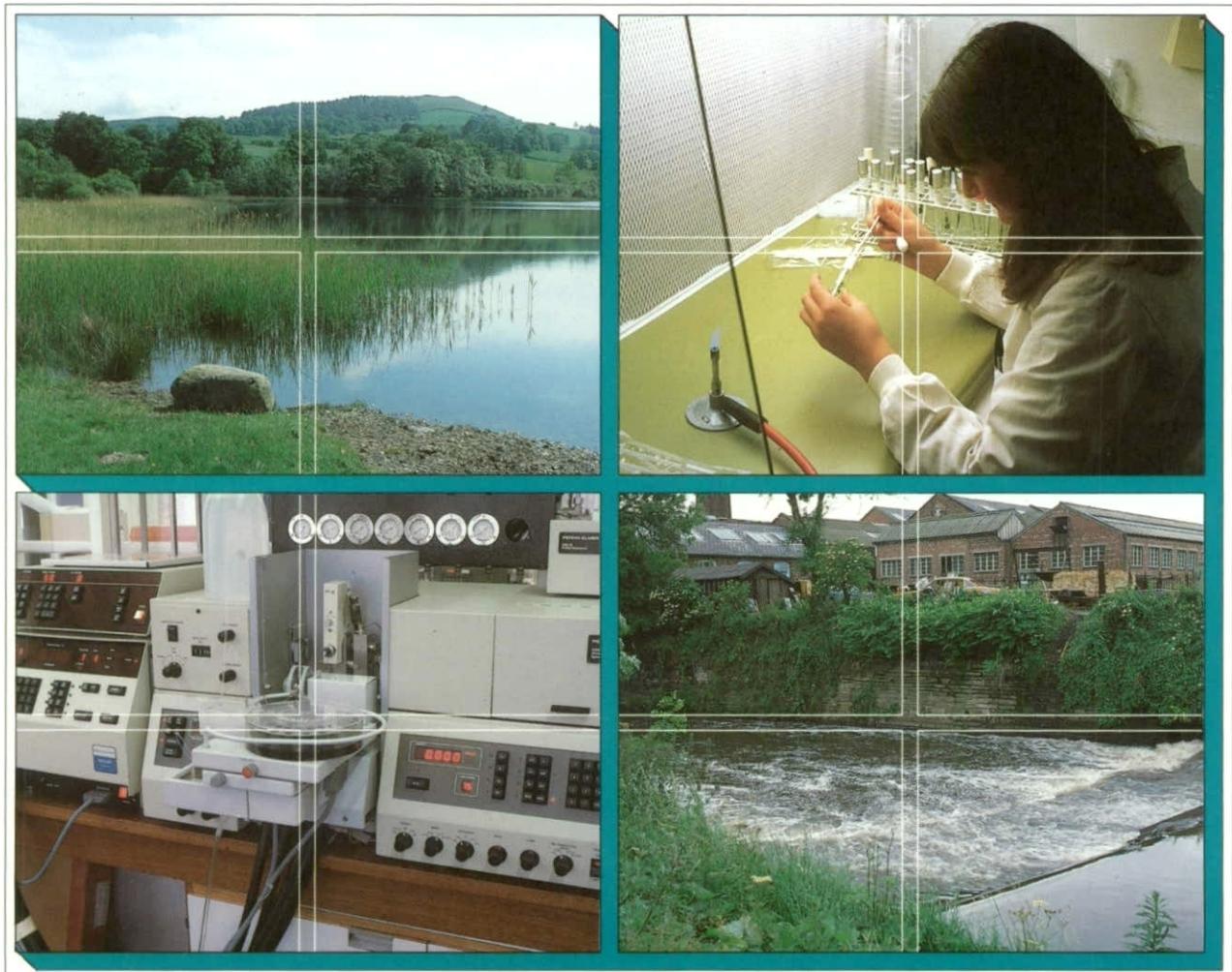




# An audit of performance in the processing of macro-invertebrate samples in 1991. NRA Severn-Trent Region

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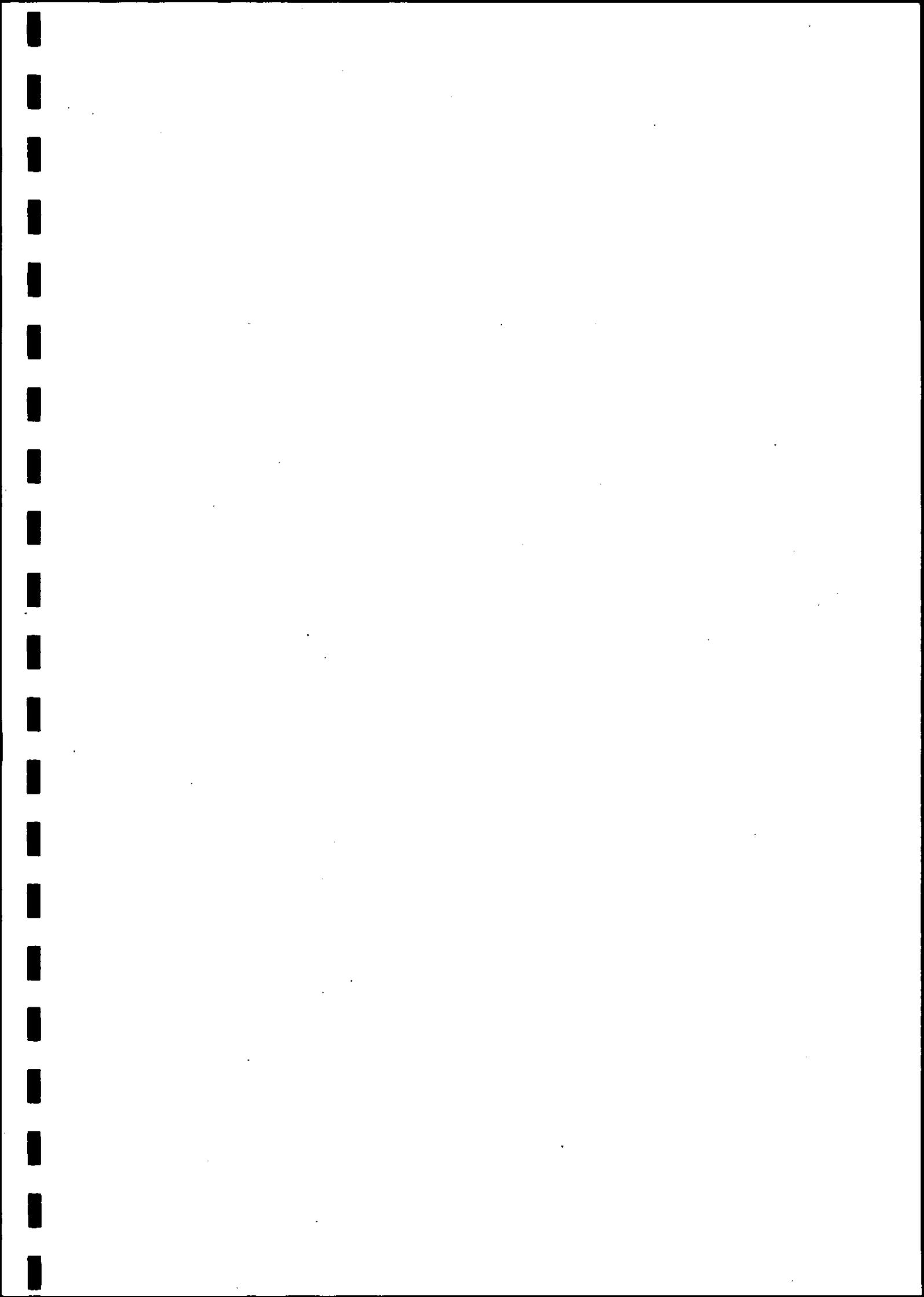
**An audit of performance in the processing  
of macro-invertebrate samples in 1991.**  
**NRA Severn-Trent Region**

R.J.M. Gunn, J.F. Wright, J.M. Winder & J.H. Blackburn

Project leader:	J.F. Wright
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## 1. INTRODUCTION

In 1991 the sampling of aquatic macro-invertebrates for the biological assessment of river quality continued throughout the United Kingdom. In England and Wales this task was undertaken by the National Rivers Authority (NRA), the River Purification Boards (RPBs) sampled in Scotland and the Department of Economic Development (DED) undertook the work in Northern Ireland.

The majority of sites were sampled in spring, summer and autumn. Standard collection procedures, as used in the 1990 River Quality Survey, were retained and the sampling strategy was therefore compatible with RIVPACS (River InVertebrate Prediction And Classification System), which has been developed by the Institute of Freshwater Ecology (IFE). For a variety of reasons, a few locations were sampled in just one or two seasons.

Samples were sorted by NRA, RPB and DED personnel for the families of macro-invertebrates included in the Biological Monitoring Working Party (BMWP) system. Taxa present were recorded on site data sheets. Sample processing and recording techniques varied from region to region.

In view of the number of staff involved and the variability of sample processing techniques, it was recognised that an independent quality control exercise was necessary to promote a consistently high level of reliability. As in 1990, the IFE was contracted to undertake an audit of the sample sorting and identification performance of each NRA region, several RPBs and the DED. This report presents the results of 60 samples audited for Severn-Trent Region of the NRA. The IFE was not required to perform any statistical analyses nor interpretation of the results of the audit.

## 2. SAMPLE SELECTION

Samples for audit were selected internally by each of the agencies being monitored. The biologists processing these samples had no prior knowledge of the samples to be audited.

The 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 agency, within the limits of the total number of samples that IFE was contracted to audit.

## 3. SAMPLE PROCESSING

The normal protocol for NRA, RPB and DED biologists was to sort their samples within the laboratory and to select examples of each scoring taxon within the BMWP system. In most cases, the invertebrates were placed in a vial of preservative (4% formaldehyde solution or 70% industrial alcohol) and the BMWP taxa were listed on a data sheet. The vial of animals and the sorted material were then returned to the sample container and preservative added. Thus, each sample available to IFE for audit should have included:

- i) a list of the BMWP FAMILIES FOUND IN THE SAMPLE
- ii) a vial containing representatives from each family
- iii) the preserved sample

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

- a) The remainder of the sample was sorted and the BMWP families listed
- b) The families contained within the vial were identified and listed
- c) A comparison was made between the NRA listing of families and those identified from the vial by IFE
- d) A comparison was made between the NRA listing of families and those found in the sample by IFE
- e) "Losses" or "gains" from the NRA listing of families were noted. In the case of "gains", each additional family was identified, where possible, to species level, in order to clarify any specific repetitive errors.

For a number of different reasons, some samples did not include a vial containing representative examples of the families listed on the data sheet. Others arrived with the vial damaged in transit such that the representative examples were no longer separated. For these samples, only operations a), d) and e) above were appropriate.

Several directives were issued to IFE relating to the treatment of BMWP taxa. Terrestrial representatives of BMWP scoring families, animals deemed to have been dead at the time of sampling, cast insect skins, pupal exuviae, empty mollusc shells and posterior ends of "living" specimens were to be excluded from the listing of families present. Trichopteran pupae, although not routinely identified by many biologists, were to be included in the listing of families.

#### 4. REPORTING

The results of each sample audit were recorded on a standard report form (Table 1). For audit samples where a vial of animals was included, the comparison between the NRA listing and the taxa found in the vial by IFE was shown in box A of the report form. Discrepancies could be due to carelessness, misidentifications or errors in completing the NRA data sheet. Families not on the NRA listing but found by IFE in the remainder of the sample were entered in box B of the report form under "additional families". When the families listed as "losses" in section A of the report form were compared with the full list of families recorded in the sample by IFE, 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 in the "losses" box of section A and the "gains" box of section B and were neither a net loss nor a net gain. In these cases, the families were marked with an asterisk in both boxes. Such errors are noted as "omissions" in the tables which summarise the results for each season (Tables 2, 3 and 4).

Species identifications, state of development (eg adult or larval coleopterans) and the presence of a single representative of a family within the remainder of the sample were recorded in the notes section of the report form. Where the NRA data sheet indicated that a family was noted and released at the site, this was recorded in the notes section but not included as a "loss", even though the family was not found in the vial.

For those samples in which the vial of animals was damaged or missing, box A of the report form was not applicable (N/a). Families not on the NRA list but present in the sample were listed in box B under "additional families" as before. Families recorded on the NRA list but not found by IFE were indicated on the left hand side of box B. If the vial of animals was retained by the NRA, entries in this box could include the sole representative of a family which was removed by the NRA, a family seen at the site which escaped or was released (without mention being made on the NRA data sheet), inaccurate identification, the wrong family box being ticked on the NRA data sheet or the family being present in the sample but missed by IFE.

Results of the audits of individual samples are presented in the Appendix.

#### ACKNOWLEDGEMENTS

Thanks to Mike Furse for help and advice, to Kay Symes and Angela Matthews for assistance with cataloguing and storage of samples and to Valerie Palmer and Diana Morton for typing the manuscript.

TABLE 1. The IFE Report form

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION <input style="width: 100%;" type="text"/>	RIVER <input style="width: 100%;" type="text"/>
DATE <input style="width: 100%;" type="text"/>	SITE <input style="width: 100%;" type="text"/>
SORTER <input style="width: 100%;" type="text"/>	SAMPLE CODE <input style="width: 100%;" type="text"/>

AQC OF BMWP FAMILIES    A. IN VIAL                       B. IN SAMPLE

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	

NET LOSSES                       NET GAINS

NOTES

TABLE 2. The 19 spring samples audited for Severn-Trent Region, with sample sorter codes and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
*Cauldwell Brook	Confluence	4.3	-	-	-
Perry	Rednall	1.3	0	2	0
Hadley Brook	Chadderley Corbet WRW	1.1	1	1	0
Cound	Condover	1.1	2	2	0
Stoulton Brook	Hawbridge	2.4	0	6	1
Cain Brook	Cain Bridge	2.3	0	2	0
Isbourne	Greet	2.4	0	3	0
Leam	Offchurch	2.3	0	0	0
Staunton Harold Brook	Reservoir inlet	4.3	0	0	0
Trannon	Trefeglwys	1.3	1	0	0
Leadon	Uplands Bridge	2.1	0	2	0
Leadon	Ross Road Bridge	2.1	0	1	0
Trent	D/s Knypersley Res	3.3	1	4	0
Peakshole Water	Hope	4.1	0	3	0
Dove	Hartington	3.3	1	3	0
Eggington Brook	Eggington	4.2	1	0	2
Churnet	Churnet Mouth	3.1	0	6	1
Churnet	Abbey Green Road	3.1	0	6	0
Blythe	Temple Balsall	3.4	0	1	2
Trent	Shardlow	4.2	0	1	0

\* indicates no data sheet available

TABLE 3. The 21 summer samples audited for Severn-Trent Region, with sample sorter codes and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Milton Brook	Meadow Lane	4.3	0	0	0
Trent	Willington	4.3	1	2	0
Amber	Amber Mill	4.1	0	2	0
Rothley Brook	Anstey	4.2	1	2	0
Ecclesbourne	Bateman Bridge	4.1	1	2	0
Broughton Astley Brook	U/s R.Soar	4.2	1	2	0
Bradgate Brook	Newtown Linford	4.3	0	2	0
Trent	Colwich	3.1	1	4	0
Sow	Eccleshall	3.3	0	1	0
Churnet	Cheddleton Station	3.1	0	1	0
Afon Trannon	U/s Colwyn Brook	1.1	1	0	0
Teme	A456 Bridge	1.5	3	1	0
Whiston Brook	Mitton Manor	3.3	0	1	0
Henmore Brook	Clifton	3.1	0	0	0
Colliers Brook	Alvington	2.3	0	1	0
Leam	Hunningham Bridge	2.4	0	2	0
Onny	Bromfield	1.3	0	1	1
Onny	Eaton	1.1	0	1	2
Glynch Brook	U/s Pitts Mill WRW	2.4	2	2	1
Blackpool Brook	Barracks Bridge	2.3	1	1	2
Stour	Clifford Chambers	2.4	1	3	0

TABLE 4. The 20 autumn samples audited for Severn-Trent Region, with sample sorter codes and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Teme	U/s Ffrwdwen Brook	1.3	0	3	1
Rea Brook	Lea	1.1	0	2	0
Onny	Wistanstow	1.5	2	4	0
Blithe	Newton Bridge	3.5	0	3	0
Onny	Eaton	1.1	1	2	0
Byne Brook	Harton	1.5	0	1	0
Cole	Lowbrook Bridge	3.1	0	4	3
Black Brook	Fazeley	3.1	0	0	0
Cuttle Brook	Temple Balsall	3.5	0	3	0
Quinney	U/s Church Stretton WRW	1.3	0	4	1
Itchen	A425 Thorpe Bridge	2.4	0	0	0
Piddle Brook	Seaford	2.3	0	1	0
Bushley Brook	Queenhill	2.3	0	3	0
Stour	Tidmington	2.4	0	0	0
Ryton	Scrooby	4.1	0	5	0
Bradgate Brook	Newtown Linford	4.3	0	0	0
Ecclesbourne	Cowers Lane	4.1	1	1	0
Gaddesby Brook	U/s Marefield Brook	4.2	0	0	0
Sence	U/s Little Stretton	4.2	0	3	0
Markfield Brook	U/s Rothley Brook	4.3	0	0	0

**APPENDIX**

**Results of individual sample audits**

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Cauldwell Brook
DATE	6.3.91	SITE	Confluence
SORTER	4.3	SAMPLE CODE	NRA04 5414

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p>

NET LOSSES        NET GAINS   

NOTES

Data sheet unavailable - sample not checked

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Perry
DATE	8.4.91	SITE	Rednall
SORTER	B1.3	SAMPLE CODE	10630

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>

<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">1 Planorbidae 2 Gyrinidae</p>
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NET LOSSES        NET GAINS   

NOTES

1 Bathyomphalus contortus 1 only  
 2 Orectochilus villosus (larva) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION <span style="border: 1px solid black; padding: 2px;">Severn-Trent</span>	RIVER <span style="border: 1px solid black; padding: 2px;">Hadley Brook</span>
DATE <span style="border: 1px solid black; padding: 2px;">10.4.91</span>	SITE <span style="border: 1px solid black; padding: 2px;">D/s Chadderley Corbet WRW</span>
SORTER <span style="border: 1px solid black; padding: 2px;">1.1</span>	SAMPLE CODE <span style="border: 1px solid black; padding: 2px;">10644</span>

AQC OF BMWP FAMILIES    A. IN VIAL +    B. IN SAMPLE +

	LOSSES	GAINS								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;"><b>A</b></td> <td style="width: 35%; text-align: center;"><u>VIAL</u></td> <td style="width: 35%; text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</td> <td style="width: 25%; text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</td> </tr> <tr> <td></td> <td style="vertical-align: top;">                     Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE                 </td> <td style="text-align: center; vertical-align: top;">1 Scirtidae</td> <td style="text-align: center; vertical-align: top;">None</td> </tr> </table>	<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Scirtidae	None		
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE							
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Scirtidae	None							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;"><b>B</b></td> <td style="width: 35%; text-align: center;"><u>SAMPLE</u></td> <td style="width: 35%; text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</td> <td style="width: 25%; text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</td> </tr> <tr> <td></td> <td style="vertical-align: top;">                     Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE                 </td> <td style="text-align: center; vertical-align: top;">                     (This box only completed when no vial supplied with sample)                 </td> <td style="text-align: center; vertical-align: top;">2 Simuliidae</td> </tr> </table>	<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Simuliidae		
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE							
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Simuliidae							

NET LOSSES 1    NET GAINS 1

NOTES

1 Cast larval skin  
2 Simulium ornatum group

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Cound
DATE	16.4.91	SITE	Condover
SORTER	1.1	SAMPLE CODE	10664

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Limnephilidae 2 Baetidae	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Hydrobiidae 4 Haliplidae

NET LOSSES        NET GAINS   

NOTES

3 Potamopyrgus jenkinsi  
4 Haliplus sp. (larvae)

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Stoulton Brook
DATE	29.4.91	SITE	Hawbridge
SORTER	B2.4	SAMPLE CODE	None given

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Sphaeriidae*</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Planorbidae                      3 Ancyliidae                      4 Sphaeriidae*                      5 Piscicolidae                      6 Psychomyiidae                      7 Hydroptilidae                      8 Simuliidae</p>

NET LOSSES        NET GAINS   

NOTES	<p>1 Empty Sphaeriid in vial                      2 Bathyomphalus contortus                      3 Ancylyus fluviatilis 1 only                      5 Piscicola geometra 1 only                      6 Lype sp. 1 only                      7 Hydroptila sp.                      8 Simulium cryophilum group (larva) 1 only</p>
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# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Cain Brook
DATE	23.4.91	SITE	Cain Bridge
SORTER	B2.3	SAMPLE CODE	None given

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">1 Asellidae 2 Tipulidae</p>

NET LOSSES        NET GAINS   

NOTES

1 Asellus aquaticus  
2 Dicranota sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Isbourne
DATE	1.5.91	SITE	Greet
SORTER	B2.4	SAMPLE CODE	None given

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Sphaeriidae 2 Erpobdellidae 3 Hydroptilidae

NET LOSSES   

NET GAINS   

**NOTES**

- 1 Pisidium sp. 1 only
- 2 Erpobdella octoculata 1 only
- 3 Hydroptila sp.

Posterior end of Rhyacophilid found in sample

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Leam
DATE	7.5.91	SITE	Offchurch
SORTER	B2.3	SAMPLE CODE	None given

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<p><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>

B	<p><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>
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NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Staunton Harold Brook
DATE	11.3.91	SITE	Inlet to Reservoir
SORTER	4.3	SAMPLE CODE	42110

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Trannon
DATE	15.3.91	SITE	Trefeglwys
SORTER	1.3	SAMPLE CODE	10570

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE  1 Hydrophilidae	ADDITIONAL FAMILIES FOUND BY IFE  None

<b>B</b>	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE  None
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NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Leadon
DATE	8.5.91	SITE	Uplands Bridge
SORTER	B2.1	SAMPLE CODE	None given

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">None</p>

<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>1 Hydropsychidae 2 Hydroptilidae</p>
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NET LOSSES        NET GAINS   

NOTES

1 Hydropsyche siltalai 1 only  
2 Hydroptila sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Leadon
DATE	8.5.91	SITE	Ross Road Bridge
SORTER	B2.1	SAMPLE CODE	None given
AQC OF BMWP FAMILIES		A. IN VIAL	+
		B. IN SAMPLE	+

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">1 Glossiphoniidae</p>

NET LOSSES	0	NET GAINS	1
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NOTES

1 Helobdella stagnalis 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Trent
DATE	22.4.91	SITE	D/s Knypersley Res
SORTER	B3.3	SAMPLE CODE	NRA04 7201

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Dryopidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Scirtidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">3 Erpobdellidae                      4 Caenidae                      5 Psychomyiidae</p>

NET LOSSES        NET GAINS   

NOTES

2 Elodes sp. (larvae)  
 3 Erpobdella octoculata  
 4 Caenis luctuosa/macrura, C. horaria  
 5 Lype sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Peakshole Water
DATE	8.5.91	SITE	Hope
SORTER	4.1	SAMPLE CODE	NRA04 5012

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Ephemerellidae 2 Elmidae 3 Simuliidae

NET LOSSES        NET GAINS   

**NOTES**

1 Ephemerella ignita 1 only  
 2 Limnius volckmari (larvae)  
 3 Simulium reptans (larvae), S.ornatum group (pupa)

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Dove
DATE	8.4.91	SITE	Hartington
SORTER	3.3	SAMPLE CODE	NRA04 7803

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Leptoceridae	2 Sericostomatidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Ephemerellidae 4 Caenidae

NET LOSSES        NET GAINS   

NOTES

2 Sericostoma personatum  
3 Ephemerella ignita 1 only  
4 Caenis rivulorum 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Eggington Brook
DATE	11.3.91	SITE	Eggington
SORTER	4.2	SAMPLE CODE	NRA04 4016

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Gammaridae* 2 Leptoceridae* 3 Goeridae	None
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	4 Gammaridae* 5 Leptoceridae*

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Churnet
DATE	15.4.91	SITE	Churnet Mouth
SORTER	B3.1	SAMPLE CODE	NRA04 7619

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Glossiphoniidae*	2 Elmidae

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Planorbidae 4 Glossiphoniidae* 5 Heptageniidae 6 Perlodidae 7 Leptoceridae 8 Simuliidae

NET LOSSES        NET GAINS   

- NOTES
- |   |
|---|
| <ul style="list-style-type: none"> <li>2 <i>Limnius volckmari</i> (larvae)</li> <li>3 <i>Gyraulus albus</i> 1 only</li> <li>4 <i>Glossiphonia complanata</i></li> <li>5 <i>Heptagenia sulphurea</i> 1 only</li> <li>6 <i>Isoperla grammatica</i> 1 only</li> <li>7 <i>Athripsodes</i> sp. 1 only</li> <li>8 <i>Simulium ornatum</i> group (larvae + pupae)</li> </ul> |
|---|

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Churnet
DATE	23.4.91	SITE	Abbey Green Road
SORTER	3.1	SAMPLE CODE	NRA04 7606

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p>1 Ancylidae                      2 Sphaeriidae                      3 Nemouridae                      4 Chloroperlidae                      5 Elmidae                      6 Polycentropodidae</p>

NET LOSSES        NET GAINS   

- NOTES
- 1 Ancylus fluviatilis
  - 2 Pisidium sp. 1 only
  - 3 Amphinemura sulcicollis
  - 4 Chloroperla torrentium
  - 5 Elmis aenea (larva) 1 only
  - 6 Polycentropus flavomaculatus

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Blythe
DATE	3.4.91	SITE	Temple Balsall
SORTER	B3.4	SAMPLE CODE	NRA04 8403

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>1 Hydrobiidae* 2 Limnephilidae*</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p>3 Hydrobiidae* 4 Haliplidae 5 Limnephilidae*</p>

NET LOSSES        NET GAINS   

**NOTES**

1,3 Potamopyrgus jenkinsi (empty shell in vial)  
 4 Haliplus sp. (larva) 1 only  
 5 Halesus radiatus

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Trent
DATE	4.3.91	SITE	Shardlow
SORTER	4.2	SAMPLE CODE	NRA04 4003

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

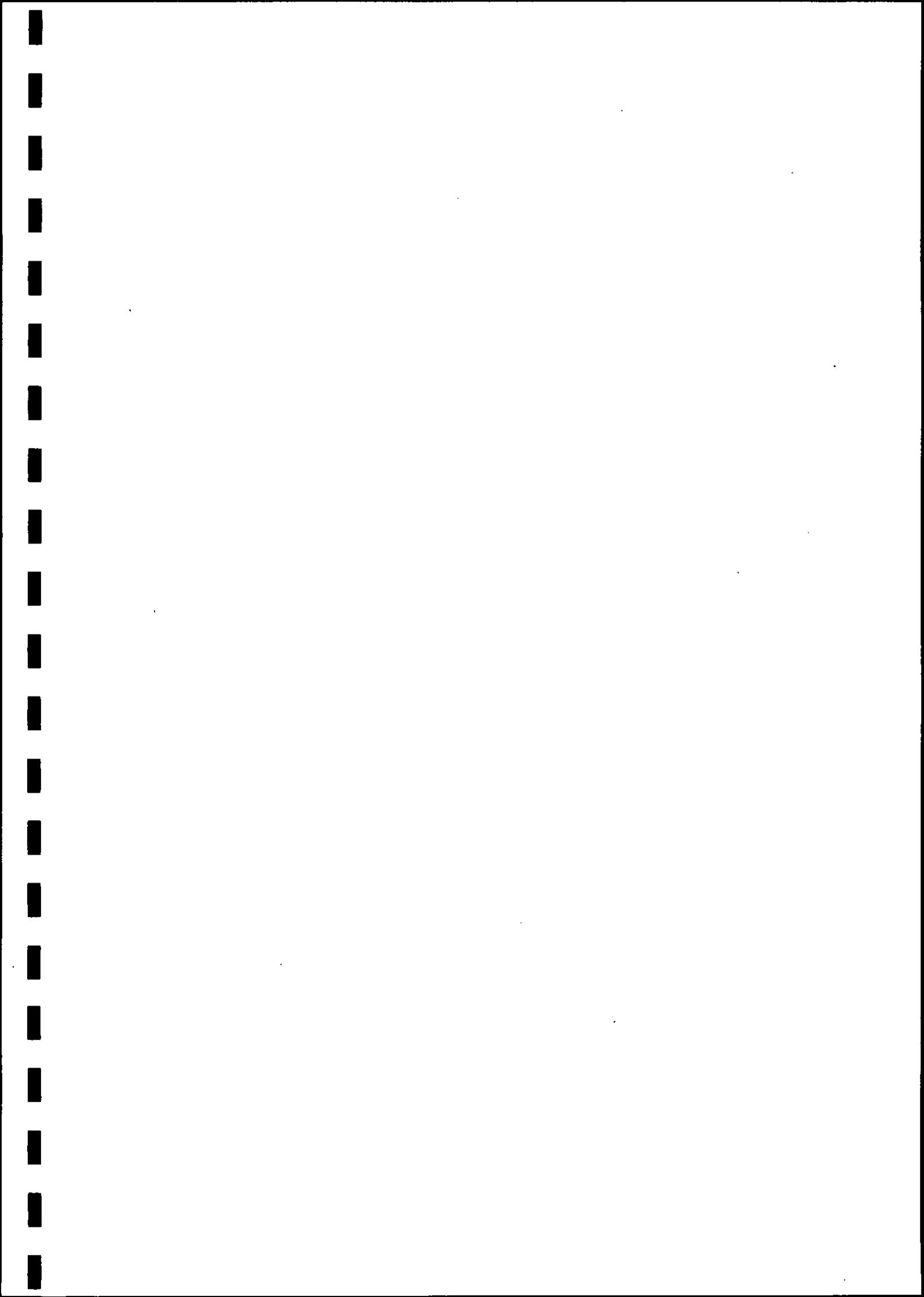
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Planariidae

NET LOSSES        NET GAINS   

NOTES

1 *Dugesia tigrina* 1 only

*Gammarus tigrinus* present in sample



# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Milton Brook
DATE	19.6.91	SITE	Meadow Lane
SORTER	4.3	SAMPLE CODE	NRA04 4021

AQC OF BMWP FAMILIES    A. IN VIAL     +    B. IN SAMPLE     +

		LOSSES	GAINS
<b>A</b>	<p><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>
<b>B</b>	<p><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION <span style="border: 1px solid black; padding: 2px;">Severn-Trent</span>	RIVER <span style="border: 1px solid black; padding: 2px;">Trent</span>
DATE <span style="border: 1px solid black; padding: 2px;">11.6.91</span>	SITE <span style="border: 1px solid black; padding: 2px;">Willington</span>
SORTER <span style="border: 1px solid black; padding: 2px;">4.3</span>	SAMPLE CODE <span style="border: 1px solid black; padding: 2px;">NRA04 4001</span>

AQC OF BMWP FAMILIES    A. IN VIAL      B. IN SAMPLE

	LOSSES	GAINS
<b>A</b> <u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE  1 Caenidae	ADDITIONAL FAMILIES FOUND BY IFE  2 Glossiphoniidae 3 Erpobdellidae

<b>B</b> <u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE  None
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NET LOSSES 1                    NET GAINS 2

NOTES

1 Cast skin in vial  
 2 Glossiphonia complanata  
 3 Erpobdella octoculata

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Amber
DATE	11.6.91	SITE	Amber Mill
SORTER	4.1	SAMPLE CODE	NRA04 5202

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">1 Rhyacophilidae 2 Goeridae</p>

NET LOSSES        NET GAINS   

NOTES

1 Rhyacophila dorsalis (larva + pupa)  
 2 Indet Goerid pupa 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Rothley Brook
DATE	16.7.91	SITE	Anstey
SORTER	4.2	SAMPLE CODE	NRA04 4402

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Physidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Lymnaeidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">3 Caenidae</p>

NET LOSSES        NET GAINS   

NOTES

1 Small fragment of unidentifiable snail found in vial  
 2 Lymnaea peregra  
 3 Caenis luctuosa/macrura 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Ecclesbourne
DATE	8.7.91	SITE	Bateman Bridge
SORTER	4.1	SAMPLE CODE	NRA04 5018

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Lymnaeidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Glossiphoniidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">3 Tipulidae</p>

NET LOSSES        NET GAINS   

NOTES

2 Helobdella stagnalis  
3 Tipula sp., Dicranota sp.

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Broughton Astley Brook
DATE	10.6.91	SITE	U/s R. Soar
SORTER	4.2	SAMPLE CODE	NRA04 4117

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Lymnaeidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Ancyliidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">3 Dytiscidae</p>

NET LOSSES        NET GAINS   

NOTES

1 Succinea sp. in vial  
 2 Ancyly fluviatilis  
 3 Agabus sp. (larva) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Bradgate Brook
DATE	2.7.91	SITE	Newtown Linford
SORTER	4.3	SAMPLE CODE	NRA04 4142

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	1 Leptophlebiidae 2 Hydropsychidae
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES        NET GAINS   

NOTES

1 Habrophlebia fusca  
2 Hydropsyche siltalai

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Trent
DATE	27.6.91	SITE	Colwich
SORTER	3.1	SAMPLE CODE	NRA04 7301

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Piscicolidae	None
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Dendrocoelidae 3 Valvatidae 4 Ephemerellidae 5 Leptoceridae

NET LOSSES        NET GAINS   

NOTES

- 1 Hemicleipsis marginata in vial
- 2 Dendrocoelum lacteum 1 only
- 3 Valvata piscinalis 1 only
- 4 Ephemerella ignita 1 only
- 5 Ceraclea sp. (pupa) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Sow
DATE	1.7.91	SITE	Eccleshall
SORTER	3.3	SAMPLE CODE	NRA04 7102

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Elmidae

NET LOSSES        NET GAINS   

NOTES

1 *Elmis aenea* (adult) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Churnet
DATE	13.6.91	SITE	Cheddleton Station
SORTER	3.1	SAMPLE CODE	NRA04 7612

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Hydrobiidæ

NET LOSSES        NET GAINS   

NOTES

1 Potamopyrgus jenkinsi 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Afon Trannon
DATE	25.7.91	SITE	U/s Colwyn Brook
SORTER	1.1	SAMPLE CODE	11123

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE  <b>1 Corophiidae</b>	ADDITIONAL FAMILIES FOUND BY IFE  <b>None</b>

<b>B</b>	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE  <b>None</b>
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NET LOSSES        NET GAINS   

NOTES

Grid Reference should read SO 009 911

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Teme
DATE	30.7.91	SITE	A456
SORTER	1.5	SAMPLE CODE	11153

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>1 Planariidae                      2 Dendrocoelidae                      3 Sericostomatidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p>4 Valvatidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p>None</p>

NET LOSSES   

NET GAINS   

NOTES

4 Valvata cristata 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Whiston Brook
DATE	26.6.91	SITE	Mitton Manor
SORTER	3.3	SAMPLE CODE	NRA04 7082

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE  None	ADDITIONAL FAMILIES FOUND BY IFE  None
<b>B</b>	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE  1 Planorbidae

NET LOSSES        NET GAINS   

NOTES

1 Armiger crista, Hippeutis complanatus

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Henmore Brook
DATE	22.7.91	SITE	Clifton
SORTER	3.1	SAMPLE CODE	NRA04 7826

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Colliers Brook
DATE	3.7.91	SITE	Alvington
SORTER	2.3	SAMPLE CODE	Unknown

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">1 Lepidostomatidae</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>

NET LOSSES        NET GAINS   

NOTES

1 Lasiocephala basalis 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Leam
DATE	22.7.91	SITE	Hunningham Bridge
SORTER	2.4	SAMPLE CODE	Unknown

AQC OF BMWP FAMILIES    A. IN VIAL     +    B. IN SAMPLE     +

		LOSSES	GAINS
<b>A</b>	<p><u>VIAL</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p>  <p>None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p>  <p>1 Chironomidae</p>
<b>B</b>	<p><u>SAMPLE</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p>  <p>2 Valvatidae</p>

NET LOSSES   

NET GAINS   

NOTES

1 Tanypodinae, Orthocladiinae  
 2 Valvata piscinalis

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Onny
DATE	25.7.91	SITE	Bromfield
SORTER	1.3	SAMPLE CODE	11130

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE  1 Chironomidae*	ADDITIONAL FAMILIES FOUND BY IFE  None
<b>B</b>	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE  2 Planorbidae 3 Chironomidae*

NET LOSSES        NET GAINS   

NOTES

1,3 Orthocladiinae, Chironomini  
 2 Bathyomphalus contortus

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Onny
DATE	17.7.91	SITE	Eaton
SORTER	1.1	SAMPLE CODE	11071

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Asellidae* 2 Hydrophilidae*	None
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Hydrobiidae 4 Asellidae* 5 Hydrophilidae*

NET LOSSES        NET GAINS   

NOTES

1,4 Asellus aquaticus 1 only  
 2,5 Hydraena gracilis (adults)  
 3 Potamopyrgus jenkinsi 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Glynch Brook
DATE	15.7.91	SITE	U/s Pitts Mill WRW
SORTER	2.4	SAMPLE CODE	NRA04 2310

AQC OF BMWP FAMILIES    A. IN VIAL     +    B. IN SAMPLE     +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Ephemerellidae* 2 Nepidae 3 Leptoceridae	4 Chironomidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	5 Ephemerellidae* 6 Haliplidae

NET LOSSES     2    NET GAINS     2

NOTES

1,5 Ephemerella ignita  
 2 Cast skin in vial  
 3,4 Tanytarsini in sand-grain case  
 6 Haliplus sp. (larvae)

Ephemera danica (rear end only) found in sample

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION <span style="float: right;">Severn-Trent</span>	RIVER <span style="float: right;">Blackpool Brook</span>
DATE <span style="float: right;">15.7.91</span>	SITE <span style="float: right;">Barracks Bridge</span>
SORTER <span style="float: right;">2.3</span>	SAMPLE CODE <span style="float: right;">Unknown</span>

AQC OF BMWP FAMILIES    A. IN VIAL     B. IN SAMPLE

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and and ii) BMWP families found in VIAL by IFE	1 Mesoveliidae 2 Hydrophilidae* 3 Elmidae*	None
<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	4 Hydrobiidae 5 Hydrophilidae* 6 Elmidae*

NET LOSSES     NET GAINS

NOTES

1 *Velia* sp. (nymph) in vial  
 2,5 *Hydraena gracilis* (adults), *Limnebius truncatellus* (adults)  
 3,6 *Elmis aenea* (adults + larvae), *Limnius volckmari* (adults + larvae)  
       *Oulimnius tuberculatus* (adult)  
 4 *Potamopyrgus jenkinsi*  
  
*Hydropsyche* sp. (rear end only) found in sample

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Stour
DATE	3.7.91	SITE	Clifford Chambers
SORTER	2.4	SAMPLE CODE	Unknown

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p><u>VIAL</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p><b>1 Hydroptilidae</b></p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p><b>None</b></p>
<b>B</b>	<p><u>SAMPLE</u></p> <p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p><b>2 Physidae</b></p> <p><b>3 Ancylidae</b></p> <p><b>4 Simuliidae</b></p>

NET LOSSES        NET GAINS   

**NOTES**

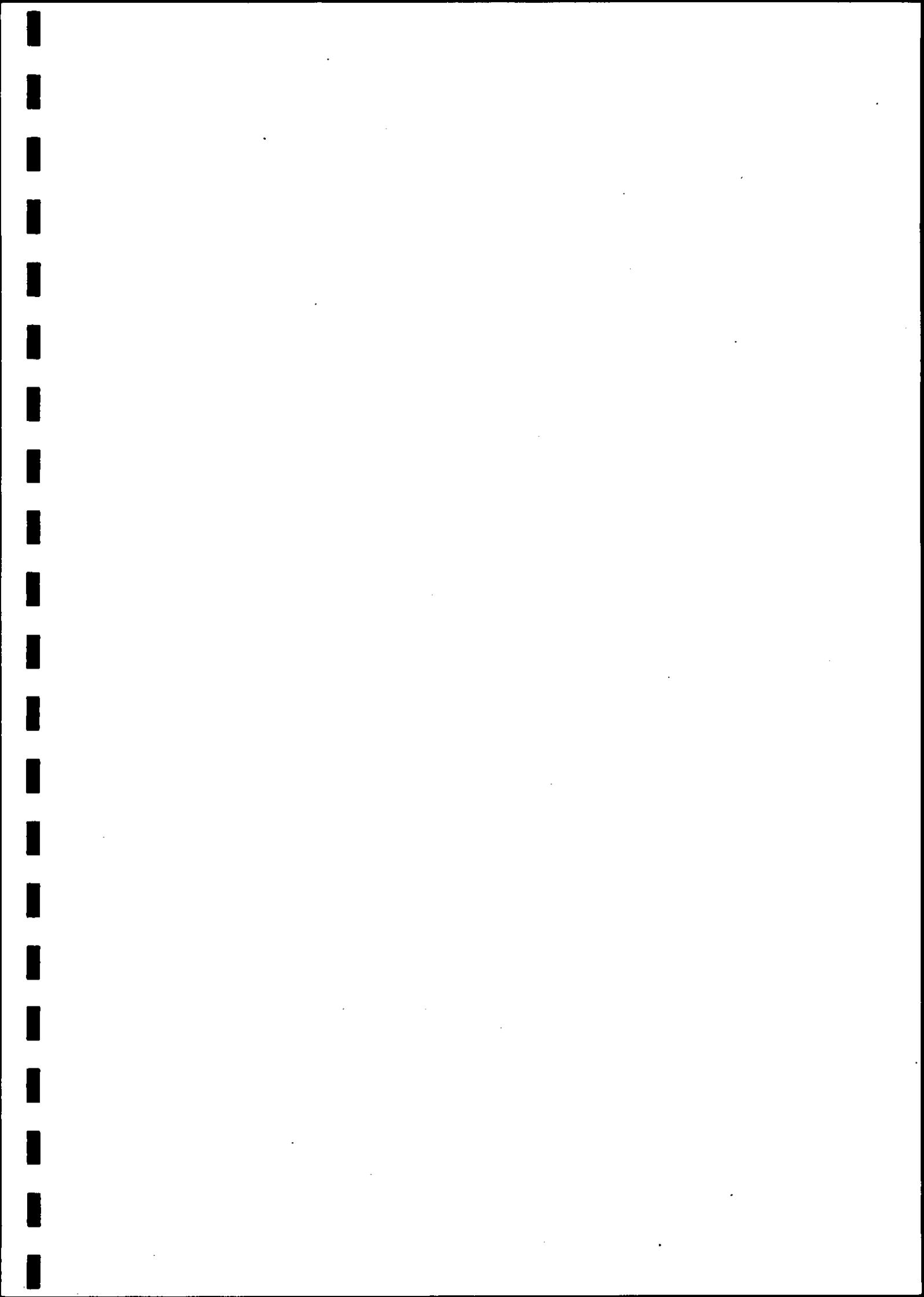
1 Empty cases (Hydroptila sp.) in vial + sample

2 Physa fontinalis

3 Ancylus fluviatilis 1 only

4 Simulium equinum (pupa), S. erythrocephalum (pupae)

Macronychus quadrituberculatus (larva) in vial



# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Teme

DATE 8.11.91

SITE U/s Ffrwdwen Brook

SORTER 1.3

SAMPLE CODE Not known

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Sericostomatidae*	2 Gyrinidae

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Hydroptilidae 4 Lepidostomatidae 5 Sericostomatidae*

NET LOSSES 0

NET GAINS 3

NOTES

2 Orectochilus villosus (larva)  
3 Hydroptila sp 1 only  
4 Lepidostoma hirtum

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent		RIVER	Rea Brook
DATE	31.10.91		SITE	Lea
SORTER	1.1		SAMPLE CODE	NRA04 1056

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Psychomyiidae 2 Simuliidae

NET LOSSES        NET GAINS   

NOTES

1 Lype sp. 1 only  
2 Simulium aureum group (larva) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Onny

DATE 8.11.91

SITE Wistanstow

SORTER 1.5

SAMPLE CODE NRA04 1842

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		1 Asellidae 2 Scirtidae	3 Chironomidae

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	4 Ephemerellidae 5 Leuctridae 6 Hydroptilidae

NET LOSSES 2

NET GAINS 4

NOTES

- 1 Terrestrial isopod in vial
- 2 Cast skin of Elodes sp. (larva) in vial
- 3 Orthocladiinae in vial, Diamesinae, Tanytarsini in sample
- 4 Ephemerella ignita 1 only
- 5 Leuctra hippopus, L.nigra
- 6 Ithytrichia sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Blithe

DATE 31.10.91

SITE Newton Bridge

SORTER 3.5

SAMPLE CODE NRA04 7405

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Neritidae 2 Planorbidae 3 Polycentropodidae

NET LOSSES 0

NET GAINS 3

**NOTES**

- 1 Theodoxus fluviatilis
- 2 Anisus vortex, Armiger crista, Gyraulus albus
- 3 Polycentropus flavomaculatus

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Onny
DATE	7.11.91	SITE	Eaton
SORTER	1.1	SAMPLE CODE	Not known

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE     .

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">1 Scirtidae</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">2 Hydropsychidae</p>

<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center;">3 Glossiphoniidae</p>
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NET LOSSES   

NET GAINS   

**NOTES**

2 Hydropsyche siltalai  
 3 Helobdella stagnalis 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent		RIVER	Byne Brook
DATE	7.11.91		SITE	Harton
SORTER	1.5		SAMPLE CODE	NRA04 1850

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	1 Piscicolidae

NET LOSSES        NET GAINS   

NOTES

1 Piscicola geometra 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent		RIVER	Cole
DATE	15.10.91		SITE	Lowbrook Bridge
SORTER	3.1		SAMPLE CODE	NRA04 8502

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Erpobdellidae* 2 Dytiscidae* 3 Tipulidae*	4 Caenidae 5 Elmidae 6 Psychomyiidae

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	7 Erpobdellidae* 8 Dytiscidae* 9 Limnephilidae 10 Tipulidae*

NET LOSSES        NET GAINS   

- NOTES
- 4 Caenis luctuosa group
  - 5 Elmis aenea (adult)
  - 6 Tinodes waeneri
  - 7 Erpobdella octoculata
  - 8 Platambus maculatus, Ilybius sp. (larvae)
  - 9 Limnephilus fuscicornis, L.extricatus
  - 10 Palaria discicollis group, Tipula montium group

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Black Brook
DATE	29.10.91	SITE	Fazeley
SORTER	3.1	SAMPLE CODE	NRA04 8884

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>
<b>B</b>	<p><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-weight: bold;">None</p>

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent		RIVER	Cuttle Brook
DATE	28.10.91		SITE	Temple Balsall
SORTER	3.5		SAMPLE CODE	NRA04 8441

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Ephemerellidae 2 Caenidae 3 Psychomyiidae

NET LOSSES        NET GAINS   

**NOTES**

- 1 Ephemerella ignita 1 only
  - 2 Caenis luctuosa group 1 only
  - 3 Tinodes waeneri, Lype sp.

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Quinny

DATE 7.11.91

SITE U/s Church Stretton WRW

SORTER 1.3

SAMPLE CODE Not known

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Leptoceridae*	2 Odontoceridae

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Sphaeriidae 4 Glossiphoniidae 5 Limnephilidae 6 Leptoceridae*

NET LOSSES 0

NET GAINS 4

NOTES

- 2 Odontocerum albicorne
- 3 Pisidium sp. 1 only
- 4 Glossiphonia complanata 1 only
- 5 Drusus annulatus
- 6 Adicella reducta 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Itchen
DATE	17.9.91	SITE	A425 Thorpe Bridge
SORTER	2.4	SAMPLE CODE	Not known

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in VIAL by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>
<b>B</b>	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between:                      i) BMWP families listed on sample data sheet and                      ii) BMWP families found in SAMPLE by IFE</p>	<p style="text-align: center;">BMWP FAMILIES NOT FOUND BY IFE</p> <p style="text-align: center;">(This box only completed when no vial supplied with sample)</p>	<p style="text-align: center;">ADDITIONAL FAMILIES FOUND BY IFE</p> <p style="text-align: center; font-size: 1.2em;">None</p>

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Piddle Brook

DATE 21.10.91

SITE Seaford

SORTER 2.3

SAMPLE CODE NRA04 3516

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	1 Unionidae

NET LOSSES 0

NET GAINS 1

NOTES

1 Anodonta sp. (juvenile) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Bushley Brook

DATE 9.10.91

SITE Queenhill

SORTER 2.3

SAMPLE CODE NRA04 2324

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Oligochaeta 2 Polycentropodidae 3 Limnephilidae

NET LOSSES 0

NET GAINS 3

**NOTES**

- 1 Tubificidae indet
- 2 Cynurus trimaculatus 1 only
- 3 Limnephilus sp. (L.rhombicus group)

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Stour
DATE	23.9.91	SITE	Tidmington
SORTER	2.4	SAMPLE CODE	NRA04 3640

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES        NET GAINS   

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Ryton

DATE 9.10.91

SITE Scrooby

SORTER 4.1

SAMPLE CODE NRA04 5705

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	1 Neritidae 2 Valvatidae 3 Ancyliidae 4 Elmidae 5 Hydroptilidae

NET LOSSES 0

NET GAINS 5

**NOTES**

- 1 Theodoxus fluviatilis 1 only
- 2 Valvata piscinalis
- 3 Ancylyus fluviatilis
- 4 Elms aenea (larva) 1 only
- 5 Hydroptila sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Bradgate Brook

DATE 7.10.91

SITE Newtown Linford

SORTER 4.3

SAMPLE CODE NRA04 4142

AQC OF BMWP FAMILIES    A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	None

NET LOSSES 0

NET GAINS 0

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent.		RIVER	Ecclesbourne
DATE	21.10.91		SITE	Cowers Lane
SORTER	4.1		SAMPLE CODE	NRA04 5019

AQC OF BMWP FAMILIES    A. IN VIAL        B. IN SAMPLE   

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Oligochacta	None

		LOSSES	GAINS
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Rhyacophilidae

NET LOSSES        NET GAINS   

NOTES

2 Glossosoma sp. 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Gaddesby (Owston) Brook

DATE 3.11.91

SITE U/s Marefield (Gaddesby) Brook

SORTER 4.2

SAMPLE CODE NRA04 4324

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	None

NET LOSSES 0

NET GAINS 0

NOTES

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Sence (Soar)

DATE 21.10.91

SITE U/s Little Stretton

SORTER 4.2

SAMPLE CODE NRA04 4201

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Asellidae 2 Hydrophilidae 3 Scirtidae

NET LOSSES 0

NET GAINS 3

NOTES

1 Asellus aquaticus 1 only  
2 Hydraena sp. (adult) 1 only  
3 Elodes sp. (larva) 1 only

# 1991 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Markfield Brook

DATE 23.10.91

SITE U/s Rothley Brook

SORTER 4.3

SAMPLE CODE NRA04 4404

AQC OF BMWP FAMILIES    A. IN VIAL    +

B. IN SAMPLE    +

		LOSSES	GAINS
<b>A</b>	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

<b>B</b>	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES 0

NET GAINS 0

NOTES