

An audit of performance in the processing of macro-invertebrate samples in 1992. NRA Southern Region

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





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 1992. NRA Southern Region

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

Project leader: Report date: R.J.M. Gunn April 1993

Report to:

National Rivers Authority

Southern Region

IFE Report Ref:

RL/T04071a1/05

TFS Project No:

T04071a1

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The Institute of Freshwater Ecology is part of the Terrestrial and Freshwater Sciences Directorate of the Natural Environment Research Council.

1. INTRODUCTION

In 1992 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 Southern Region of the NRA. 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.

ACKNOWLEDGEMENTS

Thanks to Kay Symes for help with production of results and to Valerie Palmer for typing the manuscript.

TABLE 1. The IFE Report form 1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES RIVER REGION DATE SITE SORTER SAMPLE CODE AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE BMWP FAMILIES NOT ADDITIONAL FAMILIES VIAL FOUND BY IFE FOUND BY IFE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found · in VIAL by IFE BMWP FAMILIES NOT В ADDITIONAL FAMILIES FOUND BY IFE SAMPLE Differences between: (This box only completed i) BMWP families listed when no vial is on sample data sheet supplied with sample) and ii) BMWP families found in SAMPLE by IFE NET LOSSES NET GAINS NOTES:

TABLE 2. The 15 spring samples audited for Southern Region.

River	Site	Sorter	Losses	Gains	Omissions
Charing Stream	Leacon Farm	E8	0	2	0
Hammer Stream Trib.	Ibornden Park	E9	0	1	1
Hexden Channel Trib.	Cattsford	E8	0	1	0
Dour	Kearsney	E4	0	0	0
Dour	Pencester Gardens	E2	4	0	1
Woodsmill Stream	Woodsmill Bridge	W13	0	2	1
Blackwater	Wellow Mill	W15	0	2	0
Awbridge Danes Stream	Awbridge Farm	W12	0	2	0
Warblington Stream No. 4	Wade Court	W15	0	0	0
Adur East	Wortleford Bridge	W14	0	1	0
Titchfield Stream	Road Bridge	W12	0	4	0
Matley Bog	Matley Passage	W2	0	5	0
Aylesford Stream	Swatfield Bridge	E8	0	1	0
Sissinghurst Stream	Sissinghurst Castle Road	E11	0	0	0
Great Stour	d/s Plucks Gutter	E12	0	1	0

TABLE 3. The 30 summer samples audited for Southern Region

River	Site	Sorter	Losses	Gains	Omissions
Wallers Haven	Boreham Bridge	E7	0	1	0
Brenchley Stream	Bennets Farm	E10	0	1	0
Cuckmere	Sheepwash Bridge	E3	0	5	1
Lesser Teise	Spitz Bridge	E7	1	3	0
Medway	Hartlake Bridge	E6	0	1	0
Tickerage Stream	Great Streele Farm	E4	0	1	0
Uck	Isfield Bridge	E14	3	1	0
Pilhill Brook	Longbridge, Andover	W18	1	0	0
Broad Rife	Ferry Sluice	W17	0	6	1
Avon Water	Efford Bridge	W15	0	2	0
Adur East	Mock Bridge	W15	0	1	0
Titchfield Stream	Road Bridge	W14	0	4	0
Test	Polhampton	W19	0	1	0
Beaulieu	North Gate	W18	0	1	0
Hamble	Maddoxford Farm	W9	0	1	0
Park Water	Landfordwood	W16	1	2	0
Merston Stream	Blackwater	W9	0	0	0
Lavant (Hampshire)	IBM Havant	W1	0	4	0
Monktonmead Brook	Pennyfeathers Lane	W17	1 .	0	0
Dever	Bransbury	W18	. 0	1	0
Boldings Brook	A281 Farthings Bridge	W18	0	0	0
Warblington Stream	Church Path	W16	0	1	0
Anton	Fullerton	W16	0 .	0	0
Caul Bourne	Shalfleet	W17	0	1	0
Lukely Brook	Westminster Lane	W17	0	2	0
Bow Lake	Bishopstoke Road	W15	1	3	0
Kent Rother	Blackwall Bridge	E3	0	2	0
Sussex Rother	Trotton Bridge	W1	0	4	0
Shuttle	Black Prince	E2	0	2	1
Test	Broadlands	W19	0	0	0

TABLE 4. The 15 autumn samples audited for Southern Region

River	Site	Sorter	Losses	Gains	Omissions
Bevern Stream	Bevern Bridge	E3	1	1	0
North End Stream	North End	E12	0	3	1
Rother	Shopham Bridge	W1	0	3	1
Len Tributary	d/s Leeds STW	E2	0	2	0
Ridgewood Stream	A26 Bridge	E4	0	5	0
Limden	Etchingham	E11	0	4	0
Loxwood Stream	Drungewick	W17	1	3	0
* Bull	Lea Bridge	E1	1	3	0
Tidebrook	Buttons	E8	1	2	0
Teise	Lamberhurst	E1	0	0	0
Eridge Stream	Forge Farm	E4	0	3	0
Cradlebridge Sewer	B2080 Redhill Bridge	E11	0	3	0
Abbey Petty Sewer	Russet Farm	E14	1	2	0
East Stour	Grove Bridge, Sellinge	E8	0	0	0
Great Stour	Horton	E11	0	0	0

^{*} indicates vial damaged in transit

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			4		
			*	•	
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APPENDIX

Results of individual sample audits

REGION	Southern	RIVER	Charing	g Stream
DATE	11.3.92	SITE	Leacon	Farm
SORTER	E8	SAMPLE CODE	NRA05	1098
AQC OF BM	WP FAMILIES A. IN V	IAL + I	B. IN SAN	MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE
i)	Figure 1 ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	ŝ	None
В		BMWP FAMILIES NO FOUND BY IFE	or	ADDITIONAL FAMILIES
i)	SAMPLE Iferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only co	_	1 Planorbidae 2 Asellidae
NOTES	S:	NET LOSSES	0	NET GAINS 2
	Anisus vortex 1 only Asellus meridianus			

REC	GION	Southern	RIVER	Hammer	Stream Trib
J	DATE	26.3.92	SITE	Ibornde	en Park
SOI	RTER	E9	SAMPLE CODE	NRA05	1073
AQC (OF BM	WP FAMILIES A. IN V	IAL + 1	B. IN SAM	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE
	i) 1 ii) 1	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Scirtidae*		None
В			BMWP FAMILIES NO FOUND BY IFE	OT .	ADDITIONAL FAMILIES
	i);	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only completed		2 Nemouridae 3 Scirtidae*
1	NOTES	:	NET LOSSES	0	NET GAINS 1
,		mphinemura sp. 1 only rionocyphon serricorn		y	

REG	ION	Southern	RIVER	Hexden	Channel Trib (Iden G)
D	ATE	26.5.92	SITE	Cattsfo	ord
SOR	TER	E8	SAMPLE CODE	NRA05	1137
AQC O	F BMV	VP FAMILIES A. IN VI	AL +	3. IN SAN	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
I.	i) E	Ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
		`		Y	
В	i) I (ii) I	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE			ADDITIONAL FAMILIES 1 Psychomyiidae
N	OTES	:	NET LOSSES	0	NET GAINS 1
	1 L;	ype sp. 1 only			v

RE	GION Southern	RIVER	Dour	
1	DATE 19.3.92	SITE	Kearsno	еу
SO	RTER E4	SAMPLE CODE	NRA05	1112
AQC (OF BMWP FAMILIES A. IN V	IAL +	B. IN SAM	MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	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		BMWP FAMILIES N	ΥT	ADDITIONAL FAMILIES
Ľ	SAMPLE	FOUND BY IFE	<i>J</i> 1	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE			None
I	NOTES:	NET LOSSES	0	NET GAINS 0

REC	SION Southern	RIVER	Dour	
I	DATE 19.3.92	SITE	Pencest	er Gardens
SOF	EZ	SAMPLE CODE	NRAO5 1	1113
AQC (OF BMWP FAMILIES A. IN VI	(AL +	3. IN SAN	MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	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
В		BMWP FAMILIES NO FOUND BY IFE)T	ADDITIONAL FAMILIES
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only co		6 Gammaridae*
ì	NOTES:	NET LOSSES	4	NET GAINS 0
	1,2,3,4 Empty shells in 6 Gammarus pulex	vial		
				/

REC	GION	Southern	RIVER	Woodsm	ill Stream
I	DATE	18.3.92	SITE	Woodsm	ill Bridge
SOF	RTER	W13	SAMPLE CODE	NRAO5	3010
AQC (OF BM	WP FAMILIES A. IN VI	IAL +	3. IN SAN	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) 1 (ii) 1	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Baetidae*		None
В		SAMPLE	BMWP FAMILIES NO FOUND BY IFE.	OT	ADDITIONAL FAMILIES
	i); ii);	ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	il .		2 Hydrobiidae 3 Baetidae* 4 Hydrophilidae
1	NOTES	:	NET LOSSES	0	NET GAINS 2
	3 B	otamopygus jenkinsi aetis rhodani, Centro accobius minutus (ad		Cloeon	dipterum

REGI	ON Southern	RIVER	Blackwa	ater .
DA	TE 1.4.92	SITE	Wellow	Mill
SORT	ER W15	SAMPLE CODE	NRA05 4	1157
AQC OF	BMWP FAMILIES A. IN VI	AL + I	3. IN SAM	 MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and i) BMWP families found in VIAL by IFE	None		1 Sericostomatidae
В		BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
	SAMPLE 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 is		2 Ephemerellidae
NO	TES:	NET LOSSES	0	NET GAINS 2
	1 Sericostoma personatur 2 Ephemerella ignita 1 o			

REC	SION Southern	RIVER Awbridg	ge Danes Stream
Γ	DATE 22.4.92	SITE Awbridg	ge Farm
SOR	TER W12	SAMPLE CODE NRAO5 4	1151
AQC C	OF BMWP FAMILIES A. IN VI	AL + B. IN SAM	APLE +
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	None	None
	in VIAL by IFE		
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		1 Beraeidae 2 Leptoceridae
1	NOTES:	NET LOSSES 0	NET GAINS 2
	1 Beraea pullata 1 only 2 Athripsodes albifrons,	/bilineatus 1 only	

REGIO	N Southern	RIVER	Warblin	ngton Stream No.4		
DATI	E 14.5.92	SITE	Wade Co	ourt		
SORTE	R . W15	SAMPLE CODE	NRAO5 4	4 101		
AQC OF I	C OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE		
i	ifferences between:) BMWP families listed on sample data sheet and) BMWP families found in VIAL by IFE	None		None		
В		BMWP FAMILIES NO FOUND BY IFE	ΥT	ADDITIONAL FAMILIES	5	
i	SAMPLE ifferences between:) BMWP families listed on sample data sheet and) BMWP families found in SAMPLE by IFE		_	None		
NOT	ES:	NET LOSSES	0	NET GAINS 0		

REC	GION	Southern	RIVER	Adur Ea	ast
E	DATE	12.3.92	SITE	Wortle	ford Bridge
SOF	RTER	W14 .	SAMPLE CODE	NRA05	3001
AQC C	AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	OT .	ADDITIONAL FAMILIES FOUND BY IFE
	i) I (ii) I	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
В			BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES
	i) I (ii) I	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only co		1 Elmidae
N	NOTES		NET LOSSES	0	NET GAINS 1
	1 E	lmis aenea (larva) 1	only	,	·

REC	GION Southern	RIVER Tit	chfield Stream			
E	DATE 12.5.92	SITE Roa	nd Bridge			
SOF	RTER W12	SAMPLE CODE NRA	05 4215			
AQC (QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
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			
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES			
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only comple when no vial is	3 Hydrophilidae			
ì	NOTES:	NET LOSSES 0	NET GAINS 4			
	1 Potamopyrgus jenkinsi 2 Baetis scambus/fuscatu 3 Helophorus brevipalpis 4 Elmis aenea (larva) 1	s (adult) 1 only				

REGI	ON Southern	RIVER	Matley Bog			
DA	TE 26.3.92	site [Matley Passage			
SORT	ER W2	SAMPLE CODE	NRAO5 4238			
AQC OF	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NO' FOUND BY IFE	T ADDITIONAL FAMILIES FOUND BY IFE			
	Differences between: i) BMWP families listed on sample data sheet and i) BMWP families found in VIAL by IFE	None	None			
В	SAMPLE Differences between:	BMWP FAMILIES NO FOUND BY IFE	1 Glossiphoniidae			
	i) BMWP families listed on sample data sheet and i) BMWP families found in SAMPLE by IFE	when no vial is	3 Polycentropodidae			
NO	TES:	NET LOSSES	0 NET GAINS 5			
	1 Helobdella stagnalis 1 only 2 Oulimnius sp. (larva) 1 only 3 Polycentropus irroratus, Cyrnus trimaculatus 4 Beraeodes minutus 5 Mystacides azurea					

REGION	Southern	RIVER Ayle	sford Stream
DATE	6.3.92	SITE Swat	field Bridge
SORTER	E8	SAMPLE CODE NRAO	5 1102
AQC OF BM	WP FAMILIES A. IN V	AL + B. IN	SAMPLE +
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i) : ii) :	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	None
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
i) 1 ii) 1	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		Ì
NOTES	•	NET LOSSES 0	NET GAINS 1
1 P	otamonectes depressus	(adult) 1 only	

REC	GION Southern	RIVER Sissin	ghurst Stream		
r	DATE 26.3.92	SITE Sissin	ghurst Castle Road		
SOF	RTER E11	SAMPLE CODE NRA05	1071		
AQC (QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
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		
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES		
	SAMPLE 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 is	None		
N	VOTES:	NET LOSSES 0	NET GAINS 0		

REC	GION	Southern	RIVER	Great	Stour
Ι	DATE	19.3.92	SITE	d/s Plu	ucks Gutter
SOF	RTER	E12	SAMPLE CODE	NRA05	1097
AQC (OF BMV	WP FAMILIES A. IN VI	IAL +	B. IN SAM	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE
	i) F	ferences between: BMWP families listed on sample data sheet and BMWP families found	None		None
		in VIAL by IFE			
В		SAMPLE	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES
	i) E	Gerences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE			1 Valvatidae
N	OTES:		NET LOSSES	0	NET GAINS 1
	1 Ve	alvata piscinalis 1 c	on l y		

REG	SION Southern	RIVER	Wallers	s Haven
D	DATE 16.6.92	SITE	Boreha	n Bridge
SOR	ETER E7	SAMPLE CODE	NRA05	2203
AQC C	OF BMWP FAMILIES A. IN VI	AL +	3. IN SAI	MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	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	100 May 100 - 100 May	1 Aeshnidae
В	SAMPLE	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	1	_	None
		, ;		
ľ	NOTES:	NET LOSSES	0	NET GAINS 1
	1 Aeshna sp., Brachytron			t Not found by IEE
	"Nepidae returned to riv in vial or sample.	ver" written on s	ample po	t. Not found by IFE

REG	ION	Southern	RIVER	Brench	ley Stream
D	ATE	1.6.92	SITE	Bennets	s Farm
SOR	TER	E10	SAMPLE CODE	NRAO5	1063
AQC O	F BM	WP FAMILIES A. IN VI	AL +	3. IN SAM	 MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) I ii) I	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	,	None
В			BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES
	i) 1 ii) 1	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only co		1 Valvatidae
N	OTES	:	NET LOSSES	0	NET GAINS 1
	1 V	alvata cristata 1 onl	У		

REGION	Southern	RIVER	Cuckme	re
DATE	16.6.92	SITE	Sheepwa	ash Bridge
SORTER	Е3	SAMPLE CODE	NRAO5 2	2216
AQC OF BI	MWP FAMILIES A. IN V	IAL + E	B. IN SAM	MPLE +
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
i)	fferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Caenidae*		None
В		BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
i)	SAMPLE fferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	l.	-	2 Glossiphoniidae 3 Caenidae* 4 Haliplidae 5 Hydrophilidae 6 Tipulidae 7 Simuliidae
NOTE	S:	NET LOSSES	0	NET GAINS 5
3 4 5 5	Glossiphonia complana Caenis rivulorum 1 on Brychius elevatus (adu Hydraena gracilis, H.: Dicranota sp., Limnoph Simulium ornatum grou	ly ults) riparia, Helophoru nila (Eloeophila)		palpis (adults)

REGION	Southern	RIVER Le	sser Teise
DATE	1.6.92	SITE Sp	itz Bridge
SORTER	E7	SAMPLE CODE NR	A05 1057
AQC OF BM	WP FAMILIES A. IN V	(AL + B. I	n sample +
Α	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i) 1 (ii) 1	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Notonectidae	2 Gyrinidae
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
i) i	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		
NOTES	:	NET LOSSES 1	NET GAINS 3
3 V	yrinus sp. (larvae) alvata crista, V.piso imulium aureum group		-

REG	ION Southern	RIVER Med	lway			
D	ATE 18.6.92	SITE Har	rtlake Bridge			
SOR	TER E6	SAMPLE CODE NRA	A05 1010			
AQC O	AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
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	1 Aeshnidae			
В	C AMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES			
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE					
N	OTES:	NET LOSSES 0	NET GAINS 1			
	1 Aeshna sp. 1 only					

REC	GION	Southern	RIVER	Ticker	age Stream
. I	DATE	10.7.92	SITE	Great	Streele Farm
SOF	RTER	E4	SAMPLE CODE	NRA05	2240
AQC (OF BMW	P FAMILIES A. IN V	IAL + I	3. IN SAN	MPLE +
Α	Diff	VIAL	BMWP FAMILIES NO FOUND BY IFE	ĴΤ	ADDITIONAL FAMILIES FOUND BY IFE None
	i) E	MWP families listed on sample data sheet and MWP families found n VIAL by IFE	1		
				· · · · · · · · · · · · · · · · · · ·	
В		SAMPLE	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES
	i) E c			_	1 Limnephilidae
	·				
N	OTES:	·	NET LOSSES	0	NET GAINS 1
	1 Dr	usus annulatus			
	<u>.</u> .	•	5		

REGION	Southern	RIVER	Uck		
DATE	10.7.92	SITE	Isfield	d Bridge	
SORTER	E14	SAMPLE CODE	NRAO5	2238	
AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE	
	fferences between: BMWP families listed on sample data sheet and		3	4 Psychomyiidae	
ii)	BMWP families found in VIAL by IFE				
		`			
В	SAMPLE	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES	
i)	fferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only comple when no vial is supplied with sample and milies found		None	
NOTE	es:	NET LOSSES	3	NET GAINS 1	
	Indet Nitidulid (adult Tinodes waeneri 1 only				

REGION	Southern	RIVER Pilhil	1 Brook		
DATE	14.7.92	SITE Longbi	idge, Andover		
SORTER	W18	SAMPLE CODE NRAO5	4W0143		
AQC OF BM	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Nemouridae	None		
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES		
i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		None		
NET LOSSES 1 NET GAINS 0					
Label on pot and vial says 4143 14.7.92, Dymo label in sample says 4134 14.9.92 The former reference is assumed to be correct.					

REG	SION Southern	RIVER Broad R	tife		
D	PATE 19.8.92	SITE Ferry S	Sluice		
SORTER W17		SAMPLE CODE NRA05 3	W0065		
QC O	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
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 Haliplidae*	2 Dytiscidae		
В	CAMOVE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES		
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		3 Planariidae 4 Physidae 5 Planorbidae 6 Baetidae 7 Haliplidae* 8 Beraeidae		
	-	·			
ì	NOTES:	NET LOSSES 0	NET GAINS 6		
	2 Hygrotus inaequalis (adult) 3 Polycelis nigra/tenuis 4 Physa fontinalis 5 Anisus vortex 1 only 6 Centroptilum luteolum, C.pennulatum, Cloeon dipterum 7 Haliplus lineatocollis, H.laminatus, H.wehnckei (adults) 8 Beraeodes minutus 1 only				

REC	GION	Southern	RIVER	Avon Wa	ater
I	DATE	2.7.92	SITE	Efford	Bridge
SOL	RTER	W15	SAMPLE CODE	NRA05 4	1W0177
AQC (OF BMV	VP FAMILIES A. IN VI	[AL +	3. IN SAM	APLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) H	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
В			BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
	i) I (ii) I	SAMPLE Ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	h .	_	1 Gyrinidae 2 Tipulidae
1	NOTES		NET LOSSES	0	NET GAINS 2
		yrinus sp. (larva) 1 icranota sp. 1 only	only		

REC	SION	Southern	RIVER	Adur Ea	ast
D	ATE	9.7.92	SITE	Mock B	ridge
SOF	RTER	W15	SAMPLE CODE	NRA05	3W0003
AQC C	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A		VIAL	BMWP FAMILIES N FOUND BY IFE	ОТ	ADDITIONAL FAMILIES FOUND BY IFE
	i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		1 Phryganeidae
			<u> </u>		
В			BMWP FAMILIES N FOUND BY IFE	TOI	ADDITIONAL FAMILIES
	i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	1)	- }	None
1	NOTE		NET LOSSES	0	NET GAINS 1
	1 1	Phryganea bipunctata/	grand1s		

REGION	Southern	RIVER Titchf	ield Stream
DATE	23.7.92	SITE Road B	ridge
SORTER	W14	SAMPLE CODE NRA05	4W0215
AQC OF E	BMWP FAMILIES A. IN V	AAL + B. IN SA	MPLE +
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i)	fferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	None
i)	SAMPLE Ifferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		ADDITIONAL FAMILIES 1 Erpobdellidae 2 Ephemerellidae 3 Elmidae 4 Simuliidae
NOTE	ES:	NET LOSSES 0	NET GAINS 4
2 3	Erpobdella octoculata Ephemerella ignita 1 c Oulimnius tuberculatus Simulium aureum group	only s (adult) 1 only	

REG	ION Southern	RIVER Test	
D	ATE 10.7.92	SITE Polham	pton
SOR	TER W19	SAMPLE CODE NRA05	4W0131
AQC O	F BMWP FAMILIES A. IN VI	AL + B. IN SA	MPLE +
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
В		BMWP FAMILIES NOT	ADDITIONAL FAMILIES
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	FOUND BY IFE (This box only completed when no vial is	1 Caenidae
ì	NOTES:	NET LOSSES 0	NET GAINS 1
	1 Caenis luctuosa/macru	ra 1 only	

REC	SION	Southern	RIVER	Beauli	eu
D	ATE	11.6.92	SITE	North (Gate
SOR	TER	W18	SAMPLE CODE	NRA05	4W0163
AQC C	OF BMW	VP FAMILIES A. IN VI	AL +	B. IN SAI	MPLE +
A		VIAL .	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) E	Ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
					
В			BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
	i) E	SAMPLE Ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		_	1 Leptoceridae
N	OTES:		NET LOSSES	0	NET GAINS 1
	1 Oe	ecetis sp. (pupa) 1 c	only		

REGIO	ON Southern	RIVER Hamble	
DAT	TE 21.7.92	SITE Maddox	ford Farm
SORTI	ER W9	SAMPLE CODE NRAO5	4W0112
QC OF	BMWP FAMILIES A. IN VI	AL + B. IN SA	AMPLE +
A	VIAL	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 VIAL by IFE	None	None
В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES 1 Lepidostomatidae
	Differences between: i) BMWP families listed on sample data sheet and i) BMWP families found in SAMPLE by IFE		
NO	TES:	NET LOSSES 0	NET GAINS 1
	1 Lepidostoma hirtum 1	only	

REC	SION Southern	RIVER	Park W	ater	
I	DATE 24.6.92	SITE	Landfo	rdwood	
SOF	RTER W16	SAMPLE CODE	NRA05	4W0161	
AQC (QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Sphaeriidae		2 Elmidae	
В	SAMPLE Differences between: i) BMWP families listed on sample data sheet and		ompleted	ADDITIONAL FAMILIES 3 Planariidae	
	ii) BMWP families found in SAMPLE by IFE				
ľ	NOTES:	NET LOSSES	1	NET GAINS 2	
	2 Elmis aenea (larva) 3 Polycelis nigra/tenuis	s 1 only			
:					

REG	SION Southern	RIVER Merston	n Stream		
D	ATE 2.6.92	SITE Blackwa	ater		
SOR	TER W9	SAMPLE CODE NRAO5	5W0278		
AQC O	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
	Differences between: i) BMWP families lister on sample data shee and ii) BMWP families found in VIAL by IFE		None		
В		BMWP FAMILIES NOT	ADDITIONAL FAMILIES		
	SAMPLE Differences between: i) BMWP families liste on sample data shee and ii) BMWP families found in SAMPLE by IFE	t supplied with sample)	None		
1	NOTES:	NET LOSSES 0	NET GAINS 0		

REC	SION Southern	RIVER Lav	vant (Hampshire)
r	DATE 24.7.92	SITE IBM	1 Havant
SOF	RTER W1	SAMPLE CODE NRA	05 4W0102
AQC (OF BMWP FAMILIES A. IN VI	AL + B. IN	SAMPLE +
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 .
В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found		3 Asellidae
	in SAMPLE by IFE		
1	NOTES:	NET LOSSES 0	NET GAINS 4
	1 Dendrocoelum lacteum 1 2 Anisus vortex 1 only 3 Asellus aquaticus 4 Baetis rhodani 1 only	lonly	·

REG	ION Southern	RIVER Monkton	nmead Brook
D	ATE 2.6.92	SITE Pennyfe	eathers Lane
SOR	TER W17	SAMPLE CODE NRA05	5W0281
AQC O	F BMWP FAMILIES A. IN VI	AL + B. IN SA	MPLE +
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
В		BMWP FAMILIES NOT	ADDITIONAL FAMILIES
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	FOUND BY IFE (This box only completed when no vial is	None
1	NOTES:	NET LOSSES 1	NET GAINS 0
	1 Empty shell of terres	trial snail in vial	

REGION	Southern	RIVER	Dever	
DATE	10.7.92	SITE	Bransb	ury
SORTER	W18	SAMPLE CODE	NRA05	4W0145
AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +			MPLE +	
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
i) ii)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
В		BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES
i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE			1 Hydropsychidae
NOTES	:	NET LOSSES	0	NET GAINS 1
1 H	ydropsyche sp. (pupa)	1 only		

REGIO	N Southern	RIVER	Boldings Brook
DA T I	E 9.6.92	SITE	A281 Farthings Bridge
SORTE	R W18	SAMPLE CODE	NRA05 3W0059
AQC OF 1	BMWP FAMILIES A. IN VI	AL + B.	IN SAMPLE +
А	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
i	ifferences between:) BMWP families listed on sample data sheet and) BMWP families found in VIAL by IFE	None	None
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
i	SAMPLE ifferences between:) BMWP families listed on sample data sheet and) BMWP families found in SAMPLE by IFE	(This box only com	
NOT	ES:	NET LOSSES	0 NET GAINS 0

REC	GION	Southern	RIVER	Warblin	ngton Stream No2
r	DATE	24.7.92	SITE	Church	Path
SOF	RTER	W16	SAMPLE CODE	NRA05 4	1W0212
AQC C	OF BM	WP FAMILIES A. IN VI	AL +	3. IN SAN	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) I ii) I	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
В			BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES
	i) 1 (ii) 1	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE	(This box only control when no vial is		1 Tipulidae
1	NOTES	:	NET LOSSES	0	NET GAINS 1
	1 D	icranota sp. 1 only			

		¬			
REGION	Southern	RIVER	Anton		
DATE	14.7.92	SITE	Fuller	ton	
SORTER	W16	SAMPLE CODE	NRA05	4W0142	
AQC OF BMN	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE	
i) 1 (ii) 1	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None	
В		BMWP FAMILIES NO FOUND BY IFE	OT	ADDITIONAL FAMILIES	
i)] ii)]	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE			None	
NOTES	:	NET LOSSES	0	NET GAINS 0	
	, ************************************			-	

REC	OION	Southern	RIVER	Caul Bo	ourne
Γ	ATE	2.6.92	SITE	Shalfle	eet
SOF	RTER	W17	SAMPLE CODE	NRA05	5W0274
AQC C	AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
Α		VIAL	BMWP FAMILIES N FOUND BY IFE	OT	ADDITIONAL FAMILIES FOUND BY IFE
	i)] ii)]	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None
В	i)] (ii)]	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		ompleted	ADDITIONAL FAMILIES 1 Ancylidae
	IOTES.		NET LOSSES	0	NET GAINS 1
1	OTES	: ncylus fluviatilis 1	only		

REC	GION	Southern	RIVER	Lukely	Brook
Γ	DATE	2.6.92	SITE	Westmin	nster Lane
SOF	RTER	W17	SAMPLE CODE	NRAO5 5	5W0277
AQC (OF BMV	WP FAMILIES A. IN VI	AL +	B. IN SAN	MPLE +
A		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) E	Ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	P. A. S.	None
- :					
В			BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES
	SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE			_	1 Ancylidae 2 Elmidae
]	NET LOSSES 0 NET GAINS 2				
		ncylus fluviatilis 1 imnius volckmari (adı			

REC	GION [Southern	RIVER	Bow Lal	ke	
Γ	DATE [16.7.92	SITE	Bishop	stoke Road	
SOF	RTER [W15	SAMPLE CODE	NRA05	4W0129	
AQC (QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
Α		VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE	
	i) BM or ii) BM	erences between: WWP families listed I sample data sheet and WWP families found I VIAL by IFE	1 Ephemeridae		2 Baetidae	
В		SAMPLE	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES	
	i) BN or ii) BN	erences between: MWP families listed n sample data sheet and MWP families found n SAMPLE by IFE		-	3 Notonectidae 4 Limnephilidae	
		, and the second				
Ŋ	OTES:		NET LOSSES	1	NET GAINS 3	
	3 No1	peon dipterum tonecta maculata nnephilus lunatus 1	only			

REC	SION	Southern	RIVER Ken	nt Rother		
Γ	ATE	24.8.92	SITE Bla	ckwall Bridge		
SOF	RTER	Е3	SAMPLE CODE NRA	A05 1E0122		
NQC C	COF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A		VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
	i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	None		
В			BMWP FAMILIES NOT	ADDITIONAL FAMILIES		
	i)	BMWP families listed	FOUND BY IFE (This box only comple when no vial is supplied with sample)	(
NET LOSSES 0 NET GAINS 2						
		Piscicola geometra Oryops sp. (adult) 1 o	only			

REGION	Southern	RIVER	Sussex	Rother	
DATE	16.7.92	SITE	Trottor	n Bridge	
SORTER	W1	SAMPLE CODE	NRA05	3W0025	
AQC OF BM	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
А	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE	
i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None	
В		BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES	
i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		-	1 Lymnaeidae 2 Sialidae 3 Beraeidae 4 Tipulidae	
NOTES	: :	NET LOSSES	0	NET GAINS 4	
2 S	ymnaea peregra 1 only Sialis lutaria 1 only Beraeodes minutus Dicranota sp. 1 only	7			
				- ਦੌ	

REGION	Southern	RIVER Shutt	le			
DATE	27.8.92	SITE Black	Prince			
SORTER	E2	SAMPLE CODE NRA05	1E0004			
AQC OF BM	C OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE			
i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Planariidae*	2 Valvatidae 3 Physidae			
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES			
i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		4 Planariidae*			
NOTES	S:	NET LOSSES 0	NET GAINS 2			
3 1	Valvata cristata Physa sp. (juvenile) Dugesia lugubris/poly	chroa				

REGION	Southern	RIVER	Test			
DATE	19.6.92	SITE	Broadl	ands		
SORTER	W19	SAMPLE CODE	NRA05	4W0139		
AQC OF BMY	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A .	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE		
i) E	Ferences between: BMWP families listed on sample data sheet and BMWP families found on VIAL by IFE	None		None		
В		BMWP FAMILIES NO FOUND BY IFE	Т	ADDITIONAL FAMILIES		
i) B o (ii) B	SAMPLE Gerences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE			None		
NOTES:		NET LOSSES	0	NET GAINS 0		

REC	GION	Southern	RIVER Bevern	Stream		
I	DATE	25.11.92	SITE Bevern	Bridge		
SOF	RTER	E3	SAMPLE CODE NRA05	2E0233		
AQC (OF BMV	VP FAMILIES A. IN V	IAL + B. IN SA	MPLE +		
Α		VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
	i) E c	Gerences between: BMWP families listed on sample data sheet and BMWP families found on VIAL by IFE	1 Scirtidae	None		
В			BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES		
	i) B c ii) B	SAMPLE Ferences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE	(This box only completed when no vial is	2 Dytiscidae		
N	NET LOSSES 1 NET GAINS 1					
		st skin in vial atambus maculatus (l	arva) 1 only			

REGI	ION Southern	RIVER	North	End Stream		
DA	ATE 25.11.92	SITE	North	End		
SORT	TER E12	SAMPLE CODE	NRA05	2E0231		
AQC OF	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE		
}	Differences between: i) BMWP families listed on sample data sheet and i) BMWP families found in VIAL by IFE	1 Oligochaeta*		None		
В	SAMPLE	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES		
	Differences between: i) BMWP families listed on sample data sheet and i) BMWP families found in SAMPLE by IFE			2 Planariidae 3 Oligochaeta* 4 Dytiscidae 5 Hydrophilidae		
NO	TES:	NET LOSSES [0	NET GAINS 3		
	2 Polycelis nigra/tenuis 3 Naididae, Tubificidae 4 Stictotarsus duodecimp 5 Hydraena sp. (adult) 1	ustulatus (adult)	1 only			

REC	GION	Southern	RIVER	Rother	
Ι	DATE	29.9.92	SITE	Shopha	m Bridge
SOF	RTER	W1	SAMPLE CODE	NRA05	3W0028
AQC (OF BMW	VP FAMILIES A. IN V	IAL + I	3. IN SAI	MPLE +
A	. •	VIAL	BMWP FAMILIES NO FOUND BY IFE	TC	ADDITIONAL FAMILIES FOUND BY IFE
	i) E c lii) E	Ferences between: SMWP families listed on sample data sheet and SMWP families found on VIAL by IFE	1 Chironomidae*		None
B	i) B o ii) B	SAMPLE erences between: MWP families listed on sample data sheet and MWP families found n SAMPLE by IFE		ompleted	ADDITIONAL FAMILIES 2 Beraeidae 3 Leptoceridae 4 Tipulidae 5 Chironomidae*
N	IOTES:		NET LOSSES	0	NET GAINS 3
	3 Oe 4 He	raeodes minutus 1 on cetis testacea/furva xatoma sp. 1 only nypodinae, Chironomi	1 only		

REGION	Southern	RIVER	Len Tr	ibutary
DATE	5.11.92	SITE	d/s Le	eds STW
SORTER	E2	SAMPLE CODE	NRA05	1E0086
AQC OF BMWP FAMILIES A. IN VIAL + B. IN				MPLE +
i)	VIAL ferences between: BMWP families listed on sample data sheet and BMWP families found	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE None
	in VIAL by IFE			
i) 1 (ii) 1	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		ompleted	1 Sericostomatidae 2 Chironomidae
NOTES	•	NET LOSSES [0	NET GAINS 2
	ericostoma personatum rthocladiinae 1 only	1 only		

REGION Southern		RIVER Ridgewood	od Stream	
DATE 25.11.92		SITE A26 Brid	lge	
SORTER E4	SAMPL	E CODE NRA05 2E	E0239	
QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A VIAL	BMWP FAM FOUND	•	ADDITIONAL FAMILIES FOUND BY IFE	
Differences be i) BMWP familion sample do and ii) BMWP familion in VIAL by	es listed ata sheet es found		1 Lymnaeidae 2 Piscicolidae	
В	BMWP FAM FOUND	l l	ADDITIONAL FAMILIES	
	es listed when no sata sheet supplied es found	only completed vial is	3 Valvatidae 4 Coenagriidae 5 Polycentropodidae	
NOTES:	NET 1	LOSSES 0	NET GAINS 5	
1 Lymnaea peregra 2 Piscicola geometra 3 Valvata cristata 1 only 4 Ischnura elegans 1 only 5 Cyrnus trimaculatus 1 only				

REGION	Southern	RIVER Limder			
DATE	9.9.92	SITE Etchir	ngham		
SORTER	E11	SAMPLE CODE NRAO5	1E0156		
AQC OF BMV	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
i) E	VIAL ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None	ADDITIONAL FAMILIES FOUND BY IFE 1 Erpobdellidae 2 Sialidae		
i) E	SAMPLE Serences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE		ADDITIONAL FAMILIES 3 Haliplidae 4 Leptoceridae		
NOTES:		NET LOSSES 0	NET GAINS 4		
2 Si 3 Br	ocheta sp. (juvenile alis lutaria ychius elevatus 1 on hripsodes aterrimus				

REC	GION	Southern	RIVER	oxwood Str	eam
I	DATE	30.9.92	SITE	rungewick	
SOI	RTER	W17	SAMPLE CODE	TRA05 3W005	5
AQC (QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A		VIAL	BMWP FAMILIES NOT FOUND BY IFE		TIONAL FAMILIES DUND BY IFE
	i) E	Gerences between: SMWP families listed on sample data sheet and SMWP families found on VIAL by IFE	1 Nemouridae	2 Tá	aeniopterygidae
В	Diff	SAMPLE erences between:	BMWP FAMILIES NOT FOUND BY IFE (This box only comp	3 Va	TIONAL FAMILIES livatidae anorbidae
	ii) B	MWP families listed on sample data sheet and MWP families found n SAMPLE by IFE		le)	
N	OTES:		NET LOSSES	1	NET GAINS 3
	3 Va	eniopteryx nebulosa lvata cristata 1 onl raulus albus 1 only	у		

REGION	Southern	RIVER Bull				
DATE	6.11.92	SITE Lea br	idge			
SORTER	E1	SAMPLE CODE NRA05	2E0219			
AQC OF BMV	QC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE			
i) E	erences between: SMWP families listed on sample data sheet and SMWP families found on VIAL by IFE		N/a			
	,		·			
В	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES			
i) B o ii) B	erences between: MWP families listed in sample data sheet and MWP families found n SAMPLE by IFE	(This box only completed when no vial is supplied with sample) 1 Tipulidae	2 Ancylidae 3 Asellidae 4 Psychomyiidae			
NOTES:		NET LOSSES 1	NET GAINS 3			
1 Bi 2 An 3 As	bio sp. present in s cylus fluviatilis 1 ellus meridianus 1 o pe sp.	only				

REGION	Southern	RIVER	Tidebr	ook	
DATE	19.11.92	SITE	Button	s	
SORTER	E8	SAMPLE CODE	NRA05	1E0125	
AQC OF BMV	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES FOUND BY IFE	
i) E	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Dytiscidae		2 Hydrophilidae	
В		BMWP FAMILIES NO FOUND BY IFE	T	ADDITIONAL FAMILIES	
i) E	SAMPLE Serences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE	(This box only co when no vial is	i	3 Goeridae	
NOTES:		NET LOSSES [1	NET GAINS 2	
(adu	det Hydrophilid (lar lts) in sample. lo pallipes	va) in vial, Hydr	aena gra	ncilis, H.riparia	

REGION Southern	RIVER Teise					
DATE 19.11.92	SITE Lamber	rhurst				
SORTER E1	SAMPLE CODE NRA05	1E0050				
AQC OF BMWP FAMILIES A. IN VI	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
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				
В	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES				
i) BMWP families listed	(This box only completed when no vial is supplied with sample)	None				
NOTES:	NET LOSSES 0	NET GAINS 0				

REGION	Southern	RIVER Erid	lge Stream		
DATE	10.11.92	SITE Forg	ge Farm		
SORTER	E4	SAMPLE CODE NRAO	05 1E0020		
AQC OF BMI	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
i) F	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	None		
В		BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES		
i) E	SAMPLE Serences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE		1 Planorbidae ed 2 Psychomyiidae 3 Limnephilidae		
NOTES:	4	NET LOSSES 0	NET GAINS 3		
2 Ly	nisus vortex 1 only pe sp. 1 only det Limnephilid (juv	renile) 1 only			

REGION	Southern	RIVER	Cradle	bridge Sewer	
DATE	29.10.92	SITE	B2080 I	Redhill Bridge	
SORTER	E11	SAMPLE CODE [NRA05	1E0148	
AQC OF BMV	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NO FOUND BY IFE	Т	ADDITIONAL FAMILIES FOUND BY IFE	
i) E	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None		None	
i) E	SAMPLE Serences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE		mpleted	ADDITIONAL FAMILIES 1 Sphaeriidae 2 Piscicolidae 3 Gyrinidae	
NOVERS	-	NET LOSSES	0	NET GAINS 3	
	sidium sp.	<u> </u>	——————————————————————————————————————		
) 2 Pi	scicola geometra rinus marinus (adult) 1 only			

REGION	Southern	RIVER Abbey	Petty Sewer		
DATE	9.9.92	SITE Russet	Farm		
SORTER	E14	SAMPLE CODE NRA05	1E0129		
AQC OF BM	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE		
i)	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	1 Ephemerellidae	None		
В		BMWP FAMILIES NOT	ADDITIONAL FAMILIES		
i)	SAMPLE ferences between: BMWP families listed on sample data sheet and BMWP families found in SAMPLE by IFE		2 Nepidae 3 Gyrinidae		
NOTES	:	NET LOSSES 1	NET GAINS 2		
	epa cinerea 1 only Tyrinus sp. (larva) 1	only			

REGION	Southern	RIVER East S	itour			
DATE	6.10.92	SITE Grove	Bridge, Sellinge			
SORTER	E8	SAMPLE CODE NRA05	1E0100			
AQC OF BM	QC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +					
A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE			
i) i	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	None	None			
В		BMWP FAMILIES NOT	ADDITIONAL FAMILIES			
i) I (ii) I	SAMPLE ferences between: BMWP families listed on sample data sheet		None			
NOTES	:	NET LOSSES 0	NET GAINS 0			

REGION	Southern	RIVER	Great	Stour
DATE	6.10.92	SITE	Horton	
SORTER	E11	SAMPLE CODE	NRA05	1E0093
AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE +				
A	·VIAL	BMWP FAMILIES NO FOUND BY 1FE	TC	ADDITIONAL FAMILIES FOUND BY IFE
i) E	ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE	E .		None
i) E	SAMPLE Serences between: SMWP families listed on sample data sheet and SMWP families found on SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial is supplied with sample)		ADDITIONAL FAMILIES None
NOTES:		NET LOSSES [0	NET GAINS 0
			·	

