

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

R.J.M Gunn, BA J.F. Wright, PhD J.M. Winder, BSc J.H. Blackburn, BSc





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### INSTITUTE OF FRESHWATER ECOLOGY River Laboratory, East Stoke, Wareham, Dorset BH20 6BB

Tel: 0929 462314 Fax: 0929 462180

An audit of performance in the processing of macro-invertebrate samples in 1991. NRA Southern Region

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

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#### 1. INTRODUCTION

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

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

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

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

#### 2. SAMPLE SELECTION

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

The manner of sample selection, which biologists would be monitored and the number of audit samples from each season, were left to the discretion of the agency, within the limits of the total number of samples that IFE was contracted to audit.

### 3. SAMPLE PROCESSING

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

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

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

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

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

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

### 4. **REPORTING**

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

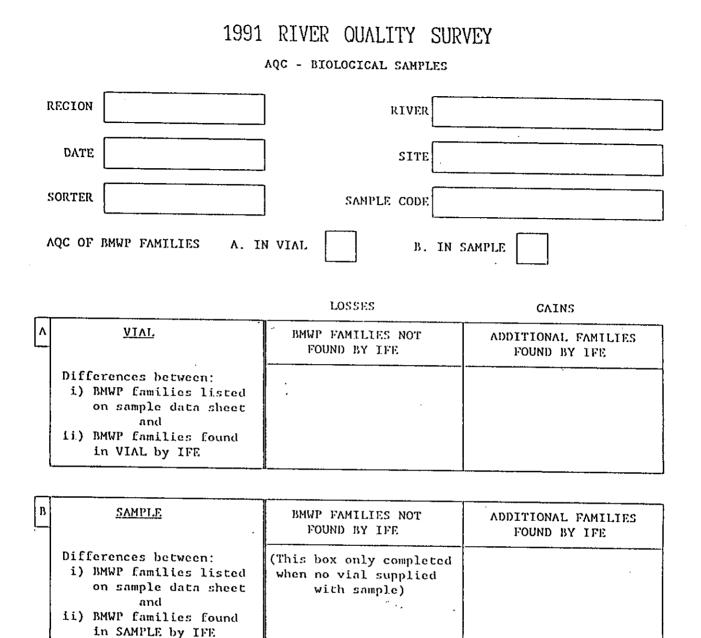
Species identifications, state of development (eg adult or larval coleopterans) and the presence of a single representative of a family within the remainder of the sample were recorded in the notes section of the report form. Where the NRA data sheet indicated that a family was noted and released at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

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

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

### ACKNOWLEDGEMENTS

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



	NET LOSSES	NET CAINS	
NOTES			
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TABLE 2.The 20 spring samples audited for Southern Region, with sample sorter codes and<br/>numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Sutton Stream	Road Bridge	W9	0	0	1
Woodsmill Stream	Stretham Railway	W7	0	2	0
Black Sewer	D/s Steyning STW	WII	0	0	0
Loxwood Stream	Sydney Farm	W8	0	2	0
Arun	Pallingham footbridge	W7	0	5	0
Harting Stream	Mizzards	W3	0	0	0
Petworth Brook .	Haslingbourne Bridge	W8	0	0	1
Pellingford Brook	Sheffield Park Stn	E6	0	0	0
Warblington Stream	Wade Court	W2	0	1	0
North River	Slaughter Bridge	W11	0	1	0
North River	Paynes Green	W9	. 0	2	0
Uck	Isfields Bridge	E3	0	2	0
Hammer Stream	Buckhurst	E7	1	0	0
Ouse	East Mascells	E3	0	2	· 0
Powdermill Stream	Plough Inn	E4	0	0	0
Great Stour	Godmersham Park	E8	0	0	0
Great Stour	Longport Bridge	E8	1	1	0
Ouse	Gold Bridge	E2	0	1	0
Ouse	Stanbridge Farm	E7	1	1	0
Great Stour	Bretts	E1	1	0	0

 TABLE 3.
 The 20 summer samples audited for Southern Region, with sample sorter codes and numbers of taxa 'lost', 'gained' and 'omitted'

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River	Site	Sorter	Losses	Gains	Omissions
Grom	U/s Tunbridge Wells STW	E4	0	0	0
Great Stour	Wye	E6	0	0	0
East Stour	Grove Bridge	E4	0	0	0
Great Stour	Godmersham Park	<b>E7</b> .	0	2	0
Charing Stream	Leacon Farm	E8	0	1	0
Reading Sewer	Stone Ferry	E1	0	2	0
Eden	Penshurst	E3	0	1	0
Dour	Kearsney	E2	0	0	0
Aylesford Stream	Swatfield Bridge	E7	0	2	0
Great Stour	Rippers Cross	E3	0	0	0
Sholing Common Stream	Sholing	W13	2	0	0
Kird	Harsfold Farm	W12	0	2	0
Avon Water	Wooton	W14	0	1	0
Chilt	U/s Stor confluence	W11	0	1	0
Horton Heath Stream	Maddoxford Farm	W11	0	0	0
Rother (Sussex)	Durford Bridge	W13	1	6	0
Cowfold Stream	Shermanbury Place	W2	0	4	0
Dark Water	Gatewood Bridge	W14	0	3	0
Awbridge Danes Stream	Awbridge Farm	W12	1	3	0
Alver	Grange Farm	W9	· 0	2	0

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TABLE 4.The 20 autumn samples audited for Southern Region, with sample sorter codes and<br/>numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Tidebrook	Buttons	E8	0	4	0
*Bourne	Barnes Street	E9	0	2	. 0
Somerhill Stream	U/s Tunbridge Wells STW	E2	0	1	0
Medway	Hartfield	E4	2	0	0.
Newmill Channel	Potmans Heath	E11	0	2	0
Medway	Ashurst	E3	1	1	0
Wateringbury Stream	Wateringbury	E10	0	0	0
Uck	Hastingford Bridge	E1	1	1	0
Pippingford Brook	Withyham	E7	0	0	0
Woodsmill Stream	Woodsmill Bridge	W12	1	3	0
Stor	West Sussex Golf Club	W1	0	2	0
Brookley Stream	Brockenhurst	W9	1	2	0
Lephams Bridge Stream	Rocks Lane	E8	0	1	0
Moors Stream	Botley Road	W13	0	1	0
Poles Lane Stream	Otterbourne	W2	0	3	0
Dever	Northbrook	W13	1	0	0
Parsons Brook	Purveyors Farm Bridge	W14	0	0	0
Passford Water	Lymington	W11	0	0	0
Chess Stream	Chess Bridge	W15	2	3	0
Arun	Magpie Bridge	W14	0	1	0

\* indicates vial damaged in transit

### APPENDIX

### Results of individual sample audits

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Sutton Stream
DATE	06.03.91	SITE	Road Bridge
SORTER	W9	SAMPLE CODE	NRA05 3030
AQC OF	BMWP FAMILIES A. I	N VIAL + B.	IN SAMPLE +

### LOSSES

GAINS

NET GAINS

	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 Oligochaeta*	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 Oligochneta*

NET LOSSES

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AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER	Woodsmill Stream
DATE	07.03.91	SITE	Stretham Railway Culvert
SORTER	₩7	SAMPLE CODE	NRA05 3011
AQC OF	BMWP FAMILIES A. 1	N 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 Leptoceridae 2 Tipulidae

NET LOSSES

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1 Athripsodes aterrimus 1 only 2 Nephrotoma sp. 1 only NET GAINS

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Black Sever
DATE	07.03.91	SITE	D/s Steyning STW
SORTER	W11	SAMPLE CODE	NRA05 3009
AQC OF	BMWP FAMILIES A. I	N VIAL + B.	IN SAMPLE +

#### LOSSES

GAINS

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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

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 only completed when no vial supplied with sample)	None

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Loxwood Stream
DATE	04.03.91	site	Sydney Farm
SORTER	₩8	SAMPLE CODE	NRA05 3054
AQC OF	BMWP FAMILIES A. IN V	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	l Lymnacidae

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 Calopterygidae (Agriidae)

NET LOSSES 0

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NOTES

l Lymnaea peregra 2 Calopteryx virgo 1 only L\_.

NET GAINS

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Arun
DATE	06.03.91		SITE	Pallingham Footbridge
SORTER	W7		SAMPLE CODE	NRA05 3045
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	l Lymnaeidae

<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 Valvatidae 3 Physidae 4 Erpobdellidae 5 Gyrinidae

NET LOSSES

NOTES

- 2 Valvata piscinalis 1 only
- 3 Physa fontinalis 1 only

l Lymnaea palustris

- 4 Trocheta sp. (juvenile) 1 only
- 5 Gyrinus substriatus (adult) 1 only

NET GAINS

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AQC - BIOLOCICAL SAMPLES

RECION	Southern		RIVER	Harting Stream
DATE	05.03.91		SITE	Mizzards
SORTER	W3		SAMPLE CODE	NRA05 3039
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	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 only completed when no vial supplied with sample)	None

	NET LOSS	ES U NET	GAINS U
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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Pelworth Brook
DATE	06.03.91		SITE	llastingbourne_Bridge
SORTER	W8		SAMPLE CODE	NRA05 3031
AQC OF	BMWP FAMILIES	A. IN VIAL	н.	IN SAMPLE +

### LOSSES

GAINS

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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*	None

3 <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 Sericostomatidae*

	NET LOSSES	NET GAINS
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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Pellingford Brook
DATE	11.03.91	SITE	Sheffield Park Station
SORTER	E6	SAMPLE CODE	NRA05 2249
AQC OF	BMWP FAMILIES A. IN V	VIAL + B.	IN SAMPLE

### LOSSES

GAINS

<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	None	None
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)	None

	NET LOSSES	NET GAINS
NOTES	 	······
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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Warblington Stream No4
DATE	01.03.91		SITE	Wade Court
SORTER	₩2		SAMPLE CODE	NRAU5 4101
AQC OF	BMWP FAMILIES	A. IN VIAL	+· B.	IN SAMPLE +

#### LOSSES

GAINS

NET GAINS

BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
None	None
	FOUND 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)	l Dendrocoelidae

NET LOSSES 0

NOTES

1 Dendrocoeium Lacteum 1 only

AQC - BIOLOCICAL SAMPLES

REGION Southern	RIVER North River
DATE 04.03.91	SITE Staughter Bridge
SORTER W11	SAMPLE CODE NRAU5 3058
AQC OF BMWP FAMILIES A. IN VIAL	+ B. IN SAMPLE +

#### LOSSES

GAINS

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NET GAINS

<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

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 only completed when no vial supplied with sample)	1 Goeridae

NET LOSSES U

NOTES

1 Goera pilosa 1 only

AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	North River
DATE	04.03.91		SITE	Paynes Green
SORTER	W9		SAMPLE CODE	NRA05 3057
AQC OF	BMWP FAMILIES	A. IN VIAL	В.	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	l Capniidae

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 Gyrinidae

NET LOSSES U

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1 Capnia bifrons 2 Orectochilus villosus (tarva) Lonly

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NET GAINS 2

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AQC - BIOLOCICAL SAMPLES

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REGION	Southern	RIVER	Uck
DATE	11.03.91	SITE	Isfield Bridge
SORTER	E3	SAMPLE CODE	NRA05 2238
AQC OF	BMWP FAMILIES A. IN V	IAL + B.	IN SAMPLE +

#### LOSSES

GAINS

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NET 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

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 only completed when no vial supplied with sample)	1 Hydrobiidae 2 Beraeidae

NET LOSSES 0

NOTES

1 Bithynia tentaculata 2 Beraeodes minutus 1 only

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Hammer Stream
DATE	27.03.91	SITE	Buckhurst
SORTER	E7	SAMPLE CODE	NRA05 1068
AQC OF	BMWP FAMILIES A. IN VIAL	+ B.	IN SAMPLE +

### LOSSES

GAINS

<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 Lymnaeidae	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	1 Succinea sp. in vial		

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER	Ouse
DATE	11.03.91	SITE	East Mascells
SORTER	E3	SAMPLE CODE	NRA05_2226
AQC OF	BMWP FAMILIES A. IN	VIAL H B.	IN SAMPLE +

### LOSSES

GAINS

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NET GAINS 2

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

<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 Goeridae

NET LOSSES 0

NOTES

1 Dugesia tigrina 1 only 2 Silo pallipes 1 only

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Powdermill Stream
DATE	12.03.91		SITE	Plough Inn
SORTER	E4		SAMPLE CODE	NRA05 2202
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	U	NET GAINS U
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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Great Stour	
DATE	21.03.91		SITE	Godmersham	Park
SORTER	E8		SAMPLE CODE	NRAO5 1092	
AQC OF	BMWP FAMILIES	. IN VIAL	в.	IN SAMPLE	

#### LOSSES

GAINS

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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

В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
•	<pre>Differences between: 1) BMWP families listed on sample data sheet and 11) BMWP families found in SAMPLE by IFE</pre>	(This box only completed when no vial supplied with sample)	None

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Great Stour
DATE	21.03.91		SITE	Longport Bridge
SORTER	E8		SAMPLE CODE	NRA05 1090
AQC OF I	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

### LOSSES

GAINS

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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 Dendrocoelidae	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 Haliplidae

NET GAINS	1
NET GAINS	1

NET LOSSES 1

NOTES

2 Haliplus sp. (larva) 1 only

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Ouse
DATE	11.03.91		SITE	Gold Bridge
SORTER	E2		SAMPLE CODE	NRA05 2228
AQC OF	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +
			LOSSES	GAINS

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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

В	<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 i) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Valvatidae

		NET LOSSES	NET GAINS
NOTES	1 Valvata piscinalis 1 only		
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AQC - BIOLOGICAL SAMPLES

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REGION	Southern		RIVER	Ouse
DATE	11.03.91		SITE	Stanbridge Farm
SORTER	E7		SAMPLE CODE	NRA05 2224
AQC OF	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

#### LOSSES

CAINS

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 Leuctridae	2 Nemouridae

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

NET LOSSES 1

NOTES

2 Nemoura cinerea

NET GAINS 1

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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Great Stour
DATE	19.03.91		SITE	Bretts
SORTER	E1		SAMPLE CODE	NRA05 1095
AQC OF	BMWP FAMILIES	A. IN VIAL	н В.	IN SAMPLE +

### LÖSSES

GAINS

NET GAINS 0

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 Erpobdellidae	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

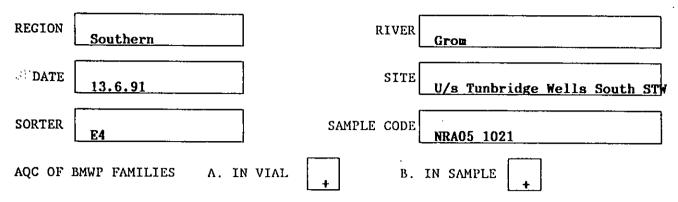
NET	LOSSES	1	
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NOTES

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AQC - BIOLOCICAL SAMPLES



LOSSES

GAINS

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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	None	None
ii) BMWP families found in VIAL by IFE	-	

В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and	(This box only completed when no vial supplied with sample)	None
	ii) BMWP families found in SAMPLE by IFE		
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		NET LOSSES	0	NET CAINS	0
NOTES					

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Great Stour
STDATE	18.6.91		SITE	Wye
SORTER	E6		SAMPLE CODE	NRA05 1091
AQC OF P	BMWP FAMILIES	A. IN VIAL	<b>+</b> B.	IN SAMPLE +

LOSSES

GAINS

NET CAINS

0

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BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
None	None
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	FOUND 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	(This box only completed when no vial supplied with sample)	None
in SAMPLE by IFE		

NET LOSSES

0

NOTES

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	East Stour
S DATE	18.6.91		SITE	Grove Br Sellinge
SORTER [	E4		SAMPLE CODE	NRA05 1100
AQC OF B	MWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

#### LOSSES

GAINS

0

NET 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	None	None
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)	None

NET LOSSES

0

NOTES

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AQC - BIOLOCICAL SAMPLES

REGION So	uthern	RIVER	Great Stour
DATE 18	.6.91	SITE	Godmersham Park
SORTER E7		SAMPLE CODE	NRA05 1092
AQC OF BMWP	FAMILIES A. IN VIAL	+ B. 1	N SAMPLE

LOSSES

CAINS

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 ti) BMMP families for the	None	None
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 Haliplidaé 2 Sericostomatidae

NET LOSSES

0

NOTES

1 Haliplus sp. (larva) 1 only 2 Sericostoma personatum (pupa) 1 only NET GAINS

AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Charing Stream
DATE	18.6.91		SITE	Leacon Farm
SORTER	E8		SAMPLE CODE	NRA05 1098
AQC OF H	BMWP FAMILIES	A. IN VIAL	<b>+</b> B. 3	IN SAMPLE +

#### LOSSES

GAINS

	Le	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
on samp	between: nilies listed le data sheet nd	None	None
	milies found	, "	

В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i	<ul> <li>Ifferences between:</li> <li>I) BMWP families listed on sample data sheet and</li> <li>I) BMWP families found in SAMPLE by IFE</li> </ul>	(This box only completed when no vial supplied with sample)	1 Haliplidaé

NET LOSSES

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0

NOTES

1 Haliplus lineatocollis (adult) 1 only

NET CAINS

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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Reading Sewer
DATE	9.7.91		SITE	Stone Ferry
SORTER	E1		SAMPLE CODE	NRA05 1149
AQC OF	BMWP FAMILIES	A. IN VIAL	н В.	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	None	1 Dryopidae
and ii) BMWP families found in VIAL by IFE		

3 <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 Aeshnidae

NET LOSSES

0

NOTES

1 Indet larvae 2 Aeshna sp.

Unionidae assumed returned to river

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NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER Eden
DATE	17.7.91	SITE Penshurst
SORTER	E3	SAMPLE CODE NRA05 1029
AQC OF I	BMWP FAMILIES A. I	N VIAL + B. IN SAMPLE +

#### LOSSES

GAINS

A <u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences betweer i) BMWP families J on sample data and	None None	None
ii) BMWP families f in VIAL by IFE	found	

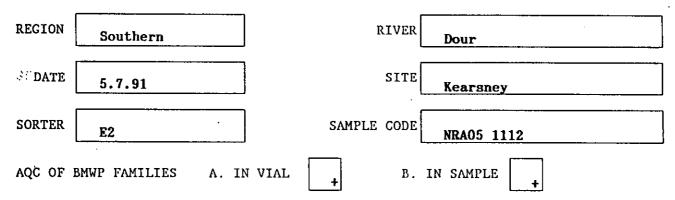
SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Dytiscidae

0 NET LOSSES NET GAINS 1 1 Laccophilus sp. (larva) 1 only

NOTES

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AQC - BIOLOCICAL SAMPLES



#### 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	None	None
ii) BMWP families found in VIAL by IFE	, <del>"</del>	

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	s <b>O</b>	NET GAINS	0
NOTES					
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AQC - BIOLOCICAL SAMPLES

REGION	Southern	·····	RIVER	Aylesford Stream
ST DATE	18.6.91		SITE	Swatfield Bridge
SORTER	E7		SAMPLE CODE	NRA05 1102
AQC OF	BMWP FAMILIES	A. IN VIAL	<b>+</b> 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	None	None
ii) BMWP families found in VIAL by IFE	<i></i>	

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 only completed when no vial supplied with sample)	1 Lymnaeidae 2 Asellidae

NET LOSSES

0

NET CAINS 2

NOTES

1 Lymnaea peregra 1 only 2 Asellus meridianus 1 only

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Great Stour
DATE	18.6.91		SITE	Rippers Cross
SORTER	E3		SAMPLE CODE	NRA05_1089
AQC OF	BMWP FAMILIES	A. IN VIAL	<b>+</b> B.	IN SAMPLE +

#### LOSSES

GAINS

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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	None	None
ii) BMWP families found in VIAL by IFE		

В	<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	(This box only completed when no vial supplied with sample)	None
	in SAMPLE by IFE		

	NET LOSSES 0	NET GAINS 0
NOTES		

AQC - BIOLOGICAL SAMPLES

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REGION	Southern		RIVER	Sholing Common Stream
DATE	22.8.91		SITE	Sholing
SORTER	W13		SAMPLE CODE	NRA05 4125
AQC OF	BMWP FAMILIES	A. IN VIAL	<b>+</b> B.	IN SAMPLE +

#### LOSSES

CAINS

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 Aphelocheiridae 2 Gyrinidae	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 2	NET GAINS 0
NOTES	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Kird
DATE	17.6.91		SITE	Harsfold Farm
SORTER	W12		SAMPLE CODE	NRA05 3050
AQC OF I	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

#### LOSSES

GAINS

5

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 Viviparidae 2 Physidae

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

2

NOTES

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1 Viviparus viviparus in separate plastic vial 2 Physa fontinalis

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AQC - BIOLOCICAL SAMPLES

REGION Southern	RIVER Avon Water
SEDATE 5.7.91	SITE Wooton
SORTER W14	SAMPLE CODE NRA05 4176
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	None	None
ii) BMWP families found in VIAL by IFE	- "·	

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 only completed when no vial supplied with sample)	1 Leptoceridae

.

NET LOSSES 0

NOTES

1 Athripsodes sp. (pupa) 1 only

NET CAINS

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AQC - BIOLOCICAL SAMPLES

REGION	Southern	RIVER
3T DATE	17.6.91	SITE U/s Stor Confluence
SORTER	W11	SAMPLE CODE NRA05 3048
AQC OF	BMWP FAMILIES A. IN VIAL	+ B. IN SAMPLE +

#### LOSSES

GAINS

NET GAINS

1

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	None	1 Valvatidae
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)	None

NET LOSSES

0

NOTES

1 Valvata cristata

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Norton Heath Stream
STDATE	22.8.91		SITE	Maddoxford Farm
SORTER	W11	•	SAMPLE CODE	NRA05 4114
AQC OF 1	SMWP FAMILIES	A. IN VIAL	<b>+</b> B.	IN SAMPLE +

#### LOSSES

GAINS

NET GAINS

.

0

A <u>VIAL</u>		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences be i) BMWP famil on sample and	-	None	None
ii) BMWP famil in VIAL by	11	• "	

B <u>SAMPLE</u>		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences be i) BMWP famil on sample and ii) BMWP famil in SAMPLE	ies listed data sheet ies found	(This box only complete when no vial supplied with sample)	d None

NET LOSSES

0

NOTES

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Rother (Sussex)
DATE	21.6.91		SITE	Durford Bridge
SORTER	W13		SAMPLE CODE	NRA05 3024
AQC OF H	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 Sialidae	2 Ancylidae 3 Baetidae 4 Hydrophilidae 5 Hydroptilidae

В	<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)	6 Planariidae 7 Beraeidae

NET LOSSES

1

NET GAINS

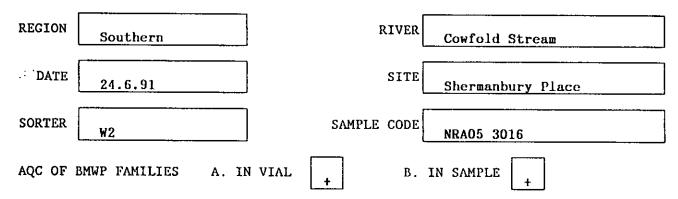
6

NOTES

2 Acroloxus lacustris
3 Baetis vernus, B.scambus group
4 Helophorus brevipalpis (adult) in vial, indet larva in sample
5 Hydroptila sp.
6 Polycelis sp. 1 only
7 Beraca minutus (pupa) 1 only

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AQC - BIOLOCICAL SAMPLES



#### 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	None	1 Valvatidae
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)	2 Hydrophilidae 3 Limnephilidae 4 Tipulidae

NET LOSSES

0

NET GAINS

4

NOTES

1 Valvata cristata

- 2 Helophorus obscurus (adult), indet larva
- 3 Limnephilus sp. (pupa) 1 only
- 4 Tipula sp. 1 only

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Dark Water
S DATE	1.7.91		SITE	Gatewood Bridge
SORTER	W14		SAMPLE CODE	NRA05 4173
AQC OF 1	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	None	None
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 Lymnaeidaé 2 Leptoceridae 3 Lepidostomatidae

NET LOSSES

0

NOTES

1 Lymnaea peregra 1 only 2 Athripsodes albifrons (pupa) 1 only 3 Lepidostoma hirtum (pupa) 1 only

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NET GAINS

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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Awbridge Danes Stream
DATE	8.8.91		SITE	Awbridge Farm
SORTER	W12		SAMPLE CODE	NRA05 4151
AQC OF F	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 Gerridae	2 Planariidae 3 Goeridae 4 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)	None

NET LOSSES

1

NET GAINS

3

NOTES

2 Polycelis felina, P.nigra/tenuis3 Silo sp. (juveniles)4 Simulium noelleri, S.ornatum group

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AQC - BIOLOCICAL SAMPLES

REGION	Southern		RIVER	Alver
SUDATE	22.8.91		SITE	Grange Farm
SORTER	W9		SAMPLE CODE	NRA05 4108
AQC OF I	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	None	None
	11) BMWP families found in VIAL by IFE		

В	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 only completed when no vial supplied with sample)	1 Physidae 2 Gerridae

NET LOSSES

0.

NET GAINS

2

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NOTES

1 Physa fontinalis 2 Gerris sp. (nymph) 1 only

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AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER	Tidebrook
DATE	31.10.91	SITE	Buttons
SORTER	E8	SAMPLE CODE	NRA05 1125
AQC OF I	BMWP FAMILIES A. II	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 I 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 con when no vial supp with sample)	plied 1 Chloroperlidae

NET LOSSES 0

NOTES

1 Chloroperla torrentium 1 only 2 Elodes sp. (larva) 1 only 3 Silo pallipes 1 only 4 Sericostoma personatum

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NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Bourne
DATE	29.10.91		SITE	Barnes Street
SORTER	E9		SAMPLE CODE	NRAO5 1047
AQC OF I	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	<ul> <li>Lid separated from</li> <li>vial in transit.</li> <li>Contents dispersed in</li> <li>sample. Identification</li> <li>check not applicable</li> </ul>	

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 Hydrometridae 2 Elmidae

NET LOSSES

0

NET GAINS

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NOTES

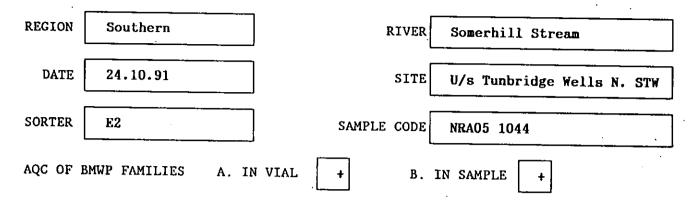
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1 Hydrometra stagnorum 2 Elmis aenea, Oulimnius tuberculatus (adults + larvae), Limnius volckmari (larvae)

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AQC - BIOLOGICAL SAMPLES



	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	None	None
ii) BMWP families found in VIAL by IFE		

<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 Leuctridae

0

NET GAINS 1

NET LOSSES

NOTES

1 Leuctra nigra 1 only

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Medway
DATE	30.10.91		SITE	Hartfield
SORTER	E4		SAMPLE CODE	NRA05 1007
AQC OF I	SMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

	LOSSES	GAINS
	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 Gyrinidae 2 Hydroptilidae	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

2

NOTES

2 Dead Hydroptila sp (pupa) in vial

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NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Newmill Channel
DATE	12.9.91		SITE	Potmans Heath
SORTER	E11		SAMPLE CODE	NRA05 1140
AQC OF 1	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE

#### LOSSES

CAINS

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 Mesoveliidae

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 Elmidae

NET LOSSES

0

NOTES

1 Mesovelia furcata (nymph) 2 Elmis aenea (larva + adults) 2

NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RI	ver	Medway
DATE	30.10.91	·	S	ITE	Ashurst
SORTER	ЕЗ		SAMPLE C	ODE	NRA05 1008
AQC OF 1	BMWP FAMILIES A	. IN VIAL	+	B.	IN SAMPLE +

		LOSSES	GAINS
A <u>V</u>	<u>YIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i) BMWP on sa ii) BMWP	es between: families listed mple data sheet and families found AL by IFE	1 Hydrophilidae	None

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В	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 only completed when no vial supplied with sample)	2 Baetidae

NET LOSSES NET GAINS 1 1 NOTES 1 Terrestrial beetle in vial 2 Baetis rhodani 1 only

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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Wateringbury Stream
DATE	29.10.91		SITE	Wateringbury
SORTER	E10		SAMPLE CODE	NRA05 1081
AQC OF 1	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	None	None
ii) BMWP families found in VIAL by IFE	· · ·	

В	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 only completed when no vial supplied with sample)	None

NET LOSSES 0 NET GAINS 0 NOTES

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AQC - BIOLOGICAL SAMPLES

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REGION	Southern	RIVER	Uck
DATE	21.10.91	SITE	Hastingford Bridge
SORTER	E1	SAMPLE CODE	NRA05 2236
AQC OF H	SMWP FAMILIES A. IN	VVIAL + B.	IN SAMPLE +

		LOSSES	GAINS
	<u></u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
on samp a ii) BMWP fa	s between: milies listed ble data sheet and milies found by IFE	1 Simuliidae	2 Lepidostomatidae

В	<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

1

NOTES

2 Indet lepidostomatids (juveniles)

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NET GAINS

1

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AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER	Pippingford Brook
DATE	30.10.91	SITE	Withyham (d/s trib)
SORTER	E7	SAMPLE CODE	NRA05 1018
AQC OF 1	BMWP FAMILIES A. IN VIA	L + B. 1	IN SAMPLE +

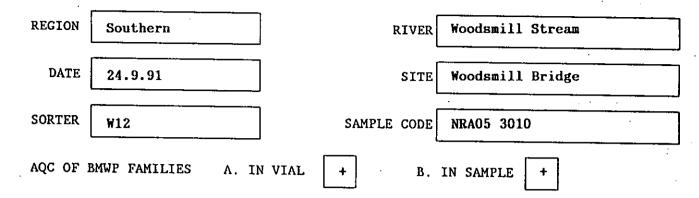
	LOSSES	GAINS
A <u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and	None	None
ii) BMWP families found in VIAL by IFE		

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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	 	_,	<u> </u>		. <i></i>		<u></u>			]
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AQC - BIOLOGICAL SAMPLES



	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 Nemouridae	2 Tipulidae

В	<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 Limnephilidae 4 Sericostomatidae

NET LOSSES 1 NET GAINS 3 2 Tipula montium group 3 Indet limnephilid (pupa) 1 only 4 Sericostoma personatum

NOTES

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Stor
DATE	10.9.91		SITE	West Sussex Golf Club
SORTER	W1		SAMPLE CODE	NRA05 3046
AQC OF P	SMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

_		LOSSES	GAINS
. <b>A</b>	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and	None	None
	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 Hydrobiidae 2 Phryganeidae

NET LOSSES 0 NET GAINS 2 NOTES 1 Potamopyrgus jenkinsi 2 Phryganea grandis/bipunctata

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AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Brookley Stream
DATE	1.11.91		SITE	Brockenhurst
SORTER	W9		SAMPLE CODE	NRA05 4171
AQC OF	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

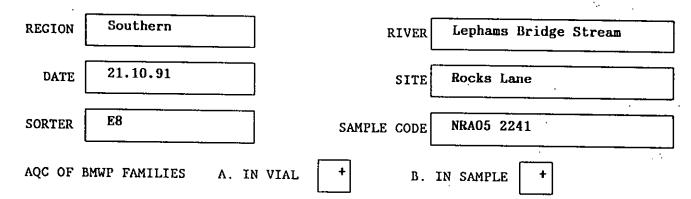
	LOSSES	GAINS
VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrophilidae	None

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 Caenidae 3 Simuliidae

	NET LOSSES 1	NET GAINS 2
NOTES	1 Terrestrial beetle in vial 2 Caenis luctuosa/macrura 1 only 3 Simulium ornatum group (larva) 1 only	

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AQC - BIOLOGICAL SAMPLES



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

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B <u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: 1) BMWP families listed on sample data sheet and 11) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Hydrophilidae

NET LOSSES

0

NOTES

1 Hydraena gracilis (adult) 1 only

NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER	Moors Stream
DATE	28.10.91	SITE	Botley Road
SORTER	W13	SAMPLE CODE	NRA05 4113
AQC OF 1	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 Gyrinidae

NET LOSSES 0 NET GAINS 1 1 Orectochilus villosus (larva) 1 only

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NOTES

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Poles Lane Stream
DATE	9.10.91		SITE	Otterbourne
SORTER	W2		SAMPLE CODE	NRA05 4130
AQC OF I	SMWP 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 Hydrobiidae 2 Baetidae 3 Elmidae

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

NOTES

1 Potamopyrgus jenkinsi 2 Cloeon dipterum

3 Limnius volckmari (larva)

NET GAINS

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Dever
DATE	22.10.91	· · · · · · · · · · · · · · · · · · ·	SITE	Northbrook
SORTER	W13		SAMPLE CODE	NRA05 4144
AQC OF 1	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	None

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 only completed when no vial supplied with sample)	None

NET LOSSES 1

NOTES

1 Indet sciomyzid in vial

NET GAINS 0

AQC - BIOLOGICAL SAMPLES

REGION	Southern	RIVER	Parsons Brook
DATE	24.9.91	SITE	Purveyors Farm Bridge
SORTER	W14	SAMPLE CODE	NRA05 3019
AQC OF I	BMWP FAMILIES A. 1	VIAL + B.	IN SAMPLE +

······	LOSSES	GAINS
A <u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: 1) BMWP families listed on sample data sheet and 11) BMWP families found in VIAL by IFE	None	None

<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 0 NET GAINS , NOTES

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Passford Water
DATE	31.10.91		SITE	Lymington (Ampress)
SORTER	W11		SAMPLE CODE	NRA05 4170
AQC OF I	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

<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	(This box only completed when no vial supplied with sample)	None
ii) BMWP families found in SAMPLE by IFE		

NET LOSSES NET GAINS 0 0 NOTES

AQC - BIOLOGICAL SAMPLES

REGION	Southern		Chess Stream
DATE	25.9.91	] site	Chess Bridge
SORTER	W15	SAMPLE CODE	NRA05 3013
AQC OF H	BMWP FAMILIES A. I	N 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 Hygrobiidae	3 Hydrobiidae 4 Dryopidae

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B <u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences betw i) BMWP familie on sample da and ii) BMWP familie in SAMPLE by	s listed when no vial supplied ta sheet with sample) s found	5 Hydrometridae

NOTES 1 Terrestrial hydrophilid, Cercyon sp (adult), in vial 3 Bithynia tentaculata 4 Dryops sp. (larva) 5 Hydrometra stagnorum

AQC - BIOLOGICAL SAMPLES

REGION	Southern		RIVER	Arun
DATE	24.9.91		SITE	Magpie Bridge
SORTER	W14		SAMPLE CODE	NRA05 3042
AQC OF I	BMWP FAMILIES	A. IN VIAL	+ B.	IN SAMPLE +

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

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

NET LOSSES NET GAINS 0 1 NOTES 1 Indet planariid 1 only