	17/12/2002	1	0	0
Gam	Pont Rhydd	1	18/12/2002	0	0	0
Mule	Glanmule	1	18/12/2002	0	0	0
Coles Green Trib	d/s Ditch	1	24/12/2002	0	0	0
Cynllaith	B4396	1	27/12/2002	0	0	0
Hadley Brook	Doverdale	1	21/01/2003	1	0	0
Eubatch Wood Bk	u/s Affected trib.	1	22/01/2003	1	0	0
Morda	Vyrnwy confluence	1	23/01/2003	0	0	0
Rhaeadr	Llanrhaeadr	1	12/02/2003	0	1	0
Bob/Holbeche Bk	Maiden Bridge	1	14/02/2003	0	0	0

Table 9 The 3 samples audited for Lower Severn Area of Midlands Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Cinderford	Upper Soudley	1	30/01/2003	0	0	0
Swift	u/s Rugby Road	1	10/02/2003	0	1	0
Cannop Brook	u/s Whitecroft	1	12/02/2003	1	1	1

Table 10 The 20 samples audited for Upper Trent Area of Midlands Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Cole	Trittiford Mill	3	30/07/2002	0	0	0
Marston Brook	d/s Waldley	3	31/07/2002	0	1	0
Old Acre Brook	Brocton	3	31/07/2002	1	4	0
Sutton Brook	d/s Sutton Weir	3	01/08/2002	0	2	0
Doley Brook	u/s Gnosall PS	3	02/08/2002	0	4	0
Hooborough Brook	Acresford	3	08/10/2002	0	1	0
Mease	Measham	3	08/10/2002	1	1	0
Pyford Brook	Curborough Hall	3	10/10/2002	0	0	0
Mease	Croxall	3	22/10/2002	0	1	0
Moreton Brook	u/s Tributary	3	22/10/2002	0	2	0
Shropshire Brook	Armitage	3	23/10/2002	0	2	0
Penk	Brewood	3	07/11/2002	0	2	0
Tame	Water Orton	3	07/11/2002	0	4	0
Sow	Hilcote	3	12/11/2002	0	3	0
Tame	Newton Bridge	3	12/11/2002	0	1	0
Trent	Walton	3	04/12/2002	0	2	0
Scotch Brook	Stone	3	04/12/2002	0	0	0
Winnothdale Brook	u/s Great Gate	3	04/12/2002	1	3	0
Kingshurst/Hatchford Bk	R. Cole confluence	3	05/12/2002	0	2	0
Trent & Mersey Canal	Little Haywood	3	05/12/2002	0	1	0

Table 11 The 20 samples audited for Lower Trent Area of Midlands Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Ock Brook	Church Street	402	15/05/2002	0	0	0
Ock Brook	d/s Farm	402	16/05/2002	0	0	0
Diggin Dyke	Holmewood Farm	402	10/06/2002	0	1	0
Countesthorpe Brook	Sence confluence	402	14/06/2002	1	0	0
Woodhouse Sewer	Confluence	402	22/07/2002	0	0	0
Sibley Brook	d/s Demolition site	402	23/07/2002	0	0	0
Erewash	Trowell	402	24/07/2002	0	0	0
Cuttle Brook	Sinfin Golf Course	402	26/07/2002	0	0	0
Gadeby Brook Trib	d/s Burrough STW	402	10/09/2002	0	1	0
Bailey Brook	d/s Greenacres CSO	402	11/09/2002	0	2	0
Erewash	u/s Bentinck Colliery	402	24/09/2002	0	0	0
Maun	d/s Kingsmill Reservoir	402	15/10/2002	0	0	0
Devon	Bottesford	402	06/11/2002	0	0	0
Willoughton Brook	Blyborough	402	08/11/2002	0	1	0
Maun	u/s Mansfield Storm Tanks	402	08/11/2002	0	0	0
Rainworth Water	d/s Rufford Lake	402	03/02/2003	0	1	0
Cramfit Brook	Cramfit Bridge	402	04/02/2003	0	0	0
Evington Brook	Spinney Hill Park	402	10/02/2003	0	0	0
Millwood Brook	Exit Welbeck Gt Lake	402	11/02/2003	0	1	0
Polser Brook	Radcliffe on Trent	402	11/02/2003	0	0	0

Table 12 Statistics of the 2002 AQC Audit for Midlands Region

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
U. Severn	20	0.10	0.07	1	0.65	0.18
1	20	0.10	0.07	1	0.65	0.18
L. Severn	3	0.67	0.33	1	1.33	0.88
1	3	0.67	0.33	1	1.33	0.88
U. Trent	20	1.80	0.29	4	1.95	0.32
3	20	1.80	0.29	4	1.95	0.32
L. Trent	20	0.35	0.13	2	0.40	0.13
402	20	0.35	0.13	2	0.40	0.13
Midlands Region	63	0.75	0.14	4	1.02	0.15
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 13 Net effects of the AQC Audit on BMWP score and number of scoring taxa for Midlands Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
U. Severn	20	-2.10	0.76	3	-0.45	0.18	1
1	20	-2.10	0.76	3	-0.45	0.18	1
L. Severn	3	3.33	3.33	10	0.33	0.33	1
1	3	3.33	3.33	10	0.33	0.33	1
U. Trent	20	8.95	1.50	22	1.65	0.27	4
3	20	8.95	1.50	22	1.65	0.27	4
L. Trent	20	1.80	0.90	15	0.30	0.15	2
402	20	1.80	0.90	15	0.30	0.15	2
Midlands Region	63	2.90	0.83	22	0.49	0.16	4
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 14 The families missed in sorting by Midland Region's AQC inspectors

Family	n	% of Midlands Region's missed families in AQC Audit
Ceratopogonidae	6	9.23
Hydracarina	6	9.23
Hydroptilidae	5	7.69
Psychodidae	4	6.15
Tipulidae (incl. Limoniidae)	3	4.62
Caenidae	3	4.62
Hydropsychidae	2	3.08
Coenagrionidae	2	3.08
Dixidae	2	3.08
Dytiscidae (incl. Noteridae)	2	3.08
Empididae	2	3.08
Hydrobiidae (incl. Bithyniidae)	2	3.08
Leptoceridae	2	3.08
Planariidae (incl. Dugesiidae)	2	3.08
Muscidae	2	3.08
Planorbidae	2	3.08
Sphaeriidae	1	1.54
Simuliidae	1	1.54
Chironomidae	1	1.54
Scirtidae	1	1.54
Corixidae	1	1.54
Dendrocoelidae	1	1.54
Polycentropodidae	1	1.54
Hydrophilidae (incl. Hydraenidae)	1	1.54
Gyrinidae	1	1.54
Leptophlebiidae	1	1.54
Haliplidae	1	1.54
Piscicolidae	1	1.54
Hydridae	1	1.54
Asellidae	1	1.54
Unionidae	1	1.54
Lymnaeidae	1	1.54
Leuctridae	1	1.54
Ephydriidae	1	1.54
Total	65	100

Table 15 The species missed in sorting by Midlands Region's AQC inspectors

Species	n	% of Midlands Region's missed species in AQC Audit
Ceratopogonidae indet	6	8.96
Hydracarina indet	6	8.96
Hydroptila sp.	5	7.46
Caenis luctuosa group	3	4.48
Polycelis nigra group	2	2.99
Limnophora sp.	2	2.99
Potamopyrgus antipodarum (Gray)	2	2.99
Hemerodromia group	2	2.99
Dicranota sp.	2	2.99
Pericoma trivialis group	2	2.99
Habrophlebia fusca (Curtis)	1	1.49
Gyraulus albus (Muller)	1	1.49
Ephydriidae indet	1	1.49
Coenagrionidae indet	1	1.49
Haliphus fluviatilis Aube	1	1.49
Elodes sp.	1	1.49
Dixa nebulosa Meigen	1	1.49
Dixa maculata complex	1	1.49
Corixidae indet	1	1.49
Coenagrion puella group	1	1.49
Asellus aquaticus (L.)	1	1.49
Armiger crista (L.)	1	1.49
Anodonta anatina (L.)	1	1.49
Anacaena globulus (Paykull)	1	1.49
Dendrocoelum lacteum (Muller)	1	1.49
Orectochilus villosus (Muller)	1	1.49
Psychodidae indet	1	1.49
Plectrocnemia conspersa (Curtis)	1	1.49
Platambus maculatus (L.)	1	1.49
Pisidium sp.	1	1.49
Piscicola geometra (L.)	1	1.49
Pericoma pulchra Eaton	1	1.49
Pericoma fallax Eaton	1	1.49
Hydriidae indet	1	1.49
Oreodytes sanmarkii (Sahlberg)	1	1.49
Haliphus sp.	1	1.49
Mystacides nigra (L.)	1	1.49
Lymnaea sp.	1	1.49
Limonia sp.	1	1.49
Leuctra fusca (L.)	1	1.49
Hydropsyche sp.	1	1.49
Simulium sp.	1	1.49
Hydropsyche angustipennis (Curtis)	1	1.49
Adicella reducta (Mclachlan)	1	1.49
Orthocladiinae	1	1.49
Total	67	100

AUDIT OF NORTH EAST REGION'S AQC INSPECTORS

Table 16 The 20 samples audited for Northumbria Area of North East Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Gaunless	d/s Minewater	EWS	23/05/2002	0	0	0
Browney	B6301 Bridge	EWS	06/06/2002	0	0	0
Smallhope Burn	u/s Knitsley STW	EWS	30/07/2002	0	0	0
Middleton Burn	Middleton	EWS	24/10/2002	0	0	0
Don	Jarrow Cemetery	EWS	06/11/2002	0	0	0
Pont Burn	d/s Leadgate	EWS	06/02/2003	0	1	0
Wear	Wolsingham	EWS	06/02/2003	0	0	0
Burnhope Burn	Wearhead	EWS	03/03/2003	0	1	0
Hazon Burn	Guyzance	FM	24/05/2002	0	0	0
Hazon Burn	Guyzance	FM	04/10/2002	0	1	0
Gaunless	Butterknowle	FM	16/10/2002	0	0	0
Font	Mitford	FM	25/10/2002	0	0	0
Tyne	Bywell	FM	08/11/2002	0	0	0
Coquet	d/s Hazon Burn	FM	18/11/2002	0	1	0
Coquet	Felton	FM	29/11/2002	0	0	0
Coquet	d/s Hazon Burn	FM	07/01/2003	0	1	0
Forest Burn	Bushy Gap	FM	13/01/2003	0	0	0
Brierdene Burn	Whitley Bay	FM	03/02/2003	0	0	0
Rede	Byreness	FM	03/02/2003	0	1	0
Rennington Burn	Howick Hall	FM	16/02/2003	0	0	0

Table 17 The 20 samples audited for Dales Area of North East Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Ure	Wensley	EA	11/06/2002	0	1	0
Wharfe	Burnsall	EA	04/12/2002	0	2	0
Dove	Keldholme	EA	30/01/2003	0	0	0
Cod Beck	Dalton Cottage Farm	EA	31/01/2003	0	1	0
Nidd	Knaresborough	EA	03/02/2003	0	0	0
Clow Beck	Monkend Farm	SW	14/06/2002	0	1	0
Ure	Jervaulx	SW	10/07/2002	0	0	0
Ouse	u/s York Waterworks	SW	11/07/2002	0	1	0
Ouse	Nether Poppleton	SW	11/07/2002	0	1	0
Ure	Boroughbridge	SW	07/08/2002	0	0	0
Wharfe	Bolton Bridge	SW	08/08/2002	0	0	0
Wharfe	Burnsall	SW	30/08/2002	0	1	0
Ure	Boroughbridge	SW	02/09/2002	0	0	0
Ouse	u/s Clifton Bridge	SW	08/10/2002	0	1	0
Linton Beck	Bow Bridge	SW	08/10/2002	0	0	0
Ouse	d/s A64 Bridge	SW	21/10/2002	0	0	0
Spencer Beck	d/s On-Line discharge	SW	01/11/2002	0	0	0
Nidd	Skip Bridge	SW	05/11/2002	0	0	0
Tees	Gainford	SW	11/11/2002	0	0	0
Blackfoss Beck	Sutton-on-Derwent	SW	25/11/2002	0	0	0

Table 18 The 20 samples audited for Ridings Area of North East Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Barlow Brook	u/s R Drone	FLS	26/06/2002	0	0	0
Lothersdale Beck	Folly Bridge	FLS	02/07/2002	0	0	0
Eastburn Beck	Eastburn Bridge	FLS	03/07/2002	1	1	0
Dakin Brook	Cannon Hall Park	FLS	08/07/2002	0	0	0
Market Weighton Canal	Newport	FLS	08/08/2002	0	1	1
Holme	Bottoms Mill	FLS	09/08/2002	0	2	0
Hardwick Beck	u/s Went Beck	FLS	19/08/2002	0	0	0
Wessenden Brook	u/s Mill	FLS	19/08/2002	0	0	0
Herringthorpe Beck	d/s Gibbing Greave Wood	FLS	20/08/2002	0	0	0
Carr Beck Cutsyke	Whitwood	FLS	19/11/2002	0	0	0
Batley Beck	Dewsbury	FLS	20/11/2002	0	0	0
Fleet Marsh Lane	Haddlesey	FLS	21/11/2002	0	1	0
Ewden Beck	d/s Dam	FLS	28/11/2002	0	2	0
Scurf Dyke	Scurf Dyke Farm	FLS	03/12/2002	0	0	0
Don	d/s Jamont	RJJ	08/07/2002	0	0	0
Holme	Brockholes	RJJ	08/07/2002	0	1	0
Hull/West Beck	Hempholme Lock	RJJ	03/12/2002	0	0	0
Don	Dunford Bridge	RJJ	18/12/2002	0	2	0
West Beck	d/s Humberside Fish Farm	RJJ	06/01/2003	1	0	0
Malham Beck	d/s Gordale Beck	RJJ	09/01/2003	0	1	0

Table 19 Statistics of the 2002 QC Audit for North East Region

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Northumbria	20	0.30	0.11	1	0.30	0.11
EWS	8	0.25	0.16	1	0.25	0.16
FM	12	0.33	0.14	1	0.33	0.14
Dales	20	0.45	0.14	2	0.45	0.14
EA	5	0.80	0.37	2	0.80	0.37
SW	15	0.33	0.13	1	0.33	0.13
Ridings	20	0.55	0.17	2	0.70	0.19
FLS	14	0.50	0.20	2	0.64	0.25
RJJ	6	0.67	0.33	2	0.83	0.31
N. East Region	60	0.43	0.08	2	0.48	0.09
Whole of Agency	471	0.60	0.04	5	0.77	0.05

AUDIT OF NORTH WEST REGION'S AQC INSPECTORS

Table 20 Net effects of the AQC Audit on BMWP score and number of scoring taxa for North East Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Northumbria	20	1.80	0.69	10	0.30	0.11	1
EWS	8	1.38	0.91	6	0.25	0.16	1
FM	12	2.08	1.00	10	0.33	0.14	1
Dales	20	3.10	1.00	15	0.45	0.14	2
EA	5	5.40	2.77	15	0.80	0.37	2
SW	15	2.33	0.96	10	0.33	0.13	1
Ridings	20	3.60	1.33	17	0.45	0.18	2
FLS	14	3.07	1.56	17	0.43	0.20	2
RJJ	6	4.83	2.66	12	0.50	0.43	2
N. East Region	60	2.83	0.60	17	0.40	0.08	2
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 21 The families missed by North East Region's AQC inspectors

Family	n	% of North East Region's missed families in AQC Audit
Hydrophilidae (incl. Hydraenidae)	5	13.89
Ceratopogonidae	4	11.11
Psychodidae	4	11.11
Elmidae	3	8.33
Chloroperlidae	2	5.56
Hydracarina	2	5.56
Limnephilidae	2	5.56
Leptoceridae	1	2.78
Hydropsychidae	1	2.78
Taeniopterygidae	1	2.78
Odontoceridae	1	2.78
Asellidae	1	2.78
Goeridae	1	2.78
Gammaridae (incl. Crangonyctidae & Niphargidae)	1	2.78
Empididae	1	2.78
Polycentropodidae	1	2.78
Dixidae	1	2.78
Coenagrionidae	1	2.78
Sericostomatidae	1	2.78
Stratiomyidae	1	2.78
Haliplidae	1	2.78
Total	36	100

Table 22 The species missed by North East Region's AQC inspectors

Species	n	% of North East Region's missed species in AQC Audit
Hydraena gracilis Germar	4	11.11
Ceratopogonidae indet	4	11.11
Chloroperla torrentium (Pictet)	2	5.56
Oulimnius tuberculatus (Muller)	2	5.56
Limnephilidae indet	2	5.56
Hydracarina indet	2	5.56
Brachyptera risi (Morton)	1	2.78
Crangonyx pseudogracilis Bousfield	1	2.78
Dixa nebulosa Meigen	1	2.78
Elmis aenea (Muller)	1	2.78
Haliphus sp.	1	2.78
Helophorus (Atracthelophorus) brevipalpis Bedel	1	2.78
Hemerodromia group	1	2.78
Asellus aquaticus (L.)	1	2.78
Ischnura elegans (Van der Linden)	1	2.78
Silo pallipes (Fabricius)	1	2.78
Mystacides azurea (L.)	1	2.78
Odontocerum albicorne (Scopoli)	1	2.78
Oxycera morrisii Curtis	1	2.78
Pericoma fallax Eaton	1	2.78
Pericoma sp.	1	2.78
Pericoma trivialis group	1	2.78
Polycentropus flavomaculatus (Pictet)	1	2.78
Psychoda cinerea Banks	1	2.78
Sericostoma personatum (Spence)	1	2.78
Hydropsyche siltalai Dohler	1	2.78
Total	36	100

Table 23 The 20 samples audited for Northern Area of North West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Irt	d/s Santon Bridge	GR	09/07/2002	1	0	0
Brides Beck	ptc Carr Beck	GR	16/07/2002	0	0	0
Threapland Gill	ptc Gill Gooden	GR	29/07/2002	0	0	0
Pow Beck	u/s Stanley Pond	GR	04/12/2002	0	0	0
Ehen	d/s Wath Fish Farm	GR	28/01/2003	0	0	0
Black Lyne	Nr Selbystown	GR	29/01/2003	0	0	0
Levy (Drogley) Beck	u/s Low Mill Bridge	GR	31/01/2003	0	0	0
Carr Beck	West House	NC	13/06/2002	0	1	0
Salthouse Pool	u/s Tidal Doors	NC	26/07/2002	0	1	1
Eden	Stenkrith Bridge	NC	08/11/2002	0	0	0
Broughton Beck	Broughton Beck Bridge	NC	11/11/2002	1	0	0
Black Beck	ptc R.Duddon	NC	12/11/2002	0	0	0
Ehen	d/s Wath Fish Farm	NC	13/11/2002	0	1	0
Goldmire Beck	ptc Poaka Beck	NC	13/11/2002	0	0	0
St Johns Beck	Threlkeld Bridge	NC	14/11/2002	0	0	0
Eamont	A66 Road Bridge	NC	15/11/2002	0	1	0
Eamont	Udford	NC	15/11/2002	0	1	0
Kirkby Pool	Wreaks Causeway End Br	RT	02/12/2002	1	0	0
Rothay	d/s B5287 Bridge	RT	30/01/2003	0	1	0
Noonhowe Sike	NY 548 245	RT	10/02/2003	1	0	0

Table 24 The 20 samples audited for Central Area of North West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Langden Brook	u/s Dunsop	AAD	14/01/2003	0	0	0
Douglas	Yellow Brook	AAD	14/02/2003	0	1	0
Alt	Dover's Brook	AAD	24/02/2003	0	0	0
Darwen	Cann Bridge	DL	23/04/2002	0	0	0
Ribble	d/s Settle STW	DL	18/09/2002	0	0	0
Eller Brook	Burscough Bridge	DL	14/10/2002	1	0	0
Lune	d/s Forge Weir	DL	29/10/2002	0	0	0
Lune	d/s Forge Weir	DL	07/11/2002	1	0	0
Douglas	d/s M61	DL	13/11/2002	0	0	0
Boundary Brook	A570	DL	11/12/2002	0	0	0
Doe	ptc R.Greta	DL	19/12/2002	0	0	0
Three Pools Water	Crossens P.S.	DL	08/01/2003	0	0	0
Calder	Altham Bridge	DL	29/01/2003	0	0	0
Arley Brook	u/s Lumb Bank Clough	DL	11/02/2003	0	0	0
Borrow Beck	u/s A685 Bridge	DL	13/02/2003	0	0	0
Alt	ptc Hillhouse Drain	DL	14/02/2003	0	0	0
Alt	Formby	DL	18/02/2003	0	0	0
Arley Brook	u/s Lumb Bank Clough	DL	24/02/2003	0	0	0
Artle Beck	d/s SSO	DL	25/02/2003	0	0	0
Yarrow	ptc Black Brook	GK	04/07/2002	0	0	0

Table 25 The 20 samples audited for Southern Area of North West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Glossop Brook	ptc R.Etherow	AG	03/01/2003	0	0	0
Irwell	d/s Deerplay STW	AG	03/01/2003	1	2	0
Roch	ptc Stanney Brook	AG	13/01/2003	0	0	0
Stanney Brook	ptc R.Roch	AG	17/01/2003	0	0	0
Mersey	ptc Padgate Brook	NR	26/04/2002	0	0	0
Pott Shrigley Brook	ptc Harrop Brook	NR	17/05/2002	1	0	0
Limy Water	u/s Loveclough	NR	30/05/2002	0	1	0
Roch	u/s Rochdale ETW	NR	25/06/2002	1	1	0
Eagley Brook	ptc Astley Brook	NR	05/07/2002	0	1	0
Hollins Brook	ptc R.Roch	NR	01/08/2002	0	1	0
Tame	Duckinfield Bridge	NR	15/08/2002	0	0	0
Irwell	u/s Bury ETW	NR	19/08/2002	0	1	0
Cowpe Brook	d/s Kearns	RMM	02/05/2002	0	1	0
Arrowe Brook	ptc Greasby Brook	RMM	23/05/2002	0	1	0
Day Green Stream	u/s Alsager ETW	RMM	13/06/2002	0	0	0
Roch	u/s R.Irwell	RMM	30/08/2002	0	1	0
Gout	ptc Tame	RMM	24/09/2002	0	0	0
Irwell	University F/B	RMM	24/09/2002	0	0	0
Thornton Stream	ptc Clatter Brook	RMM	25/09/2002	1	0	0
Glaze	Shaw Bk @ Astley Bk	RMM	02/10/2002	0	1	0

Table 26 Statistics of the 2002 AQC Audit for North West Region

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Northern	20	0.30	0.11	1	0.55	0.14
GR	7	0	0	0	0.14	0.14
NC	10	0.50	0.17	1	0.70	0.21
RT	3	0.33	0.33	1	1.00	0
Central	20	0.05	0.05	1	0.15	0.08
AAD	3	0.33	0.33	1	0.33	0.33
DL	16	0	0	0	0.13	0.09
GK	1	0	N/a	0	0	N/a
Southern	20	0.55	0.14	2	0.75	0.18
AG	4	0.50	0.50	2	0.75	0.75
NR	8	0.63	0.18	1	0.88	0.23
RMM	8	0.50	0.19	1	0.63	0.18
N. West Region	60	0.30	0.06	2	0.48	0.08
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 27 Net effects of the AQC Audit on BMWP score and number of scoring taxa for North West Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Northern	20	1.10	1.08	10	0.10	0.16	1
GR	7	-1.14	1.14	0	-0.14	0.14	0
NC	10	3.10	1.57	10	0.40	0.22	1
RT	3	-0.33	3.71	7	-0.33	0.67	1
Central	20	-0.25	0.44	5	-0.05	0.09	1
AAD	3	1.67	1.67	5	0.33	0.33	1
DL	16	-0.63	0.43	0	-0.13	0.09	0
GK	1	0	N/a	0	0	N/a	0
Southern	20	2.40	0.86	10	0.35	0.15	1
AG	4	1.50	1.50	6	0.25	0.25	1
NR	8	2.75	1.53	10	0.38	0.26	1
RMM	8	2.50	1.45	10	0.38	0.26	1
N. West Region	60	1.08	0.49	10	0.13	0.08	1
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 28 The families missed in sorting by North West Region's AQC inspectors

Family	n	% of North West Region's missed families in AQC Audit
Empididae	2	8.00
Psychodidae	2	8.00
Planariidae (incl. Dugesiidae)	2	8.00
Hydracarina	2	8.00
Limnephilidae	1	4.00
Ceratopogonidae	1	4.00
Culicidae	1	4.00
Ephydriidae	1	4.00
Erpobdellidae	1	4.00
Gammaridae (incl. Crangonyctidae & Niphargidae)	1	4.00
Heptageniidae	1	4.00
Beraeidae	1	4.00
Leptoceridae	1	4.00
Valvatidae	1	4.00
Lymnaeidae	1	4.00
Nematomorpha	1	4.00
Rhyacophilidae (incl. Glossosomatidae)	1	4.00
Simuliidae	1	4.00
Sphaeriidae	1	4.00
Tipulidae (incl. Limoniidae)	1	4.00
Lepidostomatidae	1	4.00
Total	25	100

Table 29 The species missed in sorting by North West Region's AQC inspectors

Species	n	% of North West Region's missed species in AQC Audit
Hydracarina indet	2	7.69
Athripsodes bilineatus (L.)	1	3.85
Beraea maurus (Curtis)	1	3.85
Ceratopogonidae indet	1	3.85
Chelifera group	1	3.85
Clinocerinae	1	3.85
Culicidae indet	1	3.85
Dicranota sp.	1	3.85
Ephydriidae indet	1	3.85
Erpobdellidae indet	1	3.85
Gammarus sp.	1	3.85
Agapetus sp.	1	3.85
Limnephilidae indet	1	3.85
Valvata cristata Muller	1	3.85
Lymnaea truncatula (Muller)	1	3.85
Nematomorpha indet	1	3.85
Pericoma fallax Eaton	1	3.85
Pericoma sp.	1	3.85
Pisidium sp.	1	3.85
Polycelis felina (Dalyell)	1	3.85
Polycelis sp.	1	3.85
Rhithrogena sp.	1	3.85
Simulium (Simulium) ornatum group	1	3.85
Tipula sp.	1	3.85
Lepidostoma hirtum (Fabricius)	1	3.85
Total	26	100

AUDIT OF SOUTHERN REGION'S AQC INSPECTORS

Table 30 The samples audited for the Hants & Isle of Wight Area of Southern Region

Hants & Isle of Wight Area sent primary samples only for audit.

Table 31 The 15 samples audited for the Kent Area of Southern Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Great Stour	Horton	SW	02/05/2002	0	0	0
Eden	Penshurst	SW	08/05/2002	0	0	0
Great Stour	Wye	SW	27/05/2002	0	0	0
Darent	Eynsford	SW	20/08/2002	0	1	0
Medway	Whilleys Bridge	SW	21/08/2002	0	1	0
Brede	Brede W/works	SW	09/10/2002	0	1	0
Loose Stream	Hayle Place	SW	10/10/2002	0	0	0
Darent	Farningham	SW	11/10/2002	0	0	0
Viaduct Arm	u/s Ham Street STW	SW	16/10/2002	0	0	0
Great Stour	Whitemill Bridge	SW	19/11/2002	0	2	0
Crane Brook	Golford	SW	13/12/2002	0	0	0
Brede	Brede Waterworks	SW	17/12/2002	0	0	0
Jury's Gut Sewer	Rosedale	SW	18/12/2002	0	0	0
Darent	Otford G.S.	SW	02/01/2003	0	3	0
Royal Military Canal	Hythe	SW	03/01/2003	0	1	0

Table 32 The 20 samples audited for the Sussex Area of Southern Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Adur Trib	u/s Confluence	AG	01/07/2002	0	0	0
Chess Stream Trib	u/s Pumping Stn	AG	09/10/2002	0	0	0
Ouse	Barcombe Mills	AG	29/10/2002	0	0	0
Ouse	Barcombe Mills	AG	31/10/2002	0	1	0
Kird	Harsfold Farm	AG	11/11/2002	0	0	1
Lephams Bridge Str	Rocks Lane	AG	26/11/2002	0	0	0
Byworth Stream	Byworth Hanger	AG	06/12/2002	0	0	1
Edburton Stream	Edburton	JH	14/01/2003	1	2	0
Uck	Buxted Bridge	JH	11/02/2003	0	0	0
Par Brook	Parbrook Bridge	SE	09/05/2002	0	0	0
Honeybridge Stream	Mill Lane	SE	05/06/2002	0	0	0
Clockhouse Gill	Red Roofs	SE	26/07/2002	0	0	0
Wallers Haven	Boreham Bridge	SE	23/10/2002	0	0	0
Pellingford Brook	Sheffield Park Stn	SE	25/10/2002	0	0	0
Sutton Stream	Sutton End Br	SE	11/11/2002	0	0	1
Waldron Gill	Brookside Bridge	SE	26/11/2002	0	0	0
Rother	Liss	SE	03/12/2002	0	0	0
Mill Stream	Cherry Croft	SE	04/01/2003	0	0	0
	Farm					
Cockhaise Brook	Cockhaise Mill	SE	21/01/2003	0	3	0

Rickney Sewer Rickney P.S. SE 10/02/2003 0 0 0
Table 33 Statistics of the 2002 AQC Audit for Southern Region

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Hants & IOW	0	-	-	-	-	-
Kent	15	0.60	0.24	3	0.60	0.24
SW	15	0.60	0.24	3	0.60	0.24
Sussex	20	0.30	0.18	3	0.50	0.21
AG	7	0.14	0.14	1	0.43	0.20
JH	2	1.00	1.00	2	1.50	1.50
SE	11	0.27	0.27	3	0.36	0.28
Southern Region	35	0.43	0.14	3	0.54	0.16
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 34 Net effects of the AQC Audit on BMWP score and number of scoring taxa for Southern Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Hants & IOW	0	-	-	-	-	-	-
Kent	15	4.27	1.80	25	0.60	0.24	3
SW	15	4.27	1.80	25	0.60	0.24	3
Sussex	20	1.90	1.09	18	0.25	0.16	3
AG	7	1.43	1.43	10	0.14	0.14	1
JH	2	5.00	5.00	10	0.50	0.50	1
SE	11	1.64	1.64	18	0.27	0.27	3
Southern Region	35	2.91	1.00	25	0.40	0.14	3
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 35 The families missed in sorting by Southern Region's AQC inspectors

Family	n	% of Southern Region's missed families in AQC Audit
Leptophlebiidae	2	9.09
Psychodidae	2	9.09
Empididae	2	9.09
Goeridae	2	9.09
Calopterygidae	1	4.55
Ceratopogonidae	1	4.55
Ephydriidae	1	4.55
Haliplidae	1	4.55
Caenidae	1	4.55
Hydrophilidae (incl. Hydraenidae)	1	4.55
Sericostomatidae	1	4.55
Molannidae	1	4.55
Muscidae	1	4.55
Notonectidae	1	4.55
Piscicolidae	1	4.55
Planariidae (incl. Dugesiiidae)	1	4.55
Planorbidae	1	4.55
Hydrobiidae (incl. Bithyniidae)	1	4.55
Total	22	100

Table 36 The species missed in sorting by Southern Region's AQC inspectors

Species	n	% of Southern Region's missed species in AQC Audit
Paraleptophlebia sp.	2	9.09
Notonecta sp.	1	4.55
Calopteryx sp.	1	4.55
Ceratopogonidae indet	1	4.55
Chelifera group	1	4.55
Clinocerinae	1	4.55
Ephydridae indet	1	4.55
Goera pilosa (Fabricius)	1	4.55
Haliphus ruficollis group	1	4.55
Hydraena gracilis Germar	1	4.55
Caenis luctuosa group	1	4.55
Molanna angustata Curtis	1	4.55
Silo pallipes (Fabricius)	1	4.55
Pericoma blandula Eaton	1	4.55
Pericoma trivialis group	1	4.55
Piscicola geometra (L.)	1	4.55
Planorbidae indet	1	4.55
Polycelis nigra group	1	4.55
Potamopyrgus antipodarum (Gray)	1	4.55
Sericostoma personatum (Spence)	1	4.55
Limnophora sp.	1	4.55
Total	22	100

AUDIT OF SOUTH WEST REGION'S AQC INSPECTORS

Table 37 The 20 samples audited for Cornwall Area of South West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
St Austell	d/s Ruddle Leat	AB	07/01/2002	0	0	0
Fal	Kernick Bridge	AB	11/01/2002	0	0	0
Gwindra	d/s Drinnick A	AB	05/08/2002	0	0	0
Porth Stream	Porth	AB	28/11/2002	0	0	0
Tavy	West Bridge	AB	10/12/2002	0	0	0
Red	Kieve Bridge	AB	20/01/2003	0	0	0
Plym	u/s Ditsworthy	JMB	24/01/2002	0	0	0
Porth Stream	Porth	JMB	02/07/2002	0	0	0
Menheniot Stream	Factory Bridge	JMB	27/08/2002	0	0	0
Piall	Stert Bridge	JMB	22/10/2002	0	0	0
Newlyn	Buryas Bridge	LC	12/02/2002	0	0	0
Meavy	Hoo Meavy	LC	27/03/2002	0	0	0
Tavy	West Bridge	TG	29/01/2002	1	0	0
Cholwell Brook	u/s R.Tavy	TG	13/03/2002	0	1	0
Fal	Trerice Bridge	TG	24/05/2002	0	0	0
Hayle	Drym Farm	TG	05/07/2002	0	0	0
Godolphin Stream	Gwedna	TG	15/07/2002	0	0	0
Camel	Fenteroon Bridge	TG	12/08/2002	0	0	0
East Looe	d/s Liskeard STW	TG	28/11/2002	0	0	0
Red	Godrevy	TG	17/02/2003	0	0	0

Table 38 The 19 samples audited for Devon Area of South West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Meddon	u/s Bridge	AD	10/01/2003	0	2	0
Hems	Portbridge Cross	AD	14/01/2003	0	0	0
Clifford Water	u/s Bridge	AD	21/01/2003	0	0	0
Clyst	Ashclyst Farm	AD	17/02/2003	0	0	0
Beadon Brook	B3193 Bridge	AD	13/03/2003	0	0	0
Roncombe Stream	Cotford Bridge	AG	15/09/2002	0	0	0
Culm	Culmstock	AG	15/09/2002	0	0	0
Stoodleigh Stream	u/s Storm discharge	AG	13/01/2003	0	1	0
Torridge	Fordmill Bridge	AG	23/01/2003	0	0	0
Lowman	Chieflowman Bridge	AG	17/02/2003	0	1	0
The Gara	Higher North Mill	AJH	14/01/2003	0	0	0
Blackwater	Buddlewall	AJH	21/01/2003	0	0	0
Am Brook	Fishacre Bridge	AJH	03/03/2003	0	1	1
Avon	Horsebrook	APH	04/10/2002	0	0	0
Hollocombe Water	Bridge Reeve	APH	09/10/2002	0	1	0
Caen	St Brannocks	APH	31/01/2003	0	0	0
Woodbury Stream	d/s Woodbury STW	APH	03/02/2003	0	1	0
Lowman	Tiverton	APH	03/02/2003	0	0	0
Waldon	Henscott Bridge	APH	14/02/2003	0	0	0

Table 39 The 20 samples audited for North Wessex Area of South West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Chew	Chew Magna	IH	14/05/2002	0	0	0
Chew	Keynsham	IH	22/07/2002	0	2	0
Cam Brook	Midford	IH	12/09/2002	0	0	0
Rivers Brook	Qumerford	IH	05/11/2002	0	0	0
Chalfield Brook	Broughton Gifford	IH	08/11/2002	0	0	0
Cheddar Yeo	u/s Footbridge	IH	21/01/2003	1	0	0
South Drain	Burtle	IH	21/02/2003	0	0	0
Kings Sedgemoor Dr	Greylake Bridge	IH	26/02/2003	0	1	0
Chew	Publow	JS	19/08/2002	0	0	0
Chew	Publow	JS	12/11/2002	0	0	0
Congresbury Yeo	Beam Bridge	JS	14/01/2003	0	1	0
Isle	Cocks Bridge	JS	15/01/2003	0	0	0
Brue	Cow Bridge	JS	20/02/2003	0	0	0
Hartlake	Bridge - Godney	WO	19/03/2002	0	0	0
Wellow	White Bridge	WO	17/06/2002	0	0	0
Wick Stream	Wick Farm	WO	03/07/2002	0	0	0
Sutton Benger Str	Sutton Benger	WO	19/08/2002	0	0	0
Mells Brook	Bentor Mill	WO	15/01/2003	1	1	1
Parrett	Petherton Park	WO	21/01/2003	0	0	0
Venners Water	Keysey Farm	WO	20/02/2003	0	0	0

Table 40 The 18 samples audited for South Wessex Area of South West Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Nine Mile	Bulford	PRH	11/04/2002	0	2	0
Wylfe	Norton Bavant	PRH	08/05/2002	0	0	0
Wylfe	Fisherton de la Mere	PRH	30/05/2002	0	2	0
Frome	u/s Sandhills	PRH	05/07/2002	1	0	0
Cerne	Blackhill	PRH	12/08/2002	0	2	0
Char	Whitchurch	PRH	13/09/2002	0	0	0
	Canonicorum					
Iwerne Brook	Stourpaine	PRH	08/11/2002	0	1	0
Lydden	Twofords Bridge	PRH	13/11/2002	1	2	0
Stour	Muscliffe	PRH	15/11/2002	0	1	0
Ashford Water	d/s Fordingbridge	PRH	18/11/2002	0	0	0
Piddle	Druce	PRH	04/12/2002	0	0	0
Bride	d/s Burton Bradstock	PRH	09/01/2003	0	1	0
Hampshire Avon	d/s Ibsley	PRH	20/01/2003	0	0	0
Hooke	Lower Kingcombe	PRH	23/01/2003	0	2	0
Wonston Stream	d/s Wonston	PRH	29/01/2003	0	0	0
Caundle Brook	Densham Farm	PRH	17/02/2003	0	0	0
Caundle Brook	u/s Blackmore Ford	PRH	18/02/2003	0	0	0
Tarrant	Tarrant Hinton	PRH	20/02/2003	0	0	0

Table 41 Statistics of the 2002 AQC Audit for South West Region

Analyst/Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Cornwall	20	0.05	0.05	1	0.10	0.07
AB	6	0	0	0	0	0
JMB	4	0	0	0	0	0
LC	2	0	0	0	0	0
TG	8	0.13	0.13	1	0.25	0.16
Devon	19	0.37	0.14	2	0.42	0.16
AD	5	0.40	0.40	2	0.40	0.40
AG	5	0.40	0.24	1	0.40	0.24
AJH	3	0.33	0.33	1	0.67	0.67
APH	6	0.33	0.21	1	0.33	0.21
N. Wessex	20	0.25	0.12	2	0.40	0.18
IH	8	0.38	0.26	2	0.50	0.27
JS	5	0.20	0.20	1	0.20	0.20
WO	7	0.14	0.14	1	0.43	0.43
S. Wessex	18	0.72	0.21	2	0.83	0.23
PRH	18	0.72	0.21	2	0.83	0.23
S. West Region	77	0.34	0.07	2	0.43	0.09
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 42 Net effects of the AQC Audit on BMWP score and number of scoring taxa for South West Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Cornwall	20	-0.35	0.53	3	0	0.07	1
AB	6	0	0	0	0	0	0
JMB	4	0	0	0	0	0	0
LC	2	0	0	0	0	0	0
TG	8	-0.88	1.36	3	0	0.19	1
Devon	19	2.16	0.91	15	0.37	0.14	2
AD	5	3.00	3.00	15	0.40	0.40	2
AG	5	2.60	1.60	7	0.40	0.24	1
AJH	3	1.67	1.67	5	0.33	0.33	1
APH	6	1.33	0.88	5	0.33	0.21	1
N. Wessex	20	0.90	1.04	15	0.15	0.13	2
IH	8	1.63	2.23	15	0.25	0.31	2
JS	5	2.00	2.00	10	0.20	0.20	1
WO	7	-0.71	0.71	0	0	0	0
S. Wessex	18	3.56	1.26	15	0.61	0.22	2
PRH	18	3.56	1.26	15	0.61	0.22	2
S. West Region	77	1.51	0.50	15	0.27	0.08	2
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 43 The families missed in sorting by South West Region's AQC inspectors

Family	n	% of South West Region's missed families in AQC Audit
Hydracarina	11	17.74
Empididae	7	11.29
Psychodidae	6	9.68
Ceratopogonidae	6	9.68
Hydroptilidae	2	3.23
Sciomyzidae	2	3.23
Nematomorpha	2	3.23
Lepidostomatidae	1	1.61
Hydrophilidae (incl. Hydraenidae)	1	1.61
Gyrinidae	1	1.61
Goeridae	1	1.61
Ephydriidae	1	1.61
Dytiscidae (incl. Noteridae)	1	1.61
Dryopidae	1	1.61
Dolichopodidae	1	1.61
Dendrocoelidae	1	1.61
Corixidae	1	1.61
Glossiphoniidae	1	1.61
Neritidae	1	1.61
Veliidae	1	1.61
Odontoceridae	1	1.61
Physidae	1	1.61
Piscicolidae	1	1.61
Planariidae (incl. Dugesiiidae)	1	1.61
Planorbidae	1	1.61
Polycentropodidae	1	1.61
Psychomyiidae (incl. Ecnomidae)	1	1.61
Rhagionidae (incl. Athericidae)	1	1.61
Scirtidae	1	1.61
Sphaeriidae	1	1.61
Taeniopterygidae	1	1.61
Valvatidae	1	1.61
Muscidae	1	1.61
Total	62	100

Table 44 The species missed in sorting by South West Region's AQC inspectors

Species	n	% of South West Region's missed species in AQC Audit
Hydracarina indet	11	17.74
Ceratopogonidae indet	6	9.68
Chelifera group	3	4.84
Hemerodromia group	3	4.84
Sciomyzidae indet	2	3.23
Pericoma fallax Eaton	2	3.23
Nematomorpha indet	2	3.23
Pericoma trivialis group	2	3.23
Elodes sp.	1	1.61
Ithytrichia sp.	1	1.61
Hydroptila sp.	1	1.61
Hydraena sp.	1	1.61
Helobdella stagnalis (L.)	1	1.61
Lepidostomatidae indet	1	1.61
Ephydriidae indet	1	1.61
Dryops sp.	1	1.61
Dolichopodidae indet	1	1.61
Dendrocoelum lacteum (Muller)	1	1.61
Clinocerinae	1	1.61
Brachyptera risi (Morton)	1	1.61
Goera pilosa (Fabricius)	1	1.61
Pisidium sp.	1	1.61
Valvata piscinalis (Muller)	1	1.61
Theodoxus fluviatilis (L.)	1	1.61
Sigara (Vermicorixa) lateralis (Leach)	1	1.61
Rhagio sp.	1	1.61
Psychomyia pusilla (Fabricius)	1	1.61
Psychoda severini Tonnoir	1	1.61
Limnophora sp.	1	1.61
Polycelis nigra group	1	1.61
Bathyomphalus contortus (L.)	1	1.61
Piscicola geometra (L.)	1	1.61
Physa acuta group	1	1.61
Peripsychoda fusca (Macquart)	1	1.61
Oreodytes sp.	1	1.61
Orectochilus villosus (Muller)	1	1.61
Velia sp.	1	1.61
Odontocerum albicorne (Scopoli)	1	1.61
Polycentropus flavomaculatus (Pictet)	1	1.61
Total	62	100

AUDIT OF THAMES REGION'S AQC INSPECTORS

Table 45 The 20 samples audited for the Hatfield Laboratory of Thames Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Dikler	u/s Burtonon STW	75	18/08/2002	0	0	0
Culworth Brook	u/s Cherwell	75	27/08/2002	1	4	0
Ockley Brook	Soulden Mill	75	28/08/2002	0	1	0
Tykeswater	u/s Colne	75	17/09/2002	0	1	0
Red	Chequers Lane	74	25/05/2002	0	1	0
Folly Brook	Burtonhole Farm	74	24/06/2002	0	0	0
Silk Stream	Rushgrove Park	74	07/07/2002	0	0	0
Lee	Leasy Bridge	74	09/07/2002	0	1	0
Whitton Brook	Marlow Crescent	74	22/07/2002	0	0	0
Mimshall Brook	Waterend	74	17/09/2002	0	2	0
Yeading Brook	Watersplash Lane	74	15/01/2003	0	0	0
Pinn	Kings College Rd	74	15/01/2003	0	1	0
Saddlers Millstream	u/s Church Road	74	15/01/2003	0	0	0
Colne (Stockers)	d/s Maple Cross Weir	73	08/07/2002	0	0	0
Pinn	Kings College Road	73	08/07/2002	0	2	0
Pincey Brook	Ealing Bridge	73	22/07/2002	1	2	0
Seven Kings Water	Barking Park	73	16/01/2003	1	0	0
Roding	Nightingale Sports Gr	73	16/01/2003	0	0	0
Roding	Luxborough Lane	73	17/01/2003	0	0	0
Alderbourn	d/s Alderbourn Farm	73	17/01/2003	0	0	0

Table 46 The 20 samples audited for the Frimley Laboratory of Thames Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Cobblers Brook	Cranleigh	307	19/04/2002	1	3	0
Gatwick Stream	Tinsley Bridge	307	12/11/2002	0	0	0
Beverley Brook	Pembury Avenue	307	02/12/2002	0	1	0
Salt Hill Stream	Salt Hill Park	307	11/12/2002	0	0	0
Cranleigh Waters	Collins Farm	317	25/02/2002	1	1	0
Heywood Stream	u/s The Cut	317	09/05/2002	0	1	0
Thames	Ravens Ait	317	15/05/2002	0	1	0
Penton Hook Weir Str	d/s Weir	317	31/05/2002	0	2	0
Hogsmill	Villiers Road	317	07/06/2002	0	1	0
Caker Stream	u/s Outfall	317	24/09/2002	0	0	0
Loddon	Keepers Cottage	317	11/10/2002	0	0	0
Collins Brook	u/s Cranleigh Waters	317	22/10/2002	0	0	0
Pool	Winsford Road	533	21/03/2002	0	0	0
Ravensbourne	Norman Park	533	28/03/2002	0	0	0
Loddon	Twyford	533	24/05/2002	0	4	0
Cranleigh Waters	Water Bridge	533	07/10/2002	0	0	0
The Cut	u/s Thames	533	30/10/2002	0	2	0
Pickle Ditch	d/s Christchurch Road	533	29/11/2002	0	0	0
Cranleigh Waters	Water Bridge	533	02/01/2003	0	0	0
Cranleigh Waters	Water Bridge	MJW	25/04/2002	1	1	0

Table 47 The 20 samples audited for the Wallingford Laboratory of Thames Region

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Henton Stream	d/s Chinnor STW	001	16/05/2002	0	0	0
Ray (Oxon)	B4027 Islip	001	20/05/2002	0	0	0
Windrush	Marshmouth Lane	004	29/04/2002	0	1	0
Evenlode	B4449 Cassington	004	13/05/2002	0	2	0
Oxon Ray	Grendon Underwood GS	004	17/06/2002	0	1	0
Burghfield Brook	u/s Foudry Brook	004	01/07/2002	0	0	0
Aldbourn	GS Ramsbury	004	04/07/2002	0	0	0
North Field Brook	Sandford	004	13/08/2002	0	0	0
Mill Brook	Watery Lane	004	12/11/2002	0	0	0
Windrush	Cokethorpe	004	11/12/2002	0	2	0
Cherwell	Old Marston	004	11/03/2003	0	1	1
Sor Brook	Bodicote	004	17/03/2003	0	0	0
Evenlode	Oddington	007	24/06/2002	0	3	0
Kencot Brook	B4020, Alvescot	007	08/07/2002	0	1	0
Kennet	u/s Manton	007	03/01/2003	0	0	0
Northfield Brook	Sandford	007	08/01/2003	0	0	0
Seacourt Stream	Wytham	007	28/02/2003	0	0	0
Dikler	Brewery	008	12/02/2003	0	2	0
Thames	Whitchurch Weir	008	27/02/2003	0	0	0
Windrush	Guiting Power	008	03/03/2003	0	1	0

Table 48 Statistics of the 2002 AQC Audit for Thames Region

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Hatfield	20	0.75	0.24	4	0.90	0.29
75	4	1.50	0.87	4	1.75	1.11
74	9	0.56	0.24	2	0.56	0.24
73	7	0.57	0.37	2	0.86	0.46
Frimley	20	0.85	0.25	4	1.00	0.29
307	4	1.00	0.71	3	1.25	0.95
317	8	0.75	0.25	2	0.88	0.30
533	7	0.86	0.59	4	0.86	0.59
MJW	1	1.00		1	2.00	
Wallingford	20	0.70	0.21	3	0.75	0.22
001	2	0	0	0	0	0
004	10	0.70	0.26	2	0.80	0.29
007	5	0.80	0.58	3	0.80	0.58
008	3	1.00	0.58	2	1.00	0.58
Thames Region	60	0.77	0.13	4	0.88	0.15
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 49 Net effects of the AQC Audit on BMWP score and number of scoring taxa for Thames Region

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Hatfield	20	4.00	1.58	26	0.55	0.21	3
73	7	2.43	2.28	15	0.14	0.34	2
74	9	3.22	1.69	15	0.56	0.24	2
75	4	8.50	5.92	26	1.25	0.63	3
Frimley	20	4.15	1.44	23	0.70	0.24	4
307	4	5.50	3.77	16	0.75	0.48	2
317	8	3.25	1.54	10	0.63	0.26	2
533	7	4.57	3.32	23	0.86	0.59	4
MJW	1	3.00	N/a	3	0	N/a	0
Wallingford	20	4.20	1.38	23	0.70	0.21	3
001	2	0	0	0	0	0	0
004	10	4.00	1.61	15	0.70	0.26	2
007	5	5.60	4.46	23	0.80	0.58	3
008	3	5.33	2.67	8	1.00	0.58	2
Thames Region	60	4.12	0.83	26	0.65	0.13	4
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 50 The families missed in sorting by Thames Region's AQC inspectors

Family	n	% of Thames Region's missed families in AQC Audit
Hydracarina	9	13.64
Empididae	7	10.61
Psychodidae	6	9.09
Ceratopogonidae	6	9.09
Corixidae	3	4.55
Hydrophilidae (incl. Hydraenidae)	3	4.55
Hydroptilidae	3	4.55
Brachycentridae	2	3.03
Erpobdellidae	2	3.03
Hydrobiidae (incl. Bithyniidae)	2	3.03
Physidae	2	3.03
Muscidae	2	3.03
Leptoceridae	2	3.03
Beraeidae	1	1.52
Psychomyiidae (incl. Ecnomidae)	1	1.52
Platycnemididae	1	1.52
Planorbidae	1	1.52
Dendrocoelidae	1	1.52
Dytiscidae (incl. Noteridae)	1	1.52
Piscicolidae	1	1.52
Hydrometridae	1	1.52
Ephemeridae	1	1.52
Haliplidae	1	1.52
Heptageniidae	1	1.52
Baetidae	1	1.52
Simuliidae	1	1.52
Lymnaeidae	1	1.52
Hydropsychidae	1	1.52
Limnephilidae	1	1.52
Ephemerellidae	1	1.52
Total	66	100

Table 51 The species missed in sorting by Thames Region's AQC inspectors

Species	n	% of Thames Region's missed species in AQC Audit
Hydracarina indet	9	13.43
Ceratopogonidae indet	6	8.96
Hemerodromia group	3	4.48
Clinocerinae	2	2.99
Psychodidae indet	2	2.99
Brachycentrus subnubilus Curtis	2	2.99
Chelifera group	2	2.99

Table 51 continued

Species	n	% of Thames Region's missed species in AQC Audit
<i>Mystacides azurea</i> (L.)	2	2.99
<i>Limnophora</i> sp.	2	2.99
<i>Pericoma fallax</i> Eaton	2	2.99
<i>Hydroptila</i> sp.	2	2.99
<i>Gyraulus albus</i> (Muller)	1	1.49
<i>Haliphus</i> sp.	1	1.49
<i>Helophorus</i> sp.	1	1.49
Hemerodromiinae	1	1.49
<i>Helophorus</i> (<i>Helophorus</i>) sp.	1	1.49
Erpobdellidae indet	1	1.49
<i>Erpobdella octoculata</i> (L.)	1	1.49
<i>Ephemera</i> sp.	1	1.49
Hydroporinae	1	1.49
<i>Dendrocoelum lacteum</i> (Muller)	1	1.49
Corixidae indet	1	1.49
<i>Bithynia tentaculata</i> (L.)	1	1.49
<i>Beraeodes minutus</i> (L.)	1	1.49
<i>Ephemerella ignita</i> (Poda)	1	1.49
<i>Micronecta</i> (<i>Micronecta</i>) <i>poweri</i> (Douglas & Scott)	1	1.49
<i>Rhithrogena</i> sp.	1	1.49
<i>Psychoda alternata</i> Say	1	1.49
<i>Potamopyrgus antipodarum</i> (Gray)	1	1.49
<i>Platycnemis pennipes</i> (Pallas)	1	1.49
<i>Piscicola geometra</i> (L.)	1	1.49
<i>Physa</i> sp.	1	1.49
<i>Physa fontinalis</i> (L.)	1	1.49
<i>Hydraena pulchella</i> Germar	1	1.49
<i>Micronecta</i> sp.	1	1.49
<i>Baetis rhodani</i> (Pictet)	1	1.49
<i>Lype</i> sp.	1	1.49
<i>Lymnaea peregra</i> (Muller)	1	1.49
Limnephilidae indet	1	1.49
<i>Ithytrichia</i> sp.	1	1.49
<i>Hydropsyche pellucidula</i> (Curtis)	1	1.49
<i>Simulium</i> (<i>Nevermannia</i>) <i>angustitarse</i> group	1	1.49
<i>Hydrometra stagnorum</i> (L.)	1	1.49
<i>Pericoma</i> sp.	1	1.49
Total	67	100

AUDIT OF AQC INSPECTORS FOR WALES

Table 52 The 19 samples audited for Northern Area of Wales

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Alyn	Leadmills	359	14/10/2002	0	1	0
Clwyd	u/s Dwrlal	359	18/12/2002	0	0	0
Clwyd	d/s Ystrad	359	08/01/2003	0	0	0
Afon Wen	u/s Mawdach	359	14/01/2003	0	0	1
Afon Dwyfawr	Llanystumdwy	359	11/02/2003	0	0	0
Heulyn	u/s Breakers Yard	376	11/06/2002	0	0	0
Afon Lliw	Pen-y-Bont	376	10/07/2002	1	0	0
Afon Rhiw Saeson	Llanbrynmair	376	14/01/2003	0	1	0
Afon Cwmystradllyn	Golan	376	26/02/2003	1	0	0
Dee	Newbridge	377	30/07/2002	2	2	0
Clywedog	u/s Gwenfro	385	06/06/2002	1	1	0
Afon Conwy	Trefriw	385	11/07/2002	0	1	0
Afon Wheeler	u/s Clwyd	385	18/07/2002	0	2	1
Alyn	B5102, Rossett	385	22/10/2002	0	0	0
Afon Erch	u/s Sewage Works	385	19/11/2002	0	0	0
Afon Alyn	d/s Maes y Groes STW	385	11/12/2002	0	0	0
Afon Croesor	Pont Garreg Hyldrem	385	16/01/2003	0	0	0
Caledffrw	u/s Brynrefail STW	385	03/02/2003	0	1	0
Dwyfach Tributary	u/s Cefn Grainog Quarry	385	17/02/2003	1	1	0

Table 53 The 20 samples audited for South Eastern Area of Wales

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Ddu	u/s Nant Ffrwd Oer	370	16/08/2002	0	0	0
Rhymney	Tirphil	370	27/08/2002	0	0	0
Rhymney	Pengam	370	05/11/2002	0	0	0
Ebbw Fawr	Aberberg RFC	370	19/11/2002	0	0	0
Llyn	u/s Wye	370	29/11/2002	0	1	0
Dowlais Brook	Llantarnam Abbey	370	11/12/2002	0	0	0
Taff Clydach	u/s Taff	370	13/12/2002	1	0	0
Sirhowy	Newtown	370	08/01/2003	0	0	0
Willersley Brook	Willersley	370	15/01/2003	0	0	0
Llan y Mynach Brook	u/s Pant Brook	370	22/01/2003	0	1	0
Wye	Hafodygarreg	370	23/01/2003	0	0	0
Llyd	Pontymoel	370	30/01/2003	0	0	0
Usk Clydach	Nr Blackrock	370	03/02/2003	0	0	0
Coldstone Brook	d/s Marsh Farm	370	04/02/2003	0	1	0
Arrow	Newchurch	370	10/02/2003	0	1	0
Clettwr Brook	Erwood	370	17/02/2003	0	0	0
Rudhall Brook	Ross	370	17/02/2003	0	1	0
Newbridge Brook	Weobley	370	21/02/2003	0	0	0
Duhonw	A470 Bridge	370	24/02/2003	0	0	0
Usk	Llanellen	370	25/02/2003	0	0	0

Table 54 The 20 samples audited for South Western Area of Wales

River	Site	AQC inspector	AQC date	Losses	Gains	Omissions
Cywyn	u/s STW	361	04/10/2002	0	3	0
Aeron	Talsarn Bridge	361	23/10/2002	1	3	0
Nant Gochen	Cynnwyl Elfed	361	25/10/2002	0	0	0
Annell	d/s Crugyhar	361	15/11/2002	0	0	0
Iorwerth Goch	Crown Road	361	17/12/2002	0	0	0
Nant y Fendrod	u/s Days	361	06/01/2003	0	0	0
Tywi	Rhandirmwyn	361	21/01/2003	0	0	0
Mydyr	Llaethliw	361	04/02/2003	0	1	0
Taf	d/s Gronw	361	20/02/2003	1	1	0
E. Cleddau	d/s Vicar's Mill FF	362	22/05/2002	0	0	0
Afan	u/s Ynysgwas Bridge	362	31/07/2002	0	1	0
Clywedog	d/s STW	362	08/11/2002	0	3	0
Llynfi	Pandy Park	362	25/11/2002	0	2	0
Fenni	Pontyfenni	362	04/12/2002	0	0	0
Clydach	Neath Abbey	362	12/12/2002	0	2	0
Teifi	Henllan	362	06/01/2003	0	2	0
Afan	Pontrhydyfen	362	10/01/2003	0	1	0
Loughor	u/s Garnswllt STW	362	15/01/2003	0	3	0
Bran	d/s Llandovery STW	362	23/01/2003	0	0	0
Llynfi	Caerau	362	05/02/2003	0	0	0

Table 55 Statistics of the 2002 AQC Audit for Wales

Analyst/ Group	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Northern	19	0.53	0.16	2	0.95	0.26
359	5	0.20	0.20	1	0.40	0.24
376	4	0.25	0.25	1	0.75	0.25
377	1	2.00	N/a	2	4.00	N/a
385	9	0.67	0.24	2	1.00	0.37
S. Eastern	20	0.25	0.10	1	0.30	0.11
370	20	0.25	0.10	1	0.30	0.11
S. Western	20	1.10	0.27	3	1.20	0.30
361	9	0.89	0.42	3	1.11	0.51
362	11	1.27	0.36	3	1.27	0.36
Wales	59	0.63	0.12	3	0.81	0.14
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 56 Net effects of the AQC Audit on BMWP score and number of scoring taxa for Wales

Analyst/ Group	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Northern	19	1.68	1.11	11	0.21	0.16	2
359	5	1.40	1.40	7	0.20	0.20	1
376	4	-0.50	3.80	10	-0.25	0.48	1
377	1	-3.00	N/a	-3	0	N/a	0
385	9	3.33	1.41	11	0.44	0.24	2
S. Eastern	20	1.05	0.89	10	0.20	0.12	1
370	20	1.05	0.89	10	0.20	0.12	1
S. Western	20	6.30	1.78	23	1.00	0.26	3
361	9	5.89	3.06	23	0.67	0.37	3
362	11	6.64	2.20	22	1.27	0.36	3
Wales	59	3.03	0.81	23	0.47	0.12	3
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 57 The families missed in sorting by Wales' AQC inspectors

Family	n	% of Wales' missed families in AQC Audit
Empididae	6	12.50
Hydracarina	6	12.50
Limnephilidae	3	6.25
Leptoceridae	2	4.17
Caenidae	2	4.17
Ceratopogonidae	2	4.17
Dytiscidae (incl. Noteridae)	2	4.17
Asellidae	2	4.17
Lepidostomatidae	2	4.17
Physidae	2	4.17
Psychomyiidae (incl. Ecnomidae)	2	4.17
Nemouridae	2	4.17
Gyrinidae	1	2.08
Beraeidae	1	2.08
Brachycentridae	1	2.08
Simuliidae	1	2.08
Sericostomatidae	1	2.08
Dendrocoelidae	1	2.08
Dryopidae	1	2.08
Hydroptilidae	1	2.08
Rhyacophilidae (incl. Glossosomatidae)	1	2.08
Hydridae	1	2.08
Psychodidae	1	2.08
Planariidae (incl. Dugesiidae)	1	2.08
Tipulidae (incl. Limoniidae)	1	2.08
Lymnaeidae	1	2.08
Scirtidae	1	2.08
Total	48	100

Table 58 The species missed in sorting by Wales' AQC inspectors

Species	n	% of Wales' missed species in AQC Audit
Hydracarina indet	6	12.24
Clinocerinae	3	6.12
Limnephilidae indet	3	6.12
Hemerodromia group	2	4.08
Oreodytes sanmarkii (Sahlberg)	2	4.08
Physa sp.	2	4.08
Ceratopogonidae indet	2	4.08
Caenis rivulorum Eaton	2	4.08
Asellus aquaticus (L.)	2	4.08
Lepidostomatidae indet	1	2.04
Brachycentrus subnubilus Curtis	1	2.04
Hydridae indet	1	2.04
Elodes sp.	1	2.04
Empididae indet	1	2.04
Beraea maurus (Curtis)	1	2.04
Hexatoma sp.	1	2.04
Athripsodes bilineatus (L.)	1	2.04
Dendrocoelum lacteum (Muller)	1	2.04
Orectochilus villosus (Muller)	1	2.04
Sericostomatidae indet	1	2.04
Rhyacophila munda McLachlan	1	2.04
Psychomyia pusilla (Fabricius)	1	2.04
Protonemura praecox (Morton)	1	2.04
Pomatinus substriatus (Muller)	1	2.04
Ithytrichia sp.	1	2.04
Pericoma fallax Eaton	1	2.04
Adicella sp.	1	2.04
Oecetis testacea (Curtis)	1	2.04
Nemoura cambrica group	1	2.04
Lype sp.	1	2.04
Lymnaea peregra (Muller)	1	2.04
Simulium (Simulium) argyreatum group	1	2.04
Lepidostoma hirtum (Fabricius)	1	2.04
Polycelis nigra group	1	2.04
Total	49	100

SUMMARY OF AQC AUDIT FOR ENVIRONMENT AGENCY

Table 59 Statistics of the 2002 AQC Audit for each Agency laboratory

Region/Area	n	Mean gains	Standard error	Highest no. gains	Mean errors (l+g+o)	Standard error
Anglian Region	57	1.16	0.17	5	1.51	0.21
Northern	20	0.80	0.25	4	1.05	0.29
Central	17	1.94	0.37	5	2.59	0.44
Eastern	20	0.85	0.22	4	1.05	0.25
Midlands Region	63	0.75	0.14	4	1.02	0.15
U. Severn	20	0.10	0.07	1	0.65	0.18
L. Severn	3	0.67	0.33	1	1.33	0.88
U. Trent	20	1.80	0.29	4	1.95	0.32
L. Trent	20	0.35	0.13	2	0.40	0.13
N. East Region	60	0.43	0.08	2	0.48	0.09
Northumbria	20	0.30	0.11	1	0.30	0.11
Dales	20	0.45	0.14	2	0.45	0.14
Ridings	20	0.55	0.17	2	0.70	0.19
N. West Region	60	0.30	0.06	2	0.48	0.08
Northern	20	0.30	0.11	1	0.55	0.14
Central	20	0.05	0.05	1	0.15	0.08
Southern	20	0.55	0.14	2	0.75	0.18
Southern Region	35	0.43	0.14	3	0.54	0.16
Hants & IOW	0	-	-	-	-	-
Kent	15	0.60	0.24	3	0.60	0.24
Sussex	20	0.30	0.18	3	0.50	0.21
S. West Region	77	0.34	0.07	2	0.43	0.09
Cornwall	20	0.05	0.05	1	0.10	0.07
Devon	19	0.37	0.14	2	0.42	0.16
N. Wessex	20	0.25	0.12	2	0.40	0.18
S. Wessex	18	0.72	0.21	2	0.83	0.23
Thames Region	60	0.77	0.13	4	0.88	0.15
Hatfield	20	0.75	0.24	4	0.90	0.29
Frimley	20	0.85	0.25	4	1.00	0.29
Wallingford	20	0.70	0.21	3	0.75	0.22
Wales	59	0.63	0.12	3	0.81	0.14
Northern	19	0.53	0.16	2	0.95	0.26
S. Eastern	20	0.25	0.10	1	0.30	0.11
S. Western	20	1.10	0.27	3	1.20	0.30
Whole of Agency	471	0.60	0.04	5	0.77	0.05

Table 60 Net effects of the 2002 AQC Audit on BMWP score and no. of scoring taxa for each Agency lab.

Region/Area	n	Mean net effect on BMWP score	Standard error of net effect on score	Maximum underestimate of BMWP score	Mean net effect on no. of taxa	Standard error of net effect on no. of taxa	Maximum underestimate of no. of taxa
Anglian Region	57	5.05	0.90	25	0.93	0.17	4
Northern	20	3.70	1.33	19	0.60	0.22	3
Central	17	7.65	2.10	25	1.53	0.41	4
Eastern	20	4.20	1.22	18	0.75	0.22	4
Midlands Region	63	2.90	0.83	22	0.49	0.16	4
U. Severn	20	-2.10	0.76	3	-0.45	0.18	1
L. Severn	3	3.33	3.33	10	0.33	0.33	1
U. Trent	20	8.95	1.50	22	1.65	0.27	4
L. Trent	20	1.80	0.90	15	0.30	0.15	2
N. East Region	60	2.83	0.60	17	0.40	0.08	2
Northumbria	20	1.80	0.69	10	0.30	0.11	1
Dales	20	3.10	1.00	15	0.45	0.14	2
Ridings	20	3.60	1.33	17	0.45	0.18	2
N. West Region	60	1.08	0.49	10	0.13	0.08	1
Northern	20	1.10	1.08	10	0.10	0.16	1
Central	20	-0.25	0.44	5	-0.05	0.09	1
Southern	20	2.40	0.86	10	0.35	0.15	1
Southern Region	35	2.91	1.00	25	0.40	0.14	3
Hants & IOW	0	-	-	-	-	-	-
Kent	15	4.27	1.80	25	0.60	0.24	3
Sussex	20	1.90	1.09	18	0.25	0.16	3
S. West Region	77	1.51	0.50	15	0.27	0.08	2
Cornwall	20	-0.35	0.53	3	0	0.07	1
Devon	19	2.16	0.91	15	0.37	0.14	2
N. Wessex	20	0.90	1.04	15	0.15	0.13	2
S. Wessex	18	3.56	1.26	15	0.61	0.22	2
Thames Region	60	4.12	0.83	26	0.65	0.13	4
Hatfield	20	4.00	1.58	26	0.55	0.21	3
Frimley	20	4.15	1.44	23	0.70	0.24	4
Wallingford	20	4.20	1.38	23	0.70	0.21	3
Wales	59	3.03	0.81	23	0.47	0.12	3
Northern	19	1.68	1.11	11	0.21	0.16	2
S. Eastern	20	1.05	0.89	10	0.20	0.12	1
S. Western	20	6.30	1.78	23	1.00	0.26	3
Whole of Agency	471	2.87	0.26	26	0.46	0.04	4

Table 61 The families missed in sorting by the Agency's AQC inspectors

Family	n	% of Agency's missed families in AQC Audit
Hydracarina	40	9.64
Empididae	38	9.16
Psychodidae	33	7.95
Ceratopogonidae	26	6.27
Hydroptilidae	14	3.37
Hydrophilidae (incl. Hydraenidae)	13	3.13
Limnephilidae	10	2.41
Planariidae (incl. Dugesiidae)	10	2.41
Leptoceridae	9	2.17
Planorbidae	8	1.93
Elmidae	8	1.93
Ephydriidae	7	1.69
Corixidae	7	1.69
Caenidae	7	1.69
Muscidae	7	1.69
Simuliidae	6	1.45
Haliplidae	6	1.45
Hydrobiidae (incl. Bithyniidae)	6	1.45
Physidae	6	1.45
Scirtidae	6	1.45
Dytiscidae (incl. Noteridae)	6	1.45
Tipulidae (incl. Limoniidae)	5	1.20
Goeridae	5	1.20
Hydropsychidae	5	1.20
Dendrocoelidae	5	1.20
Erpobdellidae	5	1.20
Lymnaeidae	5	1.20
Piscicolidae	5	1.20
Psychomyiidae (incl. Ecnomidae)	5	1.20
Polycentropodidae	5	1.20
Valvatidae	4	0.96
Rhyacophilidae (incl. Glossosomatidae)	4	0.96
Leptophlebiidae	4	0.96
Gyrinidae	4	0.96
Asellidae	4	0.96
Lepidostomatidae	4	0.96
Sphaeriidae	3	0.72
Baetidae	3	0.72
Gammaridae (incl. Crangonyctidae & Niphargidae)	3	0.72
Ephemerellidae	3	0.72
Beraeidae	3	0.72
Brachycentridae	3	0.72
Coenagrionidae	3	0.72
Sericostomatidae	3	0.72
Nemouridae	3	0.72

Table 61 continued

Family	n	% of Agency's missed families in AQC Audit
Dixidae	3	0.72
Chironomidae	3	0.72
Nematomorpha	3	0.72
Dolichopodidae	2	0.48
Calopterygidae	2	0.48
Chloroperlidae	2	0.48
Dryopidae	2	0.48
Stratiomyidae	2	0.48
Sciomyzidae	2	0.48
Heptageniidae	2	0.48
Hydridae	2	0.48
Taeniopterygidae	2	0.48
Veliidae	2	0.48
Odontoceridae	2	0.48
Notonectidae	2	0.48
Rhagionidae (incl. Athericidae)	1	0.24
Pyrilidae	1	0.24
Platycnemididae	1	0.24
Osmylidae	1	0.24
Neritidae	1	0.24
Hydrometridae	1	0.24
Culicidae	1	0.24
Ephemeridae	1	0.24
Leuctridae	1	0.24
Tabanidae	1	0.24
Unionidae	1	0.24
Glossiphoniidae	1	0.24
Molannidae	1	0.24
Total	415	100

Table 62 The species missed in sorting by the Agency's AQC inspectors

Species	n	% of Agency's missed species in AQC Audit
Hydracarina indet	40	9.41
Ceratopogonidae indet	26	6.12
Hemerodromia group	18	4.24
Clinocerinae	12	2.82
Hydroptila sp.	11	2.59
Pericoma fallax Eaton	10	2.35
Limnephilidae indet	10	2.35
Pericoma trivialis group	8	1.88
Chelifera group	7	1.65
Limnophora sp.	7	1.65
Ephydriidae indet	7	1.65
Polycelis nigra group	6	1.41
Elodes sp.	5	1.18
Haliphus sp.	5	1.18
Hydraena gracilis Germar	5	1.18
Psychodidae indet	5	1.18
Piscicola geometra (L.)	5	1.18
Potamopyrgus antipodarum (Gray)	5	1.18
Dendrocoelum lacteum (Muller)	5	1.18
Asellus aquaticus (L.)	4	0.94
Polycentropus flavomaculatus (Pictet)	4	0.94
Caenis luctuosa group	4	0.94
Orectochilus villosus (Muller)	4	0.94
Elmis aenea (Muller)	4	0.94
Armiger crista (L.)	4	0.94
Goera pilosa (Fabricius)	3	0.71
Pisidium sp.	3	0.71
Oreodytes sanmarkii (Sahlberg)	3	0.71
Pericoma sp.	3	0.71
Nematomorpha indet	3	0.71
Brachycentrus subnubilus Curtis	3	0.71
Physa sp.	3	0.71
Mystacides azurea (L.)	3	0.71
Erpobdellidae indet	3	0.71
Oulimnius tuberculatus (Muller)	3	0.71
Ephemerella ignita (Poda)	3	0.71
Ithytrichia sp.	3	0.71
Corixidae indet	3	0.71
Lymnaea peregra (Muller)	3	0.71
Dicranota sp.	3	0.71
Odontocerum albicorne (Scopoli)	2	0.47
Notonecta sp.	2	0.47
Velia sp.	2	0.47
Lype sp.	2	0.47
Lepidostoma hirtum (Fabricius)	2	0.47

Table 62 continued

Species	n	% of Agency's missed species in AQC Audit
<i>Dixa nebulosa</i> Meigen	2	0.47
<i>Agapetus</i> sp.	2	0.47
<i>Athripsodes bilineatus</i> (L.)	2	0.47
<i>Baetis rhodani</i> (Pictet)	2	0.47
<i>Beraea maurus</i> (Curtis)	2	0.47
<i>Brachyptera risi</i> (Morton)	2	0.47
<i>Caenis rivulorum</i> Eaton	2	0.47
<i>Habrophlebia fusca</i> (Curtis)	2	0.47
<i>Crangonyx pseudogracilis</i> Bousfield	2	0.47
<i>Hydropsyche angustipennis</i> (Curtis)	2	0.47
Dolichopodidae indet	2	0.47
<i>Erpobdella octoculata</i> (L.)	2	0.47
Lepidostomatidae indet	2	0.47
<i>Gyraulus albus</i> (Muller)	2	0.47
<i>Helophorus</i> sp.	2	0.47
Hydridae indet	2	0.47
<i>Chloroperla torrentium</i> (Pictet)	2	0.47
<i>Psychomyia pusilla</i> (Fabricius)	2	0.47
<i>Paraleptophlebia</i> sp.	2	0.47
<i>Physa fontinalis</i> (L.)	2	0.47
<i>Rhithrogena</i> sp.	2	0.47
Sciomyzidae indet	2	0.47
<i>Simulium</i> (<i>Simulium</i>) <i>ornatum</i> group	2	0.47
<i>Sericostoma personatum</i> (Spence)	2	0.47
<i>Rhyacophila</i> sp.	2	0.47
<i>Silo pallipes</i> (Fabricius)	2	0.47
<i>Valvata cristata</i> Muller	2	0.47
<i>Psychoda severini</i> Tonnoir	2	0.47
<i>Valvata piscinalis</i> (Muller)	2	0.47
<i>Coenagrion puella</i> group	1	0.24
<i>Cloeon dipterum</i> (L.)	1	0.24
Culicidae indet	1	0.24
<i>Cyphon</i> sp.	1	0.24
Sericostomatidae indet	1	0.24
Coenagrionidae indet	1	0.24
<i>Riolus subviolaceus</i> (Muller)	1	0.24
<i>Rhyacophila munda</i> McLachlan	1	0.24
Chironomini	1	0.24
<i>Dryops</i> sp.	1	0.24
<i>Dugesia tigrina</i> (Girard)	1	0.24
<i>Rhagio</i> sp.	1	0.24
Empididae indet	1	0.24
<i>Enochrus melanocephalus</i> (Olivier)	1	0.24
<i>Ephemera</i> sp.	1	0.24
<i>Psychoda cinerea</i> Banks	1	0.24

Table 62 continued

Species	n	% of Agency's missed species in AQC Audit
<i>Dixa maculata</i> complex	1	0.24
<i>Bithynia tentaculata</i> (L.)	1	0.24
<i>Adicella</i> sp.	1	0.24
<i>Amphinemura sulcicollis</i> (Stephens)	1	0.24
<i>Anacaena globulus</i> (Paykull)	1	0.24
<i>Anodonta anatina</i> (L.)	1	0.24
<i>Tipula</i> sp.	1	0.24
<i>Tinodes waeneri</i> (L.)	1	0.24
<i>Athripsodes</i> sp.	1	0.24
<i>Theodoxus fluviatilis</i> (L.)	1	0.24
<i>Bathynomphalus contortus</i> (L.)	1	0.24
<i>Chrysops</i> sp.	1	0.24
<i>Beraeodes minutus</i> (L.)	1	0.24
<i>Psychoda alternata</i> Say	1	0.24
<i>Simulium</i> sp.	1	0.24
<i>Simulium</i> (<i>Simulium</i>) <i>argyreatum</i> group	1	0.24
<i>Simulium</i> (<i>Nevermannia</i>) <i>angustitarse</i> group	1	0.24
<i>Caenis robusta</i> Eaton	1	0.24
<i>Calopteryx</i> sp.	1	0.24
<i>Calopteryx splendens</i> (Harris)	1	0.24
<i>Simulium</i> (<i>Boophthora</i>) <i>erythrocephalum</i> (de Geer)	1	0.24
<i>Glyptotaelius pellucidus</i> (Retzius)	1	0.24
<i>Sigara</i> (<i>Vermicorixa</i>) <i>lateralis</i> (Leach)	1	0.24
Tanypodinae	1	0.24
<i>Oxycera morrisii</i> Curtis	1	0.24
<i>Physa acuta</i> group	1	0.24
<i>Ischnura elegans</i> (Van der Linden)	1	0.24
<i>Peripsychoda fusca</i> (Macquart)	1	0.24
<i>Adicella reducta</i> (Mclachlan)	1	0.24
<i>Pericoma pulchra</i> Eaton	1	0.24
<i>Pericoma neglecta</i> Eaton	1	0.24
<i>Leuctra fusca</i> (L.)	1	0.24
<i>Pericoma blandula</i> Eaton	1	0.24
<i>Limonia</i> sp.	1	0.24
<i>Oxycera</i> sp.	1	0.24
<i>Protonemura praecox</i> (Morton)	1	0.24
<i>Lymnaea truncatula</i> (Muller)	1	0.24
<i>Hydropsyche pellucidula</i> (Curtis)	1	0.24
<i>Micronecta</i> (<i>Micronecta</i>) <i>poweri</i> (Douglas & Scott)	1	0.24
<i>Micronecta</i> sp.	1	0.24
<i>Molanna angustata</i> Curtis	1	0.24
<i>Oulimnius</i> sp.	1	0.24
<i>Mystacides nigra</i> (L.)	1	0.24
<i>Osmylus fulvicephalus</i> (Scopoli)	1	0.24
<i>Nemoura cambrica</i> group	1	0.24

Table 62 continued

Species	n	% of Agency's missed species in AQC Audit
Orthoclaadiinae	1	0.24
Nymphula stagnata (Donovan)	1	0.24
Oreodytes sp.	1	0.24
Lymnaea sp.	1	0.24
Platyncnemis pennipes (Pallas)	1	0.24
Gammarus sp.	1	0.24
Oecetis testacea (Curtis)	1	0.24
Prodiamesinae	1	0.24
Pomatinus substriatus (Muller)	1	0.24
Polycelis sp.	1	0.24
Haliphus fluviatilis Aube	1	0.24
Haliphus ruficollis group	1	0.24
Polycelis felina (Dalyell)	1	0.24
Helobdella stagnalis (L.)	1	0.24
Helophorus (Atracthelophorus) brevipalpis Bedel	1	0.24
Hydropsyche sp.	1	0.24
Plectrocnemia conspersa (Curtis)	1	0.24
Hydropsyche siltalai Dohler	1	0.24
Hemerodromiinae	1	0.24
Hesperocorixa linnei (Fieber)	1	0.24
Hexatoma sp.	1	0.24
Platambus maculatus (L.)	1	0.24
Planorbidae indet	1	0.24
Hydraena pulchella Germar	1	0.24
Hydraena sp.	1	0.24
Planariidae indet	1	0.24
Hydrometra stagnorum (L.)	1	0.24
Hydroporinae	1	0.24
Laccobius (Laccobius) biguttatus Gerhardt	1	0.24
Helophorus (Helophorus) sp.	1	0.24
Total	425	100

APPENDIX

Analysis dates for the Agency's audited samples

Anglian Region, Northern Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Welland	Deeping	Live/Live	04/03/2002	07/03/2002	15/03/2002	04/04/2002	8	
Waring	Belchford	Live/Live	18/03/2002	19/03/2002	20/03/2002	04/04/2002	1	
Welland	Tinwell Mill	Live/Live	03/04/2002	03/04/2002	08/04/2002	25/04/2002	5	
Long Eau	Three Bridges	Live/Preserved	25/03/2002	26/03/2002	09/04/2002	25/04/2002	14	
Lymn	Partney	Live/Preserved	10/04/2002	12/04/2002	19/04/2002	25/04/2002	7	
Harpers Brook	A6116	Live/Live	16/04/2002	17/04/2002	23/04/2002	08/05/2002	6	
Scopwick Beck	Kirkby Green	Live/Live	17/05/2002	21/05/2002	24/05/2002	08/08/2002	3	
Slade Brook	Pytchley RB	Live/Preserved	24/06/2002	27/06/2002	17/07/2002	08/08/2002	20	
Skellingthorpe MD	u/s Skellingthorpe STW	Live/Preserved	29/05/2002	07/06/2002	17/07/2002	08/08/2002	40	
Willow Brook	Deene Park	Preserved/Preserved	10/06/2002	20/06/2002	17/07/2002	08/08/2002	27	22
Slea	Bonemill Bridge	Live/Preserved	16/09/2002	19/09/2002	10/10/2002	23/10/2002	21	
Welland	Tinwell Mill	Live/Live	04/10/2002	07/10/2002	10/10/2002	23/10/2002	3	
Willow Brook	Deene Park	Live/Live	14/10/2002	17/10/2002	25/10/2002	27/11/2002	8	
East Halton Beck	College Bridge	Live/Live	28/10/2002	29/10/2002	30/10/2002	27/11/2002	1	
Gwash	Tickencote	Live/Live	05/11/2002	06/11/2002	08/11/2002	27/11/2002	2	
Winceby Beck	Magworthingham Ford	Live/Preserved	14/10/2002	16/10/2002	15/11/2002	10/01/2003	30	
Welland	Duddington	Live/Preserved	04/10/2002	10/10/2002	15/11/2002	10/01/2003	36	
Town Drain	Old A16	Live/Preserved	22/11/2002	25/11/2002	02/12/2002	10/01/2003	7	
Land Drain	Saxby Carrs	Live/Preserved	17/10/2002	24/10/2002	04/12/2002	10/01/2003	41	
Upper Witham	Claypole	Live/Live	29/11/2002	29/11/2002	05/12/2002	10/01/2003	6	36

Average period between primary analysis and AQC inspection = 14.3 days

Maximum period between primary analysis and AQC inspection = 41 days

Anglian Region, Central Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Willingham Lode	Willingham Culvert	Live/Live	11/03/2002	12/03/2002	12/03/2002	04/04/2002	0	
Nightlayers Fen Dr	PS Chatteris	Live/Live	19/03/2002	20/03/2002	21/03/2002	04/04/2002	1	
Little Ouse	Knettishall	Live/Live	08/04/2002	09/04/2002	09/04/2002	25/04/2002	0	
Lark	Hengrave Bridge	Live/Live	15/04/2002	16/04/2002	16/04/2002	25/04/2002	0	
Sapiston	Broadgrass Green	Live/Live	15/04/2002	17/04/2002	17/04/2002	25/04/2002	0	
Ash Brook	Ashbrook	Live/Live	13/05/2002	15/05/2002	15/05/2002	08/08/2002	0	
Lark	Tollgate Bridge	Live/Live	23/05/2002	28/05/2002	29/05/2002	08/08/2002	1	
Old Bedford	Bridge Welney	Live/Live	27/05/2002	30/05/2002	30/05/2002	08/08/2002	0	
Counter Drain	Salters Lode	Live/Live	05/06/2002	05/06/2002	05/06/2002	08/08/2002	0	
Thet	Nuns Bridge	Live/Live	05/06/2002	06/06/2002	07/06/2002	08/08/2002	1	62
Nightlayers Fen	Chatteris PS	Live/Live	17/09/2002	18/09/2002	18/09/2002	23/10/2002	0	
Gaywood	A1076 Kings Lynn	Preserved/Preserved	16/09/2002	24/09/2002	24/09/2002	23/10/2002	0	
Padbury Brook	Thornborough	Live/Live	07/10/2002	08/10/2002	09/10/2002	23/10/2002	1	
Hiz	Cadwell Arch	Live/Live	30/10/2002	31/10/2002	31/10/2002	27/11/2002	0	
Barton Brook	Iron Bridge	Live/Live	01/11/2002	05/11/2002	05/11/2002	27/11/2002	0	
Wissey	Ickburgh Bridge	Live/Live	20/11/2002	21/11/2002	22/11/2002	24/01/2003	1	
Burwell Lode	Factory Bridge	Live/Live	05/12/2002	10/12/2002	10/12/2002	24/01/2003	0	
Country Drain	Occupation Bridge	Preserved	26/11/2002	17/01/2003		24/01/2003	-	
Bottisham Lode	Village Bridge	Preserved	20/11/2002	19/01/2003		24/01/2003	-	
Great Ouse	Harrold Bridge	Preserved	20/11/2002	20/01/2003		24/01/2003	-	

Average period between primary analysis and AQC inspection = 0.4 days

Maximum period between primary analysis and AQC inspection = 1 day

Anglian Region, Eastern Area

River	Site	Sort Method
Bumstead Brook	Watsoe Bridge	Live/Live
Ant	u/s Dilham Grange	Live/Live
Chelmer	North End Rd Br	Unknown
Intwood Stream	Intwood Farm	Live/Live
Stour	Liston Weir	Live/Unknown
Holland Brook	Rice Bridge	Unknown
Shottisham	Shottisham Mill	Unknown
Wensum	Hellesdon Mill	Live/Live
Pant	Lt. Sampford Bridge	Live/Live
Asheldham Brook	Weighbridge PFP	Live/Live
Brett	Higham Bridge	Live/Live
Bure	Wroxham Rail Br	Live/Live
Stour	Stratford St Mary	Live/Preserved
Gipping	Old Newton Bridge	Live/Unknown
Stour	Kedington Mill	Live/Live
Dove	Thorndon Bridge	Unknown
Holland Brook	Holland Main R/B	Live/Live
Brain	u/s Bulford Mill	Live/Live
Goldsands Brook	Ditch @ Muscle Br	Live/Live
Stiffkey	Wighton Bridge	Live/Live

Average period between primary analysis and AQC inspection =
Maximum period between primary analysis and AQC inspection

Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
05/03/2002	06/03/2002	07/03/2002	04/04/2002	1	
13/03/2002	14/03/2002	15/03/2002	04/04/2002	1	
02/04/2002	04/04/2002	04/04/2002	08/05/2002	0	
08/04/2002	09/04/2002	09/04/2002	08/05/2002	0	
09/04/2002	10/04/2002	11/04/2002	08/05/2002	1	
09/04/2002	10/04/2002	11/04/2002	08/05/2002	1	
17/04/2002	18/04/2002	19/04/2002	08/05/2002	1	19
23/04/2002	24/04/2002	25/04/2002	08/08/2002	1	
01/05/2002	02/05/2002	03/05/2002	08/08/2002	1	
15/05/2002	16/05/2002	17/05/2002	08/08/2002	1	
18/09/2002	19/09/2002	24/09/2002	23/10/2002	5	
01/10/2002	02/10/2002	03/10/2002	23/10/2002	1	
24/09/2002	25/09/2002	03/10/2002	23/10/2002	8	
09/10/2002	11/10/2002	14/10/2002	23/10/2002	3	
15/10/2002	17/10/2002	17/10/2002	23/10/2002	0	6
29/10/2002	01/11/2002		27/11/2002		
23/10/2002	23/10/2002	24/10/2002	27/11/2002	1	
04/11/2002	05/11/2002	06/11/2002	27/11/2002	1	
11/11/2002	12/11/2002	13/11/2002	27/11/2002	1	
18/11/2002	20/11/2002	20/11/2002	27/11/2002	0	7

1.5 day
= 8 days

Midlands Region, Upper Severn Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Perry	Platt Bridge	Preserved/Preserved	17/10/2001	25/02/2002	12/04/2002	21/08/2002	46	
Snakescroft	d/s Bishops Castle WRW	Preserved/Preserved	20/11/2001	20/03/2002	26/04/2002	21/08/2002	37	
Severn	Caerhowel Bridge	Preserved/Preserved	04/03/2002	04/04/2002	14/06/2002	21/08/2002	71	
Common	A5 Babbinswood	Preserved/Preserved	16/04/2002	13/05/2002	14/08/2002	21/08/2002	93	
Morda	u/s Confluence	Preserved/Preserved	16/04/2002	22/04/2002	14/08/2002	21/08/2002	114	7
Twrch	Pont Twrch	Preserved/Preserved	11/04/2002	21/05/2002	18/09/2002	07/11/2002	120	
SW Canal	Junction Birmingham	Preserved/Preserved	23/05/2002	28/05/2002	18/09/2002	07/11/2002	113	
Lightmoor Brook	d/s Doseley	Preserved/Preserved	30/05/2002	10/07/2002	20/09/2002	07/11/2002	72	
Lightmoor Brook	u/s St Lukes	Preserved/Preserved	30/05/2002	10/07/2002	06/11/2002	07/11/2002	119	
Finchfield Brook	d/s Smeston School STW	Preserved/Preserved	02/07/2002	09/09/2002	07/11/2002	07/11/2002	59	0
Cyfronydd Trib	d/s Hydan Fawr Trib	Preserved/Preserved	27/08/2002	09/09/2002	17/12/2002	20/01/2003	99	
Mule	Glanmule	Preserved/Preserved	03/04/2002	13/11/2002	18/12/2002	20/01/2003	35	
Gam	Pont Rhydd	Preserved/Preserved	23/10/2002	05/11/2002	18/12/2002	20/01/2003	43	
Coles Green Trib	d/s Ditch	Preserved/Preserved	23/10/2002	15/11/2002	24/12/2002	20/01/2003	39	
Cynllaith	B4396	Live/Preserved	26/11/2002	28/11/2002	27/12/2002	20/01/2003	29	24
Hadley Brook	Doverdale	Preserved/Preserved	09/10/2002	06/01/2003	21/01/2003	19/02/2003	15	
Eubatch Wood Bk	u/s Affected trib.	Live/Preserved	07/01/2003	09/01/2003	22/01/2003	19/02/2003	13	
Morda	Vymwy confluence	Preserved/Preserved	22/11/2002	14/01/2003	23/01/2003	19/02/2003	9	
Rhaeadr	Llanrhaeadr	Preserved/Preserved	19/11/2002	17/01/2003	12/02/2003	19/02/2003	26	
Bob/Holbeche Bk	Maiden Bridge	Preserved/Preserved	20/11/2002	07/01/2003	14/02/2003	19/02/2003	38	5

Average period between primary analysis and AQC inspection = 59.5 days

Maximum period between primary analysis and AQC inspection = 119 days

Midlands Region, Lower Severn Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Cinderford	Upper Soudley	Preserved/Preserved	27/03/2002	12/09/2002	30/01/2003	19/02/2003	140	
Swift	u/s Rugby Road	Preserved/Preserved	03/04/2002	07/10/2002	10/02/2003	19/02/2003	126	
Cannop Brook	u/s Whitecroft	Preserved/Preserved	27/03/2002	14/10/2002	12/02/2003	19/02/2003	121	
Sherbourne Brook	Sherbourne Village	Preserved	19/11/2002	24/01/2003		19/02/2003		
Sherbourne	Charterhouse	Preserved	06/03/2002	10/04/2002		19/02/2003		
Smite Brook	Coombe Abbey	Preserved	17/11/2002	08/01/2002		19/02/2003		
Hatherley Brook	u/s Benhall CSO	Preserved	27/03/2002	23/04/2002		19/02/2003		
Sow Brook	d/s Paynes Lane PS	Preserved	03/04/2002	24/05/2002		19/02/2003		
Frome	u/s Stanley Downton Tank	Preserved	11/04/2002	06/06/2002		19/02/2003		
Avon	u/s Lower Lode PS	Preserved	18/07/2002	19/07/2002		19/02/2003		
Westbury Brook	Boseley	Preserved	29/05/2002	09/09/2002		19/02/2003		
Sowe	Tackford Bridge	Preserved	22/10/2002	18/11/2002		19/02/2003		
Arrow	Studley	Preserved	26/11/2002	23/12/2002		19/02/2003		
Kempley Brook	u/s Kempley Court	Preserved	12/11/2002	13/01/2003		19/02/2003		
Severn	Llanthony Bridge	Preserved	06/12/2002	11/02/2003		19/02/2003		
Badsey Brook	B4035 Aldington	Preserved	21/11/2002	28/01/2003		19/02/2003		
Ripple Brook	The Mythe	Preserved	20/11/2002	16/01/2003		19/02/2003		
Bow Brook	Broughton Hackett	Preserved	29/11/2002	22/01/2002		19/02/2003		
Whitsun Brook	Dean Lodge Farm	Preserved	19/11/2002	15/01/2002		19/02/2003		
Preston Bagot Bk	Pettiford Bridge	Preserved	26/11/2002	06/01/2003		19/02/2003		

Average period between primary analysis and AQC inspection = 129 days

Maximum period between primary analysis and AQC inspection = 140 days

Midlands Region, Upper Trent Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Cole	Trittiford Mill	Preserved/Preserved	01/03/2002	15/03/2002	30/07/2002	07/08/2002	137	
Marston Brook	d/s Waldley	Preserved/Preserved	16/04/2002	07/05/2002	31/07/2002	07/08/2002	85	
Old Acre Brook	Brocton	Preserved/Preserved	10/04/2002	14/05/2002	31/07/2002	07/08/2002	78	
Sutton Brook	d/s Sutton Weir	Preserved/Preserved	20/05/2002	22/05/2002	01/08/2002	07/08/2002	71	
Doley Brook	u/s Gnosall PS	Preserved/Preserved	19/07/2002	22/07/2002	02/08/2002	07/08/2002	11	5
Mease	Measham	Preserved/Preserved	18/09/2002	30/09/2002	08/10/2002	25/10/2002	8	
Hooborough Brook	Acresford	Preserved/Preserved	18/09/2002	27/09/2002	08/10/2002	25/10/2002	11	
Pyford Brook	Curborough Hall	Preserved/Preserved	03/09/2002	06/09/2002	10/10/2002	25/10/2002	34	
Moreton Brook	u/s Tributary	Preserved/Preserved	24/09/2002	15/10/2002	22/10/2002	25/10/2002	7	
Mease	Croxall	Preserved/Preserved	18/09/2002	04/10/2002	22/10/2002	25/10/2002	18	3
Shropshire Brook	Armitage	Preserved/Preserved	04/10/2002	21/10/2002	23/10/2002	25/10/2002	2	
Tame	Water Orton	Preserved/Preserved	08/10/2002	24/10/2002	07/11/2002	15/11/2002	14	
Penk	Brewood	Preserved/Preserved	25/09/2002	25/10/2002	07/11/2002	15/11/2002	13	
Tame	Newton Bridge	Preserved/Preserved	08/10/2002	04/11/2002	12/11/2002	15/11/2002	8	
Sow	Hilcote	Preserved/Preserved	25/09/2002	28/10/2002	12/11/2002	15/11/2002	15	
Winnothdale Brook	u/s Great Gate	Preserved/Preserved	16/08/2002	15/11/2002	04/12/2002	06/12/2002	19	
Scotch Brook	Stone	Preserved/Preserved	23/09/2002	26/11/2002	04/12/2002	06/12/2002	8	
Trent	Walton	Preserved/Preserved	20/09/2002	18/11/2002	04/12/2002	06/12/2002	16	
Trent & Mersey Canal	Little Haywood	Preserved/Preserved	23/09/2002	29/11/2002	05/12/2002	06/12/2002	6	
Kingshurst/Hatchford Brook	R. Cole confluence	Preserved/Preserved	26/11/2002	02/12/2002	05/12/2002	06/12/2002	3	1

Average period between primary analysis and AQC inspection = 28.2 days

Maximum period between primary analysis and AQC inspection = 137 days

Midlands Region, Lower Trent Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Ock Brook	Church Street	Preserved/Preserved	26/03/2002	04/04/2002	15/05/2002	30/07/2002	41	
Ock Brook	d/s Farm	Preserved/Preserved	26/03/2002	08/04/2002	16/05/2002	30/07/2002	38	
Diggin Dyke	Holmewood Farm	Preserved/Preserved	19/04/2002	23/04/2002	10/06/2002	30/07/2002	48	
Countesthorpe Bk	Sence confluence	Preserved/Preserved	24/04/2002	29/04/2002	14/06/2002	30/07/2002	46	
Woodhouse Sewer	Confluence	Preserved/Preserved	19/04/2002	05/05/2002	22/07/2002	30/07/2002	78	8
Sileby Brook	d/s Demolition site	Preserved/Preserved	10/05/2002	24/05/2002	23/07/2002	17/09/2002	60	
Erewash	Trowell	Preserved/Preserved	24/04/2002	03/07/2002	24/07/2002	17/09/2002	21	
Cuttle Brook	Sinfin Golf Course	Preserved/Preserved	24/06/2002	24/06/2002	26/07/2002	17/09/2002	32	
Gadeby Brook Trib	d/s Burrough STW	Preserved/Preserved	11/04/2002	29/07/2002	10/09/2002	17/09/2002	43	
Bailey Brook	d/s Greenacres CSO	Preserved/Preserved	11/04/2002	09/08/2002	11/09/2002	17/09/2002	33	6
Erewash	u/s Bentinck Colliery	Preserved/Preserved	24/04/2002	14/08/2002	24/09/2002	15/11/2002	41	
Maun	d/s Kingsmill Res	Preserved/Preserved	21/05/2002	20/08/2002	15/10/2002	15/11/2002	56	
Devon	Bottesford	Preserved/Preserved	19/09/2002	20/09/2002	06/11/2002	15/11/2002	47	
Willoughton Brook	Blyborough	Preserved/Preserved	24/09/2002	25/09/2002	08/11/2002	15/11/2002	44	
Maun	u/s Mansfield Storm Tanks	Preserved/Preserved	07/10/2002	22/10/2002	08/11/2002	15/11/2002	17	7
Rainworth Water	d/s Rufford Lake	Preserved/Preserved	07/10/2002	11/11/2002	03/02/2003	13/03/2003	84	
Cramfit Brook	Cramfit Bridge	Preserved/Preserved	31/10/2002	12/11/2002	04/02/2003	13/03/2003	84	
Evington Brook	Spinney Hill Park	Preserved/Preserved	29/11/2002	09/12/2002	10/02/2003	13/03/2003	63	
Polser Brook	Radcliffe on Trent	Preserved/Preserved	29/11/2002	08/01/2003	11/02/2003	13/03/2003	34	
Millwood Brook	Exit Welbeck Gt Lake	Preserved/Preserved	30/11/2002	02/01/2003	11/02/2003	13/03/2003	40	30

Average period between primary analysis and AQC inspection = 47.5 days

Maximum period between primary analysis and AQC inspection = 84 days

North East Region, Northumbria Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Gaunless	d/s Minewater	Preserved/Preserved	30/01/2002	25/02/2002	23/05/2002	17/10/2002	87	
Hazon Burn	Guyzance	Preserved/Preserved	07/02/2002	28/02/2002	24/05/2002	17/10/2002	85	
Browney	B6301 Bridge	Preserved/Preserved	24/01/2002	05/03/2002	06/06/2002	17/10/2002	93	
Smallhope Burn	u/s Knitsley STW	Preserved/Preserved	24/04/2002	16/07/2002	30/07/2002	17/10/2002	14	
Hazon Burn	Guyzance	Preserved/Preserved	03/05/2002	07/08/2002	04/10/2002	17/10/2002	58	13
Gaunless	Butterknowle	Preserved/Preserved	15/05/2002	27/08/2002	16/10/2002	17/10/2002	50	
Middleton Burn	Middleton	Preserved/Preserved	08/05/2002	16/10/2002	24/10/2002	10/01/2003	8	
Font	Mitford	Preserved/Preserved	08/05/2002	07/10/2002	25/10/2002	10/01/2003	18	
Don	Jarrow Cemetery	Preserved/Preserved	24/05/2002	28/10/2002	06/11/2002	10/01/2003	9	
Tyne	Bywell	Preserved/Preserved	19/04/2002	29/10/2002	08/11/2002	10/01/2003	10	
Coquet	d/s Hazon Burn	Preserved/Preserved	03/07/2002	12/11/2002	18/11/2002	10/01/2003	6	53
Coquet	Felton	Preserved/Preserved	27/05/2002	18/11/2002	29/11/2002	10/01/2003	11	
Coquet	d/s Hazon Burn	Preserved/Preserved	07/10/2002	16/12/2002	07/01/2003	10/01/2003	22	
Forest Burn	Bushy Gap	Preserved/Preserved	09/10/2002	09/01/2003	13/01/2003	06/03/2003	4	
Brierdene Burn	Whitley Bay	Preserved/Preserved	08/10/2002	13/01/2003	03/02/2003	06/03/2003	21	
Rede	Byreness	Preserved/Preserved	30/04/2002	17/01/2003	03/02/2003	06/03/2003	17	
Pont Burn	d/s Leadgate	Preserved/Preserved	24/09/2002	26/01/2003	06/02/2003	06/03/2003	11	
Wear	Wolsingham	Preserved/Preserved	17/10/2002	25/01/2003	06/02/2003	06/03/2003	12	28
Rennington Burn	Howick Hall	Preserved/Preserved	03/10/2002	06/02/2003	16/02/2003	06/03/2003	10	
Burnhope Burn	Wearhead	Preserved/Preserved	17/10/2002	01/02/2003	03/03/2003	06/03/2003	30	

Average period between primary analysis and AQC inspection = 28.8 days

Maximum period between primary analysis and AQC inspection = 93 days

North East Region, Dales Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Ure	Wensley	Preserved/Preserved	08/05/2002	21/05/2002	11/06/2002	19/06/2002	21	
Clow Beck	Monkend Farm	Preserved/Preserved	18/10/2001	05/02/2002	14/06/2002	19/06/2002	129	
Ure	Jervaulx	Preserved/Preserved	08/05/2002	29/05/2002	10/07/2002	15/08/2002	42	
Ouse	u/s York Waterworks	Preserved/Preserved	22/05/2002	26/06/2002	11/07/2002	15/08/2002	15	
Ouse	Nether Poppleton	Preserved/Preserved	22/05/2002	02/07/2002	11/07/2002	15/08/2002	9	
Ure	Boroughbridge	Preserved/Preserved	08/05/2002	08/07/2002	07/08/2002	15/08/2002	30	
Wharfe	Bolton Bridge	Preserved/Preserved	16/07/2002	23/07/2002	08/08/2002	15/08/2002	16	7
Wharfe	Burnsall	Preserved/Preserved	16/07/2002	06/08/2002	30/08/2002	28/10/2002	24	
Ure	Boroughbridge	Preserved/Preserved	26/07/2002	09/08/2002	02/09/2002	28/10/2002	24	
Ouse	u/s Clifton Bridge	Preserved/Preserved	21/08/2002	03/09/2002	08/10/2002	28/10/2002	35	
Linton Beck	Bow Bridge	Preserved/Preserved	02/05/2002	10/09/2002	08/10/2002	28/10/2002	28	
Ouse	d/s A64 Bridge	Preserved/Preserved	21/08/2002	19/09/2002	21/10/2002	28/10/2002	32	7
Spencer Beck	d/s On-Line discharge	Preserved/Preserved	10/09/2002	17/10/2002	01/11/2002	05/12/2002	15	
Nidd	Skip Bridge	Preserved/Preserved	04/04/2002	30/10/2002	05/11/2002	05/12/2002	6	
Tees	Gainford	Preserved/Preserved	19/04/2002	05/11/2002	11/11/2002	05/12/2002	6	
Blackfoss Beck	Sutton-on-Derwent	Preserved/Preserved	12/04/2002	12/11/2002	25/11/2002	05/12/2002	13	
Wharfe	Burnsall	Preserved/Preserved	18/10/2002	25/10/2002	04/12/2002	05/12/2002	40	1
Dove	Keldholme	Preserved/Preserved	12/09/2002	21/01/2003	30/01/2003	07/02/2003	9	
Cod Beck	Dalton Cottage Farm	Preserved/Preserved	01/10/2002	15/01/2003	31/01/2003	07/02/2003	16	
Nidd	Knaresborough	Preserved/Preserved	23/09/2002	21/12/2002	03/02/2003	07/02/2003	44	

Average period between primary analysis and AQC inspection = 27.7days

Maximum period between primary analysis and AQC inspection = 129 days

North East Region, Ridings Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Barlow Brook	u/s R Drone	Preserved/Preserved	20/05/2002	28/05/2002	26/06/2002	08/08/2002	29	
Lothersdale Beck	Folly Bridge	Preserved/Preserved	15/05/2002	05/06/2002	02/07/2002	08/08/2002	27	
Eastburn Beck	Eastburn Bridge	Preserved/Preserved	15/05/2002	11/06/2002	03/07/2002	08/08/2002	22	
Holme	Brockholes	Preserved/Preserved	09/04/2002	17/06/2002	08/07/2002	08/08/2002	21	
Dakin Brook	Cannon Hall Park	Preserved/Preserved	17/04/2002	25/06/2002	08/07/2002	08/08/2002	13	31
Market Weighton Canal	Newport	Preserved/Preserved	16/04/2002	09/07/2002	08/08/2002	11/09/2002	30	
Holme	Bottoms Mill	Preserved/Preserved	09/04/2002	17/07/2002	09/08/2002	11/09/2002	23	
Wessenden Brook	u/s Mill	Preserved/Preserved	18/04/2002	09/07/2002	19/08/2002	11/09/2002	41	
Hardwick Beck	u/s Went Beck	Preserved/Preserved	12/04/2002	26/06/2002	19/08/2002	11/09/2002	54	
Herringthorpe Beck	d/s Gibbing Greave Wood	Preserved/Preserved	15/05/2002	04/07/2002	20/08/2002	11/09/2002	47	22
Don	d/s Jamont	Preserved/Preserved	24/04/2002	19/06/2002	08/07/2002	11/02/2003	19	
Carr Beck Cutsyke	Whitwood	Preserved/Preserved	17/05/2002	20/08/2002	19/11/2002	11/02/2003	91	
Batley Beck	Dewsbury	Preserved/Preserved	17/05/2002	11/10/2002	20/11/2002	11/02/2003	40	
Fleet Marsh Lane	Haddlesey	Preserved/Preserved	22/04/2002	15/08/2002	21/11/2002	11/02/2003	98	
Ewden Beck	d/s Dam	Preserved/Preserved	23/04/2002	22/08/2002	28/11/2002	11/02/2003	98	75
Hull/West Beck	Hempholme Lock	Preserved/Preserved	22/05/2002	22/07/2002	03/12/2002	11/02/2003	134	
Scurf Dyke	Scurf Dyke Farm	Preserved/Preserved	16/04/2002	06/09/2002	03/12/2002	11/02/2003	88	
Don	Dunford Bridge	Preserved/Preserved	15/04/2002	07/08/2002	18/12/2002	11/02/2003	133	
West Beck	d/s Humberside F/F	Preserved/Preserved	28/05/2002	04/10/2002	06/01/2003	11/02/2003	94	
Malham Beck	d/s Gordale Beck	Preserved/Preserved	16/05/2002	20/11/2002	09/01/2003	11/02/2003	50	

Average period between primary analysis and AQC inspection = 57.6 days

Maximum period between primary analysis and AQC inspection = 134 days



North West Region, Northern Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Carr Beck	West House	Preserved/Preserved	25/11/2001	08/02/2002	13/06/2002	13/09/2002	125	
Irt	d/s Santon Bridge	Preserved/Preserved	14/11/2001	12/02/2002	09/07/2002	13/09/2002	147	
Brides Beck	ptc Carr Beck	Preserved/Preserved	25/11/2001	13/02/2002	16/07/2002	13/09/2002	153	
Salthouse Pool	u/s Tidal Doors	Preserved/Preserved	27/11/2001	20/02/2002	26/07/2002	13/09/2002	156	
Threapland Gill	ptc Gill Gooden	Preserved/Preserved	21/03/2002	29/03/2002	29/07/2002	13/09/2002	122	46
Eden	Stenkrith Bridge	Preserved/Preserved	07/03/2002	11/03/2002	08/11/2002	05/12/2002	242	
Broughton Beck	Broughton Beck Br	Preserved/Preserved	23/04/2002	05/06/2002	11/11/2002	05/12/2002	159	
Black Beck	ptc R.Duddon	Preserved/Preserved	24/05/2002	18/07/2002	12/11/2002	05/12/2002	117	
Goldmire Beck	ptc Poaka Beck	Preserved/Preserved	04/04/2002	26/07/2002	13/11/2002	05/12/2002	110	
Ehen	d/s Wath Fish Farm	Preserved/Preserved	30/07/2002	02/08/2002	13/11/2002	05/12/2002	103	22
St Johns Beck	Threlkeld Bridge	Preserved/Preserved	04/09/2002	12/09/2002	14/11/2002	10/12/2002	63	
Eamont	A66 Road Bridge	Preserved/Preserved	22/08/2002	06/09/2002	15/11/2002	10/12/2002	70	
Eamont	Udford	Preserved/Preserved	30/08/2002	05/09/2002	15/11/2002	10/12/2002	71	
Kirkby Pool	Wreaks Causeway End Bridge	Preserved/Preserved	09/04/2002	07/08/2002	02/12/2002	10/12/2002	117	
Pow Beck	u/s Stanley Pond	Preserved/Preserved	26/03/2002	15/08/2002	04/12/2002	10/12/2002	111	6
Ehen	d/s Wath Fish Farm	Preserved/Preserved	20/11/2002	21/11/2002	28/01/2003	19/02/2003	68	
Black Lyne	Nr Selbystown	Preserved/Preserved	17/09/2002	31/12/2002	29/01/2003	19/02/2003	29	
Rothay	d/s B5287 Bridge	Preserved/Preserved	03/09/2002	06/01/2003	30/01/2003	19/02/2003	24	
Levy (Drogley) Beck	u/s Low Mill Bridge	Preserved/Preserved	04/09/2002	03/01/2003	31/01/2003	19/02/2003	28	
Noonhowe Sike	NY 548 245	Preserved/Preserved	09/10/2002	20/01/2003	10/02/2003	19/02/2003	21	9

Average period between primary analysis and AQC inspection = 101.8 days

Maximum period between primary analysis and AQC inspection = 242 days

North West Regon, Central Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Darwen	Cann Bridge	Preserved/Preserved	21/03/2002	11/04/2002	23/04/2002	31/10/2002	12	
Yarrow	ptc Black Brook	Preserved/Preserved	10/04/2002	24/04/2002	04/07/2002	31/10/2002	71	
Ribble	d/s Settle STW	Preserved/Preserved	03/09/2002	11/09/2002	18/09/2002	31/10/2002	7	
Eller Brook	Burscough Bridge	Preserved/Preserved	27/03/2002	18/09/2002	14/10/2002	31/10/2002	26	
Lune	d/s Forge Weir	Preserved/Preserved	31/05/2002	09/10/2002	29/10/2002	13/12/2002	20	
Lune	d/s Forge Weir	Preserved/Preserved	18/10/2002	06/11/2002	07/11/2002	13/12/2002	1	
Douglas	d/s M61	Preserved/Preserved	09/05/2002	07/11/2002	13/11/2002	13/12/2002	6	
Boundary Brook	A570	Preserved/Preserved	18/11/2002	22/11/2002	11/12/2002	13/12/2002	19	
Doe	ptc R.Greta	Preserved/Preserved	23/09/2002	10/12/2002	19/12/2002	31/01/2003	9	
Three Pools Water	Crossens P.S.	Preserved/Preserved	17/04/2002	30/12/2002	08/01/2003	31/01/2003	9	
Langden Brook	u/s Dunsop	Preserved/Preserved	02/10/2002	08/01/2003	14/01/2003	31/01/2003	6	
Calder	Altham Bridge	Preserved/Preserved	27/03/2002	14/01/2003	29/01/2003	31/01/2003	15	
Arley Brook	Lumb Bank Clough	Preserved/Preserved	17/09/2002	30/01/2003	11/02/2003	18/02/2003	12	
Borrow Beck	u/s A685 Bridge	Preserved/Preserved	07/11/2002	08/11/2002	13/02/2003	18/02/2003	97	
Alt	ptc Hillhouse Drain	Preserved/Preserved	02/05/2002	11/02/2003	14/02/2003	18/02/2003	3	
Douglas	Yellow Brook	Preserved/Preserved	22/11/2002	13/02/2003	14/02/2003	18/02/2003	1	
Alt	Formby	Preserved/Preserved	30/04/2002	17/02/2003	18/02/2003	27/02/2003	1	
Alt	Dover's Brook	Preserved/Preserved	22/11/2002	20/02/2003	24/02/2003	27/02/2003	4	
Arley Brook	Lumb Bank Clough	Preserved/Preserved	04/04/2002	30/01/2003	24/02/2003	27/02/2003	25	
Artle Beck	d/s SSO	Preserved/Preserved	11/09/2002	18/02/2003	25/02/2003	27/02/2003	7	

Average period between primary analysis and AQC inspection = 17.6 days

Maximum period between primary analysis and AQC inspection = 97 days

North West Regon, Southern Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Mersey	ptc Padgate Brook	Preserved/Preserved	13/03/2002	19/03/2002	26/04/2002	14/08/2002	38	
Cowpe Brook	d/s Kearns	Preserved/Preserved	21/03/2002	18/04/2002	02/05/2002	14/08/2002	14	
Pott Shrigley Brook	ptc Harrop Brook	Preserved/Preserved	08/04/2002	02/05/2002	17/05/2002	14/08/2002	15	
Arrowe Brook	ptc Greasby Brook	Preserved/Preserved	07/03/2002	22/05/2002	23/05/2002	14/08/2002	1	
Limy Water	u/s Loveclough	Preserved/Preserved	21/03/2002	24/05/2002	30/05/2002	14/08/2002	6	76
Day Green Stream	u/s Alsager ETW	Preserved/Preserved	15/05/2002	29/05/2002	13/06/2002	14/08/2002	15	
Roch	u/s Rochdale ETW	Preserved/Preserved	23/05/2002	27/05/2002	25/06/2002	14/08/2002	29	
Eagley Brook	ptc Astley Brook	Preserved/Preserved	17/04/2002	27/06/2002	05/07/2002	14/08/2002	8	
Hollins Brook	ptc R.Roch	Preserved/Preserved	31/05/2002	12/06/2002	01/08/2002	14/08/2002	50	
Tame	Duckinfield Bridge	Preserved/Preserved	16/05/2002	23/07/2002	15/08/2002	17/10/2002	23	
Irwell	u/s Bury ETW	Preserved/Preserved	27/03/2002	12/07/2002	19/08/2002	17/10/2002	38	
Roch	u/s R.Irwell	Preserved/Preserved	31/05/2002	18/07/2002	30/08/2002	17/10/2002	43	
Gout	ptc Tame	Preserved/Preserved	29/05/2002	14/08/2002	24/09/2002	17/10/2002	41	
Irwell	University F/B	Preserved/Preserved	27/03/2002	05/08/2002	24/09/2002	17/10/2002	50	23
Thornton Stream	ptc Clatter Brook	Preserved/Preserved	07/03/2002	10/09/2002	25/09/2002	17/10/2002	15	
Glaze	Shaw Bk @ Astley Bk	Preserved/Preserved	21/03/2002	03/09/2002	02/10/2002	17/10/2002	29	
Irwell	d/s Deerplay STW	Preserved/Preserved	12/09/2002	23/09/2002	03/01/2003	10/02/2003	102	
Glossop Brook	ptc R.Etherow	Preserved/Preserved	10/10/2002	23/10/2002	03/01/2003	10/02/2003	72	
Roch	ptc Stanney Brook	Preserved/Preserved	03/10/2002	15/11/2002	13/01/2003	10/02/2003	59	
Stanney Brook	ptc R.Roch	Preserved/Preserved	03/10/2002	27/12/2002	17/01/2003	10/02/2003	21	

Average period between primary analysis and AQC inspection = 33.5 days

Maximum period between primary analysis and AQC inspection = 102 days

Southern Region, Hants & Isle of Wight Area

River	Site	Sort Method
Medina	Rookley Farm	Preserved
Warblington Stream	Warblington Church	Preserved
Sowley Stream West	East End	Preserved
Walhampton Stream	Lisle Court Road	Preserved
Bourne Rivulet	Hurstbourne Priors	Preserved
Anton	Fullerton	Preserved
Nursling Stream	u/s Road Bridge	Preserved
Wroxall Stream	u/s Wroxall STW	Preserved
Penerly Water	Penerly Gate	Preserved
Meon	St Clairs Farm	Preserved
Bourne Rivulet	d/s St Mary Bourne C.F.	Preserved
Scotchells Brook	Burnt House	Preserved
Beaulieu	North Gate	Preserved
Red Lodge Stream	Ryedown Farm	Preserved
Awbridge Danes Str	Awbridge Farm	Preserved
Scotchells Brook	Burnt House	Preserved
Wallington	Newmans Bridge	Preserved
Test	Chilbolton	Preserved
Test	u/s Portal's Outfall	Preserved
Matley Bog	Matley Passage	Preserved

Average period between primary analysis and AQC inspection = 1

Maximum period between primary analysis and AQC inspection = 1

Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
09/04/2002	14/07/2002		15/11/2002		
20/03/2002	21/03/2002		15/11/2002		
03/04/2002	13/09/2002		15/11/2002		
03/04/2002	25/09/2002		15/11/2002		
12/09/2001	28/03/2002		15/11/2002		
12/09/2001	20/03/2002		15/11/2002		
19/04/2002	12/06/2002		15/11/2002		
10/10/2002	29/10/2002		15/11/2002		
02/04/2002	24/06/2002		15/11/2002		
10/10/2001	11/03/2002		15/11/2002		
19/04/2002	10/07/2002		15/11/2002		
09/04/2002	01/10/2002		15/11/2002		
15/10/2002	06/11/2002		15/11/2002		
20/09/2002	17/12/2002		14/02/2003		
30/09/2002	07/02/2003		14/02/2003		
10/10/2002	01/12/2002		14/02/2003		
22/10/2002	05/02/2003		14/02/2003		
25/09/2002	03/02/2003		14/02/2003		
25/09/2002	06/02/2003		14/02/2003		
15/10/2002	11/02/2003		28/02/2003		

Not applicable

= Not applicable

Southern Region, Kent Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Great Stour	Horton	Preserved/Preserved	13/03/2002	25/04/2002	02/05/2002	01/08/2002	7	
Eden	Penshurst	Preserved/Preserved	04/04/2002	02/05/2002	08/05/2002	01/08/2002	6	
Great Stour	Wye	Preserved/Preserved	13/03/2002		27/05/2002	01/08/2002		
Darent	Eynsford	Preserved/Preserved	17/04/2001	07/08/2002	20/08/2002	23/10/2002	13	
Medway	Whillets Bridge	Preserved/Preserved	16/05/2002	13/08/2002	21/08/2002	23/10/2002	8	
Brede	Brede Waterworks	Preserved/Preserved	08/05/2002	03/10/2002	09/10/2002	23/10/2002	6	
Loose Stream	Hayle Place	Preserved/Preserved	27/03/2002	23/09/2002	10/10/2002	23/10/2002	17	
Darent	Farningham	Preserved/Preserved	17/04/2002	10/09/2002	11/10/2002	23/10/2002	31	12
Viaduct Arm	u/s Ham Street STW	Preserved/Preserved	25/09/2002	30/09/2002	16/10/2002	23/10/2002	16	
Great Stour	Whitemill Bridge	Preserved/Preserved	02/09/2002	10/10/2002	19/11/2002	20/01/2003	40	
Crane Brook	Golford	Preserved/Preserved	27/03/2002	26/11/2002	13/12/2002	20/01/2003	17	
Brede	Brede Waterworks	Preserved/Preserved	22/05/2002	04/12/2002	17/12/2002	20/01/2003	13	
Jury's Gut Sewer	Rosedale	Preserved/Preserved	08/05/2002	29/10/2002	18/12/2002	20/01/2003	50	
Darent	Otford G.S.	Preserved/Preserved	11/09/2002	04/12/2002	02/01/2003	20/01/2003	29	18
Royal Military Canal	Hythe	Preserved/Preserved	08/05/2002	13/11/2002	03/01/2003	20/01/2003	51	
Osiers Spring	Site 5, Osiers Farm	Preserved	09/10/2002	21/01/2003		19/02/2003		
Sissinghurst Stream	d/s Sissinghurst Castle Lakes	Preserved	18/09/2002	14/01/2003		19/02/2003		
Little Stour	Littlebourne	Preserved	04/10/2002	10/02/2003		19/02/2003		
Great Stour	Bucksford	Preserved	11/09/2002	12/02/2003		19/02/2003		
Brede Trib. 70	d/s Powdermill Res.	Preserved	08/05/2002	09/01/2003		19/02/2003		

Average period between primary analysis and AQC inspection = 21.7 days

Maximum period between primary analysis and AQC inspection = 51 days

Southern Region, Sussex Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Par Brook	Parbrook Bridge	Preserved/Preserved	14/11/2001	14/03/2002	09/05/2002	11/10/2002	56	
Honeybridge Str	Mill Lane	Preserved/Preserved	14/03/2002	27/03/2002	05/06/2002	11/10/2002	70	
Adur Trib	u/s Confluence	Preserved/Preserved	21/05/2002	06/06/2002	01/07/2002	11/10/2002	25	
Clockhouse Gill	Red Roofs	Preserved/Preserved	09/05/2002	27/06/2002	26/07/2002	11/10/2002	29	
Chess Stream Trib	u/s Pumping Station	Preserved/Preserved	03/07/2002	09/08/2002	09/10/2002	11/10/2002	61	2
Wallers Haven	Boreham Bridge	Preserved/Preserved	01/05/2002	12/09/2002	23/10/2002	20/11/2002	41	
Pellingford Brook	Sheffield Park Stn	Preserved/Preserved	30/08/2002	30/08/2002	25/10/2002	20/11/2002	56	
Ouse	Barcombe Mills	Preserved/Preserved	27/06/2002	07/10/2002	29/10/2002	20/11/2002	22	
Ouse	Barcombe Mills	Preserved/Preserved	30/08/2002	10/10/2002	31/10/2002	20/11/2002	21	
Sutton Stream	Sutton End Bridge	Preserved/Preserved	16/05/2002	06/11/2002	11/11/2002	20/11/2002	5	9
Kird	Harsfold Farm	Preserved/Preserved	11/09/2002	08/11/2002	11/11/2002	17/12/2002	3	
Waldron Gill	Brookside Bridge	Preserved/Preserved	01/05/2002	08/11/2002	26/11/2002	17/12/2002	18	
Lephams Bridge Str	Rocks Lane	Preserved/Preserved	23/09/2002	20/11/2002	26/11/2002	17/12/2002	6	
Rother	Liss	Preserved/Preserved	03/05/2002	22/11/2002	03/12/2002	17/12/2002	11	
Byworth Stream	Byworth Hanger	Preserved/Preserved	27/09/2002	27/11/2002	06/12/2002	17/12/2002	9	11
Mill Stream	Cherry Croft Farm	Preserved/Preserved	05/11/2002	04/12/2002	04/01/2003	13/02/2003	31	
Edburton Stream	Edburton	Preserved/Preserved	09/12/2002	13/12/2002	14/01/2003	13/02/2003	32	
Cockhaise Brook	Cockhaise Mill	Preserved/Preserved	23/09/2002	08/01/2003	21/01/2003	13/02/2003	13	
Rickney Sewer	Rickney P.S.	Preserved/Preserved	22/10/2002	07/02/2003	10/02/2003	13/02/2003	3	
Uck	Buxted Bridge	Preserved/Preserved	16/05/2002	16/01/2003	11/02/2003	13/02/2003	26	2

Average period between primary analysis and AQC inspection = 26.9 days

Maximum period between primary analysis and AQC inspection = 70 days

South West Region, Cornwall Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
St Austell	d/s Ruddle Leat	Preserved/Preserved	04/10/2001	20/12/2001	07/01/2002	13/08/2002	18	
Fal	Kernick Bridge	Preserved/Preserved	10/05/2000	10/01/2002	11/01/2002	13/08/2002	1	
Plym	u/s Ditsworthy	Preserved/Preserved	26/06/2001	23/01/2002	24/01/2002	13/08/2002	1	
Tavy	West Bridge	Preserved/Preserved	07/08/2001	23/01/2002	29/01/2002	13/08/2002	6	
Newlyn	Buryas Bridge	Preserved/Preserved	13/06/2001	05/02/2002	12/02/2002	13/08/2002	7	182
Meavy	Hoo Meavy	Preserved/Preserved	06/09/2001	14/03/2002	27/03/2002	13/08/2002	13	
Fal	Trerice Bridge	Preserved/Preserved	19/04/2002	17/05/2002	24/05/2002	13/08/2002	7	
Porth Stream	Porth	Preserved/Preserved	28/03/2002	17/06/2002	02/07/2002	13/08/2002	15	
Godolphin Stream	Gwedna	Preserved/Preserved	22/03/2002	08/07/2002	15/07/2002	13/08/2002	7	
Gwindra	d/s Drinnick A	Preserved/Preserved	16/04/2002	19/07/2002	05/08/2002	13/08/2002	17	
Camel	Fenteroon Bridge	Preserved/Preserved	25/04/2002	31/07/2002	12/08/2002	12/02/2003	12	
Menheniot Stream	Factory Bridge	Preserved/Preserved	12/03/2002	15/08/2002	27/08/2002	12/02/2003	12	
East Looe	d/s Liskeard STW	Preserved/Preserved	23/09/2002	22/11/2002	28/11/2002	12/02/2003	6	
Tavy	West Bridge	Preserved/Preserved	02/09/2002	28/11/2002	10/12/2002	12/02/2003	12	
Red	Kieve Bridge	Preserved/Preserved	09/05/2002	17/01/2003	20/01/2003	12/02/2003	3	21
Cholwell Brook	u/s R.Tavy	Preserved/Preserved	12/10/2001	05/03/2002	13/03/2002	28/02/2003	8	
Hayle	Drym Farm	Preserved/Preserved	22/03/2002	24/06/2002	05/07/2002	28/02/2003	11	
Piall	Stert Bridge	Preserved/Preserved	10/09/2002	16/10/2002	22/10/2002	28/02/2003	6	
Porth Stream	Porth	Preserved/Preserved	06/09/2002	12/11/2002	28/11/2002	28/02/2003	16	
Red	Godrevy	Preserved/Preserved	11/07/2002	06/02/2003	17/02/2003	28/02/2003	11	11

Average period between primary analysis and AQC inspection = 9.5 days

Maximum period between primary analysis and AQC inspection = 18 days

South West Region, Devon Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Stoodleigh Stream	u/s Storm discharge	Preserved/Preserved	30/07/2002	11/11/2002	13/01/2003	28/01/2003	63	
The Gara	Higher North Mill	Preserved/Preserved	01/05/2002	19/09/2002	14/01/2003	28/01/2003	117	
Hems	Portbridge Cross	Preserved/Preserved	15/04/2002	06/08/2002	14/01/2003	28/01/2003	161	
Blackwater	Buddlewall	Preserved/Preserved	19/09/2002	07/11/2002	21/01/2003	28/01/2003	75	
Clifford Water	u/s Bridge	Preserved/Preserved	22/10/2002	12/11/2002	21/01/2003	28/01/2003	70	7
Torridge	Fordmill Bridge	Preserved/Preserved	06/06/2002	23/07/2002	23/01/2003	28/01/2003	184	
Culm	Culmstock	Preserved/Preserved	02/04/2002	06/06/2002	15/09/2002	06/02/2003	101	
Roncombe Stream	Cotford Bridge	Preserved/Preserved	14/03/2002	09/05/2002	15/09/2002	06/02/2003	129	
Avon	Horsebrook	Preserved/Preserved	01/05/2002	30/08/2002	04/10/2002	06/02/2003	35	
Hollocombe Water	Bridge Reeve	Preserved/Preserved	26/03/2002	17/05/2002	09/10/2002	06/02/2003	145	
Meddon	u/s Bridge	Preserved/Preserved	05/06/2002	02/07/2002	10/01/2003	06/02/2003	192	27
Caen	St Brannocks	Preserved/Preserved	17/09/2002	24/10/2002	31/01/2003	19/02/2003	99	
Lowman	Tiverton	Preserved/Preserved	11/04/2002	02/08/2002	03/02/2003	19/02/2003	185	
Woodbury Stream	d/s Woodbury STW	Preserved/Preserved	11/09/2002	20/09/2002	03/02/2003	19/02/2003	136	
Waldon	Henscott Bridge	Preserved/Preserved	31/10/2002	10/02/2003	14/02/2003	07/03/2003	4	
Lowman	Chieflowman Bridge	Preserved/Preserved	08/10/2002	23/01/2003	17/02/2003	07/03/2003	25	
Clyst	Ashclyst Farm	Preserved/Preserved	11/10/2002	27/01/2003	17/02/2003	07/03/2003	21	
Am Brook	Fishacre Bridge	Preserved/Preserved	02/10/2002	11/12/2002	03/03/2003	07/03/2003	82	
Beadon Brook	B3193 Bridge	Preserved/Preserved	03/10/2003	17/12/2002	13/03/2003	29/04/2003	86	

Average period between primary analysis and AQC inspection = 100.5 days

Maximum period between primary analysis and AQC inspection = 192 days

South West Region, North Wessex Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Chew	Chew Magna	Preserved/Preserved	27/03/2002	08/04/2002	14/05/2002	10/09/2002	36	
Wellow	White Bridge	Preserved/Preserved	10/05/2002	13/06/2002	17/06/2002	10/09/2002	4	
Wick Stream	Wick Farm	Preserved/Preserved	08/05/2002	10/06/2002	03/07/2002	10/09/2002	23	
Chew	Publow	Preserved/Preserved	31/05/2002	31/07/2002	19/08/2002	10/09/2002	19	
Sutton Benger Str	Sutton Benger	Preserved/Preserved	16/03/2002	28/06/2002	19/08/2002	10/09/2002	52	22
Chew	Keynsham	Preserved/Preserved	23/04/2002	06/06/2002	22/07/2002	20/11/2002	46	
Cam Brook	Midford	Preserved/Preserved	30/05/2002	08/08/2002	12/09/2002	20/11/2002	35	
Rivers Brook	Qumerford	Preserved/Preserved	30/05/2002	23/09/2002	05/11/2002	20/11/2002	43	
Chalfield Brook	Broughton Gifford	Preserved/Preserved	17/05/2002	31/10/2002	08/11/2002	20/11/2002	8	
Chew	Publow	Preserved/Preserved	07/08/2002	26/09/2002	12/11/2002	20/11/2002	47	8
Congresbury Yeo	Beam Bridge	Preserved/Preserved	25/10/2002	09/01/2003	14/01/2003	23/01/2003	5	
Isle	Cocks Bridge	Preserved/Preserved	18/11/2002	20/11/2002	15/01/2003	23/01/2003	56	
Mells Brook	Bentor Mill	Preserved/Preserved	18/11/2002	09/01/2003	15/01/2003	23/01/2003	6	
Parrett	Petherton Park	Preserved/Preserved	08/10/2002	20/01/2003	21/01/2003	23/01/2003	1	
Cheddar Yeo	u/s Footbridge	Preserved/Preserved	16/04/2002	18/01/2003	21/01/2003	23/01/2003	3	2
Hartlake	Bridge - Godney	Preserved/Preserved	29/05/2002	18/03/2002	19/03/2002	27/02/2003	1	
Venners Water	Keysey Farm	Preserved/Preserved	18/11/2002	07/02/2003	20/02/2003	27/02/2003	13	
Brue	Cow Bridge	Preserved/Preserved	19/11/2002	13/02/2003	20/02/2003	27/02/2003	7	
South Drain	Burtle	Preserved/Preserved	08/10/2002	18/02/2003	21/02/2003	27/02/2003	3	
Kings Sedgemoor Dr	Greylake Bridge	Preserved/Preserved	27/05/2002	17/02/2003	26/02/2003	27/02/2003	9	1

Average period between primary analysis and AQC inspection = 20.9 days

Maximum period between primary analysis and AQC inspection = 56 days

South West Region, South Wessex Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Nine Mile	Bulford	Preserved/Preserved	10/09/2001	20/02/2002	11/04/2002	25/10/2002	50	
Wylfe	Fisherton de la Mere	Preserved/Preserved	19/10/2001	23/04/2002	30/05/2002	25/10/2002	37	
Frome	u/s Sandhills	Preserved/Preserved	17/04/2002	16/05/2002	05/07/2002	25/10/2002	50	
Cerne	Blackhill	Preserved/Preserved	17/04/2002	26/05/2002	12/08/2002	25/10/2002	78	
Char	Whitchurch Canonorum	Preserved/Preserved	21/03/2002	02/07/2002	13/09/2002	25/10/2002	73	42
Wylfe	Norton Bavant	Preserved/Preserved	20/06/2001	18/03/2002	08/05/2002	25/11/2002	51	
Iwerne Brook	Stourpaine	Preserved/Preserved	04/09/2002	05/09/2002	08/11/2002	25/11/2002	64	
Lydden	Twofords Bridge	Preserved/Preserved	12/09/2002	16/09/2002	13/11/2002	25/11/2002	58	
Stour	Muscliffe	Preserved/Preserved	14/10/2002	16/10/2002	15/11/2002	25/11/2002	30	
Ashford Water	d/s Fordingbridge	Preserved/Preserved	28/10/2002	30/10/2002	18/11/2002	25/11/2002	19	
Piddle	Druce	Preserved/Preserved	03/05/2002	13/11/2002	04/12/2002	06/02/2003	21	
Bride	d/s Burton Bradstock	Preserved/Preserved	19/09/2002	27/11/2002	09/01/2003	06/02/2003	43	
Hampshire Avon	d/s Ibsley	Preserved/Preserved	19/10/2002	11/12/2002	20/01/2003	06/02/2003	40	
Hooke	Lower Kingcombe	Preserved/Preserved	17/04/2002	16/01/2003	23/01/2003	06/02/2003	7	
Wonston Stream	d/s Wonston	Preserved/Preserved	12/09/2002	13/01/2003	29/01/2003	06/02/2003	16	8
Caundle Brook	Densham Farm	Preserved/Preserved	26/03/2002	22/01/2003	17/02/2003	21/02/2003	26	
Caundle Brook	u/s Blackmore Ford	Preserved/Preserved	12/09/2002	27/01/2003	18/02/2003	21/02/2003	22	
Tarrant	Tarrant Hinton	Preserved/Preserved	05/03/2002	10/02/2003	20/02/2003	21/02/2003	10	
Tarrant	Tarrant Monkton	Preserved	05/03/2002	17/02/2003		21/02/2003		
Tarrant	Tarrant Crawford	Preserved	05/03/2002	18/02/2003		21/02/2003		

Average period between primary analysis and AQC inspection = 38.6 days

Maximum period between primary analysis and AQC inspection = 78 days

Thames Region, Hatfield Laboratory

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Red	Chequers Lane	Preserved/Preserved	02/05/2002	08/05/2002	25/05/2002	29/07/2002	17	
Folly Brook	Burtonhole Farm	Preserved/Preserved	26/03/2002	24/05/2002	24/06/2002	29/07/2002	31	
Silk Stream	Rushgrove Park	Preserved/Preserved	25/03/2002	09/05/2002	07/07/2002	29/07/2002	59	
Colne (Stockers)	d/s Maple Cross Weir	Live/Preserved	29/04/2002	01/05/2002	08/07/2002	29/07/2002	68	
Pinn	Kings College Road	Live/Preserved	29/04/2002	01/05/2002	08/07/2002	29/07/2002	68	21
Lee	Leasy Bridge	Live/Preserved	13/05/2002	14/05/2002	09/07/2002	29/07/2002	56	
Pincey Brook	Ealing Bridge	Preserved/Preserved	17/05/2002	22/07/2002	22/07/2002	29/07/2002	0	
Whitton Brook	Marlow Crescent	Preserved/Preserved	16/04/2002	16/07/2002	22/07/2002	29/07/2002	6	
Dikler	u/s Burtonon STW	Preserved/Preserved	23/04/2002	14/08/2002	18/08/2002	26/09/2002	4	
Culworth Brook	u/s Cherwell	Preserved/Preserved	10/04/2002	13/08/2002	27/08/2002	26/09/2002	14	
Ockley Brook	Soulden Mill	Preserved/Preserved	10/04/2002	15/08/2002	28/08/2002	26/09/2002	13	
Mimshall Brook	Waterend	Live/Live	16/09/2002	16/09/2002	17/09/2002	26/09/2002	1	
Tykeswater	u/s Colne	Live/Live	16/09/2002	16/09/2002	17/09/2002	26/09/2002	1	9
Pinn	Kings College Rd	Preserved/Preserved	15/11/2002	08/01/2003	15/01/2003	27/01/2003	7	
Saddlers Millstream	u/s Church Road	Preserved/Preserved	13/12/2002	16/12/2002	15/01/2003	27/01/2003	30	
Yeading Brook	Watersplash Lane	Preserved/Preserved	28/11/2002	09/01/2003	15/01/2003	27/01/2003	6	
Seven Kings Water	Barking Park	Preserved/Preserved	11/12/2002	17/12/2002	16/01/2003	27/01/2003	30	
Roding	Nightingale Sports Gr	Preserved/Preserved	11/12/2002	07/01/2003	16/01/2003	27/01/2003	9	11
Roding	Luxborough Lane	Preserved/Preserved	11/12/2002	07/01/2003	17/01/2003	27/01/2003	10	
Alderbourne	d/s Alderbourne Farm	Preserved/Preserved	19/12/2002	09/01/2003	17/01/2003	27/01/2003	8	

Average period between primary analysis and AQC inspection = 21.9 days

Maximum period between primary analysis and AQC inspection = 68 days

Thames Region, Frimley Laboratory

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Cranleigh Waters	Collins Farm	Live/Preserved	30/01/2002	30/01/2002	25/02/2002	19/06/2002	26	
Pool	Winsford Road	Live/Preserved	11/03/2002	13/03/2002	21/03/2002	19/06/2002	8	
Ravensbourne	Norman Park	Live/Preserved	11/03/2002	13/03/2002	28/03/2002	19/06/2002	15	
Cobblers Brook	Cranleigh	Live/Preserved	16/04/2002	17/04/2002	19/04/2002	19/06/2002	2	
Cranleigh Waters	Water Bridge	Live/Preserved	16/04/2002	18/04/2002	25/04/2002	19/06/2002	7	55
Heywood Stream	u/s The Cut	Preserved/Preserved	17/04/2002	23/04/2002	09/05/2002	19/06/2002	16	
Thames	Ravens Ait	Live/Preserved	09/05/2002	09/05/2002	15/05/2002	19/06/2002	6	
Loddon	Twyford	Preserved/Preserved	15/05/2002	18/05/2002	24/05/2002	19/06/2002	6	
Penton Hook Weir Str	d/s Weir	Preserved/Preserved	17/05/2002	24/05/2002	31/05/2002	19/06/2002	7	
Hogsmill	Villiers Road	Live/Preserved	29/05/2002	31/05/2002	07/06/2002	19/06/2002	7	
Caker Stream	u/s Outfall	Preserved/Preserved	20/09/2002	23/09/2002	24/09/2002	05/11/2002	1	
Cranleigh Waters	Water Bridge	Preserved/Preserved	19/09/2002	23/09/2002	07/10/2002	05/11/2002	14	
Loddon	Keepers Cottage	Preserved/Preserved	04/09/2002	08/10/2002	11/10/2002	05/11/2002	3	
Collins Brook	u/s Cranleigh Waters	Live/Preserved	14/10/2002	14/10/2002	22/10/2002	05/11/2002	8	
The Cut	u/s Thames	Preserved/Preserved	02/09/2002	29/10/2002	30/10/2002	05/11/2002	1	6
Gatwick Stream	Tinsley Bridge	Preserved/Preserved	03/09/2002	11/11/2002	12/11/2002	14/01/2003	1	
Pickle Ditch	d/s Christchurch Rd	Preserved/Preserved	03/10/2002	11/11/2002	29/11/2002	14/01/2003	18	
Beverley Brook	Pembury Avenue	Preserved/Preserved	11/09/2002	21/11/2002	02/12/2002	14/01/2003	11	
Salt Hill Stream	Salt Hill Park	Preserved/Preserved	16/09/2002	06/12/2002	11/12/2002	14/01/2003	5	
Cranleigh Waters	Water Bridge	Live/Preserved	17/12/2002	19/12/2002	02/01/2003	14/01/2003	14	12

Average period between primary analysis and AQC inspection = 8.8 days

Maximum period between primary analysis and AQC inspection = 26 days

Thames Region, Wallingford Laboratory

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Windrush	Marshmouth Lane	Unknown/Preserved	19/03/2002	21/03/2002	29/04/2002	21/05/2002	39	
Evenlode	B4449 Cassington	Preserved/Preserved	30/04/2002	01/05/2002	13/05/2002	21/05/2002	12	
Henton Stream	d/s Chinnor STW	Preserved/Preserved	08/04/2002	24/04/2002	16/05/2002	21/05/2002	22	
Ray (Oxon)	B4027 Islip	Preserved/Preserved	10/04/2002	16/05/2002	20/05/2002	21/05/2002	4	
Oxon Ray	Grendon Underwood GS	Preserved/Preserved	29/05/2002	30/05/2002	17/06/2002	21/08/2002	18	
Evenlode	Oddington	Preserved/Preserved	21/03/2002	24/06/2002	24/06/2002	21/08/2002	0	
Burghfield Brook	u/s Foudry Brook	Preserved/Preserved	27/05/2002		01/07/2002	21/08/2002		
Aldbourn	GS Ramsbury	Preserved/Preserved	09/04/2002	04/07/2002	04/07/2002	21/08/2002	0	
Kencot Brook	B4020, Alvescot	Preserved/Preserved	28/03/2002	08/06/2002	08/07/2002	21/08/2002	30	44
North Field Brook	Sandford	Preserved/Preserved	18/04/2002	31/07/2002	13/08/2002	21/08/2002	13	
Mill Brook	Watery Lane	Preserved/Preserved	20/08/2002	07/09/2002	12/11/2002	12/02/2003	66	
Windrush	Cokethorpe	Preserved/Preserved	28/05/2002	28/10/2002	11/12/2002	12/02/2003	44	
Kenet	u/s Manton	Preserved/Preserved	24/09/2002	25/09/2002	03/01/2003	12/02/2003	100	
Northfield Brook	Sandford	Preserved/Preserved	29/10/2002	30/10/2002	08/01/2003	12/02/2003	70	
Dikler	Brewery	Preserved/Preserved	03/09/2002	18/12/2002	12/02/2003	24/03/2003	56	
Thames	Whitchurch Weir	Preserved/Preserved	15/04/2002	20/09/2002	27/02/2003	24/03/2003	160	
Seacourt Stream	Wytham	Preserved/Preserved	05/11/2002	11/11/2002	28/02/2003	24/03/2003	109	
Windrush	Guiting Power	Preserved/Preserved	03/09/2002	11/12/2002	03/03/2003	24/03/2003	82	
Cherwell	Old Marston	Preserved/Preserved	16/07/2002	09/01/2003	11/03/2003	24/03/2003	61	13
Sor Brook	Bodicote	Preserved/Preserved	25/10/2002	03/01/2003	17/03/2003	24/03/2003	73	

Average period between primary analysis and AQC inspection = 50.5 days

Maximum period between primary analysis and AQC inspection = 160 days

Wales, Northern Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Clywedog	u/s Gwenfro	Preserved/Preserved	13/05/2002	15/05/2002	06/06/2002	25/06/2002	22	
Heulyn	u/s Breakers Yard	Preserved/Preserved	07/05/2002	08/05/2002	11/06/2002	25/06/2002	34	
Afon Lliw	Pen-y-Bont	Preserved/Preserved	28/03/2002	13/06/2002	10/07/2002	19/07/2002	27	
Afon Conwy	Trefriw	Preserved/Preserved	25/03/2002	07/06/2002	11/07/2002	19/07/2002	34	
Afon Wheeler	u/s Clwyd	Preserved/Preserved	03/04/2002	03/07/2002	18/07/2002	09/09/2002	15	
Dee	Newbridge	Preserved/Preserved	04/04/2002	11/07/2002	30/07/2002	09/09/2002	19	
Alyn	Leadmills	Preserved/Preserved	08/04/2002	22/07/2002	14/10/2002	12/11/2002	84	
Alyn	B5102, Rossett	Preserved/Preserved	08/04/2002	14/08/2002	22/10/2002	12/11/2002	69	
Afon Erch	u/s Sewage Works	Preserved/Preserved	14/06/2002	16/09/2002	19/11/2002	10/02/2003	64	
Afon Alyn	d/s Maes y Groes STW	Preserved/Preserved	16/10/2002	25/11/2002	11/12/2002	10/02/2003	16	
Clwyd	u/s Dwrlal	Preserved/Preserved	05/09/2002	25/10/2002	18/12/2002	10/02/2003	54	
Clwyd	d/s Ystrad	Preserved/Preserved	05/09/2002	25/10/2002	08/01/2003	10/02/2003	75	
Afon Wen	u/s Mawdach	Preserved/Preserved	03/09/2002	11/12/2002	14/01/2003	10/02/2003	34	27
Afon Rhiw Saeson	Llanbrynmair	Preserved/Preserved	03/09/2002	16/12/2002	14/01/2003	10/02/2003	29	
Afon Croesor	Pont Garreg Hyldrem	Preserved/Preserved	04/09/2002	08/01/2003	16/01/2003	10/02/2003	8	
Caledffrwd	u/s Brynrefail STW	Preserved/Preserved	04/09/2002	09/01/2003	03/02/2003	27/02/2003	25	
Afon Dwyfawr	Llanystumdwy	Preserved/Preserved	04/09/2002	17/01/2003	11/02/2003	27/02/2003	25	
Dwyfach Tributary	u/s Cefn Grainog Quarry	Preserved/Preserved	14/10/2002	23/01/2003	17/02/2003	27/02/2003	25	
Afon Cwmystradllyn	Golan	Preserved/Preserved	04/09/2002	03/02/2003	26/02/2003	27/02/2003	23	
Dee	Pont Cysyllte	Preserved	11/09/2002	28/01/2003		03/03/2003		

Average period between primary analysis and AQC inspection = 35.9 days

Maximum period between primary analysis and AQC inspection = 84 days

Wales, South Eastern Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Ddu	u/s Nant Ffrwd Oer	Preserved/Preserved	17/04/2002	23/05/2002	16/08/2002	09/09/2002	85	
Rhymney	Tirphil	Preserved/Preserved	03/04/2002	31/05/2002	27/08/2002	09/09/2002	88	
Rhymney	Pengam	Preserved/Preserved	16/09/2002	18/10/2002	05/11/2002	12/11/2002	18	
Ebbw Fawr	Aberberg RFC	Preserved/Preserved	16/09/2002	28/10/2002	19/11/2002	13/12/2002	22	
Llynh	u/s Wye	Preserved/Preserved	12/09/2002	09/11/2002	29/11/2002	13/12/2002	20	
Dowlais Brook	Llantarnam Abbey	Preserved/Preserved	06/09/2002	25/11/2002	11/12/2002	13/12/2002	16	
Taff Clydach	u/s Taff	Preserved/Preserved	16/04/2002	07/12/2002	13/12/2002	16/01/2003	6	
Sirhowy	Newtown	Preserved/Preserved	16/09/2002	10/12/2002	08/01/2003	16/01/2003	29	
Willersley Brook	Willersley	Preserved/Preserved	17/09/2002	03/01/2003	15/01/2003	16/01/2003	12	
Llan y Mynach Bk	u/s Pant Brook	Preserved/Preserved	02/09/2002	07/01/2003	22/01/2003	10/02/2003	15	
Wye	Hafodygarreg	Preserved/Preserved	16/04/2002	14/01/2003	23/01/2003	10/02/2003	9	
Llyd	Pontymoel	Preserved/Preserved	06/09/2002	21/01/2003	30/01/2003	10/02/2003	9	
Usk Clydach	Nr Blackrock	Preserved/Preserved	09/04/2002	24/01/2003	03/02/2003	10/02/2003	10	
Coldstone Brook	d/s Marsh Farm	Preserved/Preserved	17/09/2002	30/01/2003	04/02/2003	10/02/2003	5	6
Arrow	Newchurch	Preserved/Preserved	17/09/2002	01/02/2003	10/02/2003	27/02/2003	9	
Rudhall Brook	Ross	Preserved/Preserved	09/09/2002	07/02/2003	17/02/2003	27/02/2003	10	
Clettwr Brook	Erwood	Preserved/Preserved	12/09/2003	12/02/2003	17/02/2003	27/02/2003	5	
Newbridge Brook	Weobley	Preserved/Preserved	23/04/2002	14/02/2003	21/02/2003	27/02/2003	7	
Duhonw	A470 Bridge	Preserved/Preserved	16/04/2002	02/02/2003	24/02/2003	27/02/2003	22	3
Usk	Llanellen	Preserved/Preserved	10/04/2002	20/02/2003	25/02/2003	27/02/2003	5	

Average period between primary analysis and AQC inspection = 20.1 days

Maximum period between primary analysis and AQC inspection = 88 days

Wales, South Western Area

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Afan	u/s Ynysgwas Bridge	Preserved/Preserved	18/04/2002	30/07/2002	31/07/2002	05/08/2002	1	
E. Cleddau	d/s Vicar's Mill FF	Preserved/Preserved	21/08/2001	23/03/2002	22/05/2002	09/09/2002	60	
Cywyn	u/s STW	Preserved/Preserved	18/04/2002	30/07/2002	04/10/2002	12/11/2002	66	
Aeron	Talsarn Bridge	Preserved/Preserved	15/04/2002	04/10/2002	23/10/2002	12/11/2002	19	
Nant Gochen	Cynnwyll Elfed	Preserved/Preserved	15/04/2002	18/10/2002	25/10/2002	12/11/2002	7	
Clywedog	d/s STW	Preserved/Preserved	17/04/2002	22/10/2002	08/11/2002	13/12/2002	17	
Annell	d/s Crugyhar	Preserved/Preserved	03/05/2002	01/11/2002	15/11/2002	13/12/2002	14	
Llynfi	Pandy Park	Preserved/Preserved	09/05/2002	11/11/2002	25/11/2002	16/01/2003	14	
Fenni	Pontyfenni	Preserved/Preserved	18/04/2002	22/11/2002	04/12/2002	16/01/2003	12	
Clydach	Neath Abbey	Preserved/Preserved	18/09/2002	28/11/2002	12/12/2002	16/01/2003	14	
Iorwerth Goch	Crown Road	Preserved/Preserved	09/05/2002	10/12/2002	17/12/2002	16/01/2003	7	
Teifi	Henllan	Preserved/Preserved	16/09/2002	02/01/2003	06/01/2003	16/01/2003	4	10
Nant y Fendrod	u/s Days	Preserved/Preserved	07/05/2002	12/12/2002	06/01/2003	16/01/2003	25	
Afan	Pontrhydyfen	Preserved/Preserved	12/09/2002	27/12/2002	10/01/2003	16/01/2003	14	
Tywi	Rhandirmwyn	Preserved/Preserved	24/09/2002	15/01/2003	21/01/2003	25/02/2003	6	
Bran	d/s Llandovery STW	Preserved/Preserved	06/09/2002	20/01/2003	23/01/2003	25/02/2003	3	
Mydyr	Llaethliw	Preserved/Preserved	04/09/2002	22/01/2003	04/02/2003	25/02/2003	13	
Llynfi	Caerau	Preserved/Preserved	12/09/2002	27/01/2003	05/02/2003	25/02/2003	9	
Taf	d/s Gronw	Preserved/Preserved	18/09/2002	10/02/2003	20/02/2003	25/02/2003	10	5
Loughor	u/s Garnswllt STW	Preserved/Preserved	03/09/2002	10/01/2003	15/01/2003	27/02/2003	5	

Average period between primary analysis and AQC inspection = 16.0 days

Maximum period between primary analysis and AQC inspection = 66 days

APEM Ltd, samples analysed for Midlands and North West Regions

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Goyt	Taxal	Preserved	06/08/2002			14/03/2003		
Eagley Brook	Belmont Bleach Works	Preserved	18/11/2002			14/03/2003		
Chew Brook	ptc R. Tame	Preserved	26/11/2002			14/03/2003		
Eagley Brook	Belmont Bleach Works	Preserved	06/08/2002			14/03/2003		
Bollin	ptc Rossendale Brook	Preserved	06/08/2002			14/03/2003		
Yarrow	u/s Yarrowhead STW	Preserved	01/10/2002			21/05/2003		
Goit	Site 2, Brinscall	Preserved	21/08/2002			21/05/2003		
Lune	Devils Bridge	Preserved	22/08/2002			21/05/2003		
Brennand	ptc Whitendale	Preserved	02/10/2002			21/05/2003		
Lune	Forge Weir	Preserved	30/08/2002			21/05/2003		
Severn	Atcham	Preserved	02/10/2002	30/01/2003		28/03/2003		
Battlefield Brook	Sanders Park	Preserved	08/10/2002	08/01/2003		28/03/2003		
Sheinton Brook	Sheinton	Preserved	26/03/2002	29/01/2003		28/03/2003		
Rhaeadr	B4396, Llanrhaeadr	Preserved	31/05/2002	07/02/2003		28/03/2003		
Coal Brook	Old Mill	Preserved	18/09/2002	12/02/2003		28/03/2003		
Stour	Maypole Hill	Preserved	02/05/2002	11/12/2002		28/03/2003		
Worfe	A442 Bridge	Preserved	20/09/2002	23/01/2003		28/03/2003		
Salwarpe	Mildenham Mill	Preserved	19/05/2002	20/01/2003		28/03/2003		
Leigh/Cradley Bk	Mathon Bridge	Preserved	23/10/2002	16/12/2002		28/03/2003		
Severn	Felindre Bridge	Preserved	19/09/2002	07/01/2003		28/03/2003		

Average period between primary analysis and AQC inspection = Not applicable

Maximum period between primary analysis and AQC inspection = Not applicable

GT Environmental, samples analysed for Midlands Region

River	Site	Sort Method	Sample date	Primary analysis	AQC analysis	Arrived at CEH	Primary to AQC analysis (days)	5th AQC in batch to arrival at CEH (days)
Eye	u/s Melton Mowbray	Preserved	11/04/2002	07/06/2002		14/10/2002		
Oldcotes Dyke	Hermeston Hall	Preserved	09/05/2002	27/09/2002		14/10/2002		
Amber	d/s Ogston Reservoir	Preserved	03/04/2002	18/06/2002		14/10/2002		
Maun	Markham Moor	Preserved	21/05/2002	23/09/2002		14/10/2002		
Derwent	Matlock Bath	Preserved	18/04/2002	12/09/2002		14/10/2002		
Sence	Wigston	Preserved	24/04/2002	15/07/2002		14/10/2002		
Ryton	Ranby	Preserved	29/05/2002	23/06/2002		14/10/2002		
Derwent	Alvaston Gate	Preserved	18/04/2002	11/09/2002		14/10/2002		
Grantham Canal	Bassingfield	Preserved	15/05/2002	08/06/2002		14/10/2002		
Greet	Kirklington	Preserved	01/05/2002	02/10/2002		14/10/2002		
Somerby Brook	Somerby Bridge	Preserved	01/10/2002	11/02/2003		25/03/2003		
Halloughton Dumble	Rollestone	Preserved	23/09/2002	28/01/2003		25/03/2003		
Nut Brook Canal	Erewash confluence	Preserved	20/09/2002	21/03/2003		25/03/2003		
Bar Brook	Baslow	Preserved	05/04/2002	07/03/2003		25/03/2003		
Soar	d/s Stoney Bridge	Preserved	30/05/2002	13/03/2003		25/03/2003		
Paupers Drain	Leam Farm	Preserved	31/10/2002	19/02/2003		25/03/2003		
Eau	Scotter	Preserved	24/09/2002	17/01/2003		25/03/2003		
Burton Brook	d/sBurton Lazars STW	Preserved	01/10/2002	15/02/2003		25/03/2003		
Amber	Buckland Hollow	Preserved	02/10/2002	22/01/2003		25/03/2003		
Trent	Gunthorpe	Preserved	09/10/2002	24/03/2003		25/03/2003		

Average period between primary analysis and AQC inspection = Not applicable

Maximum period between primary analysis and AQC inspection = Not applicable