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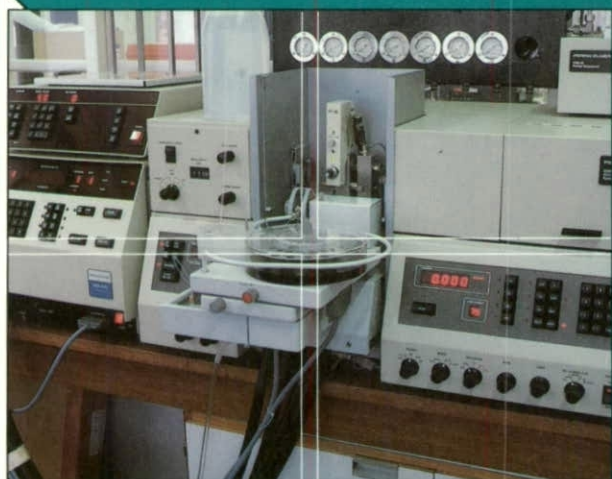
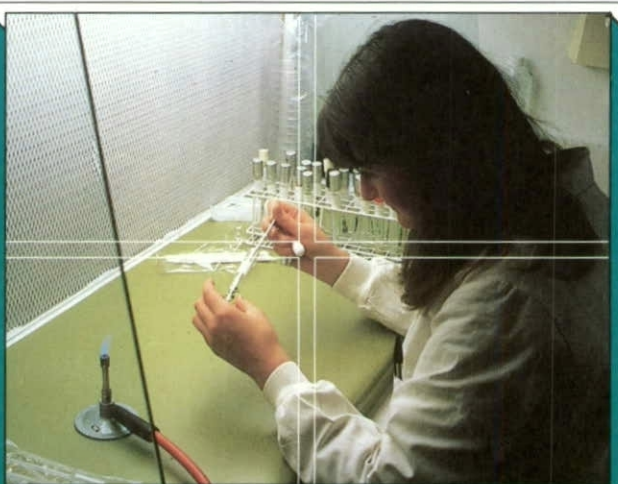
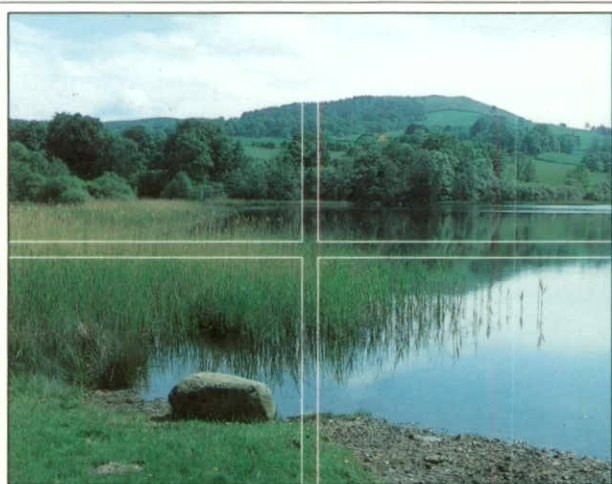
# **Quality audit of biological samples for the 1990 River Quality Survey NRA Severn-Trent Region**

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**Quality Audit of Biological Samples  
for the 1990 River Quality Survey  
NRA Severn-Trent Region**

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## 1. INTRODUCTION

The 1990 River Quality Survey included the sampling of aquatic macro-invertebrates for biological assessment of river quality throughout the United Kingdom. In England and Wales the survey 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.

Approximately 7750 sites were surveyed, the majority of which were sampled in spring, summer and autumn. Standard collection procedures were used and the sampling strategy was compatible with RIVPACS (River InVertebrate Prediction And Classification System), which has been developed by the Institute of Freshwater Ecology (IFE). Most of the remaining sites were sampled in a single season only, in order to extend the scope of the survey. For a variety of reasons, a few locations were sampled in just two seasons.

Samples were sorted 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 order to undertake this massive programme of fieldwork and sample processing, a large number of new staff were employed by the surveying agencies. 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.

The IFE was contracted to undertake an audit of the sample sorting and identification performance of each NRA region, RPB and the DED. This report collates the results of 56 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

Nearly all samples from the 1990 River Quality Survey were sent to IFE for storage. They were catalogued on arrival and placed in crates, such that individual samples were readily accessible. A stratified random selection of samples for each sample processor was then made. Selection was undertaken by IFE staff and no selection was made before each sample had been received by IFE. Thus, sample processors had no means of knowing which of their samples would be audited.

The total number of sample processors employed nationally during the survey was considerably higher than that anticipated at the outset. As a consequence, the number of samples audited per processor was limited by the need to keep within the contracted overall total of 700 samples. A minimum of 4 samples was audited per processor, except where individuals processed very few samples or did not process material from each of the 3 seasons.

Sample selection was weighted towards spring samples in order to give early feedback on the blindspots of particular sorters and problems of identification.

### 3. SAMPLE PROCESSING

Biologists processing samples for the 1990 Survey were instructed to sort their samples, ideally within the laboratory, and 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 selection 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 NRA data sheet. These samples were avoided for audit, where possible. When selection of such samples was unavoidable (eg where a particular sorter would otherwise have been excluded from the audit exercise), 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 tail 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 which did not contain a vial of animals, 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 Table 5.

#### ACKNOWLEDGEMENTS

Thanks to Mrs Jessica Winder and Mrs Kay Symes for assistance with cataloguing and storage of samples and Mrs Valerie Palmer for typing the manuscript.

TABLE 1. The IFE Report form

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<input type="text"/>	RIVER	<input type="text"/>
SEASON	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	SAMPLE CODE	<input type="text"/>
AQC OF BMWP FAMILIES    A. IN VIAL <input type="checkbox"/> B. IN SAMPLE <input type="checkbox"/>			

		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		
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 25 spring samples audited for Severn-Trent Region, with sample sorter codes and numbers of losses, gains and omissions.

River	Site	Sorter	Losses	Gains	Omissions
* Pool Brook	Hanley Swan	2.1	2	6	0
Coal Brook	Broomhall	1.1	1	4	0
Soulton Brook	Soulton	1.1	0	7	0
Much Wenlock Brook	Confl. R. Severn	1.2	0	6	0
Camlad	Gaer Bridge	1.2	0	7	0
* Henmore Brook	Clifton	3.2	0	3	0
Burton Brook	U/s Gt Glen WRW	4.2	0	2	0
Meden	Budby	4.1	0	3	0
Tanat	Llanblodwell	1.2	0	5	0
Wye	Millers Dale	4.1	0	2	0
* Rains Brook	Kilsby	2.2	0	5	0
Gilwiskaw Brook	U/s Ashby	3.1	1	4	0
Fenny Drayton Brook	A5 Bridge	3.3	0	1	0
Swarbourn	Yoxall	3.1	0	6	0
Walton Brook	Burton Bandalls	4.2	0	1	0
Change Brook	Nuneaton	3.3	1	0	0
Teme	Powick	1.3	1	3	0
* Swift	Bransford Bridge	2.3	0	2	0
Lyme Brook	Confl. R. Trent	3.2	0	3	0
* Cinderford Brook	Lower Soudley	2.1	3	5	0
Hampton Loade Brook	Confluence	1.2	0	5	0
* Avon	Welford - G.U.C.	2.3	1	1	0
* Elmley Castle Brook	Crophorne	2.2	0	8	0
Salwarpe	D/s Hen Brook	1.2	0	0	0
Hadley Brook	A4133 Bridge	1.3	0	4	0

\* indicates no vial of animals present in sample.

TABLE 3. The 13 summer samples audited for Severn-Trent Region, with sample sorter codes and numbers of losses, gains and omissions.

River	Site	Sorter	Losses	Gains	Omissions
Kemp	Brockton	1.1	0	1	0
Rea Brook	Malehurst	1.3	0	5	1
Stoke Brook	Stoke on Tern	1.4	0	0	0
Tach Brook	A452 Bridge	2.2	0	6	0
Marton Drain	U/s Torksey WRW	4.1	1	2	0
Milton Brook	Milton	4.2	0	7	0
Hoton Brook	U/s R. Soar	4.3	0	1	0
Tern	Allscott	1.1	1	1	0
Loggerheads Brook	D/s village WRW	1.4	1	7	0
Hathern Brook	U/s R. Soar	4.3	0	2	0
Sherbourne Brook	Sherbourne	2.2	0	6	0
Snibstone Brook	U/s R. Sence	3.1	0	1	1
Rolleston Brook	D/s Rolleston STW	3.3	0	3	2

TABLE 4. The 18 autumn samples audited for Severn-Trent Region, with sample sorter codes and numbers of losses, gains and omissions.

River	Site	Sorter	Losses	Gains	Omissions
Stour	Stourport	1.4	0	2	0
Cinderford Brook	D/s Crumpmeadow WRW	2.3	0	5	0
Chelt	D/s Old Bath Road	2.3	0	7	0
Brad'ne/Bentley Brook	Fenny Bentley	3.1	0	8	1
Willow Brook	Humberstone	4.2	0	0	0
Eggington Brook	Eggington	4.3	0	3	1
Onny	Winstanow	1.3	1	4	0
Preston Bagot Brook	Pettiford Bridge	2.3	1	9	0
Teau	Brookhouses	3.3	0	5	0
Seymour Drain	Cottam	4.1	0	4	0
Sow Brook	Confl. R. Avon	2.3	1	3	0
Arrow	Alcester	2.3	0	6	0
Ford Brook	Bescot	3.4	1	3	0
Plants Brook	Pype Hayes	3.4	1	4	0
Leigh Brook	Leigh	1.1	1	4	0
Sowe	Stoneleigh	2.4	0	3	0
Blythe	Patrick Bridge	3.4	0	5	0
Bevercotes Beck	Walesby	4.3	0	0	0

**TABLE 5**  
**Results of individual sample audits**

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Pool BrookSEASON SpringSITE B4209 Hanley SwanSORTER 2.1SAMPLE CODE NRA042322AQC 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	N/a	N/a

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 Leptophlebiidae 2 Rhyacophilidae	1 Planariidae 2 Valvatidae 3 Sphaeriidae 4 Asellidae 5 Psychomyiidae 6 Limnephilidae

NET LOSSES 2NET GAINS 6

NOTES

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Coal Brook**SEASON **Spring**SITE **Broomhall**SORTER **1.1**SAMPLE CODE **NRA041312**

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 Planariidae	2 Hydrophilidae

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 Dytiscidae 5 Tipulidae

NET LOSSES

1

NET GAINS

4

## NOTES

- 2 Hydraena gracilis
- 3 Ephemerella ignita
- 4 Small larva (Agabus sp.?)
- 5 Limnophila (Eloeophila) sp.

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Soulton BrookSEASON SpringSITE B5065 Br SoultonSORTER 1.1SAMPLE CODE NRA041406AQC 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 2 Ancyliidae 3 Glossiphoniidae 4 Erpobdellidae 5 Asellidae 6 Gammaridae 7 Limnephilidae

NET LOSSES NET GAINS 

## NOTES

- 1 Polycelis nigra/tenuis
- 2 Ancyclus fluviatilis
- 3 Glossiphonia complanata
- 4 Erpobdella octoculata
- 7 Limnephilus extricatus

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Much Wenlock Brook

SEASON Spring

SITE Confluence w Severn

SORTER 1.2

SAMPLE CODE NRA041908

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
	None	None
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	1 Hydrobiidae 2 Sphaeriidae 3 Heptageniidae 4 Perlodidae 5 Hydrophilidae 6 Simuliidae
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES 0

NET GAINS 6

### NOTES

- 1 Potamopyrgus jenkinsi
- 2 Pisidium sp.
- 3 Ecdyonurus sp.
- 4 Isoperla grammatica
- 5 Helophorus brevipalpis, Hydraena gracilis

Cat B Culicidae recorded. None found in vial or sample.

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Camlad

SEASON Spring

SITE Gaer Bridge

SORTER 1.2

SAMPLE CODE NRA041042

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

LOSSES		GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	ADDITIONAL FAMILIES FOUND BY IFE
		None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	1 Hydrobiidae 2 Ancylidae 3 Glossiphoniidae 4 Ephemerellidae 5 Ephemeridae 6 Aphelocheiridae 7 Rhyacophilidae

NET LOSSES 0

NET GAINS 7

NOTES

1 Potamopyrgus jenkinsi  
2 Ancylus fluviatilis  
3 Helobdella stagnalis  
6 Nymph  
7 Agapetus sp.

Cat B Culicidae recorded. None found in vial or sample.

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Henmore BrookSEASON SpringSITE CliftonSORTER 3.2SAMPLE CODE NRA047826AQC 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	N/a	N/a

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)	Physidae Planorbidae Simuliidae

NET LOSSES NET GAINS 

NOTES

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Burton BrookSEASON SpringSITE U/s Great Glen WRWSORTER 4.2SAMPLE CODE NRA044207AQC 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 Caenidae 2 Tipulidae

NET LOSSES NET GAINS 

NOTES

1 *Caenis luctuosa/macrura*  
2 *Limnophila (Eloeophila) sp.*

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**

RIVER **Meden**

SEASON **Spring**

SITE **Budby**

SORTER **4.1**

SAMPLE CODE **NRA045505**

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 Ancyliidae 2 Erpobdellidae 3 Elmidae

NET LOSSES **0**

NET GAINS **3**

### NOTES

1 Ancylyus fluviatilis  
3 Elms aenea (larva)

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER TanatSEASON SpringSITE Llanblodwell (confluence)SORTER 1.2SAMPLE CODE NRA041118AQC 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 Gammaridae 2 Gyrinidae 3 Hydrophilidae 4 Sericostomatidae 5 Tipulidae

NET LOSSES 0NET GAINS 5

## NOTES

- 1 Gammarus pulex
- 2 Orectochilus villosus (larva)
- 3 Hydraena gracilis (a), Helophorus brevipalpis (a)
- 4 Sericostoma personatum
- 5 Dicranota sp., Antocha vitripennis

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER WyeSEASON SpringSITE Millers DaleSORTER 4.1SAMPLE CODE NRA045103

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 Nemouridae 2 Elmidae

NET LOSSES

0

NET GAINS

2

## NOTES

1 Nemoura cambrica/erratica  
2 Elmis aenea (larva)

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Rains BrookSEASON SpringSITE KilsbySORTER Unknown (Samp. 2.2)SAMPLE CODE NRA04 3910

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	Not applicable	Not applicable

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	1 Planariidae 2 Lymnaeidae 3 Sphaeriidae 4 Baetidae 5 Chironomidae

NET LOSSES NET GAINS 

## NOTES

- 1 Polycelis nigra/tenuis  
2 Lymnaca peregra  
4 Baetis rhodani

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Gilwiskaw Brook

SEASON Spring

SITE U/s Ashby

SORTER 3.1

SAMPLE CODE NRA04 8011

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 Mesoveliidae	2 Erpobdellidae

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 Planariidae 4 Glossiphoniidae 5 Psychomyiidae

NET LOSSES 1

NET GAINS 4

NOTES

1 Vellia sp. in vial  
5 Lype sp.

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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
		None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

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

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Swarbourn

SEASON Spring

SITE Yoxall

SORTER 3.1

SAMPLE CODE NRA04 7342

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 Planorbidae 2 Ephemerellidae 3 Ephemeridae 4 Psychomyidae 5 Coeridae 6 Simuliidae

NET LOSSES 0

NET GAINS 6

NOTES

- 1 Bathyomphalus contortus
- 2 Ephemerella ignita
- 3 Ephemera danica
- 4 Tinodes waeneri
- 5 Coera pilosa
- 6 Indet. (larvae + pupae)

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Walton Brook

SEASON Spring

SITE Burton Bandalls

SORTER 4.2

SAMPLE CODE NRA04 4143

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 Lymnaeidae

NET LOSSES 0

NET GAINS 1

NOTES 1 Lymnaea peregra

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

LOSSES		GAINS
A	<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 Mesoveliidae  ADDITIONAL FAMILIES FOUND BY IFE  None

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

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON SITE SORTER SAMPLE CODE 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 Hydrophilidae	2 Brachycentridae

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 Glossiphoniidae 4 Hydroptilidae

NET LOSSES NET GAINS 

## NOTES

3 Helobdella stagnalis  
4 Agraylea sp. 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<div>Severn-Trent</div>	RIVER	<div>Swift</div>
SEASON	<div>Spring</div>	SITE	<div>Bransford Bridge</div>
SORTER	<div>Unknown (Samp. 2.3)</div>	SAMPLE CODE	<div>NRA04 3917</div>

AQC OF BMWP FAMILIES    A. IN VIAL    

X

    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	Not applicable	Not applicable

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 Hydrobiidae 2 Elmidae

NET LOSSES    

0

    NET GAINS    

2

NOTES

1 Potamopyrgus jenkinsi  
 2 Elms aenea (adult) 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Lyme Brook

SEASON Spring

SITE Confl. R.Trent

SORTER 3.2

SAMPLE CODE NRA04 7247

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 Hydrobiidae 2 Lymnaeidae 3 Dytiscidae

NET LOSSES 0

NET GAINS 3

NOTES

1 Potamopyrgus jenkinsi  
2 Juvenile Lymnaea peregra?  
3 Indet larva, 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Cinderford Brook**SEASON **Spring**SITE **Lower Soudley**SORTER **Unknown (Sa. 2.1)**SAMPLE CODE **NRA04 2106**

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	Not applicable	Not applicable

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 Philopotamidae 2 Odontoceridae 3 Leptoceridae	4 Planariidae 5 Hydrobiidae 6 Glossiphoniidae 7 Limnephilidae 8 Sericostomatidae

NET LOSSES

**3**

NET GAINS

**5**

## NOTES

- 4 Polycelis felina
- 5 Potamopyrgus jenkinsi
- 6 Helobdella stagnalis 1 only
- 7 Indet. juvenile 1 only
- 8 Sericostoma personatum 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Hampton Loade BrookSEASON SpringSITE ConfluenceSORTER 1.2SAMPLE CODE NRA04 1914AQC 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 Asellidae 2 Dytiscidae 3 Hydrophilidae 4 Psychomyiidae 5 Leptoceridae

NET LOSSES 0NET GAINS 5

## NOTES

- 1 Asellus aquaticus
- 2 Indet larva 1 only
- 3 Hydraena gracilis 1 only
- 4 Lype sp. 1 only
- 5 Athripsodes sp. 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Avon**SEASON **Spring**SITE **Welford-G.U.C.**SORTER **Unknown (Sa. 2.3)**SAMPLE CODE **NRA04 3999**

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	Not applicable	Not applicable

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 Simuliidae	2 Valvatidae

NET LOSSES

**1**

NET GAINS

**1**

NOTES

**2 Valvata sp. 1 only**

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Elmley Castle Brook**SEASON **Spring**SITE **Crophorne Village**SORTER **Unknown (Sa. 2.2)**SAMPLE CODE **NRA04 3517**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	Not applicable	Not applicable

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	1 Hydrobiidae 2 Planorbidae 3 Sphaeriidae 4 Erpobdellidae 5 Nematouridae 6 Hydrophilidae 7 Elmidae 8 Linnephilidae

NET LOSSES **0**NET GAINS **8**

NOTES

4 1 only  
5 Helophorus sp. 1 adult

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER SalwarpeSEASON SpringSITE D/s Hen BrookSORTER 1.2SAMPLE CODE NRA04 1702AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE 

## LOSSES

## GAINS

A	<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	ADDITIONAL FAMILIES FOUND BY IFE
		None	None

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	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	None

NET LOSSES NET GAINS 

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**

RIVER **Hadley Brook**

SEASON **Spring**

SITE **A4133**

SORTER **1.3**

SAMPLE CODE **NRA04 1718**

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	1 Baetidae

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 Physidae 3 Leptophlebiidae 4 Haliplidae

NET LOSSES **0**

NET GAINS **4**

### NOTES

- 1 Baetis vernus
- 2 Physa fontinalis 1 only
- 3 Habrophlebia fusca 1 only
- 4 Brychius elevatus (adult) 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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 Sphaeriidae

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Rea Brook

SEASON Summer

SITE Malehurst

SORTER 1.3

SAMPLE CODE NRA04 1054

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 Tipulidae*  2 Haliplidae

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 Nemouridae 4 Leuctridae 5 Leptoceridae 6 Brachycentridae 7 Tipulidae*

NET LOSSES 0

NET GAINS 5

### NOTES

- 2 Brychius elevatus
- 3 Amphinemura sulcicollis 1 only
- 4 Leuctra fusca
- 5 Athripsodes bilineatus 1 only
- 6 Brachycentrus subnubilus 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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)	None

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Tach Brook

SEASON Summer

SITE A452 Road Bridge

SORTER 2.2

SAMPLE CODE NRA04 3721

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
	None	1 Oligochaeta
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	2 Ancyliidae 3 Baetidae 4 Leptophlebiidae 5 Elmidae 6 Sialidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES 0

NET GAINS 6

### NOTES

- 1 Abundance category D in sample
- 2 Ancylos fluviatilis
- 3 Baetis rhodani 1 only
- 4 Habrophlebia fusca
- 5 Elmis aenea, Limnius volckmari, Oulimnius sp.
- 6 Sialis lutaria 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Marton Drain

SEASON Summer

SITE U/s Torksey WRW

SORTER 4.1

SAMPLE CODE NRA04 5928

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 Libellulidae	2 Aeshnidae

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 Lestidae

NET LOSSES 1

NET GAINS 2

NOTES

3 Lestes sp. 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Milton Brook

SEASON Summer

SITE Meadow Lane, Milton

SORTER 4.2

SAMPLE CODE NRA04 4021

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

LOSSES		GAINS
A	VIAL	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	None	1 Lymnaeidae 2 Elmidae
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	SAMPLE	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	3 Sphaeriidae 4 Erpobdellidae 5 Caenidae 6 Rhyacophilidae 7 Leptoceridae
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES 0

NET GAINS 7

### NOTES

- 1 Lymnaea peregra
- 3 Pisidium sp.
- 4 Erpobdella octoculata
- 5 Caenis rivulorum 1 only
- 6 Agapetus/Glossosoma (pupa) 1 only
- 7 Athripsodes albifrons

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Hoton Brook

SEASON Summer

SITE U/s R Soar

SORTER 4.3

SAMPLE CODE NRA04 4144

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 1

NOTES 1 Elmis aenea (larva) 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Tern**SEASON **Summer**SITE **Allscott**SORTER **1.1**SAMPLE CODE **NRA04 1306**

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 Calopterygidae	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)	2 Notonectidae

NET LOSSES

1

NET GAINS

1

NOTES

2 Indet nymphs

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-Trent

RIVER Loggerheads Brook

SEASON Summer

SITE D/s village WRW

SORTER 1.4

SAMPLE CODE NRA04 1310

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 Mesoveliidae  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)  2 Ancyliidae 3 Ephemerellidae 4 Hydrophilidae 5 Elmidae 6 Brachycentridae 7 Tipulidae 8 Simuliidae

NET LOSSES

1

NET GAINS

7

### NOTES

- 1 Cast skin of Velia nymph in vial
- 2 Ancylyus fluviatilis 1 only
- 3 Ephemerella ignita 1 only
- 4 Helophorus brevipalpis 1 only
- 5 Limnius volckmari (adult), Esolus parallelepipedus (larva)
- 6 Brachycentrus subnubilus
- 7 Ptilaria nemoralis group 1 only
- 8 Simulium ornatum group

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON SITE SORTER SAMPLE CODE AQC OF BMWP FAMILIES A. IN VIAL  B. IN SAMPLE 

## LOSSES

## GAINS

A	<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	ADDITIONAL FAMILIES FOUND BY IFE
		None	None

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	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	1 Physidae 2 Dytiscidae

NET LOSSES NET GAINS 

## NOTES

1 Physa fontinalis  
2 Laccophilus sp. (larva) 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON SITE SORTER SAMPLE CODE 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	1 Gerridae

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 Leptophlebiidae 3 Caenidae 4 Haliplidae 5 Elmidae 6 Leptoceridae

NET LOSSES NET GAINS 

## NOTES

- 1 Indet Gerrid nymphs
- 2 Habrophlebia fusca
- 3 Caenis luctuosa/macrura
- 4 Halipus fluviatilis, H. wehnckei (adults + larvae)
- 5 Elmis, Limnius, Oulimnius (adults + larvae)
- 6 Athripsodes sp. (pupa) 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Severn-TrentRIVER Snibstone BrookSEASON SummerSITE U/s River SenceSORTER 3.1SAMPLE CODE NRA04 8121

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 Hydrophilidae*	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)	2 Lymnaeidae 3 Hydrophilidae*

NET LOSSES

0

NET GAINS

1

NOTES

2 Lymnaea peregra  
3 Helophorus brevipalpis

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON SITE SORTER SAMPLE CODE 

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 Sphaeriidae* 2 Hydrophilidae*	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 Sphaeriidae* 4 Haliplidae 5 Hydrophilidae* 6 Hydroptilidae 7 Leptoceridae

NET LOSSES

NET GAINS

## NOTES

2,5 Terrestrial larva in vial, Helophorus brevipalpis in sample  
 4 Halipus sp. (adults)  
 6 Hydroptila sp. 1 only  
 7 Athripsodes sp. (pupae)

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Stour**SEASON **Autumn**SITE **Stourport**SORTER **1.4**SAMPLE CODE **NRA04 1608**

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 Ancylidae 2 Baetidae

NET LOSSES

0

NET GAINS

2

NOTES

1 Ancylus fluviatilis  
2 Baetis vernus 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Cinderford Brook**SEASON **Autumn**SITE **D/s Crumpmeadow WRW**SORTER **A2.4 B2.3**SAMPLE CODE **NRA04 2109**

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	1 Simuliidae

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 Sphaeriidae 3 Dytiscidae 4 Rhyacophilidae 5 Tipulidae

NET LOSSES

0

NET GAINS

5

## NOTES

2 Pisidium sp.  
3 Agabus sp., Ilybius sp. (larvae)  
4 Rhyacophila sp. 1 only  
5 Tipula sp. 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Chelt**SEASON **Autumn**SITE **D/s Old Bath Road**SORTER **2.3**SAMPLE CODE **NRA04 3402**

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 Physidae 2 Planorbidae 3 Ancyliidae 4 Sphaeriidae 5 Glossiphoniidae 6 Elmidae 7 Hydroptilidae

NET LOSSES

0

NET GAINS

7

## NOTES

- 1 Physa fontinalis (cat B)
- 2 Gyraulus albus 1 only
- 3 Ancyclus fluviatilis (cat B)
- 4 Pisidium sp.
- 5 Glossiphonia complanata, Helobdella stagnalis
- 6 Elmis acnea (larvae)
- 7 Hydroptila sp. 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Bradbourne/Bentley Brook**SEASON **Autumn**SITE **Fenny Bentley**SORTER **3.1**SAMPLE CODE **NRA04 7831**

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 Sericostomatidae*	2 Limnephilidae

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 Heptageniidae 5 Nemouridae 6 Hydroptilidae 7 Goeridae 8 Lepidostomatidae 9 Sericostomatidae* 10 Simuliidae

NET LOSSES

0

NET GAINS

8

## NOTES

- 2 *Drusus annulatus*
- 3 *Anisus vortex* 1 only
- 4 *Ecdyonurus* sp. 1 only
- 5 *Nemoura avicularis*, *Protonemura* sp.
- 6 *Hydroptila* sp. 1 only
- 7 *Silo pallipes* 1 only
- 8 *Lasiocephala basalis*, *Lepidostoma hirtum*
- 10 *Simulium angustitarse* group 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Willow Brook**SEASON **Autumn**SITE **Humberstone**SORTER **4.2**SAMPLE CODE **NRA04 4129**

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)	None

NET LOSSES

0

NET GAINS

0

NOTES

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Eggington Brook**SEASON **Autumn**SITE **Eggington**SORTER **4.3**SAMPLE CODE **NRA04 4016**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 Lepidostomatidae

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 Piscicolidae 4 Ephemeridae 5 Leptoceridae*

NET LOSSES **0**NET GAINS **3**

## NOTES

2 *Lepidostoma hirtum*  
 3 *Piscicola geometra* 1 only  
 4 *Ephemera danica* 1 only  
 5 *Athripsodes cinereus*, *A. aterrimus*

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**

RIVER **Onny**

SEASON **Autumn**

SITE **Winstanow**

SORTER **1.3**

SAMPLE CODE **NRA04 1842**

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 Haliplidae	2 Hydrophilidae

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 Hydroptilidae 5 Lepidostomatidae

NET LOSSES **1**

NET GAINS **4**

### NOTES

- 2 Hydraena gracilis
- 3 Pisidium sp.
- 4 Ithytrichia sp. 1 only
- 5 Lepidostoma hirtum

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Preston Bagot Brook**SEASON **Autumn**SITE **Pettiford Bridge**SORTER **A2.4 B2.3**SAMPLE CODE **NRA04 3706**

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 Sericostomatidae	2 Goeridae

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 Valvatidae 4 Sphaeriidae 5 Asellidae 6 Caenidae 7 Corixidae 8 Hydroptilidae 9 Tipulidae 10 Simuliidae

NET LOSSES

1

NET GAINS

9

## NOTES

2 Goera pilosa, Silo pallipes  
3 Valvata piscinalis  
4 Pisidium sp.  
5 Asellus aquaticus 1 only  
6 Caenis luctuosa group 1 only  
7 Micronecta sp. (nymph) 1 only  
8 Hydroptila sp.

9 Dicranota sp. 1 only  
10 Simulium ornatum group

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Tean**SEASON **Autumn**SITE **Brookhouses**SORTER **3.3**SAMPLE CODE **NRA04 7501**

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 Hydrobiidae 2 Erpobdellidae 3 Asellidae 4 Elmidae 5 Limnephilidae

NET LOSSES

0

NET GAINS

5

## NOTES

- 1 *Potamopyrgus jenkinsi* 1 only
- 2 Indet. *Erpobdellid* (juvenile) 1 only
- 3 *Asellus aquaticus*
- 4 *Elmis aenea* (adult) 1 only
- 5 Indet. *Limnephilid* (juvenile) 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Seymour Drain**SEASON **Autumn**SITE **Cottam**SORTER **4.1**SAMPLE CODE **NRA04 5921**

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 <i>Lymnaeidae</i> 2 <i>Planorbidae</i> 3 <i>Oligochaeta</i> 4 <i>Erpobdellidae</i>

NET LOSSES

0

NET GAINS

4

## NOTES

- 1 *Lymnaea peregra* 1 only  
 2 *Planorbis carinatus*  
 4 *Erpobdella octoculata* 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Sow Brook**SEASON **Autumn**SITE **Confl. R.Avon**SORTER **2.3**SAMPLE CODE **NRA04 3918**

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 Valvatidae	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)	2 Physidae 3 Baetidae 4 Chironomidae

NET LOSSES

1

NET GAINS

3

## NOTES

- 1 Zonitoides present in vial
- 2 Physa fontinalis 1 only
- 3 Baetis rhodani 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Arrow**SEASON **Autumn**SITE **Alcester**SORTER **2.3**SAMPLE CODE **NRA04 3714**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
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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 Planorbidae 2 Baetidae 3 Calopterygidae 4 Hydrophilidae 5 Elmidae 6 Leptoceridae

NET LOSSES **0**NET GAINS **6**

## NOTES

- 1 Gyraulus albus
- 2 Cloeon dipterum
- 3 Calopteryx splendens
- 4 Helophorus brevipalpis 1 only
- 5 Elmis aenea (larva) 1 only
- 6 Athripsodes aterrimus, Mystacides azurea

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Severn-Trent	RIVER	Ford Brook
SEASON	Autumn	SITE	Bescot
SORTER	3.4	SAMPLE CODE	NRA04 8765

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

LOSSES		GAINS
A	VIAL	
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	ADDITIONAL FAMILIES FOUND BY IFE
	1 Valvatidae	None
B	SAMPLE	
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	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	2 Lymnaeidae 3 Polycentropodidae 4 Simuliidae

NET LOSSES     NET GAINS

### NOTES

- 1 Zonitoides found in vial
- 2 Lymnaea peregra
- 3 Plectrocnemia conspersa 1 only
- 4 Simulium ornatum group

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Plants Brook**SEASON **Autumn**SITE **Pype Hayes**SORTER **3.4**SAMPLE CODE **NRA04 8818**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 Dytiscidae	2 Leptoceridae

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 Valvatidae 4 Ephemerellidae 5 Sialidae

NET LOSSES **1**NET GAINS **4**

## NOTES

2 *Mystacides azurea*, *M. nigra/longicornis*, *Athripsodes cinereus*,  
*Oecetis ochracea*  
 3 *Valvata piscinalis* 1 only  
 4 *Ephemerella ignita* 1 only  
 5 *Sialis lutaria* 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Leigh Brook**SEASON **Autumn**SITE **Leigh**SORTER **A1.4 B1.1**SAMPLE CODE **NRA04 1818**

AQC OF BMWP FAMILIES

A. IN VIAL

+

B. IN SAMPLE

+

## LOSSES

## GAINS

A	<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	ADDITIONAL FAMILIES FOUND BY IFE
		1 Leptoceridae	2 Elmidae

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	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	3 Valvatidae 4 Planorbidae 5 Chironomidae

NET LOSSES

1

NET GAINS

4

## NOTES

- 2 *Elmis aenea*, *Limnius volckmari* (larvae)  
*Oulimnius* sp. (adults + larvae)  
 3 *Valvata piscinalis* 1 only  
 4 *Armiger crista* 1 only  
 5 Indet. *Orthocladinae* 1 only

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Sowe**SEASON **Autumn**SITE **Stoneleigh**SORTER **2.4**SAMPLE CODE **NRA04 3813**

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 Planorbidae 2 Ancylidae 3 Glossiphoniidae

NET LOSSES

0

NET GAINS

3

## NOTES

- 1 *Bathymphalus contortus* 1 only  
 2 *Acroloxus lacustris*  
 3 *Glossiphonia heteroclita*

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**

RIVER **Blythe River**

SEASON **Autumn**

SITE **Patrick Bridge**

SORTER **3.4**

SAMPLE CODE **NRA04 8405**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	ADDITIONAL FAMILIES FOUND BY IFE
		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 Dendrocoelidae 2 Valvatidae 3 Baetidae 4 Haliplidae 5 Simuliidae

NET LOSSES **0**

NET GAINS **5**

### NOTES

- 1 Dendrocoelum lacteum 1 only
- 2 Valvata piscinalis
- 3 Baetis rhodani 1 only
- 4 Haliplus sp. (larva)

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Severn-Trent**RIVER **Bevercotes Beck**SEASON **Autumn**SITE **Walesby**SORTER **4.3**SAMPLE CODE **NRA04 5423**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	<b>None</b>	<b>None</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)	<b>None</b>

NET LOSSES **0**NET GAINS **0**

NOTES

