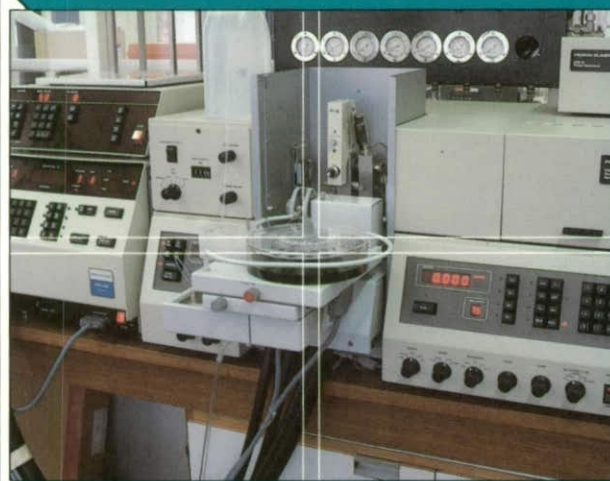
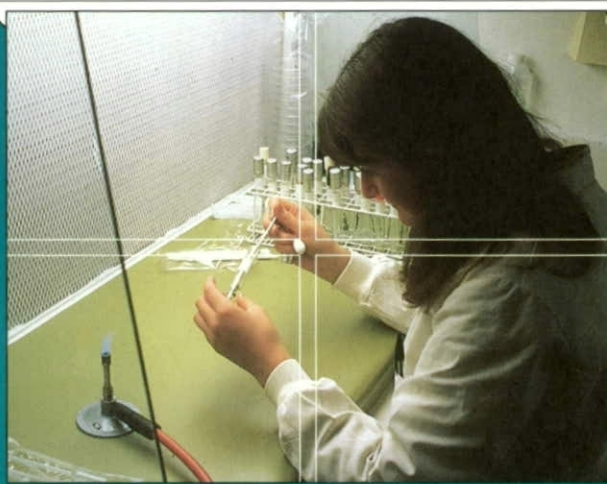
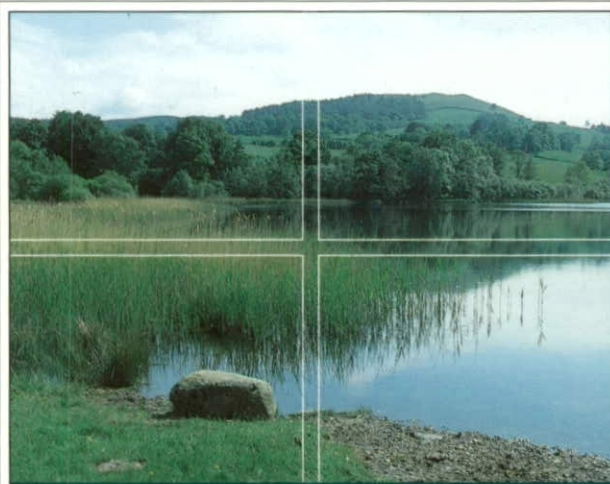




Institute of
Freshwater
Ecology

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

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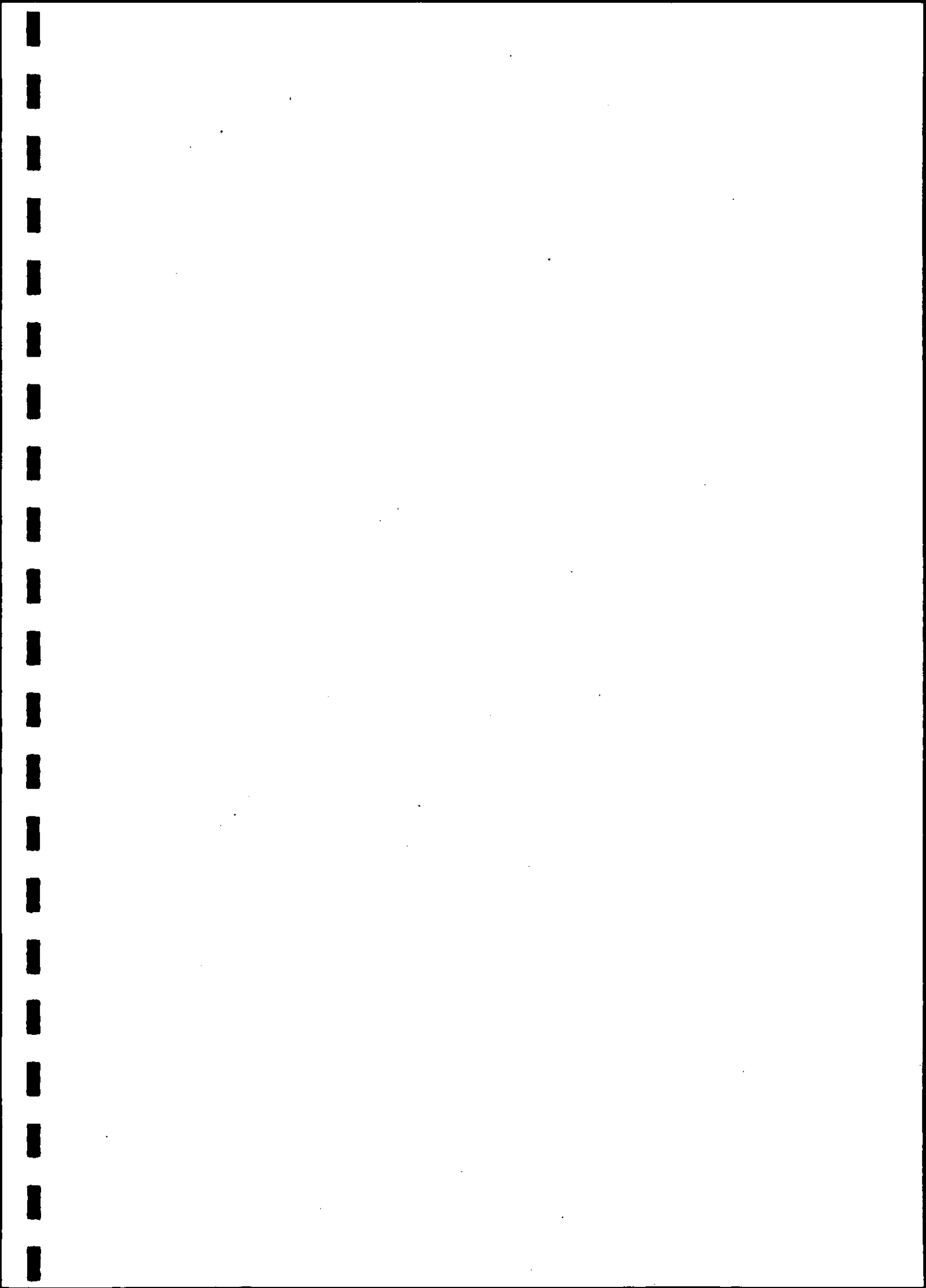
**An audit of performance in the processing
of macro-invertebrate samples in 1991.
NRA Welsh Region**

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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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	<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	<input type="checkbox"/>
		B. IN SAMPLE	<input type="checkbox"/>

		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		
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)	

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	Felinfochwillan	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 **Welsh**

RIVER **Rhondda Fawr**

DATE **29.4.91**

SITE **Pentre**

SORTER **WM**

SAMPLE CODE **NRA08 E288**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None

B	SAMPLE	
	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

NET LOSSES **0**

NET GAINS **0**

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
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	ADDITIONAL FAMILIES FOUND BY IFE
		None

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

NET LOSSES **0**

NET GAINS **2**

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	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		1 Hydrobiidae
B	SAMPLE	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		2 Taeniopterygidae 3 Psychomyiidae 4 Leptoceridae

NET LOSSES **0**

NET GAINS **4**

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

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES		GAINS
A	VIAL	
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	ADDITIONAL FAMILIES FOUND BY IFE
	None	None

B	SAMPLE	
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	ADDITIONAL FAMILIES FOUND 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	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Lymnaeidae*	None

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

RIVER **Shell Brook**

DATE **12.4.91**

SITE **Shell Brook Hill**

SORTER **LE**

SAMPLE CODE **NRA08 N169**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		None

B	SAMPLE	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		1 Beraeidae

NET LOSSES **0**

NET GAINS **1**

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 **1**

NET GAINS **1**

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	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 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	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 Physidae*	None

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

NET LOSSES **0**

NET GAINS **5**

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	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 Planariidae 2 Brachycentridae	3 Sialidae 4 Odontoceridae

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

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

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> 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	ADDITIONAL FAMILIES FOUND BY IFE
		None	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	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	1 Planariidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Crenobia alpina 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Gwenfro**

DATE **12.4.91**

SITE **Croesnewydd**

SORTER **DH**

SAMPLE CODE **NRA08 N167**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		None

B	SAMPLE	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		1 Hydrophilidae

NET LOSSES **0**

NET GAINS **1**

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 Ancyliidae 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 **Welsh**

RIVER **Nevern**

DATE **15.4.91**

SITE **Pont Cynon**

SORTER **JB**

SAMPLE CODE **NRA08 W211**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None

B	SAMPLE	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		1 Dytiscidae 2 Hydroptilidae

NET LOSSES **0**

NET GAINS **2**

NOTES

1 Oreodytes sanmarkii (adults)
2 Ithytrichia sp.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Fflur

DATE 10.4.91

SITE D/s Abbey Farm

SORTER JB

SAMPLE CODE NRA08 W252

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

LOSSES		GAINS
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 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 Welsh

RIVER Gwendraeth Fawr

DATE 19.4.90

SITE Cwmawr Road Bridge

SORTER GD

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	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 Welsh

RIVER Wyre

DATE 11.4.91

SITE Ystrad Teilo Farm

SORTER MS

SAMPLE CODE NRA08 W262

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 0

NET GAINS 1

NOTES

2 Caenis rivulorum

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Tywelli

DATE 15.4.91

SITE Pontwelly

SORTER MS

SAMPLE CODE NRA08 W234

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

NET LOSSES **0**

NET GAINS **0**

NOTES

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

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 **0**

NET GAINS **1**

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	VIAL	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		1 Hydrobiidae*
		None

B	SAMPLE	
	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
		ADDITIONAL FAMILIES FOUND 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	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 supplied with sample)	1 Haliplidae

NET LOSSES **0**

NET GAINS **1**

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 K214**

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>	
	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

NET LOSSES **0**

NET GAINS **0**

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 **0**

NET GAINS **2**

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
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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

NET LOSSES **0**

NET GAINS **0**

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 **0**

NET GAINS **1**

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>	
	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 1 Hydrophilidae

NET LOSSES **0**

NET GAINS **1**

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
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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

NET LOSSES **0**

NET GAINS **0**

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 Limnephilidae	2 Lepidostomatidae

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
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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

NET LOSSES **0**

NET GAINS **2**

NOTES

1 Ancylylus fluviatilis 1 only
2 Caenis rivulorum 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Rhymney**

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	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 Baetidae* 2 Perlodidae	3 Perlidae

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	4 Ancyliidae 5 Baetidae* 6 Caenidae

NET LOSSES **1**

NET GAINS **3**

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 **1**

NET GAINS **3**

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>	
	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 1 Lymnaeidae 2 Ancylidae 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 **1**

NET GAINS **1**

NOTES

2 Odontocerum albicorne

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Aeron**

DATE **24.7.91**

SITE **Lovers Bridge Aberaeron**

SORTER **JT**

SAMPLE CODE **NRA08 W255**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

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 Brachycentridae	2 Odontoceridae

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

NET LOSSES **1**

NET GAINS **3**

NOTES

2 Odontocerum albicorne
3 Polycelis felina 1 only
4 Orectochilus villosus (adult) 1 only

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	VIAL	
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	ADDITIONAL FAMILIES FOUND BY IFE
	1 Siphonuridae	None

B	SAMPLE	
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	ADDITIONAL FAMILIES FOUND 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 **0**

NET GAINS **0**

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>	BMWP FAMILIES NOT 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 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

NET GAINS

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>	
	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 1 Leuctridae

NET LOSSES **0**

NET GAINS **1**

NOTES **1 Leuctra hippopus**

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	VIAL	
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	ADDITIONAL FAMILIES FOUND BY IFE
	1 Sericostomatidae* 2 Asellidae	None

B	SAMPLE	
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	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	3 Sericostomatidae*

NET LOSSES

NET GAINS

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
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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

NET LOSSES

NET GAINS

NOTES

- 1 Armiger crista
- 2 Caenis rivulorum 1 only
- 3 Amphinemura sulcicollis 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 Leptophlebiidae 2 Goeridae

NET LOSSES

NET GAINS

NOTES

1 Paraleptophlebia sp. 1 only
2 Goera pilosa 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	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 supplied with sample)	None

NET LOSSES

NET GAINS

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

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

NET LOSSES

NET GAINS

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

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 Oligochacta

NET LOSSES

NET GAINS

NOTES

1 Indet naid 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	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Lymnaeidae*	None

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

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES

GAINS

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 supplied with sample)	None

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Nant Felin Fach

DATE 6.11.91

SITE U/s Ely

SORTER JT

SAMPLE CODE NRA08 E335

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

LOSSES

GAINS

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrobiidae* 2 Planorbidae 3 Sphaeriidae* 4 Glossiphoniidae*	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	5 Hydrobiidae* 6 Sphaeriidae* 7 Glossiphoniidae* 8 Baetidae 9 Haliplidae 10 Beraeidae 11 Sericostomatidae 12 Tipulidae

NET LOSSES 1

NET GAINS 5

NOTES

1,5 Empty shell in vial, Potamopyrgus jenkinsi in sample
 2 Zonitoides nitidus in vial
 6 Pisidium sp.
 7 Glossiphonia complanata, Helobdella stagnalis
 8 Baetis rhodani 1 only 10 Beraea pullata 1 only
 9 Brychius elevatus 1 only 11 Sericostoma personatum
 12 Limnophila (Elocophila) sp., Palaria 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>	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		1 Cammaridae
		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	ADDITIONAL FAMILIES FOUND 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

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES		GAINS
A	VIAL	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	1 Hydrobiidae*	None
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 FOUND BY IFE
	(This box only completed when no vial supplied with sample)	2 Hydrobiidae* 3 Gyrinidae
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES

NET GAINS

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

RIVER

DATE

SITE

SORTER

SAMPLE CODE

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

LOSSES

GAINS

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 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 supplied with sample)	None

NET LOSSES

NET GAINS

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>	
	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
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		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
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		1 Gyrinidae

NET LOSSES **0**

NET GAINS **1**

NOTES **1 Orectochilus villosus (larvae)**