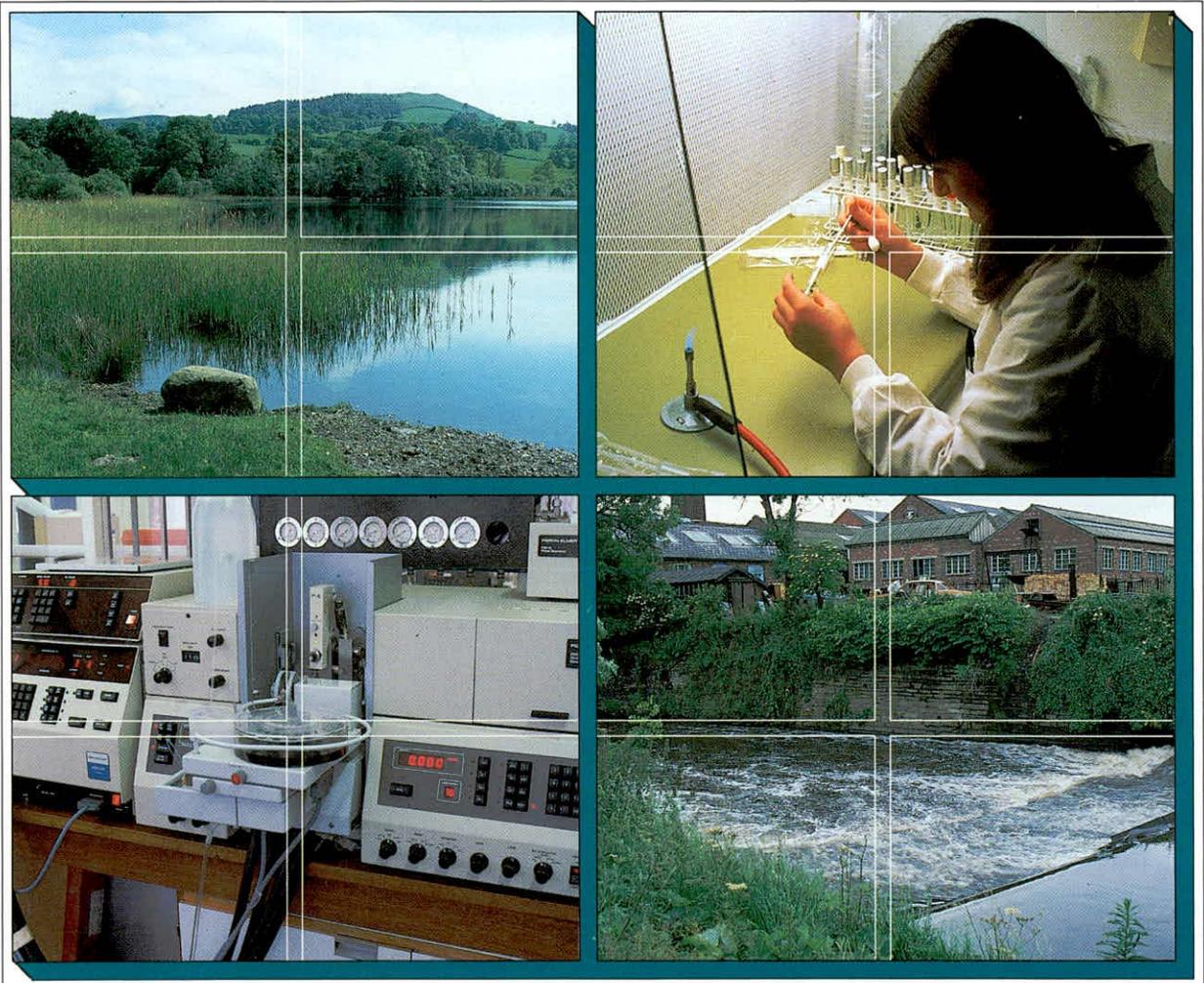




# **An audit of performance in the processing of macro-invertebrate samples in 1992. NRA South West Region**

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NRA South West Region**

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## **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 South West 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

REGION  RIVER

DATE  SITE

SORTER  SAMPLE CODE

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

A	VIAL	BMW P FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMW P families listed on sample data sheet and ii) BMW P families found in VIAL by IFE		

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

NET LOSSES  NET GAINS

NOTES:

TABLE 2. The 16 spring samples audited for South West Region.

River	Site	Sorter	Losses	Gains	Omissions
Latchley Brook	Latchley	TR	0	1	0
Luckett	Old Mill	TR	0	2	0
Tavy	Mid Lopwell Dam	PAB	1	1	0
Withey Brook	u/s Bastreet Intake	ST	0	2	0
Lew	Bloomaford	LB	0	0	0
Ottery	Canworthy Water Bridge	ST	1	1	0
Drimpton Stream	Netherhay	PG	1	1	0
Fowey	Restormel	ST	0	1	0
Henwood Stream	u/s Axe confluence	RG	0	4	0
Vine Water	Feniton	JBC	0	2	0
Lyd	u/s R. Thrushel	TAB	1	1	0
Neet	Hele Bridge	PAB	1	0	0
Smallridge Stream	u/s R. Axe	PG	0	1	1
St Lawrence Stream	A389 Bridge	TB	0	0	0
Camel	Camelford Bridge	PB	0	1	0
Camel	Nanstallon Bridge	TR	0	1	0

TABLE 3. The 22 summer samples audited for South West Region

River	Site	Sorter	Losses	Gains	Omissions
Haye Valley Stream	Haye	KAD	0	1	1
St Mawgan Stream	Whipsiderry	TR	0	0	0
North Badworthy Stream	Barham Bridge	AA	0	0	0
Lamberal Water	Moreton Pound Bridge	ST	0	0	0
Dunstable Brook	u/s Coles Mill Confluence	TR	0	1	0
Claw	Claw Bridge	MD	0	8	1
Claw	Tetcott Bridge	MD	0	1	0
Coombe Raleigh Stream	Longwood	NB	0	2	0
Blackwater	Buddlewall	RA	1	3	0
Neet	Hele Bridge	TAB	0	5	0
Wick Stream	Mill House Nursery	LK	0	2	0
Yarty	Newhaven Bridge	LB	0	3	0
Medland Brook	Waterhouse Bridge	LB	0	0	0
West Okement	Okehampton Hospital	AA	0	1	0
Lew	Holestock Bridge	AA	0	1	0
Bideford Yeo	Hoopers Bridge	RA	1	5	1
Langtree	Servis Farm	RA	1	2	0
Okement	Woodhall Bridge	PG	0	0	0
Tavy	Hill Bridge	PAB	1	1	0
N. Lew Stream Trib.	Ford Coombe	AA	0	1	0
Little Silver Stream	Alswear Road Bridge	PG	0	0	0
Tamar	Crowford Bridge	TR	0	1	0

TABLE 4. The 22 autumn samples audited for South West Region

River	Site	Sorter	Losses	Gains	Omissions
Torridge	Beam Bridge	PG	0	2	0
Axe	Forde Bridge	RA	0	2	0
Umborne Brook	Triffords Farm Bridge	LK	1	2	0
Yealm	Lee Mill Bridge	PAB	0	0	0
Ruthern	Grogley Downs Bridge	KAD	0	0	0
Wagaford Water	Wagaford Bridge	NB	1	1	0
Lew	Lewer Bridge	AA	0	0	0
Bulmoor Stream	Whitford Bridge	AA	0	1	0
Synderford	Beere Farm	LK	0	1	0
Fair Oak	Upottery	AA	0	1	0
Gissage	u/s Otter confluence	PG	1	1	1
Cardinham Water	Glynmill	PAB	0	1	0
Axe	A358 Bridge, Weycroft	AA	1	5	0
Woolacombe Stream	Woolacombe Bridge	AA	0	5	0
Tory Brook	Station Road Plympton	MD	0	2	1
Hollocombe Water	Woodroberts	RA	3	3	0
West Okement	Okehampton Hospital	AA	0	1	0
Blanchdown Stream	u/s R. Tamar	TAB	0	0	0
Camel	Tresarret Bridge	TAB	0	1	0
Kensey	Badgall Bridge	TR	0	0	0
Smallhanger Brook	u/s Tory Brook	KAD	1	4	0
Carey	Boldford Bridge	MD	0	2	1



**APPENDIX**

**Results of individual sample audits**

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Latchley Brook
DATE	9.3.92	SITE	Latchley
SORTER	TR	SAMPLE CODE	NRA06 1217

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	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 is supplied with sample)	1 Chloroperlidae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Chloroperla torrentium 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Luckett
DATE	10.3.92	SITE	Old Mill
SORTER	TR	SAMPLE CODE	NRA06 1292

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 Physidae

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 is supplied with sample)	2 Hydrobiidae

NET LOSSES 0 NET GAINS 2

NOTES:

1 Physa sp. (juvenile) 1 only  
2 Potamopyrgus jenkinsi 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Tavy
DATE	5.3.92	SITE	Mid Lopwell Dam
SORTER	PAB	SAMPLE CODE	NRA06 1283

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	1 Simuliidae	2 Notonectidae

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 is supplied with sample)	None

NET LOSSES 1 NET GAINS 1

NOTES:

2 Notonecta glauca

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Withey Brook
DATE	16.3.92	SITE	U/s Bastreet Intake
SORTER	ST	SAMPLE CODE	NRA06 1271

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	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 is supplied with sample)	1 Sialidae 2 Hydroptilidae

NET LOSSES  NET GAINS

NOTES:

1 Sialis lutaria 1 only  
2 Hydroptila sp.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Lew
DATE	18.3.92	SITE	Bloomaford
SORTER	LB	SAMPLE CODE	NRA06 2950

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Ottery
DATE	20.3.92	SITE	Canworthy Water Bridge
SORTER	ST	SAMPLE CODE	NRA06 1255

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	1 Leuctridae	None

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

NET LOSSES  1 NET GAINS  1

NOTES:

2 Dina lineata 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Drimpton Stream
DATE	7.4.92	SITE	Netherhay
SORTER	PG	SAMPLE CODE	NRA06 0217

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	1 Leptophlebiidae	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 is supplied with sample)	2 Leuctridae

NET LOSSES  1 NET GAINS  1

NOTES:

2 Leuctra geniculata 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Fowey
DATE	13.5.91	SITE	Restormel
SORTER	ST	SAMPLE CODE	NRA06 1516

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	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 is supplied with sample)	1 Gammaridae

NET LOSSES  0 NET GAINS  1

NOTES:

1 Gammarus pulex 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Henwood Stream
DATE	7.4.92	SITE	u/s Axe confluence
SORTER	RG	SAMPLE CODE	NRA06 0240

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	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 is supplied with sample)	1 Ephemerellidae 2 Nemouridae 3 Haliplidae 4 Beraeidae

NET LOSSES 0 NET GAINS 4

NOTES:

- 1 Ephemerella ignita
- 2 Nemoura sp. 1 only
- 3 Haliplus lineatocollis (adult) 1 only
- 4 Beraeodes minutus 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Vine Water
DATE	9.4.92	SITE	Feniton
SORTER	JBC	SAMPLE CODE	NRA06 0420

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 Nemouridae

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 is supplied with sample)	2 Sialidae

NET LOSSES  0 NET GAINS  2

NOTES:

1 Nemurella picteti  
2 Sialis lutaria 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Lyd
DATE	29.4.92	SITE	u/s R.Thrushel
SORTER	TAB	SAMPLE CODE	NRA06 1295

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	1 Hydrophilidae	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 is supplied with sample)	2 Lymnaeidae

NET LOSSES 1 NET GAINS 1

NOTES:

2 Lymnaea palustris/truncatula 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Neet
DATE	25.3.92	SITE	Hele Bridge
SORTER	PAB	SAMPLE CODE	NRA06 2706

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	1 Planorbidae	None

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

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Smallridge Stream
DATE	7.4.92	SITE	u/s R.Axe
SORTER	PG	SAMPLE CODE	NRA06 0238

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	1 Heptageniidae*	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 is supplied with sample)	2 Erpobdellidae 3 Heptageniidae*

NET LOSSES  0 NET GAINS  1

NOTES:

2 Indet erpobdellid 1 only  
3 Rhithrogena semicolorata/germanica, Ecdyonurus sp.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	St Lawrence Stream
DATE	21.4.92	SITE	A389 Bridge
SORTER	TB	SAMPLE CODE	NRA06 2515

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Camel
DATE	21.4.92	SITE	Camelford Bridge
SORTER	PB	SAMPLE CODE	NRA06 2510

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	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 is supplied with sample)	1 Hydroptilidae

NET LOSSES  NET GAINS

NOTES:

1 Ithytrichia sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Camel
DATE	23.4.92	SITE	Nanstallon Bridge
SORTER	TR	SAMPLE CODE	NRA06 2511

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	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 is supplied with sample)	1 Tipulidae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Limnophila (Eloeophila) sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Haye Valley Stream
DATE	19.6.92	SITE	Haye
SORTER	KAD	SAMPLE CODE	NRA06 12139

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	1 Elmidae*	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 is supplied with sample)	2 Sphaeriidae 3 Elmidae*

NET LOSSES 0 NET GAINS 1

NOTES:

2 Pisidium sp. 1 only  
3 Elmis aenea (adult) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	St Mawgan Stream
DATE	4.8.92	SITE	Whipsiderry
SORTER	TR	SAMPLE CODE	NRA06 2526

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	North Badworthy Stream
DATE	5.6.92	SITE	Barham Bridge
SORTER	AA	SAMPLE CODE	NRA06 3029

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Lamberal Water
DATE	8.6.92	SITE	Moreton Pound Bridge
SORTER	ST	SAMPLE CODE	NRA06 1250

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	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	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 supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Dunstable Brook
DATE	10.6.92	SITE	u/s Coles Mill Confluence
SORTER	TR	SAMPLE CODE	NRA06 12110

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	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 is supplied with sample)	1 Sialidae

NET LOSSES 0 NET GAINS 1

NOTES:  
1 Sialis lutaria 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Claw
DATE	10.6.92	SITE	Claw Bridge
SORTER	MD	SAMPLE CODE	NRA06 12107

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	1 Sphaeriidae*	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 is supplied with sample)	2 Sphaeriidae* 3 Glossiphoniidae 4 Haliplidae 5 Dytiscidae 6 Hydrophilidae 7 Sialidae 8 Rhyacophilidae 9 Sericostomatidae 10 Tipulidae

NET LOSSES  0 NET GAINS  8

NOTES:

- 2 Pisidium sp. 1 only
- 3 Glossiphonia complanata 1 only
- 4 Brychius elevatus (adult) 1 only
- 5 Oreodytes sanmarkii (adult) 1 only
- 6 Hydraena gracilis (adults)
- 7 Sialis fuliginosa 1 only
- 8 Rhyacophila sp. (juvenile) 1 only
- 9 Sericostoma personatum
- 10 Dicranota sp.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Claw
DATE	11.6.92	SITE	Tetcott Bridge
SORTER	MD	SAMPLE CODE	NRA06 1242

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	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 is supplied with sample)	1 Gammaridae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Gammarus pulex 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Coombe Raleigh Stream 4B
DATE	17.7.92	SITE	Longwood
SORTER	NB	SAMPLE CODE	NRA06 0418

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 Sialidae

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 is supplied with sample)	2 Caenidae

NET LOSSES  0 NET GAINS  2

NOTES:

1 Sialis lutaria  
2 Caenis luctuosa/macrura 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Blackwater
DATE	9.7.92	SITE	Buddlewall
SORTER	RA	SAMPLE CODE	NRA06 0222

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	1 Mesoveliidae	2 Odontoceridae

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	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 supplied with sample)	3 Oligochaeta 4 Polycentropodidae

NET LOSSES  1 NET GAINS  3

NOTES:

- 1 Veliid nymphs in vial
- 2 Odontocerum albicorne
- 3 Tubificidae
- 4 Polycentropus flavomaculatus 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Neet
DATE	19.6.92	SITE	Hele Bridge
SORTER	TAB	SAMPLE CODE	NRA06 2706

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	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 is supplied with sample)	1 Lymnaeidae 2 Glossiphoniidae 3 Hydrophilidae 4 Sialidae 5 Hydroptilidae

NET LOSSES  NET GAINS

NOTES:

- 1 Lymnaea peregra
- 2 Glossiphonia complanata 1 only
- 3 Hydraena gracilis, Helophorus brevipalpis (adults)
- 4 Sialis sp. (juvenile) 1 only
- 5 Hydroptila sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Wick Stream
DATE	14.7.92	SITE	Mill House Nursery
SORTER	LK	SAMPLE CODE	NRA06 0407

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	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 is supplied with sample)	1 Caenidae 2 Hydroptilidae

NET LOSSES  0 NET GAINS  2

NOTES:

1 Caenis rivulorum 1 only  
2 Hydroptila sp., Ithytrichia sp.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Yarty
DATE	6.7.92	SITE	Newhaven Bridge
SORTER	LMB	SAMPLE CODE	NRA06 0225

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	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 is supplied with sample)	1 Leptophlebiidae 2 Hydroptilidae 3 Goeridae

NET LOSSES  NET GAINS

NOTES:

1 Paraleptophlebia sp. 1 only  
2 Hydroptila sp. 1 only  
3 Silo sp. (juvenile) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Medland Brook
DATE	25.6.92	SITE	Waterhouse Bridge
SORTER	LMB	SAMPLE CODE	NRA06 2954

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	West Okement
DATE	29.6.92	SITE	Okehampton Hospital
SORTER	AA	SAMPLE CODE	NRA06 2932

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	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 is supplied with sample)	1 Hydrophilidae

NET LOSSES  NET GAINS

NOTES:

1 Helophorus brevipalpis (adults)

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Lew
DATE	23.6.92	SITE	Holestock Bridge
SORTER	AA	SAMPLE CODE	NRA06 2923

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	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 is supplied with sample)	1 Gammaridae

NET LOSSES

NET GAINS

NOTES:

1 Gammarus pulex

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Bideford Yeo
DATE	16.6.92	SITE	Hoopers Bridge
SORTER	RA	SAMPLE CODE	NRA06 2902

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	1 Sphaeriidae* 2 Hydroptilidae	3 Odontoceridae

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 is supplied with sample)	4 Sphaeriidae* 5 Piscicolidae 6 Leptophlebiidae 7 Hydrophilidae 8 Lepidostomatidae

NET LOSSES  1 NET GAINS  5

NOTES:

- 3 Odontocerum albicorne
- 4 Pisidium sp.
- 5 Piscicola geometra 1 only
- 6 Habrophlebia fusca
- 7 Hydraena gracilis, Helophorus brevipalpis (adults)
- 8 Lepidostoma hirtum 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Langtree
DATE	12.6.92	SITE	Servis Farm
SORTER	RA	SAMPLE CODE	NRA06 2936

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	1 Psychomyiidae	2 Philopotamidae

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	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 supplied with sample)	3 Odontoceridae

NET LOSSES  1

NET GAINS  2

NOTES:

2 Philopotamus montanus  
3 Odontocerum albicorne 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Okement
DATE	25.6.92	SITE	Woodhall Bridge
SORTER	PG	SAMPLE CODE	NRA06 2927

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Tavy
DATE	18.6.92	SITE	Hill Bridge
SORTER	PAB	SAMPLE CODE	NRA06 1203

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	1 Lepidostomatidae	2 Psychomyiidae

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	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 supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1 Decomposed head of Lepidostomatid + 2 empty cases in vial  
2 Psychomyia pusilla

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	N.Lew Stream Tributary
DATE	23.6.92	SITE	Ford Coombe
SORTER	AA	SAMPLE CODE	NRA06 2958

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	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 is supplied with sample)	1 Scirtidae

NET LOSSES  NET GAINS

NOTES:

1 Elodes sp. (larva) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Little Silver Stream
DATE	9.6.92	SITE	Alswear Road Bridge
SORTER	PG	SAMPLE CODE	NRA06 3025

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY · AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Tamar
DATE	10.6.92	SITE	Crowford Bridge
SORTER	TJR	SAMPLE CODE	NRA06 12115

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	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 is supplied with sample)	1 Platycnemididae

NET LOSSES  NET GAINS

NOTES:

1 Platycnemis pennipes 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Torridge
DATE	21.9.92	SITE	Beam Bridge
SORTER	PG	SAMPLE CODE	NRA06 2940

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	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 is supplied with sample)	1 Gammaridae 2 Caenidae

NET LOSSES  NET GAINS

NOTES:

1 Crangonyx pseudogracilis 1 only  
2 Caenis luctuosa/macrura 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Axe
DATE	6.10.92	SITE	Forde Bridge
SORTER	RA	SAMPLE CODE	NRA06 0233

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	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 is supplied with sample)	1 Lymnaeidae 2 Ephemerellidae

NET LOSSES 0 NET GAINS 2

NOTES:

1 Lymnaea peregra 1 only  
2 Ephemerella ignita 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Umborne Brook
DATE	8.10.92	SITE	Triffords Farm Bridge
SORTER	LK	SAMPLE CODE	NRA06 0205

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	1 Lepidostomatidae	2 Limnephilidae

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 is supplied with sample)	3 Glossiphoniidae

NET LOSSES  1  NET GAINS  2

NOTES:

2 Indet Limnephilid (juvenile) 1 only  
3 Helobdella stagnalis 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Yealm
DATE	1.9.92	SITE	Lee Mill Bridge
SORTER	PAB	SAMPLE CODE	NRA06 1010

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Ruthern
DATE	8.10.92	SITE	Grogley Downs Bridge
SORTER	KAD	SAMPLE CODE	NRA06 2512

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Wagaford Water
DATE	28.9.92	SITE	Wagaford Bridge
SORTER	NB	SAMPLE CODE	NRA06 2956

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	1 Lymnaeidae	None

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

NET LOSSES 1 NET GAINS 1

NOTES:

1 Terrestrial snail (shell missing) in vial  
2 Chloroperla torrentium 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Lew
DATE	5.10.92	SITE	Lewer Bridge
SORTER	AA	SAMPLE CODE	NRA06 2952

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Bulmoor Stream
DATE	6.10.92	SITE	Whitford Bridge
SORTER	AA	SAMPLE CODE	NRA06 0231

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	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 is supplied with sample)	1 Hydropsychidae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Hydropsyche pellucidula 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Synderford
DATE	6.10.92	SITE	Beere Farm
SORTER	LK	SAMPLE CODE	NRA06 0218

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	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 is supplied with sample)	1 Caenidae

NET LOSSES  NET GAINS

NOTES:

1 Caenis rivulorum 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Fair Oak
DATE	8.10.92	SITE	Upottery
SORTER	AA	SAMPLE CODE	NRA06 0416

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	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 is supplied with sample)	1 Dytiscidae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Oreodytes sanmarkii (adult) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Gissage
DATE	12.10.92	SITE	u/s Otter confluence
SORTER	PG	SAMPLE CODE	NRA06 0408

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	1 Glossiphoniidae 2 Sericostomatidae*	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	3 Odontoceridae 4 Sericostomatidae*

NET LOSSES  NET GAINS

NOTES:

3 Odontocerum albicorne 1 only  
4 Sericostoma personatum

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Cardinham Water
DATE	2.10.92	SITE	Glynmill
SORTER	PAB	SAMPLE CODE	NRA06 1506

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	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 is supplied with sample)	1 Sphaeriidae

NET LOSSES  NET GAINS

NOTES:

1 Pisidium sp.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Axe
DATE	1.10.92	SITE	A358 Bridge, Weycroft
SORTER	AA	SAMPLE CODE	NRA06 0215

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	1 Nemouridae	2 Taeniopterygidae

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 is supplied with sample)	3 Piscicolidae 4 Caenidae 5 Calopterygidae 6 Hydroptilidae

NET LOSSES 1 NET GAINS 5

NOTES:

- 2 Taeniopteryx nebulosa
- 3 Piscicola geometra 1 only
- 4 Caenis luctuosa/macrura 1 only
- 5 Calopteryx sp. (juveniles)
- 6 Hydroptila sp. (pupa) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Woolacombe Stream
DATE	2.9.92	SITE	d/s Woolacombe Bridge
SORTER	AA	SAMPLE CODE	NRA06 3040

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	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 is supplied with sample)	1 Lymnaeidae 2 Ephemeridae 3 Gyrinidae 4 Scirtidae 5 Polycentropodidae

NET LOSSES  NET GAINS

NOTES:

- 1 Lymnaea peregra 1 only
- 2 Ephemera danica 1 only
- 3 Orectochilus villosus (larvae)
- 4 Indet Scirtid (larva) 1 only
- 5 Plectrocnemia conspersa 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Tory Brook
DATE	2.9.92	SITE	Station Road, Plympton
SORTER	MD	SAMPLE CODE	NRA06 1102

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	1 Hydrobiidae*	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	2 Hydrobiidae* 3 Baetidae 4 Tipulidae

NET LOSSES  NET GAINS

NOTES:

1,2 Empty shell in vial, Potamopyrgus jenkinsi in sample.  
3 Baetis rhodani 1 only  
4 Pedicia (Pedicia) sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Hollocombe Water
DATE	7.9.92	SITE	Woodroberts
SORTER	RA	SAMPLE CODE	NRA06 3046

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	1 Dytiscidae 2 Polycentropodidae 3 Odontoceridae	4 Gyrinidae 5 Philopotamidae

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 is supplied with sample)	6 Rhyacophilidae

NET LOSSES  3 NET GAINS  3

NOTES:

4 Orectochilus villosus (larvae)  
5 Philopotamus montanus  
6 Glossosoma sp. (pupae)

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	West Okement
DATE	2.10.92	SITE	Okehampton Hospital
SORTER	AA	SAMPLE CODE	NRA06 2932

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	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 is supplied with sample)	1 Leptoceridae

NET LOSSES  NET GAINS

NOTES:

1 Athripsodes sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Blanchdown Stream
DATE	9.10.92	SITE	u/s R.Tamar
SORTER	TAB	SAMPLE CODE	NRA06 1293

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Camel
DATE	24.9.92	SITE	Tresarret Bridge
SORTER	TAB	SAMPLE CODE	NRA06 2542

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	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 is supplied with sample)	1 Sericostomatidae

NET LOSSES  NET GAINS

NOTES:

1 Sericostoma personatum

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Kensey
DATE	17.9.92	SITE	Badgall Bridge
SORTER	TJR	SAMPLE CODE	NRA06 1260

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	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 is supplied with sample)	None

NET LOSSES  NET GAINS

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Smallhanger Brook
DATE	2.9.92	SITE	u/s Tory Brook
SORTER	KAD	SAMPLE CODE	NRA06 1117

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	1 Hydrobiidae	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	2 Heptageniidae 3 Hydrophilidae 4 Scirtidae 5 Leptoceridae

NET LOSSES  NET GAINS

NOTES:

- 2 Ecdyonurus sp. 1 only
- 3 Hydraena gracilis (adults)
- 4 Elodes sp. (larva) 1 only
- 5 Mystacides azurea 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	South West	RIVER	Carey
DATE	11.9.92	SITE	Boldford Bridge
SORTER	MD	SAMPLE CODE	NRA06 12103

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	1 Tipulidae*	2 Lepidostomatidae

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 is supplied with sample)	3 Rhyacophilidae 4 Tipulidae*

NET LOSSES 0 NET GAINS 2

NOTES:

2 *Lepidostoma hirtum*  
3 *Agapetus* sp.  
4 *Dicranota* sp.

