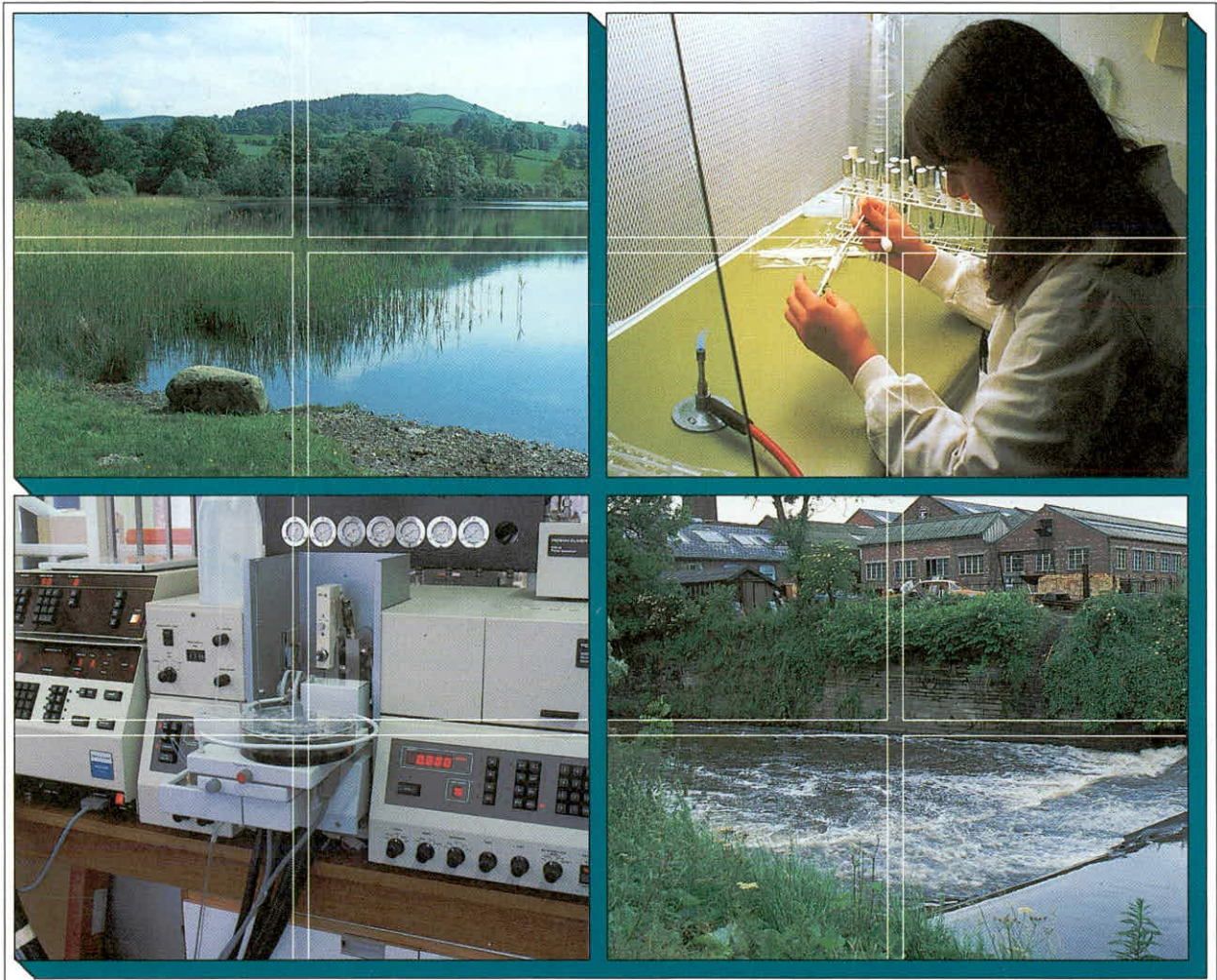




An audit of performance in the processing of macro-invertebrate samples in 1992. NRA Yorkshire Region

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

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Project leader:	R.J.M. Gunn
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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 Yorkshire 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	<input type="text"/>	RIVER	<input type="text"/>
DATE	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	SAMPLE CODE	<input type="text"/>

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			

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)	

NET LOSSES NET GAINS

NOTES:

TABLE 2. The 20 spring samples audited for Yorkshire Region.

River	Site	Sorter	Losses	Gains	Omissions
Cover	Middleham	RM	0	1	0
Thornton Beck	Thornton Dale	FN	1	2	0
Swale	Grinton	JM	0	5	1
Bentley Brook	Furnace Grange	JB	0	0	0
Swale	Hudswell	FN	0	1	0
Dearne	Haigh Roundabout	JB	0	0	0
New Cut	u/s Lancs Gill	FC	0	3	0
Riccal	West Ness	FN	0	1	0
Hemp Dike	Sandy Bridge Lane	JB	0	0	0
Great Fryup Beck	Street	JM	0	0	0
Dove	Keldholme	RM	0	0	0
Spittle Beck	Braithwaite	FN	0	3	0
Esk	Westerdale	FN	0	3	0
Crimple Beck	Newsome Bridge	EA	0	1	0
Bushy Beck	u/s SWO Humble	JK	0	0	0
Dove	u/s Worsbrough STW	SGT	0	1	0
Cawthorne Dike	Cawthorne Lane	SGT	0	0	0
Little Don	d/s Langsett WTW	VH	2	2	0
House Carr Dike	nr Sovereign House	SAL	0	0	2
Silkstone Beck	Furnace Bridge	SAL	0	0	0

TABLE 3. The 23 summer samples audited for Yorkshire Region

River	Site	Sorter	Losses	Gains	Omissions
Cononley Beck	u/s R. Aire	FC	0	1	2
Muster Brook	Hassocky Lane	VH	0	0	1
Eller Beck	Skipton Woods	FC	0	3	0
Ewden Beck	u/s R. Don	SGT	0	0	0
Widdale Beck	Appersett	CB	1	6	0
Broughton Beck	Inghey Bridge	DH	0	4	0
Don	d/s Scout Dike	SGT	0	2	0
Went	Sykehouse Bridge	JB	1	3	1
Nidd	Knaresborough	FN	0	0	0
Nidd	Ornamental Bridge	FN	0	3	0
Danby Beck	Castleton	CB	1	1	0
Aire	Milford Place	JK	0	2	0
Sheaf	Abbeydale	VH	0	0	0
Cock Beck	Aberford Road Bridge	JB	0	0	0
Hipper	Brampton	VH	0	2	0
Cram Beck	Cram Beck Bridge	RM	0	1	0
Hobson Moss Dike	Agden Bridge	SAL	0	0	0
Morton Beck	School	JB	0	3	0
Levisham Beck	Levisham	FN	0	1	0
Sutton Beck	Sutton-under-Whitstonecliffe	EA	1	2	0
Pickering Beck	Leas Farm	FN	0	0	0
Swale	Skipton-on-Swale	FN	1	5	0
Nidd	Walshford Bridge	FN	0	2	0

TABLE 4. The 17 autumn samples audited for Yorkshire Region

River	Site	Sorter	Losses	Gains	Omissions
Silkstone Beck	Pothouse Bridge	SGT	0	0	0
Baffle Beck	u/s Wharfe confluence	JB	0	0	0
Cock Beck	d/s A64 Drain	JB	0	0	0
Morton Beck	School	DH	1	0	4
Park Gate Dike	d/s Langley STW	SAL	0	0	0
The Skell	Nr Garage	VH	0	1	0
Foulness	Major Bridge	EA	0	1	0
Gill Beck	Bardsey	DH	0	0	0
Walden Beck	Cote	RM	0	0	0
Burn	Masham	FN	0	2	0
Skell	Ripon d/s Ford	RM	0	0	0
Ladhill Beck	Hawnby	CB	0	1	0
Rye	Ryton	FN	0	2	0
Burton Beck	Constable Burton	CB	0	0	0
Cod Beck	Borrowby	EA	0	0	0
Earls Dyke	Fraisthorpe	RM	0	0	0
Sowden Beck	Jervaulx	CB	0	1	0

APPENDIX

Results of individual sample audits

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Cover
DATE	30.4.92	SITE	Middleham
SORTER	RM	SAMPLE CODE	NRA10 0086

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 Beraeidae

NET LOSSES NET GAINS

NOTES:

1 Beraea maurus 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Thornton Beck
DATE	8.4.92	SITE	Thornton Dale
SORTER	FN	SAMPLE CODE	NRA10 0305

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 Dytiscidae 3 Simuliidae

NET LOSSES 1 NET GAINS 2

NOTES:

1 Nitidulidae = Meligethes sp. (terrestrial) in vial
2 Oreodytes sanmarkii (adults)
3 Simulium ornatum group

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Swale
DATE	21.5.92	SITE	Grinton
SORTER	JM	SAMPLE CODE	NRA10 1176

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 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)	2 Oligochaeta 3 Ephemerellidae 4 Caenidae 5 Dytiscidae 6 Hydroptilidae 7 Sericostomatidae*

NET LOSSES 0 NET GAINS 5

NOTES:

- 2 Tubificidae indet 1 only
- 3 Ephemerella ignita
- 4 Caenis rivulorum 1 only
- 5 Oreodytes sanmarkii, O.septentrionalis (adults)
- 6 Ithytrichia sp., Hydroptila sp.
- 7 Sericostoma personatum

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Bentley Brook
DATE	20.5.92	SITE	Furnace Grange
SORTER	JB	SAMPLE CODE	NRA10 2335

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 0 NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Swale
DATE	21.5.92	SITE	Hudswell
SORTER	FN	SAMPLE CODE	NRA10 0291

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 0 NET GAINS 1

NOTES:

1 Hydraena gracilis (adult) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Dearne
DATE	20.5.92	SITE	Haigh Roundabout
SORTER	JB	SAMPLE CODE	NRA10 0093

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 0

NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES .

REGION	Yorkshire	RIVER	New Cut
DATE	28.5.92	SITE	u/s Lancs Gill
SORTER	FC	SAMPLE CODE	NRA10 2357

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 Glossiphoniidae 2 Elmidae 3 Tipulidae

NET LOSSES 0

NET GAINS 3

NOTES:

1 Helobdella stagnalis, Glossiphonia complanata
2 Elmis aenea (larva) 1 only
3 Limnophila (Brachylimnophila) sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Riccal
DATE	9.4.92	SITE	West Ness
SORTER	FN	SAMPLE CODE	NRA10 0243

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 Goeridae

NET LOSSES

0

NET GAINS

1

NOTES:

1 Goera pilosa, Silo pallipes

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Hemp Dyke
DATE	28.5.92	SITE	Sandy Bridge Lane
SORTER	JB	SAMPLE CODE	NRA10 2340

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 0 NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Great Fryup Beck
DATE	9.3.92	SITE	Street
SORTER	JM	SAMPLE CODE	NRA10 0163

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	Yorkshire	RIVER	Dove
DATE	12.3.92	SITE	Keldholme
SORTER	RM	SAMPLE CODE	NRA10 0129

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 0

NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Spittle Beck
DATE	9.4.92	SITE	Braisthwaite
SORTER	FN	SAMPLE CODE	NRA10 0284

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 Planariidae 2 Haliplidae 3 Hydrophilidae

NET LOSSES 0 NET GAINS 3

NOTES:

- 1 Polycelis nigra/tenuis 1 only
- 2 Brychius elevatus (adult) 1 only
- 3 Indet Hydrophilid (larva) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Esk
DATE	9.3.92	SITE	Westerdale
SORTER	FN	SAMPLE CODE	NRA10 0143

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 Hydrophilidae 3 Beraeidae

NET LOSSES NET GAINS

NOTES:

- 1 Indet Leptophlebiid (damaged specimen) 1 only
- 2 Hydraena gracilis (adult) 1 only
- 3 Beraeodes minutus

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Crimple Beck
DATE	18.3.92	SITE	Newsome Bridge
SORTER	EA	SAMPLE CODE	NRA10 0591

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 Goeridae

NET LOSSES NET GAINS

NOTES:

1 Goera pilosa

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Bushy Beck
DATE	26.5.92	SITE	u/s SWO Humble
SORTER	JK	SAMPLE CODE	NRA10 0017

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	Yorkshire	RIVER	Dove
DATE	28.5.92	SITE	u/s Worsbrough STW
SORTER	SGT	SAMPLE CODE	NRA10 0131

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 Dendrocoelidae

NET LOSSES 0 NET GAINS 1

NOTES:

1 Dendrocoelum lacteum 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Cawthorne Dike
DATE	21.5.92	SITE	Cawthorne Lane
SORTER	SGT	SAMPLE CODE	NRA10 2068

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	Yorkshire	RIVER	Little Don
DATE	24.4.92	SITE	d/s Langsett WTW
SORTER	VH	SAMPLE CODE	NRA10 0199

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 Perlodidae 2 Hydropsychidae	3 Rhyacophilidae 4 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)	None

NET LOSSES NET GAINS

NOTES:

3 Rhyacophila dorsalis
4 Potamophylax cingulatus, P. latipennis, Chaetopteryx villosa, Limnephilus lunatus in vial + sample.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	House Carr Dike
DATE	28.5.92	SITE	nr.Sovereign House
SORTER	SAL	SAMPLE CODE	NRA10 2078

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 Oligochaeta* 2 Chironomidae*	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 Oligochaeta* 4 Chironomidae*

NET LOSSES 0 NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Silkstone Beck
DATE	21.5.92	SITE	Furnace Bridge
SORTER	SAL	SAMPLE CODE	NRA10 2081

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	Yorkshire	RIVER	Cononley Beck
DATE	2.6.92	SITE	u/s R.Aire
SORTER	FC	SAMPLE CODE	NRA10 0398

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 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)	3 Nemouridae* 4 Perlodidae 5 Hydrophilidae*

NET LOSSES 0 NET GAINS 1

NOTES:

3 Amphinemura sulcicollis
4 Isoperla grammatica 1 only
5 Hydraena gracilis (adult) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Muster Brook
DATE	2.6.92	SITE	Hassocky Lane
SORTER	VH	SAMPLE CODE	NRA10 2173

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*	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 Simuliidae*

NET LOSSES 0 NET GAINS 0

NOTES:

2 Simulium ornatum group (larvae + pupae)

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Eller Beck
DATE	2.6.92	SITE	Skipton Woods
SORTER	FC	SAMPLE CODE	NRA10 2151

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 Sphaeriidae 3 Goeridae

NET LOSSES 0 NET GAINS 3

NOTES:

- 1 Lymnaea peregra
- 2 Pisidium sp. 1 only
- 3 Silo pallipes

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Ewden Beck
DATE	29.7.92	SITE	u/s R.Don
SORTER	SGT	SAMPLE CODE	NRA10 0148

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	Yorkshire	RIVER	Widdale Beck
DATE	26.8.92	SITE	Appersett
SORTER	CB	SAMPLE CODE	NRA10 0350

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	2 Rhyacophilidae 3 Hydroptilidae

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)	4 Hydrobiidae 5 Sphaeriidae 6 Leptophlebiidae 7 Nemouridae

NET LOSSES 1 NET GAINS 6

NOTES:

- 2 Rhyacophila dorsalis (pupa), R.obliterated (pupa)
- 3 Hydroptila sp.
- 4 Potamopyrgus jenkinsi 1 only
- 5 Pisidium sp. 1 only
- 6 Paraleptophlebia sp.
- 7 Protonemura sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Broughton Beck
DATE	24.8.92	SITE	Inghey Bridge
SORTER	DH	SAMPLE CODE	NRA10 0052

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)	1 Caenidae 2 Haliplidae 3 Polycentropodidae 4 Goeridae

NET LOSSES 0 NET GAINS 4

NOTES:

- 1 Caenis luctuosa/macrura
- 2 Haliplus sp. (larva) 1 only
- 3 Polycentropus flavomaculatus 1 only
- 4 Goera pilosa 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Don
DATE	23.7.92	SITE	d/s Scout Dike
SORTER	SGT	SAMPLE CODE	NYA10 2328

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 Elmidae 2 Hydroptilidae

NET LOSSES 0 NET GAINS 2

NOTES:

1 Elmis aenea (larva) 1 only
2 Hydroptila sp. 1 only

Note on data sheet that "Hydrobiidae not in vial (squashed & lost).
Potamopyrgus jenkinsi found by IFE in sample.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Went
DATE	10.8.92	SITE	Sykehouse Bridge
SORTER	JB	SAMPLE CODE	NRA10 2004

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 Notonectidae	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 Sphaeriidae* 4 Glossiphoniidae 5 Gerridae 6 Tipulidae

NET LOSSES 1 NET GAINS 3

NOTES:

3 Pisidium sp.
4 Theromyzon tessulatum 1 only
5 Gerris sp. (nymph) 1 only
6 Dicranota sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Nidd
DATE	24.6.92	SITE	Knaresborough
SORTER	FN	SAMPLE CODE	NRA10 0228

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	Yorkshire	RIVER	Nidd
DATE	24.6.92	SITE	Ornamental Bridge
SORTER	FN	SAMPLE CODE	NRA10 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 Hydrobiidae 2 Corixidae 3 Tipulidae

NET LOSSES 0 NET GAINS 3

NOTES:

1 Potamopyrgus jenkinsi
2 Indet Corixid nymph 1 only
3 Dicranota sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Danby Beck
DATE	21.7.92	SITE	Castleton
SORTER	CB	SAMPLE CODE	NRA10 0092

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	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:

1 Nymph of terrestrial bug in vial
2 Lymnaea sp. (juvenile) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Aire
DATE	10.6.92	SITE	Milford Place
SORTER	JK	SAMPLE CODE	NRA10 0001

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)	1 Sphaeriidae 2 Scirtidae

NET LOSSES NET GAINS

NOTES:

1 Sphaerium sp. 1 only
2 Elodes sp. (larva) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Sheaf
DATE	6.8.92	SITE	Abbeydale
SORTER	VH	SAMPLE CODE	NRA10 0270

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:

Note on data sheet that "Dytiscidae and Lymnaeidae not in vial".
Oreodytes sanmarkii (adult) and empty Lymnaea shell found by IFE in sample.

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Cock Beck
DATE	1.7.92	SITE	Aberford Road Bridge
SORTER	JB	SAMPLE CODE	NRA10 2025

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	Yorkshire	RIVER	Hipper
DATE	23.6.92	SITE	Brampton
SORTER	VH	SAMPLE CODE	NRA10 2167

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)	1 Sphaeriidae 2 Tipulidae

NET LOSSES 0 NET GAINS 2

NOTES:

1 Pisidium sp. 1 only
2 Dicranota sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Cram Beck
DATE	1.7.92	SITE	Cram Beck Bridge
SORTER	RM	SAMPLE CODE	NRA10 0403

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 Hydroptila sp. (pupa) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Hobson Moss Dike
DATE	30.7.92	SITE	Agden Bridge
SORTER	SAL	SAMPLE CODE	NRA10 0473

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	Yorkshire	RIVER	Morton Beck
DATE	9.6.92	SITE	School
SORTER	JB	SAMPLE CODE	NRA10 0479

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 Dendrocoelidae 2 Hydrobiidae 3 Lymnaeidae

NET LOSSES NET GAINS

NOTES:

- 1 Dendrocoelum lacteum 1 only
- 2 Potamopyrgus jenkinsi
- 3 Lymnaea peregra 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Levisham Beck
DATE	9.7.92	SITE	Levisham
SORTER	FN	SAMPLE CODE	NRA10 0696

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 0 NET GAINS 1

NOTES:

1 Pisidium sp. 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Sutton Beck
DATE	2.7.92	SITE	Sutton-under-Whitstonecliffe
SORTER	EA	SAMPLE CODE	NRA10 0546

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 Hydroptilidae	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)	2 Piscicolidae 3 Glossiphoniidae

NET LOSSES 1 NET GAINS 2

NOTES:

1 Empty case in vial
2 Piscicola geometra 1 only
3 Glossiphonia complanata 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Pickering Beck
DATE	9.7.92	SITE	Leas Farm
SORTER	FN	SAMPLE CODE	NRA10 0499

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	Yorkshire	RIVER	Swale
DATE	25.8.92	SITE	Skipton-on-Swale
SORTER	FN	SAMPLE CODE	NRA10 0295

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 Rhyacophilidae	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 Ephemeridae 4 Calopterygidae 5 Gyrinidae 6 Goeridae

NET LOSSES 1 NET GAINS 5

NOTES:

- 1 Intact Glossosoma sp. pupal cases in vial and sample but pupae contained within them dead at time of sampling.
- 2 Heptagenia sulphurea
- 3 Ephemera sp. (juvenile) 1 only
- 4 Calopteryx splendens 1 only
- 5 Orectochilus villosus (larva) 1 only
- 6 Goera pilosa 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Nidd
DATE	24.6.92	SITE	Walshford Bridge
SORTER	FN	SAMPLE CODE	NRA10 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	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)	1 Hydrobiidae 2 Tipulidae

NET LOSSES NET GAINS

NOTES:

1 Potamopyrgus jenkinsi
2 Antocha vitripennis 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Silkstone Beck
DATE	11.9.92	SITE	Pothouse Bridge
SORTER	SGT	SAMPLE CODE	NRA10 2082

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	Yorkshire	RIVER	Baffle Beck
DATE	16.9.92	SITE	u/s Wharfe confluence
SORTER	JB	SAMPLE CODE	NRA10 2019

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	Yorkshire	RIVER	Cock Beck
DATE	30.9.92	SITE	d/s A64 Drain
SORTER	JB	SAMPLE CODE	NRA10 0071

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	Yorkshire	RIVER	Morton Beck
DATE	2.9.92	SITE	School
SORTER	DRH	SAMPLE CODE	NRA10 0479

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 Oligochaeta* 2 Baetidae* 3 Gyrinidae* 4 Leptoceridae 5 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)	5 Oligochaeta* 6 Baetidaeidae* 7 Gyrinidae* 8 Sericostomatidae*

NET LOSSES

1

NET GAINS

0

NOTES:

6 Baetis rhodani
7 Orectochilus villosus (larvae)
8 Sericostoma personatum 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Park Gate Dike
DATE	7.9.92	SITE	d/s Langley STW
SORTER	SAL	SAMPLE CODE	NRA10 2342

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	Yorkshire	RIVER	The Skell
DATE	30.10.92	SITE	Nr. Garage
SORTER	VH	SAMPLE CODE	NRA10 2017

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 Nemouridae

NET LOSSES NET GAINS

NOTES:

1 Protonemura praecox 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Foulness
DATE	22.10.92	SITE	Major Bridge
SORTER	EA	SAMPLE CODE	NRA10 0157

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 Baetidae

NET LOSSES NET GAINS

NOTES:

1 Cloeon dipterum 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Gill Beck
DATE	21.9.92	SITE	Bardsey
SORTER	DH	SAMPLE CODE	NRA10 2038

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	Yorkshire	RIVER	Walden Beck
DATE	10.11.92	SITE	Cote
SORTER	RM	SAMPLE CODE	NRA10 0561

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	Yorkshire	RIVER	Burn
DATE	9.9.92	SITE	Masham
SORTER	FN	SAMPLE CODE	NRA10 0053

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)	1 Caenidae 2 Goeridae

NET LOSSES

NET GAINS

NOTES:

1 Caenis rivulorum
2 Silo pallipes 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Skell
DATE	9.9.92	SITE	Ripon d/s Ford
SORTER	RM	SAMPLE CODE	NRA10 0592

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	Yorkshire	RIVER	Ladhill Beck
DATE	30.9.92	SITE	Hawnby
SORTER	CB	SAMPLE CODE	NRA10 0459

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 Platambus maculatus (larvae)

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Rye
DATE	29.9.92	SITE	Ryton
SORTER	FN	SAMPLE CODE	NRA10 0256

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 Hydrophilidae

NET LOSSES

0

NET GAINS

2

NOTES:

1 Lymnaea peregra 1 only
2 Hydraena gracilis (adult) 1 only

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Burton Beck
DATE	7.9.92	SITE	Constable Burton
SORTER	CB	SAMPLE CODE	NRA10 0056

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	Yorkshire	RIVER	Cod Beck
DATE	6.10.92	SITE	Borrowby
SORTER	EA	SAMPLE CODE	NRA10 0073

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	Yorkshire	RIVER	Earls Dyke
DATE	27.10.92	SITE	Fraisthorpe
SORTER	RM	SAMPLE CODE	NRA10 0411

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 0 NET GAINS 0

NOTES:

1992 RIVER QUALITY SURVEY AQC - BIOLOGICAL SAMPLES

REGION	Yorkshire	RIVER	Sowden Beck
DATE	10.11.92	SITE	Jervaulx
SORTER	CB	SAMPLE CODE	NRA10 0537

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 NET GAINS

NOTES:

1 Chloroperla tripunctata 1 only

