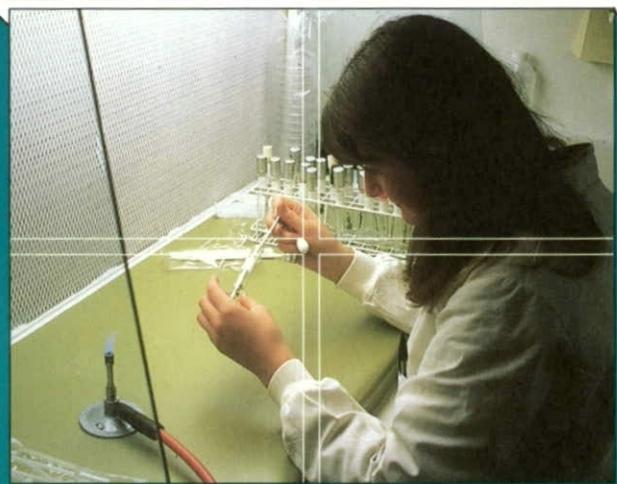
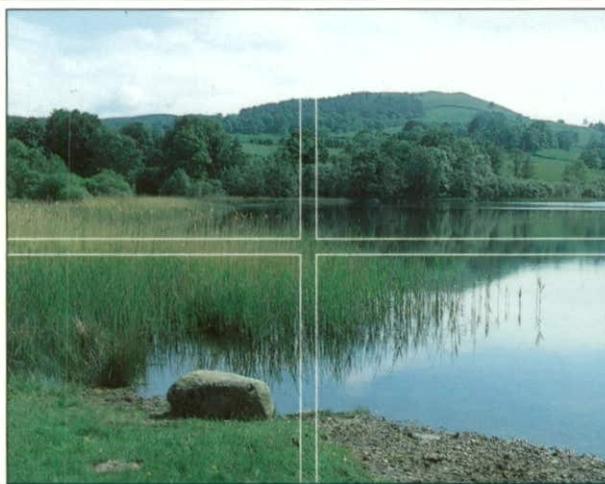




**Institute of
Freshwater
Ecology**

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

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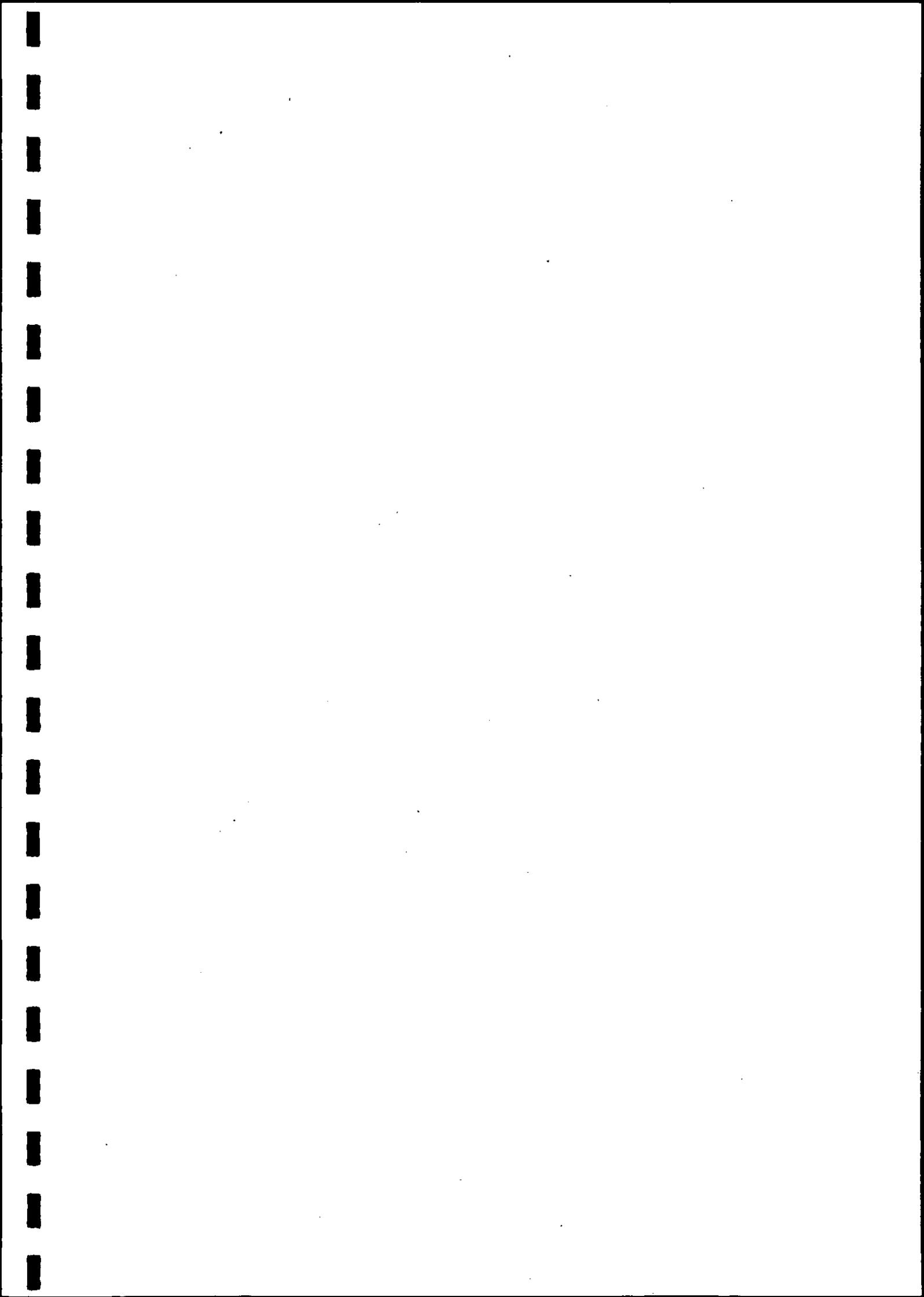
**An audit of performance in the processing
of macro-invertebrate samples in 1991.**
NRA Welsh Region

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

Project leader:	J.F. Wright
Report date:	May 1992
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TFS Project No:	T04053x1

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



1. INTRODUCTION

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

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

Samples were sorted by NRA, RPB and DED personnel for the families of 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.

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

2. SAMPLE SELECTION

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

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

3. SAMPLE PROCESSING

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

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

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

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

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

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

4. REPORTING

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

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

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

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

ACKNOWLEDGEMENTS

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

TABLE 1. The IFE Report form

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION		RIVER	
DATE		SITE	
SORTER		SAMPLE CODE	

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

		LOSSES	GAINS
A	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p>
B	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p>

NET LOSSES

NET GAINS

NOTES

TABLE 2. The 21 spring samples audited for Welsh Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Rhondda Fawr	Pentre	WM	0	0	0
Monnow	Monmouth Gap	JB	0	2	0
Taf Fechan	D/s Pontsticill Res	WM	0	4	0
Rhymney	Pwllypant	CB	1	2	0
Withington Lakes	Whitestone	SR	0	1	0
Lugg	Eaton Bridge	CB	0	3	1
Shell Brook	Shell Brook Hill	LE	0	1	0
Ebbw Fawr	Rogerstone	LE	1	1	0
Irfon	U/s R. Wyc	SR	0	4	0
Yazor Brook	U/s R. Wyc	KA	0	5	1
Taf	Llanfymach	DME	2	7	0
Twymyn	Bont Dolgadfan	JB	1	0	0
Machno	Penmachno	DH	0	1	0
Gwenfro	Croesnewydd	DH	0	1	0
Llandyrnog Drain	Llandyrnog	MW	2	1	0
Tawe	Pontardawe Road Bridge	GD	2	1	0
Nevern	Pont Cynon	JB	0	2	0
Fflur	D/s Abbey Farm	JB	0	2	0
Gwendraeth Fawr	Cwmmawr Road Bridge	GD	1	1	0
Wyre	Ystrad Teilo Farm	MS	0	1	1
Tyweli	Pontwelly	MS	0	0	0

TABLE 3. The 22 summer samples audited for Welsh Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Ogwen	Felinochwillan	MW	0	0	0
Trystion	U/s R. Dec	LE	0	1	0
Ebbw Fawr	U/s Ebbw Fach	DH	0	0	1
Gwendraeth Fawr	Cwmmawr Road Bridge	MS	0	1	0
Ebbw Fawr	Maes Glas	MW	0	0	0
Tref-y-nant	Acrefair	JB	0	0	0
Dulas Brook	Castle Green	DH	0	2	0
Teigl	Pont Rhyd-y-sarn	JB	0	0	0
Taff	Upper Boat	CB	0	1	0
Clydach	Cwm Nant-garn	NS	0	1	0
Rhondda Fawr	Pentre	CB	0	0	0
Taff	D/s Pontypridd	NS	1	1	0
Honddu	Brecon	AF	0	2	0
Rhymney	Pwllypant	AF	0	1	0
Irfon	U/s R. Wye	CB	0	3	0
Neath	Cwmgwrach	GD	1	3	1
Upper Clydach	U/s Nant-y-gasseg	JB	1	3	0
Millin Pill	Millin Cross	BJJ	0	3	0
Tintern Brook	Tintern	LE	1	1	0
Aeron	Lovers Bridge	JT	1	3	0
Teifi	Lampeter Road Bridge	JT	1	1	0
Cothi	Felinmynach GS	MS	0	0	0

TABLE 4. The 17 autumn samples audited for Welsh Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Meirchion	U/s Elwy	MW	0	0	0
Lash	Aberlash Road Bridge	JB	2	1	0
Croesor	Pont Carreg	JB	0	1	0
Upper Clydach	U/s Tawe confluence	MS	1	0	1
Taff	Tydfils Well	AF	0	3	0
Nant Cynrig	Abercynrig Mill	CB	0	2	0
Nant Bargoed Rhymni	Pentwyn	NS	0	0	0
Cwm Clydach	Tonypandy	NS	1	0	0
Ffraw	D/s Llyn Coron	LE	0	1	0
Teigl	Pont Rhyd-y-sarn	DH	0	1	0
Tawe	Glais Road Bridge	BJJ	0	2	1
Teirw	U/s Ceiriog	DH	0	0	0
Nant Felin Fach	U/s Ely	JT	1	5	3
Afan	Afan Argoed	GD	1	4	0
Ogmore	AQT Rec Centre	JT	0	1	1
Rhymney	U/s Bedwas	CB	1	0	0
Lugg	Lugwardine Bridge	AF	0	1	0

APPENDIX

Results of individual sample audits

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Monnow
DATE	8.4.91		SITE	Monmouth Gap
SORTER	JB		SAMPLE CODE	NRA08 E030

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Leuctridae 2 Hydrophilidae

NET LOSSES NET GAINS

NOTES

1 Leuctra sp. (juveniles)
2 Hydraena gracilis, H. rufipes (adults)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Taf Fechan
DATE	10.4.91		SITE	D/s Pontsticill Reservoir
SORTER	WM		SAMPLE CODE	NRA08 E322

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Taeniopterygidae 3 Psychomyiidae 4 Leptoceridae

NET LOSSES NET GAINS

NOTES

- 1 Potamopyrgus jenkinsi
- 2 Indet Taeniopterygid 1 only
- 3 Tinodes waeneri
- 4 Mystacides azurea 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Rhymney

DATE 24.4.91

SITE Pwllypant

SORTER CB

SAMPLE CODE NRA08 E247

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Haliplidae 3 Elmidae

NET LOSSES 1

NET GAINS 2

NOTES

- 1 Cast skin in vial
 - 2 Indet Haliplid larva 1 only
 - 3 Limnius volckmari (adult + larva)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Withington Lakes
DATE	4.4.91		SITE	Whitestone
SORTER	SR		SAMPLE CODE	NRA08 E079

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

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

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

NET LOSSES NET GAINS

NOTES

1 Potamopyrgus jenkinsi

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Lymnaeidae* 3 Corixidae 4 Elmidae 5 Beraeidae

NET LOSSES

NET GAINS

NOTES

- 2 Lymnaea peregra, L.stagnalis
- 3 Micronecta sp. (nymphs), Sigara sp. (damaged specimen)
- 4 Oulimnius sp. (larva) 1 only
- 5 Beraeodes minutus 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

1 Beraeodes minutus (larva + pupa)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Ebbw Fawr
DATE	8.4.91		SITE	Rogerstone
SORTER	LE		SAMPLE CODE	NRA08 E215

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

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		1 Dendrocoelidae	2 Planariidae

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

NET LOSSES NET GAINS

NOTES

2 Dugesia lugubris/polychroa

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES

GAINS

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Planariidae 2 Hydrophilidae 3 Polycentropodidae 4 Leptoceridae

NET LOSSES

NET GAINS

NOTES

- 1 Crenobia alpina
- 2 Hydraena gracilis, H. pygmaea (adults)
- 3 Polycentropus flavomaculatus/kingi (damaged specimen) 1 only
- 4 Mystacides azurea, Athripsodes sp. (juvenile)

Hydraena pygmaea has Red Data Book 3 status

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Yazor Brook
DATE	18.3.91		SITE	U/s Wye, Bulmers
SORTER	KA		SAMPLE CODE	NRA08 E108

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Dendrocoelidae 3 Physidae* 4 Glossiphoniidae 5 Hydrophilidae 6 Elmidae 7 Simuliidae

NET LOSSES

NET GAINS

NOTES

- 1,3 Succinea sp. in vial, Physa sp. in sample
 - 2 Dendrocoelum lacteum
 - 4 Batracobdella paludosa 1 only
 - 5 Indet Hydrophilid larva 1 only
 - 6 Oulimnius tuberculatus (adult) 1 only
 - 7 Simulium aureum group 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Taf

DATE 10.4.91

SITE Llanfyrnach

SORTER DME

SAMPLE CODE NRA08 W129

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Planariidae 2 Brachycentridae	3 Sialidae 4 Odontoceridae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	5 Hydrobiidae 6 Sphaeriidae 7 Caenidae 8 Hydrophilidae 9 Polycentropodidae

NET LOSSES 2

NET GAINS 7

NOTES

- 3 Sialis fuliginosa
- 4 Odontocerum albicorne
- 5 Potamopyrgus jenkinsi 1 only
- 6 Pisidium sp. 1 only
- 7 Caenis rivulorum 1 only
- 8 Hydraena gracilis (adults)
- 9 Plectrocnemia conspersa 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Twymyn
DATE	17.4.91		SITE	Bont Dolgadfan
SORTER	JB		SAMPLE CODE	NRA08 N015

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

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

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

NET LOSSES NET GAINS

NOTES

Gammarus pulex (rear end only) in sample

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Machno
DATE	19.4.91		SITE	Penmachno
SORTER	DH		SAMPLE CODE	NRA08 N075

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

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

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

NET LOSSES NET GAINS

NOTES

1 Crenobia alpina 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

1 Hydraena gracilis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Llandyrnog Drain

DATE 15.4.91

SITE Llandyrnog

SORTER MW

SAMPLE CODE NRA08 N119

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrobiidae 2 Glossiphoniidae	3 Erpobdellidae

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

NET LOSSES 2

NET GAINS 1

NOTES

1 Empty shell in vial
3 Erpobdella octoculata

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Tawe

DATE 2.5.91

SITE Pontardawe Road Bridge

SORTER GD

SAMPLE CODE NRA08 W069

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Ancylidae 2 Psychomyiidae	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Hydrophilidae

NET LOSSES 2

NET GAINS 1

NOTES

1 Empty shell in vial
3 *Hydraena gracilis* (adults)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Dytiscidae 2 Hydroptilidae

NET LOSSES

NET GAINS

NOTES

- 1 Oreodytes sanmarkii (adults)
 - 2 Ithytrichia sp.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Dytiscidae 2 Hydrophilidae

NET LOSSES

NET GAINS

NOTES

1 Oreodytes sanmarkii, O.septentrionalis (adults)
2 Hydraena gracilis (adults)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES

GAINS

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

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

NET LOSSES

NET GAINS

NOTES

1 Shell only in vial
2 Tinodes waeneri 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Caenidae 3 Chironomidae*

NET LOSSES

NET GAINS

NOTES

2 Caenis rivulorum

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

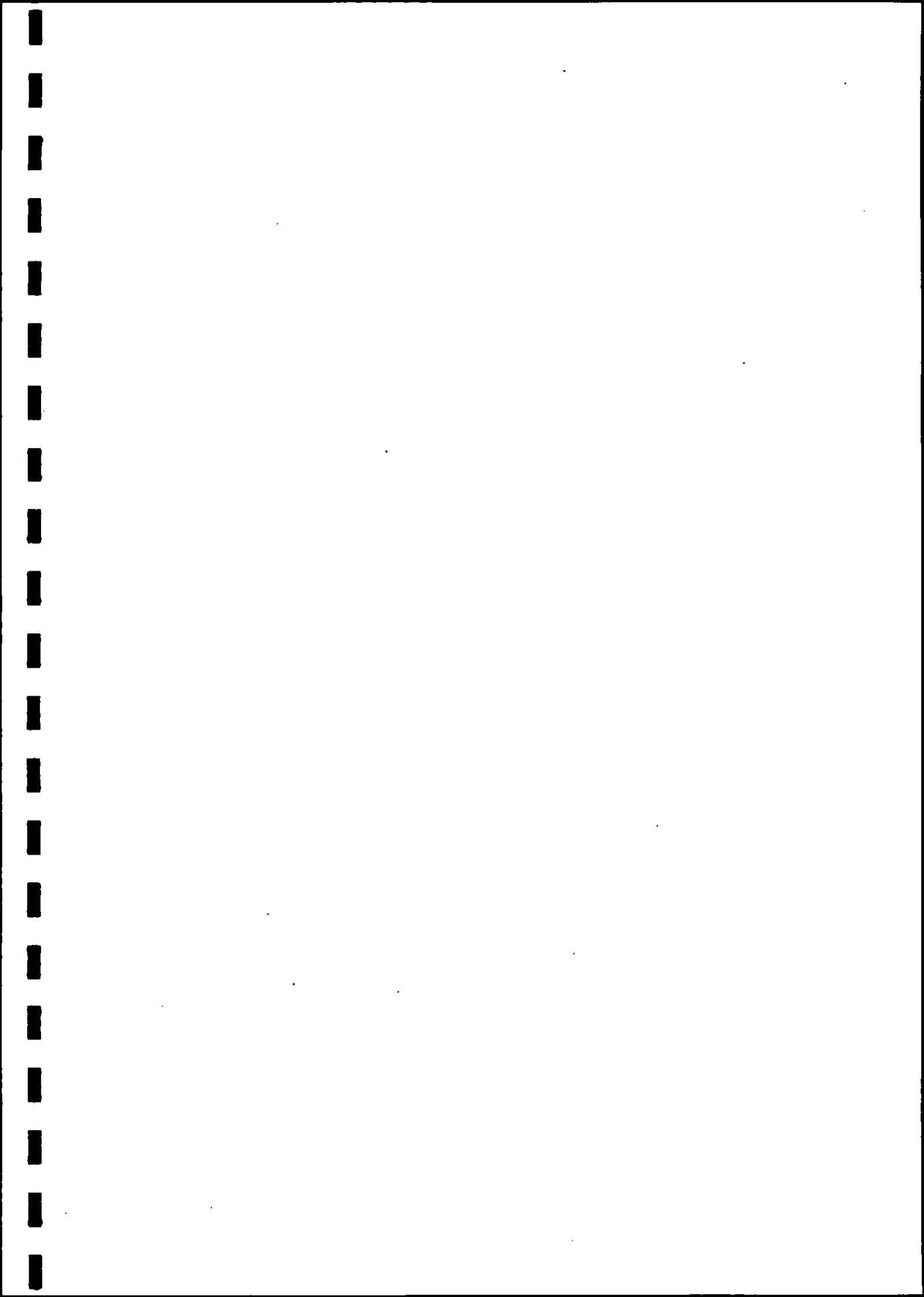
		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

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

NET LOSSES

NET GAINS

NOTES



1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Ogwen
DATE	29.7.91		SITE	Felincochwillan
SORTER	MW		SAMPLE CODE	NRA08 N067

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

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

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

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Trystion
DATE	30.7.91		SITE	U/s Dee
SORTER	LE		SAMPLE CODE	NRA08 N191

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

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

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

NET LOSSES

NET GAINS

NOTES

1 Protonemura sp. 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Ebbw Fawr**

DATE **16.7.91**

SITE **U/s Ebbw Fach**

SORTER **DH**

SAMPLE CODE **NRA08 E220**

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES **0**

NET GAINS **0**

NOTES

1;2 Potamopyrgus jenkinsi (empty shell in vial)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Gwendraeth Fawr**

DATE **17.7.91**

SITE **Cwmawr Road Bridge**

SORTER **MS**

SAMPLE CODE **NRA08 W109**

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES

NET GAINS

NOTES

1 Halipus lineatocollis (adults)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Ebbw Fawr**

DATE **16.7.91**

SITE **Maes Glas**

SORTER **MW**

SAMPLE CODE **NRA08 E214**

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES **0**

NET GAINS **0**

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Tref-y-nant
DATE	30.7.91		SITE	Acrefair
SORTER	JB		SAMPLE CODE	NRA08 N178

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

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

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

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Dulas Brook
DATE	22.7.91		SITE	Castle Green
SORTER	DH		SAMPLE CODE	NRA08 E130

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Sphaeriidae 2 Astacidae

NET LOSSES

NET GAINS

NOTES

1 *Pisidium* sp. 1 only
2 Indet juveniles

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Teigl**

DATE **29.7.91**

SITE **Pont Rhyd-y-sarn**

SORTER **JB**

SAMPLE CODE **NRA08 NO40**

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

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

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

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Taff
DATE	15.7.91		SITE	Upper Boat
SORTER	CB		SAMPLE CODE	NRA08 E270

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

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

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

NET LOSSES NET GAINS

NOTES

1 Hydroptila sp. (pupa) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Clydach
DATE	16.7.91		SITE	Cwm Nant-garn
SORTER	NS		SAMPLE CODE	NRA08 E199

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

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

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

NET LOSSES

NET GAINS

NOTES

1 Indet hydrophilid larva 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Rhondda Fawr**

DATE **22.7.91**

SITE **Pentre**

SORTER **CB**

SAMPLE CODE **NRA08 E288**

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

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

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

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Taff

DATE 15.7.91

SITE D/s Pontypridd

SORTER NS

SAMPLE CODE NRA08 E271

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 <i>Limnephilidae</i>	2 <i>Lepidostomatidae</i>

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

NET LOSSES 1

NET GAINS 1

NOTES

2 *Crunoecia irrorata*

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Honddu

DATE 22.7.91

SITE Brecon

SORTER AF

SAMPLE CODE NRA08 E206

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Ancyliidae 2 Caenidae

NET LOSSES 0

NET GAINS 2

NOTES

1 Ancylyus fluviatilis 1 only
2 Caenis rivulorum 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Rhywney**

DATE **23.7.91**

SITE **Pwllypant**

SORTER **AF**

SAMPLE CODE **NRA08 E247**

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 1

NOTES

1 Polycelis nigra/tenuis

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Irfon

DATE 17.7.91

SITE U/s Wye

SORTER CB

SAMPLE CODE NRA08 E137

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	1 Sphaeriidae 2 Glossiphoniidae 3 Caenidae

NET LOSSES 0

NET GAINS 3

NOTES

1 *Pisidium* sp. 1 only
 2 *Helobdella stagnalis* 1 only
 3 *Caenis luctuosa/macrura* 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Neath
DATE	24.7.91		SITE	Cwngwrach
SORTER	GD		SAMPLE CODE	NRA08 W050

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

		LOSSES	GAINS
A	<p style="text-align: center;"><u>VIAL</u></p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>1 Baetidae* 2 Perlodidae</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>3 Perlidae</p>
B	<p style="text-align: center;"><u>SAMPLE</u></p> <p>Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE</p>	<p>BMWP FAMILIES NOT FOUND BY IFE</p> <p>(This box only completed when no vial supplied with sample)</p>	<p>ADDITIONAL FAMILIES FOUND BY IFE</p> <p>4 Ancylidae 5 Baetidae* 6 Caenidae</p>

NET LOSSES

NET GAINS

NOTES

- 3 *Perla bipunctata*
- 4 *Ancylus fluviatilis*
- 5 *Baetis rhodani*
- 6 *Caenis rivulorum*

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Upper Clydach
DATE	26.7.91		SITE	U/s Nant-y-gasseg
SORTER	JB		SAMPLE CODE	NRA08 W078

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	2 Hydrobiidae 3 Hydrophilidae 4 Sericostomatidae

NET LOSSES

NET GAINS

NOTES

- 1 Indet terrestrial snail in vial
- 2 Potamopyrgus jenkinsi
- 3 Indet hydrophilid larva, Hydraena gracilis (adult)
- 4 Sericostoma personatum

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Millin Pill

DATE 25.7.91

SITE Millin Cross

SORTER BJJ

SAMPLE CODE NRA08 W201

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Lymnaeidae 2 Ancyliidae 3 Leuctridae

NET LOSSES 0

NET GAINS 3

NOTES

- 1 *Lymnaea* sp. (no shell) 1 only
- 2 *Ancylus fluviatilis*
- 3 *Leuctra fusca* 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Tintern Brook
DATE	18.7.91		SITE	Tintern
SORTER	LE		SAMPLE CODE	NRA08 E020

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

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Limnephilidae	2 Odontoceridae

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

NET LOSSES

NET GAINS

NOTES

2 Odontocerum albicorne

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Teifi**

DATE **16.7.91**

SITE **Lampeter Road Bridge**

SORTER **JT**

SAMPLE CODE **NRA08 W218**

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES **1**

NET GAINS **1**

NOTES

2 Athripsodes albifrons, Ceraclea dissimilis

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Cothi
DATE	17.7.91		SITE	Felinmynach GS
SORTER	MS		SAMPLE CODE	NRA08 W148

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

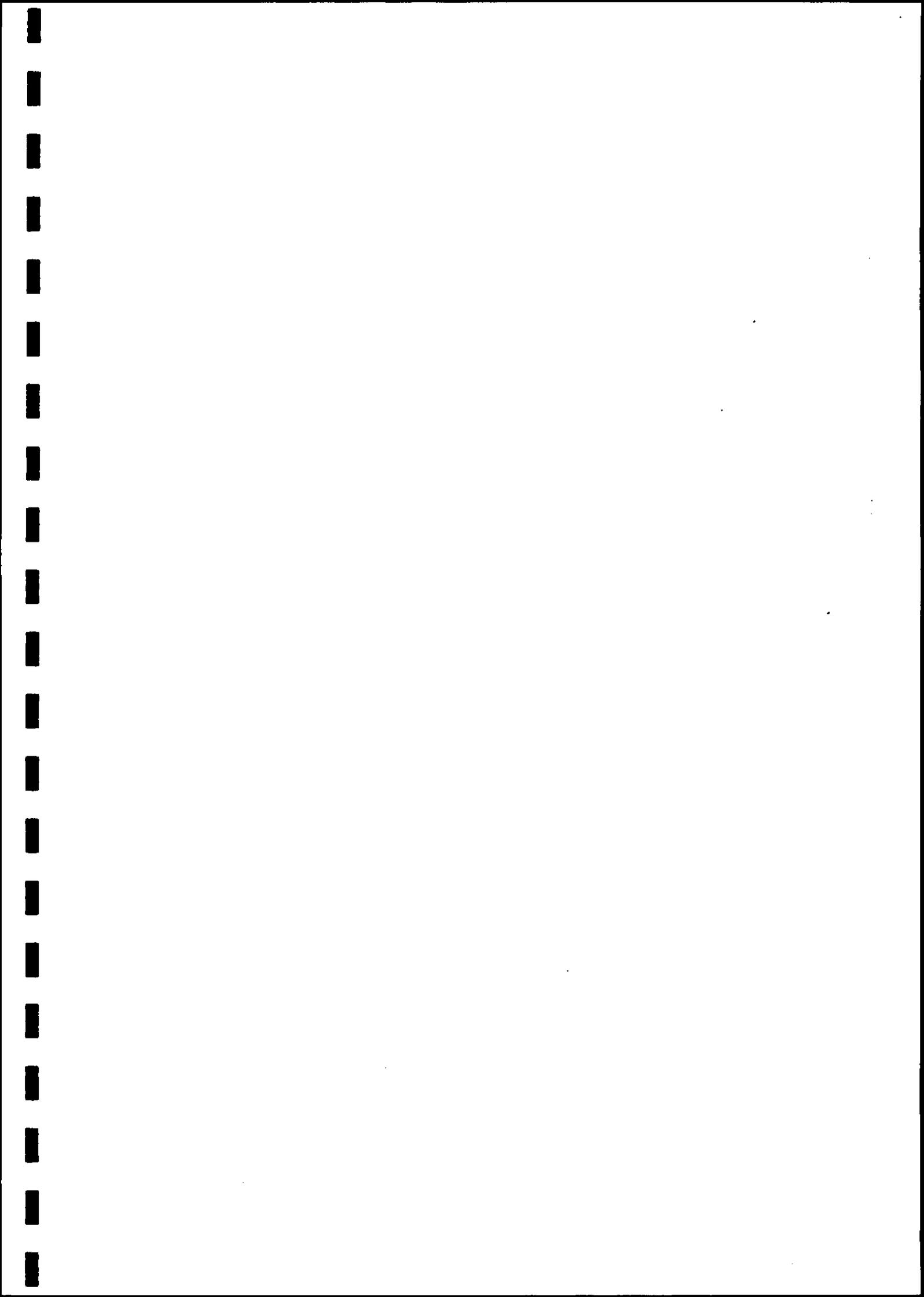
		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

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

NET LOSSES

NET GAINS

NOTES



1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Meirchion
DATE	15.10.91		SITE	U/s Elwy
SORTER	MW		SAMPLE CODE	NRA08 N109

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

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

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

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Lash

DATE 17.10.91

SITE Aberlash Road Bridge

SORTER JB

SAMPLE CODE NRA08 W104

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Ancyliidae 2 Dytiscidae	3 Hydrophilidae

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

NET LOSSES 2

NET GAINS 1

NOTES

1 Empty shell in vial
3 Laccobius minutus (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Croesor

DATE 14.10.91

SITE Pont Carreg

SORTER JB

SAMPLE CODE NRA08 N043

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 1

NOTES 1 Leuctra hippopus

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Upper Clydach

DATE 17.10.91

SITE U/s confl Tawe

SORTER MS

SAMPLE CODE NRA08 W076

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Sericostomatidae* 2 Asellidae	None

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

NET LOSSES 1

NET GAINS 0

NOTES 1,3 Empty case in vial, Sericostoma personatum in sample

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Taff

DATE 21.10.91

SITE Tydfils Well

SORTER AF

SAMPLE CODE NRA08 E281

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Planorbidae 2 Caenidae 3 Nemouridae

NET LOSSES 0

NET GAINS 3

NOTES

1 Armiger crista
2 Caenis rivulorum 1 only
3 Amphinemura sulcicollis 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Nant Cynrig

DATE 21.11.91

SITE Abercynrig Mill

SORTER CB

SAMPLE CODE NRA08 E205

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		(This box only completed when no vial supplied with sample)	1 Leptophlebiidae 2 Goeridae

NET LOSSES 0

NET GAINS 2

NOTES

1 Paraleptophlebia sp. 1 only
2 Goera pilosa 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Nant Bargoed Rhywni

DATE 21.11.91

SITE Pentwyn

SORTER NS

SAMPLE CODE NRA08 E264

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 0

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Cwm Clydach

DATE 28.10.91

SITE Tonypandy

SORTER NS

SAMPLE CODE NRA08 E294

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 1

NET GAINS 0

NOTES

1 Terrestrial snail in vial

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Ffraw

DATE 11.10.91

SITE D/s Llyn Coron

SORTER LE

SAMPLE CODE NRA08 N083

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 1

NOTES

1 Valvata piscinalis 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Teigl
DATE	14.10.91		SITE	Pont Rhyd-y-sarn
SORTER	DH		SAMPLE CODE	NRA08 N040

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

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

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

NET LOSSES NET GAINS

NOTES 1 Indet naid 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Tawe
DATE	16.10.91		SITE	Glais Road Bridge
SORTER	BJJ		SAMPLE CODE	NRA08 W067

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Lymnaeidae* 3 Leptophlebiidae 4 Haliplidae

NET LOSSES

NET GAINS

NOTES

- 2 Lymnaea peregra
- 3 Paraleptophlebia sp. 1 only
- 4 Indet haliplid (larva) 1 only

Perlodes microcephala (head only) found in sample

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Teirw

DATE 9.10.91

SITE U/s Ceiriog

SORTER DH

SAMPLE CODE NRA08 N175

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 0

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Planariidae 3 Leptophlebiidae 4 Dytiscidae 5 Sericostomatidae

NET LOSSES

NET GAINS

NOTES

- 2 Polycelis felina, Crenobia alpina
- 3 Paraleptophlebia sp. 1 only
- 4 Orcodytes sanmarkii (adult) 1 only
- 5 Sericostoma personatum 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Ogmore

DATE 21.10.91

SITE AQT Rec Centre

SORTER JT

SAMPLE CODE NRA08 W001

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 0

NET GAINS 1

NOTES

1,2 Empty shell in vial, Potamopyrgus jenkinsi in sample
3 Orectochilus villosus (larva) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Rhyrney

DATE 18.10.91

SITE U/s Bedwas

SORTER CB

SAMPLE CODE NRA08 E246

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

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

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

NET LOSSES 1

NET GAINS 0

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh		RIVER	Lugg
DATE	23.10.91		SITE	Lugwardine Bridge
SORTER	AF		SAMPLE CODE	NRA08 E058

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

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

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

NET LOSSES NET GAINS

NOTES 1 Orectochilus villosus (larvae)