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An audit of performance in the processing of macro-invertebrate samples in 1994. NRA Southern Region

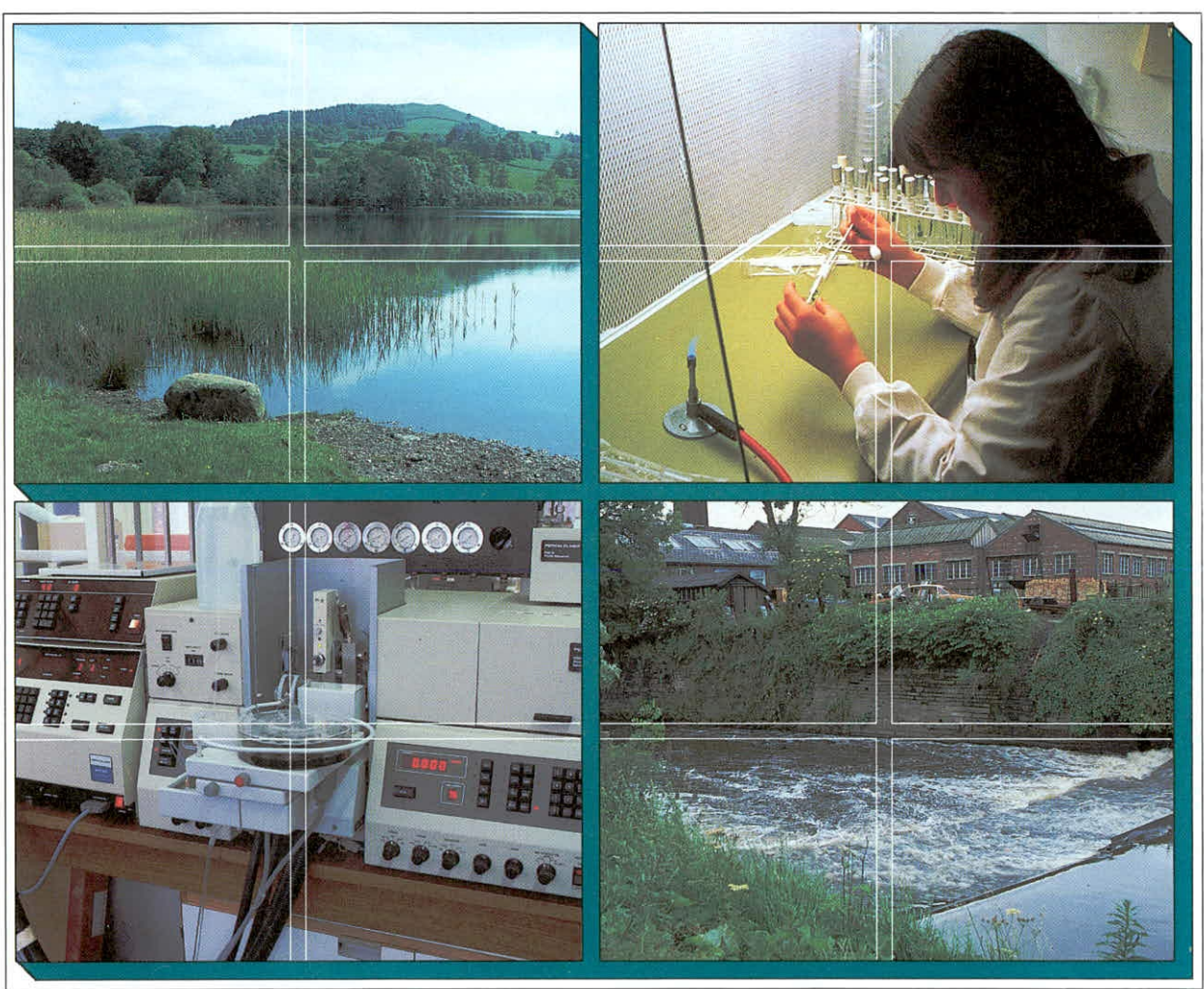
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Report To:
IFE Report Ref. No:

National Rivers Authority, Southern Region
RL/T04071h1/05





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**An audit of performance in the
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samples in 1994.
NRA Southern Region**

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Project Leader:
Report Date:
Report To:
IFE Report Ref. No:

R.J.M. Gunn
May 1995
National Rivers Authority, Southern Region
RL/T04071h1/05

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1. INTRODUCTION

In 1994 the sampling of aquatic macro-invertebrates for the biological assessment of river quality continued throughout the United Kingdom. This task was undertaken by the National Rivers Authority (NRA) in England and Wales, the River Purification Boards (RPBs) in Scotland and the Industrial Research & Technology Unit (IRTU) in Northern Ireland.

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, several RPBs and the IRTU. This report presents the results of 60 samples audited for NRA Southern Region. The IFE was not required to perform any statistical analyses nor interpretation of the results of the audit.

Each organisation employed standard collection procedures, as used in the 1990 River Quality Survey, 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).

Samples were sorted by NRA, RPB and IRTU 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.

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 IRTU 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. Chrysomelidae and Curculionidae, which appear in the BMWP list, were also to be excluded for the purposes of the audit. 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.

TABLE 1. The IFE Report form

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	<input type="text"/>	RIVER	<input type="text"/>
DATE	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	CODE	<input type="text"/>

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

TABLE 2. The 18 spring samples audited for Southern Region.

River	Site	Sorter	Losses	Gains	Omissions
Chess Stream	Park Farm	W18	1	0	0
Thorley Brook	Thorley Bridge	W15	0	0	0
Northbrook	Bosham Station	W18	0	1	0
Pagham Rife	d/s Pagham STW	W21	0	0	0
Black Ditch	Lyminster	W22	0	3	2
Black Sewer	Staplefields Bridge	W20	1	1	0
Cowfold Stream	A272 Bridge	W22	0	1	0
Pippingford Brook	Posingford Farm	E11	0	0	0
Great Stour	Horton	E16	0	1	0
Great Stour	Wye	E16	0	2	0
Crane Brook	Hammerhill Farm	E15	2	1	0
Cuckmere	Sherman Bridge	E15	1	0	0
Great Stour	Vauxhall	E16	0	2	0
Vines Cross Stream	Cralle Bridge	E15	1	2	0
Darent	Westerham	E4	1	1	0
Gibbs Brook	Brook Farm	E4	0	0	0
Eden Brook	Crowhurst Bridge	E1	0	0	0
Botany stream	Postern Line	E18	0	3	0

TABLE 3. The 21 summer samples audited for Southern Region

River	Site	Sorter	Losses	Gains	Omissions
Elstead Stream	Dumpford Farm	W14	0	2	0
Test	Whitchurch	W21	0	0	0
Bevern Stream	Bevern Bridge	E4	0	1	0
Bevern Stream	Streat Lane	E4	0	0	0
Bevern Stream	Clappers Bridge	E4	0	3	0
Wallop Brook	Bossington	W23	0	0	0
Test	Totton	W15	0	2	0
Dun	Holbury Mill	W19	0	0	0
Stone Farm Stream	u/s Stone Farm	W14	0	2	0
Red Lodge Stream	Ryedown Farm	W18	0	0	0
Petworth Brook	Haslingbourne Bridge	W1	1	1	0
Allington Lane Stream	Lake Farm	W15	0	1	0
Cadnam	Ower Bridge	W18	0	0	0
Sheepwash Tributary	Sheepwash Farm	W18	0	0	0
Penerly Water	Penerly Gate	W14	1	0	0
Plummers Water	Norleywood	W23	0	0	0
Dark Water	Gatewood Bridge	W14	0	2	0
Itchen	d/s Chickenhall STW	W9	0	0	1
Lod	Salmons Bridge	W23	0	0	0
Jacobs Gutter	Newmans Copse	W23	0	0	0
Itchen	Vernal Farm	W9	1	0	0

TABLE 4. The 21 autumn samples audited for Southern Region.

River	Site	Sorter	Losses	Gains	Omissions
Medway	u/s Allington Sluices	E18	0	3	0
Medway	East Farleigh	E17	0	1	0
Charing Stream	Leacon Farm	E2	1	0	0
Felbridge Water	Jacks Bridge	E17	0	1	0
Limden Tributary	Little Boarzell	E11	0	3	0
Eden	Delaware Farm	E3	0	4	0
Bourne	Barnes Street	E1	0	2	0
Botany Stream	Postern Lane	E18	0	3	0
Bartley Mill Stream	Great Shoemiths Farm	E6	1	3	0
Alver	Kingfisher Caravan Park	W18	1	3	0
Danes Stream	Milford	W1	0	0	0
Bough Beech Stream	Waterlake	E6	0	2	0
Gibbs Brook	Gibbs Cottage	E6	0	1	0
Medway	Whillets Bridge	E2	1	4	0
Loose Stream	Hayle Place	E11	0	1	0
Great Stour	Horton	E2	0	5	0
Medway	Ensfield Bridge	E17	0	0	0
Medway	Brambletye Bridge	E3	1	3	0
Tadburn Lake	Romsey Bypass	W19	0	0	1
Test	Overton	W19	0	0	0
Palmiers Brook	Brocks Copse	W15	0	1	0

APPENDIX

Results of individual sample audits

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Chess Stream
DATE	10.5.94	SITE	Park Farm
SORTER	W18	CODE	NRA05 3W0012

A	VIAL	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	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Thorley Brook
DATE	5.5.94	SITE	Thorley Bridge
SORTER	W15	CODE	NRA05 5W0272

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Northbrook
DATE	19.4.94	SITE	North of Bosham Station
SORTER	W18	CODE	NRA05 3W0067

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Hydrophilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Indet Hydrophilid (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Pagham Rife
DATE	19.4.94	SITE	d/s Pagham STW
SORTER	W21	CODE	NRA05 3W0068

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Black Ditch
DATE	19.4.94	SITE	Lyminster
SORTER	W22	CODE	NRA05 3W0061

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 Sialidae* 2 Simuliidae*	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 is only completed when no vial is supplied with the sample)	3 Dendrocoelidae 4 Valvatidae 5 Caenidae 6 Sialidae* 7 Simuliidae*

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- 3 Dendrocoelum lacteum 1 only
- 4 Valvata cristata
- 5 Caenis horaria 1 only
- 6 Sialis lutaria
- 7 Simulium aureum group 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Black Sewer
DATE	23.5.94	SITE	Staplefields Bridge
SORTER	W20	CODE	NRA05 3W0008

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 Sialidae	2 Simuliidae

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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Simulium venum group 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Cowfold Stream
DATE	23.5.94	SITE	A272 Bridge, Cowfold
SORTER	W22	CODE	NRA05 3W0015

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Hydrophilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 *Hydraena gracilis* (adult) 1 only

Atrichops crassipes (RDB3) present in sample

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Pippingford Brook
DATE	13.4.94	SITE	Posingford Farm
SORTER	E11	CODE	NRA05 1E0017

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Great Stour
DATE	16.3.94	SITE	Horton
SORTER	E16	CODE	NRA05 1E0093

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Valvatidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Valvata piscinalis 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Great Stour
DATE	16.3.94	SITE	Wye
SORTER	E16	CODE	NRA05 1E0091

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Valvatidae 2 Calopterygidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Valvata cristata 1 only
2 Calopteryx splendens 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Crane Brook
DATE	24.3.94	SITE	Hammerhill Farm
SORTER	E15	CODE	NRA05 1E0070

A	VIAL	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 2 Leuctridae	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	3 Lymnaeidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Empty shell of terrestrial snail in vial
3 Lymnaea sp. (juvenile) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Cuckmere
DATE	9.3.94	SITE	Sherman Bridge
SORTER	E15	CODE	NRA05 2E0218

A	VIAL	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 Dendrocoelidae	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Great Stour
DATE	17.3.94	SITE	Vauxhall
SORTER	E16	CODE	NRA05 1E0094

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
		None	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 is only completed when no vial is supplied with the sample)	1 Planorbidae 2 Hydroptilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Armiger crista 1 only 2 Hydroptila sp.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Vines Cross Stream
DATE	27.4.94	SITE	Cralle Bridge
SORTER	E15	CODE	NRA05 2E0223

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 Perlodidae	2 Hydrophilidae 3 Sericostomatidae

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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Hydraena gracilis (adult) 3 Sericostoma personatum

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Darent
DATE	30.3.94	SITE	Westerham
SORTER	E4	CODE	NRA05 1E0001

A	VIAL	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 Planorbidae	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	2 Lymnaeidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

<p>1 Zonitoides sp. in vial 2 Lymnaea peregra 1 only</p>
--

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Gibbs Brook
DATE	5.5.94	SITE	Brook Farm
SORTER	E4	CODE	NRA05 1E0031

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

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Eden Brook
DATE	5.5.94	SITE	Crowhurst Bridge
SORTER	E1	CODE	NRA05 1E0034

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Botany Stream
DATE	10.3.94	SITE	Postern Line
SORTER	E18	CODE	NRA05 1E0043

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
		None	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 is only completed when no vial is supplied with the sample)	1 Planariidae 2 Lymnaeidae 3 Psychomyiidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Dugesia tigrina 1 only 2 Lymnaea peregra 3 Lype sp. 1 only
--

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Elstead Stream
DATE	1.7.94	SITE	Dumpford Farm
SORTER	W14	CODE	NRA05 3W0038

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
		None	1 Hydrophilidae 2 Lepidostomatidae

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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Helophorus brevipalpis (adults) 2 Lepidostoma hirtum

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Test
DATE	6.6.94	SITE	Whitchurch
SORTER	W21	CODE	NRA05 4W0133

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bevern Stream
DATE	15.6.94	SITE	Bevern Bridge
SORTER	E4	CODE	NRA05 2E0233

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Rhyacophilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Rhyacophila dorsalis (pupa) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bevern Stream
DATE	15.6.94	SITE	Streat Lane
SORTER	E4	CODE	NRA05 2E0232

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bevern Stream
DATE	15.6.94	SITE	Clappers Bridge
SORTER	E4	CODE	NRA05 2E0234

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
		None	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 is only completed when no vial is supplied with the sample)	1 Physidae 2 Glossiphoniidae 3 Hydroptilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Physa sp. (juvenile) 1 only
 2 Glossiphonia complanata 1 only
 3 Hydroptila sp. (pupae)

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Wallop Brook
DATE	7.6.94	SITE	Bossington
SORTER	W23	CODE	NRA05 4W0141

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Test
DATE	8.6.94	SITE	Totton
SORTER	W15	CODE	NRA05 4W0140

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
		None	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 is only completed when no vial is supplied with the sample)	1 Leptophlebiidae 2 Brachycentridae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Habrophlebia fusca 1 only 2 Brachycentrus subnubilus 1 only
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Dun
DATE	7.6.94	SITE	Holbury Mill
SORTER	W19	CODE	NRA05 4W0152

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Stone Farm Stream
DATE	29.7.94	SITE	u/s Stone Farm
SORTER	W14	CODE	NRA05 4W0236

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Psychomyiidae 2 Tipulidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Lype sp.
2 Pedicia (Trichyphona) sp. 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Red Lodge Stream
DATE	28.6.94	SITE	Ryedown Farm
SORTER	W18	CODE	NRA05 4W0232

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Petworth Brook
DATE	27.6.94	SITE	Haslingbourne Bridge
SORTER	W1	CODE	NRA05 3W0031

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 Psychomyiidae	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 is only completed when no vial is supplied with the sample)	2 Gammaridae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Gammarus pulex 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Allington Lane Stream
DATE	9.6.94	SITE	Lake Farm
SORTER	W15	CODE	NRA05 4W0128

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
		None	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 is only completed when no vial is supplied with the sample)	1 Glossiphoniidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Indet Glossiphoniids (juveniles)

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Cadnam
DATE	28.6.94	SITE	Ower Bridge
SORTER	W18	CODE	NRA05 4W0159

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Sheepwash Tributary
DATE	15.7.94	SITE	Sheepwash Farm
SORTER	W18	CODE	NRA05 4W0107

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Penerly Water
DATE	29.7.94	SITE	Penerly Gate
SORTER	W14	CODE	NRA05 4W0164

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 Lepidostomatidae	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Not in vial, empty case found by IFE in sample

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Plummers Water
DATE	20.7.94	SITE	Norleywood
SORTER	W23	CODE	NRA05 4W0239

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Dark Water
DATE	29.7.94	SITE	Gatewood Bridge
SORTER	W14	CODE	NRA05 4W0173

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
		None	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 is only completed when no vial is supplied with the sample)	1 Leptoceridae 2 Lepidostomatidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 *Mystacides azurea* 1 only
 2 *Lepidostoma hirtum*

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Itchen
DATE	9.6.94	SITE	d/s Chickenhall STW
SORTER	W9	CODE	NRA05 4W0120

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 Caenidae*	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 is only completed when no vial is supplied with the sample)	2 Caenidae*

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Caenis luctuosa/macrura, C.rivulorum

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Lod
DATE	27.6.94	SITE	Salmons Bridge
SORTER	W23	CODE	NRA05 3W0033

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Jacobs Gutter
DATE	8.6.94	SITE	Newmans Copse
SORTER	W23	CODE	NRA05 4W0233

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Itchen
DATE	10.6.94	SITE	Vernal Farm
SORTER	W9	CODE	NRA05 4W0117

A	VIAL	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 Lymnaeidae	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Medway
DATE	23.11.94	SITE	u/s Allington Sluices
SORTER	E18	CODE	NRA05 1E0012

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Valvatidae 2 Unionidae 3 Psychomyiidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Valvata cristata 1 only 2 Anodonta complanata 1 only 3 Lype sp. 1 only
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Medway
DATE	23.11.94	SITE	East Farleigh
SORTER	E17	CODE	NRA05 1E0011

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Caenidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Caenis luctuosa/macrura 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Charing Stream
DATE	9.11.94	SITE	Leacon Farm
SORTER	E2	CODE	NRA05 1E0098

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 Planorbidae	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Empty shells in vial and sample

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Felbridge Water
DATE	28.11.94	SITE	Jacks Bridge
SORTER	E17	CODE	NRA05 1E0037

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Tipulidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Dicranota sp. 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Limden Tributary
DATE	16.12.94	SITE	Little Boarzell
SORTER	E11	CODE	NRA05 1E0155

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
		None	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 is only completed when no vial is supplied with the sample)	1 Planorbidae 2 Taeniopterygidae 3 Hydrophilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- | |
|--|
| 1 Gyraulus albus 1 only
2 Brachyptera risi 1 only
3 Hydraena gracilis (adult) 1 only |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Eden
DATE	28.11.94	SITE	Delaware Farm
SORTER	E3	CODE	NRA05 1E0028

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Hydrobiidae 2 Leptophlebiidae 3 Elmidae 4 Hydroptilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- | |
|--|
| <p>1 Potamopyrgus jenkinsi 1 only
 2 Habrophlebia fusca 1 only
 3 Elmis aenea, Oulimnius sp. (larvae)
 4 Hydroptila sp. 1 only</p> |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bourne
DATE	2.11.94	SITE	Barnes Street
SORTER	E1	CODE	NRA05 1E0047

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Hydrophilidae 2 Rhyacophilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Hydraena riparia (adults) 2 Agapetus sp. 1 only
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Botany Stream
DATE	2.11.94	SITE	Postern Lane
SORTER	E18	CODE	NRA05 1E0043

A	VIAL	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	SAMPLE	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 is only completed when no vial is supplied with the sample)	1 Valvatidae 2 Hydrobiidae 3 Lymnaeidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Valvata piscinalis
2 Bithynia leachii
3 Lymnaea peregra 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bartley Mill Stream
DATE	29.11.94	SITE	Great Shoemiths Farm
SORTER	E6	CODE	NRA05 1E0054

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 Scirtidae	2 Gyrinidae

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 is only completed when no vial is supplied with the sample)	3 Perlodidae 4 Odontoceridae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- | |
|---|
| 2 Orectochilus villosus (larva) 1 only
3 Isoperla grammatica 1 only
4 Odontocerum albicorne |
|---|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Alver
DATE	25.10.94	SITE	Kingfisher Caravan Park
SORTER	W18	CODE	NRA05 4W0108

A	VIAL	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	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	2 Notonectidae 3 Hydrophilidae 4 Sialidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Notonecta sp. (nymphs)
3 Helophorus brevipalpis (adult) 1 only
4 Sialis lutaria

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Danes Stream
DATE	8.11.94	SITE	Milford
SORTER	W1	CODE	NRA05 4W0178

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Bough Beech Stream
DATE	28.11.94	SITE	Waterlake
SORTER	E6	CODE	NRA05 1E0039

A	<p align="center">VIAL</p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE</p>	<p align="center">BMWP FAMILIES NOT FOUND BY IFE</p>	<p align="center">ADDITIONAL FAMILIES FOUND BY IFE</p>
		None	1 Psychomyiidae

B	<p align="center">SAMPLE</p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE</p>	<p align="center">BMWP FAMILIES NOT FOUND BY IFE</p>	<p align="center">ADDITIONAL FAMILIES FOUND BY IFE</p>
		(This box is only completed when no vial is supplied with the sample)	2 Sialidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Lype sp.
 2 Sialis lutaria 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Gibbs Brook
DATE	28.11.94	SITE	Gibbs Cottage
SORTER	E6	CODE	NRA05 1E0032

A	<p align="center">VIAL</p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE</p>	<p align="center">BMWP FAMILIES NOT FOUND BY IFE</p>	<p align="center">ADDITIONAL FAMILIES FOUND BY IFE</p>
		None	1 Tipulidae

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Limnophila (Eloeophila) sp. in vial, Dicranota sp. in sample

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Medway
DATE	14.12.94	SITE	Whillets Bridge
SORTER	E2	CODE	NRA05 1E0005

A	VIAL	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	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	2 Caenidae 3 Polycentropodidae 4 Psychomyiidae 5 Tipulidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Caenis luctuosa/macrura 3 Plectrocnemia sp. 1 only 4 Lype sp. 1 only 5 Limonia sp. 1 only
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Loose Stream
DATE	24.11.94	SITE	Hayle Place
SORTER	E11	CODE	NRA05 1E0083

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
		None	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 is only completed when no vial is supplied with the sample)	1 Limnephilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Indet Limnephilid (juvenile) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Great Stour
DATE	9.11.94	SITE	Horton
SORTER	E2	CODE	NRA05 1E0093

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
		None	1 Planariidae 2 Coenagriidae

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 is only completed when no vial is supplied with the sample)	3 Rhyacophilidae 4 Psychomyiidae 5 Simuliidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- | |
|--|
| 1 Dugesia lugubris/polychroa
2 Ischnura elegans
3 Rhyacophila dorsalis, Agapetus sp.
4 Tinodes waeneri 1 only
5 Simulium ornatum group 1 only

Note on data sheet that crayfish and Agriidae "returned". Astacidae not found by IFE but Calopteryx splendens found in vial and sample. |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Medway
DATE	16.11.94	SITE	Ensfield Bridge, Leigh
SORTER	E17	CODE	NRA05 1E0009

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Medway
DATE	9.9.94	SITE	Brambletye Bridge
SORTER	E3	CODE	NRA05 1E0006

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 Gerridae	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 is only completed when no vial is supplied with the sample)	2 Hydrophilidae 3 Lepidostomatidae 4 Sericostomatidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- | |
|--|
| 1 Nymph of terrestrial Hemipteran in vial
2 Hydraena riparia (adults)
3 Lepidostoma hirtum
4 Sericostoma personatum |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Tadburn Lake
DATE	12.10.94	SITE	Romsey Bypass
SORTER	W19	CODE	NRA05 4W0148

A	VIAL	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 Hydrobiidae*	None

B	SAMPLE	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 is only completed when no vial is supplied with the sample)	2 Hydrobiidae*

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Potamopyrgus jenkinsi

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Test
DATE	10.10.94	SITE	Bridge Street, Overton
SORTER	W19	CODE	NRA05 4W0132

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
		None	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 is only completed when no vial is supplied with the sample)	None

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

REGION	Southern	RIVER	Palmers Brook
DATE	14.10.94	SITE	Brocks Copse
SORTER	W15	CODE	NRA05 5W0280

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
		None	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 is only completed when no vial is supplied with the sample)	1 Limnephilidae

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Indet Limnephilid (juvenile) 1 only

