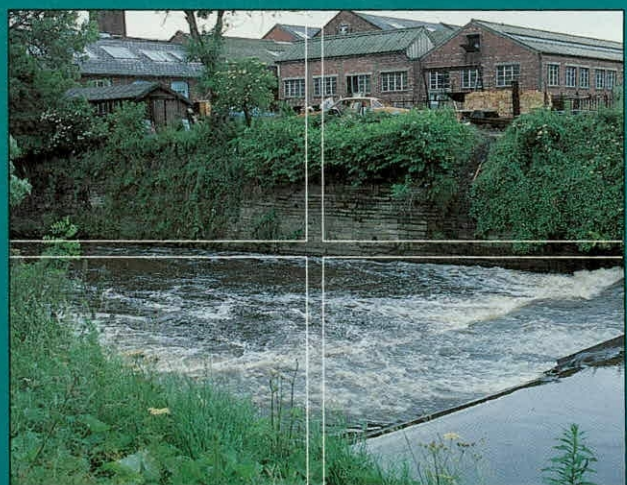
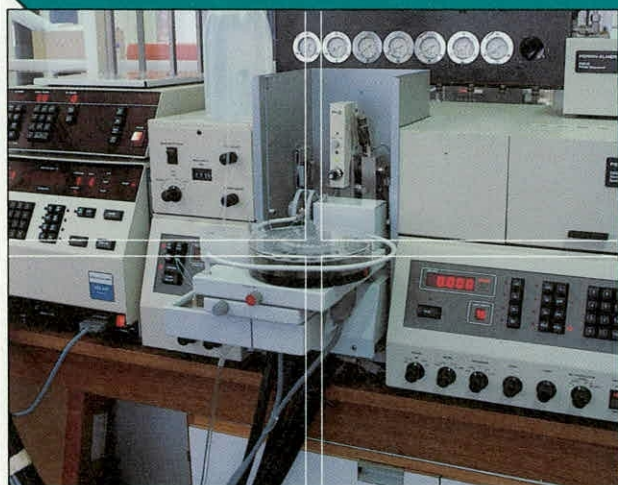
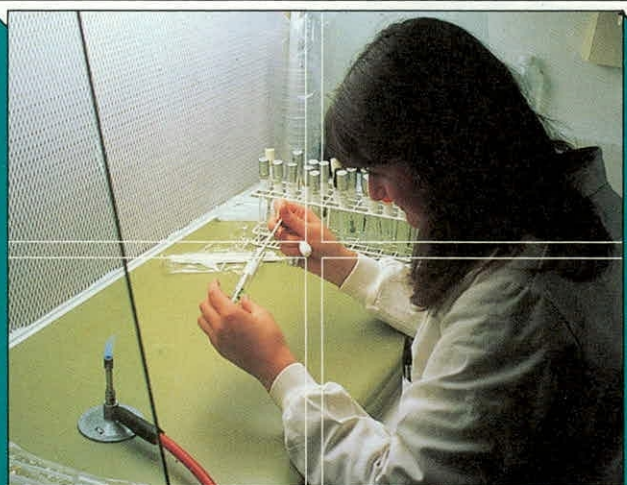
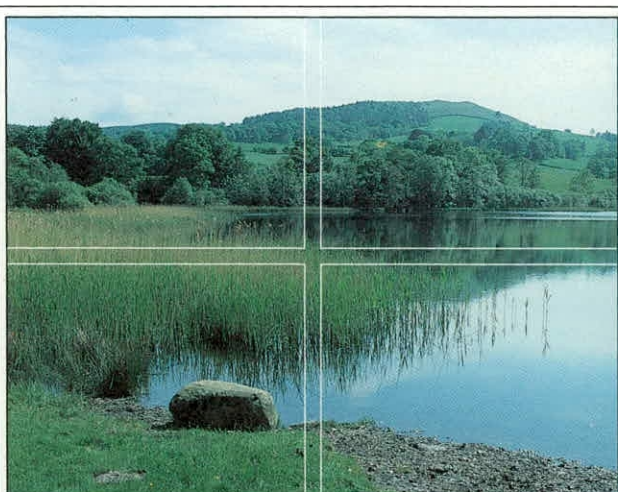




**Institute of
Freshwater
Ecology**

Quality audit of biological samples for the 1990 River Quality Survey NRA Welsh Region

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Quality Audit of Biological Samples
for the 1990 River Quality Survey
NRA Welsh Region

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1. INTRODUCTION

The 1990 River Quality Survey included the sampling of aquatic macro-invertebrates for biological assessment of river quality throughout the United Kingdom. In England and Wales the survey 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.

Approximately 7750 sites were surveyed, the majority of which were sampled in spring, summer and autumn. Standard collection procedures were used and the sampling strategy was compatible with RIVPACS (River InVertebrate Prediction And Classification System), which has been developed by the Institute of Freshwater Ecology (IFE). Most of the remaining sites were sampled in a single season only, in order to extend the scope of the survey. For a variety of reasons, a few locations were sampled in just two seasons.

Samples were sorted 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 order to undertake this massive programme of fieldwork and sample processing, a large number of new staff were employed by the surveying agencies. In view of the number of staff involved and the variability of sample processing techniques, it was recognised that an independent quality control exercise was necessary to promote a consistently high level of reliability.

The IFE was contracted to undertake an audit of the sample sorting and identification performance of each NRA region, RPB and the DED. This report collates the results of 79 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

Nearly all samples from the 1990 River Quality Survey were sent to IFE for storage. They were catalogued on arrival and placed in crates, such that individual samples were readily accessible. A stratified random selection of samples for each sample processor was then made. Selection was undertaken by IFE staff and no selection was made before each sample had been received by IFE. Thus, sample processors had no means of knowing which of their samples would be audited.

The total number of sample processors employed nationally during the survey was considerably higher than that anticipated at the outset. As a consequence, the number of samples audited per processor was limited by the need to keep within the contracted overall total of 700 samples. A minimum of 4 samples was audited per processor, except where individuals processed very few samples or did not process material from each of the 3 seasons.

Sample selection was weighted towards spring samples in order to give early feedback on the blindspots of particular sorters and problems of identification.

3. SAMPLE PROCESSING

Biologists processing samples for the 1990 Survey were instructed to sort their samples, ideally within the laboratory, and 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 selection 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 NRA data sheet. These samples were avoided for audit, where possible. When selection of such samples was unavoidable (eg where a particular sorter would otherwise have been excluded from the audit exercise), 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 tail 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 which did not contain a vial of animals, 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 Table 5.

ACKNOWLEDGEMENTS

Thanks to Mrs Jessica Winder and Mrs Kay Symes for assistance with cataloguing and storage of samples and Mrs Valerie Palmer for typing the manuscript.

TABLE 1. The IFE Report form

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<input type="text"/>	RIVER	<input type="text"/>
SEASON	<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	<input type="text"/>	NET GAINS	<input type="text"/>
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NOTES

TABLE 2. The 50 spring samples audited for Welsh Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Wye	Hampton Bishop	CB	0	2	0
Hindwell Brook	Combe Bridge	AG	0	7	0
Rhymney	D/s Bargoed Rhymney	SR	0	5	0
Pinsley Brook	Shobdon Marsh	AG	0	3	0
Llynfi	D/s Ennig	CB	0	4	0
Withington Lakes	White Stone	WM	0	0	0
Ebbw Fawr	West End Bridge	SR	0	1	0
Lugg	Combe	WM	0	5	0
Afan	Cymmer Afan	NR	0	1	0
Pelenna	U/s Garth Ton Mawr	NR	0	1	0
Llin	Felindre Rd Br	MS	0	0	1
Gronw	U/s Dairy Crest Whitland	MS	0	1	0
Alun	Llandow Br	JB	0	1	1
Ewenny Fach	Velindre	JB	1	2	0
Marlais	A40 Bridge	GD	1	5	0
Gwenlais	TM15 Abergwenlas	GD	0	0	0
Ewenny	Factory Bridge	BJJ	2	1	1
Nant-y-Cerdin	Cwmfelin	BJJ	0	2	0
Gwydol	Abergwydol	MDW	0	2	0
Sandy Croft Drain	D/s Nipa	DH	0	0	0
Shell Brook	Shell Brook Hill	CML	0	3	0
Llyfni	Pont Llyfni	MDW	0	3	0
Afon-y-Garth	Ffynnongroyw	DH	1	4	0
Cefni	U/s Livestock Market	CML	1	4	7
Leri	Doly Bont	JAK	0	8	2
Bran	Llandadog	NR	0	1	0
E. Cleddau	Canaston	RNS	0	2	0
Teifi	Maesycrugiau Br	RNS	0	4	0
Gwylan	Henllan	RNS	0	1	0
Wheeler	Afon Wen	CL	0	4	0
Gronw	Whitland	MS	0	1	0
Rhondda Fawr	Tonypandy	JB	0	0	0
Mynach	Myherin u/s Rhyddnant	GD	0	0	0
Ebbw Fawr	D/s Ebbw Vale Steel Works	AG	0	2	0
Dulais	Llanwrda	BJJ	1	1	0
Wye	Rhayader	CB	0	2	0
Trothy	Onen	SR	1	6	0
Afon Crai	Danygraig	WM	0	3	0
Rhiwsaeson	Llanbrynmair	DH	0	3	0

Continued ...

Table 2 (Continued)

Llyfni	Pont Llyfni	AMD	2	5	5
Pulford Brook	Poulton	CL	1	4	0
Taff	Tydfils Well	LE	1	0	0
Taf Bargoed	U/s Nant Gyrawd	NS	0	2	0
Clwyd	Pont Dafydd	N	0	0	1
Alyn	Fagl Lane	LE	0	4	0
Mynach	U/s Afon Tryweryn	MDW	0	0	0
Is-y-Coed Brook	U/s Wych Brook	LE	2	1	0
Tedstone Brook	Bromyard	KA	1	2	0
Rhymney	Llanrumney	KA	0	2	0
Taf Fechan	U/s Taf Fawr	NS	1	2	0

TABLE 3. The 25 summer samples audited for Welsh Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Sirhowy	Newtown	RNS	0	3	0
Wye	Monmouth	KA	2	1	1
Nant Ciwc	Brynna Mill	BJJ	0	2	0
Cothi	Felinmynach GS	LR	0	3	0
Ystwyth	Llanafan Bridge	JB	2	0	0
Wye	Redbrook Bush Inn	SR	2	1	0
Nant Dowlais Clun	D/s Rhiwsaeson	NR	0	1	0
How Caple Brook	Sollers Hope	CB	0	1	0
Nant Gwenffrwd	U/s Whitworth Mine	MS	0	3	0
Frome	Wicton Farm	WM	1	1	0
Gwili	Abergwili	GD	1	6	0
Nant Morlais	U/s Taff	LR	0	4	0
Cynon	U/s Penderyn	CL	0	3	0
Ogwen	Felin Lochwillan	LE	0	3	0
Taff	Upper Boat	IT	1	6	0
Taff	Ynysongharad Park	IT	0	1	1
Taff	Merthyr Vale	DH	0	1	1
Dyfi	Hafodty	DH	0	2	0
Cynon	Robertstown	IT	1	5	0
Leri	Doly Bont	NS	0	2	0
Braint	Pont Mynach	MDW	1	8	0
Kenfig	Pyle Bridge	LR	0	2	0
Elver Reen	Grangefield	SS	2	0	1
Hindwell Brook	Combe Bridge	SS	0	2	0
Dock Feeder	Butetown	SS	0	1	0

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

River	Site	Sorter	Losses	Gains	Omissions
Loughor	Pontardulais Rd Br	LR	1	3	0
Black Brook	Penyffordd St	IT	0	0	2
Clydach	Blackrock	SS	0	0	0
Wye	Glasbury	KA	1	3	0

TABLE 5
Results of individual sample audits

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Wye**

SEASON **Spring**

SITE **Hampton Bishop**

SORTER **CB**

SAMPLE CODE **NRA08 E008**

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 Dendrocoelidae 2 Potamanthidae

NET LOSSES **0**

NET GAINS **2**

NOTES
1 Dendrocoelum lacteum
2 Potamanthus luteus 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Hindwell Brook**

SEASON **Spring**

SITE **Combe Bridge**

SORTER **AG**

SAMPLE CODE **NRA08 E105**

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 Planariidae 2 Sphaeriidae 3 Ephemerellidae 4 Perlodidae 5 Hydroptilidae 6 Leptoceridae 7 Sericostomatidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES **0**

NET GAINS **7**

NOTES

- 1 Polycelis felina
- 2 Pisidium sp. 1 only
- 3 Ephemerella ignita 1 only
- 4 Isoperla grammatica 1 only
- 5 Ithytrichia sp.
- 6 Adicella reducta 1 only
- 7 Sericostoma personatum

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Rhymney**

SEASON **Spring**

SITE **D/s Nant Bargoed Rhymney**

SORTER **SR**

SAMPLE CODE **NRA08 E251**

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 Asellidae 2 Caenidae 3 Hydrophilidae 4 Elmidae 5 Rhyacophilidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES **0**

NET GAINS **5**

NOTES

- 1 Asellus aquaticus 1 only
- 2 Caenis rivulorum 1 only
- 3 Helophorus grandis (adult) 1 only
- 4 Esolus parallelepipedus (larva) 1 only
- 5 Rhyacophila sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON 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 Baetidae 2 Nemouridae 3 Beraeidae

NET LOSSES NET GAINS

NOTES

1 Baetis sp. 2 specimens, head & thorax only
 2 Nemoura sp.
 3 Beraea pullata 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Llynfi**

SEASON **Spring**

SITE **D/s Ennig**

SORTER **CB**

SAMPLE CODE **NRA08 E126**

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 Asellidae 2 Leuctridae 3 Gyrinidae 4 Limnephilidae

NET LOSSES **0**

NET GAINS **4**

NOTES

- 1 Asellus aquaticus
- 2 Leuctra geniculata
- 3 Orectochilus villosus (larvae)
- 4 Halesus radiatus 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Ebbw Fawr
SEASON	Spring	SITE	West End Bridge
SORTER	SR	SAMPLE CODE	NRA08 E217

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	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 Hydrobiidae

NET LOSSES NET GAINS

NOTES **1 Potamopyrgus jenkinsi 1 only**

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Sphaeriidae 2 Leptophlebiidae 3 Leuctridae 4 Dytiscidae 5 Hydroptilidae

NET LOSSES

NET GAINS

NOTES

- 1 Pisidium sp.
- 2 Paraleptophlebia sp.
- 3 Leuctra geniculata 1 only
- 4 Potamonectes depressus (adult) 1 only
- 5 Ithytrichia sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**RIVER **Afan**SEASON **Spring**SITE **Cymmer Afan**SORTER **NR**SAMPLE CODE **NRA08 W039**AQC OF BMWP FAMILIES A. IN VIAL **+**B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	

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 Leptoceridae

NET LOSSES **0**NET GAINS **1**

NOTES

1 *Mystacides azurea* 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Chironomidae

NET LOSSES

NET GAINS

NOTES

1 Indet 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

Welsh

RIVER

Llin

SEASON

Spring

SITE

Felindre Rd Br

SORTER

MS

SAMPLE CODE

NRA08 W096

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*	

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 Limnephilidae*

NET LOSSES

0

NET GAINS

0

NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION RIVER SEASON 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

NET LOSSES NET GAINS NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Alun**

SEASON **Spring**

SITE **Llandow Brook**

SORTER **JB**

SAMPLE CODE **NRA08W007**

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
	1 Asellidae*	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)	2 Asellidae* 3 Psychomyiidae

NET LOSSES **0**

NET GAINS **1**

NOTES
1 Terrestrial Isopod in vial
2 Asellus sp. 1 only
3 Lype sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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

NET LOSSES

NET GAINS

NOTES

2 Hydroptila sp. 1 only (many empty cases)
3 Mystacides azurea

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 1 Planorbidae	ADDITIONAL FAMILIES FOUND BY IFE 2 Oligochaeta 3 Polycentropodidae
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 4 Leptophlebiidae 5 Leuctridae 6 Psychomyiidae

NET LOSSES

NET GAINS

NOTES
 4 Paraleptophlebia sp.
 5 Leuctra geniculata
 6 Indet (abdomen only) 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Ewenny**

SEASON **Spring**

SITE **Factory Bridge**

SORTER **BJJ**

SAMPLE CODE **NRA08 W005**

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 Asellidae 2 Gammaridae* 3 Leuctridae 4 Leptophlebiidae

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 Gammaridae*

NET LOSSES **2**

NET GAINS **1**

NOTES
 1 Terrestrial Isopod in vial
 4 Indet damaged specimen 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Nant-y-Cerdin**

SEASON **Spring**

SITE **Cwmfelin**

SORTER **BJJ**

SAMPLE CODE **NRA08 W024**

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 Polycentropodidae 2 Goeridae
	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 Indet juvenile 1 only
2 Silo pallipes 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Gwydol

SEASON Spring

SITE Abergwydol

SORTER MDW

SAMPLE CODE NRA08 N013

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	<div>BMWP FAMILIES NOT FOUND BY IFE</div> <div>None</div> <div>ADDITIONAL FAMILIES FOUND BY IFE</div> <div>None</div>

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

NET LOSSES 0

NET GAINS 2

NOTES

1 Potamopyrgus jenkinsi
2 Ancyclus fluviatilis

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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
		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)
		None

NET LOSSES

NET GAINS

NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Shell Brook

SEASON Spring

SITE Shell Brook Hill

SORTER CML

SAMPLE CODE NRA08 N169

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 Chironomidae

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 Hydrobiidae

NET LOSSES 0

NET GAINS 3

NOTES

2 Crenobia alpina 1 only
3 Potamopyrgus jenkinsi

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Welsh</div>	RIVER	<div>Llyfni</div>
SEASON	<div>Spring</div>	SITE	<div>Pont Llyfni</div>
SORTER	<div>MDW</div>	SAMPLE CODE	<div>NRA08 N053</div>

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 Lepidostomatidae
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 Lymnaeidae 3 Tipulidae

NET LOSSES

0

NET GAINS

3

NOTES

- 1 Lepidostoma hirtum
- 2 Lymnaea sp. (damaged specimens)
- 3 Dicranota sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Dytiscidae	2 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)	3 Sphaeriidae 4 Nemouridae 5 Polycentropodidae

NET LOSSES

NET GAINS

NOTES

2 Helophorus sp. (larva)
3 Pisidium sp. 1 only
4 Nemoura cambrica 1 only
5 Plectrocnemia conspersa

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Cefni**

SEASON **Spring**

SITE **U/s Livestock Market**

SORTER **CML**

SAMPLE CODE **NRA08 N081**

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* 2 Oligochaeta* 3 Gammaridae* 4 Ephemerellidae* 5 Caenidae* 6 Leuctridae* 7 Perlodidae 8 Rhyacophilidae*	9 Lymnaeidae 10 Ancylidae 11 Sphaeriidae
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)	12 Hydrobiidae* 13 Oligochaeta* 14 Gammaridae* 15 Ephemerellidae* 16 Caenidae* 17 Leuctridae* 18 Rhyacophilidae* 19 Tipulidae

NET LOSSES **1**

NET GAINS **4**

NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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* 2 Rhyacophilidae*	3 Perlidae 4 Tipulidae

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 Lymnaeidae* 6 Caenidae 7 Taeniopterygidae 8 Hydrophilidae 9 Rhyacophilidae* 10 Limnephilidae 11 Leptoceridae 12 Lepidostomatidae

NET LOSSES

NET GAINS

NOTES	1,5 Lymnaea peregra 1 only 2,9 Glossosoma sp. 3 Perla bipunctata 4 Dicranota sp. 6 Caenis rivulorum 7 Brachyptera risi 8 Hydraena gracilis 1 only	10 Ecclisopteryx guttulata 11 Athripsodes sp. 12 Lepidostoma hirtum
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1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 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 Brachycentridae

NET LOSSES

NET GAINS

NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	<div>BMWP FAMILIES NOT FOUND BY IFE</div> <div>ADDITIONAL FAMILIES FOUND BY IFE</div>
		<div>None</div> <div>None</div>

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

NET LOSSES

NET GAINS

NOTES

1 Sialis lutaria 1 only
2 Polycentropus flavomaculatus 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	1 Hydrobiidae 2 Tipulidae
	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)	3 Hydrophilidae 4 Leptoceridae
	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 Potamopyrgus jenkinsi
- 2 Hexatoma sp.
- 3 Hydraena gracilis 1 only
- 4 Athripsodes sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 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 Nemouridae

NET LOSSES

NET GAINS

NOTES

1 Nemurella picteti, Nemoura avicularis, Amphinemura sulcicollis

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	1 Taeniopterygidae 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)	3 Gyrinidae 4 Hydroptilidae

NET LOSSES

NET GAINS

NOTES

- 1 Brachyptera risi
- 2 Lasiocephala basalis
- 3 Orectochilus villosus (larva) 1 only
- 4 Agraylea multipunctata

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Welsh</div>	RIVER	<div>Gronw</div>
SEASON	<div>Spring</div>	SITE	<div>Whitland</div>
SORTER	<div>MS</div>	SAMPLE CODE	<div>NRA08 W139</div>

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 Simuliidae

NET LOSSES

0

NET GAINS

1

NOTES

1 Simulium ornatum group (larva) 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Welsh</div>	RIVER	<div>Mynach</div>
SEASON	<div>Spring</div>	SITE	<div>Myherin u/s Rhyddnant</div>
SORTER	<div>GD</div>	SAMPLE CODE	<div>NRA08 W281</div>

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Sphaeriidae 2 Chironomidae

NET LOSSES

NET GAINS

NOTES

1 Pisidium sp.
2 Indet Tanypodinae 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Curculionidae	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

NET LOSSES

NET GAINS

NOTES

1 Terrestrial species (Liosoma deflexum)
2 Polycelis felina, Crenobia alpina

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Wye**

SEASON **Spring**

SITE **Rhayader**

SORTER **CB**

SAMPLE CODE **NRA08 E017**

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 Polycentropodidae 2 Tipulidae

NET LOSSES **0**

NET GAINS **2**

NOTES

**1 Polycentropus sp. 1 only
2 Dicranota sp.**

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Trothy**

SEASON **Spring**

SITE **Onen**

SORTER **SR**

SAMPLE CODE **NRA08 E024**

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	<table><tr><th>BMWP FAMILIES NOT FOUND BY IFE</th><th>ADDITIONAL FAMILIES FOUND BY IFE</th></tr><tr><td>1 Leuctridae</td><td>None</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	1 Leuctridae	None
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
1 Leuctridae	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 Piscicolidae 4 Capniidae 5 Scirtidae 6 Rhyacophilidae 7 Leptoceridae

NET LOSSES **1**

NET GAINS **6**

NOTES	2 Potamopyrgus jenkinsi 3 Piscicola geometra 1 only 4 Capnia bifrons 1 only 5 Elodes sp. (larva) 1 only 6 Agapetus sp. 1 only 7 Athripsodes bilineatus
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1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Ephemeridae 2 Leuctridae 3 Hydrophilidae
	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 Ephemera danica 1 only
2 Leuctra hippopus
3 Hydraena gracilis 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Welsh</div>	RIVER	<div>Rhiwsaeson</div>
SEASON	<div>Spring</div>	SITE	<div>Llanbrynmair</div>
SORTER	<div>DH</div>	SAMPLE CODE	<div>NRA08 N017</div>

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 Sphaeriidae 2 Perlidae 3 Philopotamidae

NET LOSSES

0

NET GAINS

3

NOTES

1 Pisidium sp. 1 only
 2 Perla bipunctata
 3 Wormaldia sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Welsh

RIVER Llyfni

SEASON Spring

SITE Pont Llyfni

SORTER AMD

SAMPLE CODE NRA08 N053

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 Planorbidae* 2 Heptageniidae* 3 Caenidae* 4 Perlodidae 5 Hydrophilidae* 6 Elmidae* 7 Sericostomatidae
		8 Tipulidae

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)
		9 Planorbidae* 10 Gammaridae 11 Heptageniidae* 12 Ephemerellidae 13 Caenidae* 14 Gyrinidae 15 Hydrophilidae* 16 Elmidae* 17 Lepidostomatidae

NET LOSSES 2

NET GAINS 5

NOTES

8 Dicranota sp. 1 only
 10 Gammarus pulex 1 only
 12 Ephemerella ignita
 14 Orectochilus villosus (larva) 1 only
 17 Lepidostoma hirtum

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	2 Valvatidae 3 Oligochaeta

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 Leuctridae 5 Curculionidae

NET LOSSES

NET GAINS

NOTES

2 Valvata piscinalis
4 Leuctra inermis 1 only
5 Notaris acridulus

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Taff
SEASON	Spring	SITE	Tydfils Well
SORTER	LE	SAMPLE CODE	NRA08 E281

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 Dendrocoelidae
		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)
		None

NET LOSSES

NET GAINS

NOTES **1 Phagocata vitta**

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	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 Ephemerellidae 2 Hydrophilidae

NET LOSSES

NET GAINS

NOTES

1 Ephemerella ignita 1 only
2 Helophorus brevipalpis 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Limnephilidae*	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 Limnephilidae*

NET LOSSES

NET GAINS

NOTES

2 Potamophylax sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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	1 Piscicolidae
	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)	2 Ephemerellidae 3 Nemouridae 4 Psychomyiidae
	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 Piscicola geometra 1 only

2 Ephemerella ignita

3 Nemoura cambrica/erratica 1 only

4 Tinodes waeneri

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Is Y Coed Brook**

SEASON **Spring**

SITE **U/s Wych Brook**

SORTER **LE**

SAMPLE CODE **NRA08 N151**

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 2 Planorbidae	3 Tipulidae

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 **2**

NET GAINS **1**

NOTES

1 Succinea sp. in vial
2 Zonitoides sp. in vial
3 Pylaria sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**RIVER **Tedstone Brook**SEASON **Spring**SITE **Bromyard**SORTER **KA**SAMPLE CODE **NRA08 E075**

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
		1 Hydroptilidae	2 Psychomyiidae

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)	3 Elmidae

Differences between:
i) BMWP families listed
on sample data sheet
and
ii) BMWP families found
in SAMPLE by IFE

NET LOSSES

1

NET GAINS

2

NOTES

2 Lype sp.

3 Elmis aenea (adult + larva), Limnius volckmari (adult)

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Rhymney**

SEASON **Spring**

SITE **Llanrumney**

SORTER **KA**

SAMPLE CODE **NRA08 E241**

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 Ancylidae 2 Glossiphoniidae

NET LOSSES **0**

NET GAINS **2**

NOTES

1 Ancylus fluviatilis 1 only
2 Hemiclepsis marginata 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Taf Fechan
SEASON	Spring	SITE	U/s Taf Fawr
SORTER	NS	SAMPLE CODE	NRA08 E321

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)	2 Dytiscidae 3 Hydrophilidae

NET LOSSES

NET GAINS

NOTES

1 Empid larva in vial
2 Oreodytes sanmarki (adults)
3 Helophorus brevipalpis 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Sirhowy
SEASON	Summer	SITE	Newtown
SORTER	RNS	SAMPLE CODE	NRA08 E222

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	1 Gammaridae
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)	2 Dytiscidae 3 Simuliidae

NET LOSSES 0 NET GAINS 3

NOTES

- 1 Gammarus pulex
- 2 Stictotarsus-12-pustulatus (larva) 1 only
- 3 Simulium ornatum group 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Wye**

SEASON **Summer**

SITE **Monmouth**

SORTER **KA**

SAMPLE CODE **NRA08 E003**

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 Valvatidae 2 Aphelocheiridae* 3 Sericostomatidae	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)	4 Caenidae 5 Aphelocheiridae*

NET LOSSES **2**

NET GAINS **1**

NOTES

1 Bithynia tentaculata juveniles in vial
4 Caenis luctuosa/macrura

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Perlodidae 2 Philopotamidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES

NET GAINS

NOTES

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Cothi**

SEASON **Summer**

SITE **Felinmynach G.S.**

SORTER **LR**

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)	1 Gammaridae 2 Cordulegasteridae 3 Polycentropodidae

NET LOSSES **0**

NET GAINS **3**

NOTES

- 1 Indet Gammarid 1 front end only
- 2 Cordulegaster boltonii 1 only
- 3 Polycentropus flavomaculatus 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

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 Siphonuridae 2 Hydrophilidae	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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Wye**

SEASON **Summer**

SITE **Redbrook Bush Inn**

SORTER **SR**

SAMPLE CODE **NRA08 E002**

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 Valvatidae 2 Perlodidae 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 Lepidostomatidae

NET LOSSES **2**

NET GAINS **1**

NOTES

1 Bithynia sp. juveniles in vial
 3 Lepidostoma hirtum 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Welsh</div>	RIVER	<div>Nant Dowlais Clun</div>
SEASON	<div>Summer</div>	SITE	<div>D/s Rhiwsaeson</div>
SORTER	<div>NR</div>	SAMPLE CODE	<div>NRA08 E338</div>

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 Sphaeriidae

NET LOSSES

0

 NET GAINS

1

NOTES 1 Pisidium sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **How Caple Brook**

SEASON **Summer**

SITE **Sollers Hope**

SORTER **CB**

SAMPLE CODE **NRA08 E055**

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 Dendrocoelidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Dendrocoelum lacteum 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Nant Gwenffrwd**

SEASON **Summer**

SITE **U/s Whitworth Mine**

SORTER **MS**

SAMPLE CODE **NRA08 W045**

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	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 Nemouridae 2 Chloroperlidae 3 Rhyacophilidae

NET LOSSES **0**

NET GAINS **3**

NOTES

- 1 Protonemura sp.
- 2 Chloroperla torrentium 1 only
- 3 Rhyacophila obliterata, R. dorsalis

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Frome**

SEASON **Summer**

SITE **Wicton Farm**

SORTER **WM**

SAMPLE CODE **NRA08 E071**

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 Mesoveliidae
		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 Dendrocoelidae

NET LOSSES **1**

NET GAINS **1**

NOTES

1 Velia sp. (nymph) in vial
2 Dendrocoelum lacteum

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Gwili
SEASON	Summer	SITE	Abergwili
SORTER	GD	SAMPLE CODE	NRA08 W144

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
		1 Lepidostomatidae
		2 Brachycentridae
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)
		3 Sphaeriidae 4 Chloroperlidae 5 Haliplidae 6 Polycentropodidae 7 Limnephilidae

NET LOSSES

NET GAINS

NOTES

- 3 Pisidium sp.
- 4 Chloroperla torrentium 1 only
- 5 Haliplus sp. (larva) 1 only
- 6 Polycentropus flavomaculatus
- 7 Halesus sp., Ecclisopteryx guttulata

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Nant Morlais**

SEASON **Summer**

SITE **U/s Taff**

SORTER **LR**

SAMPLE CODE **NRA08 E320**

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 Hydrobiidae 2 Asellidae 3 Heptageniidae 4 Elmidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES **0**

NET GAINS **4**

NOTES

- 1 Potamopyrgus jenkinsi
- 2 Asellus aquaticus 1 only
- 3 Ecdyonurus sp. 1 only
- 4 Elmis aenea (larva) 1 only

Terrestrial Hydrophilid in vial = Megasternum obscurum

NRA data sheet has been incorrectly filled in for spring and summer

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Cynon**

SEASON **Summer**

SITE **U/s Penderyn**

SORTER **CL**

SAMPLE CODE **NRA08 E309**

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 Baetidae 2 Perlodidae 3 Hydrophilidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES **0**

NET GAINS **3**

NOTES

1 Centropilum pennulatum 1 only
2 Perlodes microcephala 1 only
3 Hydraena gracilis 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Ogwen
SEASON	Summer	SITE	Felin Lochwillan
SORTER	LE	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)	1 Caenidae 2 Hydropsychidae 3 Goeridae

NET LOSSES

NET GAINS

NOTES

1 Caenis sp. (juvenile) 1 only
2 Hydropsyche sp. (pupa) 1 only
3 Indet. Goerid (pupa) 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Taff
SEASON	Summer	SITE	Upper Boat
SORTER	IT	SAMPLE CODE	NRA08 E270

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 Hirudidae
		2 Asellidae
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 Physidae
		4 Ancyliidae
		5 Sphaeriidae
		6 Glossiphoniidae
		7 Elmidae

NET LOSSES 1

NET GAINS 6

NOTES

3 Physa sp. (decalcified) 1 only
4 Indet. Ancyliid (decalcified) 1 only
5 Indet. Sphaeriid 1 only
6 Glossiphonia complanata 1 only
7 Elmis aenea (adult) 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Taff
SEASON	Summer	SITE	Ynysongharad Park
SORTER	IT	SAMPLE CODE	NRA08 E272

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
		1 Dendrocoelidae*
		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)
		2 Dendrocoelidae* 3 Sphaeriidae

NET LOSSES **0**

NET GAINS **1**

NOTES

2 Dendrocoelum lacteum 1 only in sample
3 Pisidium sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Taff**

SEASON **Summer**

SITE **Merthyr Vale**

SORTER **DH**

SAMPLE CODE **NRA08 E277**

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*	2 Physidae

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 Lymnaeidae*

NET LOSSES **0**

NET GAINS **1**

NOTES

2 Physa heterostropha

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Dyfi
SEASON	Summer	SITE	Hafodty
SORTER	DH	SAMPLE CODE	NRA08 N001

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 Brachycentridae 2 Simuliidae

NET LOSSES

NET GAINS

NOTES

1 Brachycentrus subnubilus 1 only
2 Simulium (Wilhelmia) sp., Simulium reptans

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Cynon
SEASON	Summer	SITE	Robertstown
SORTER	IT	SAMPLE CODE	NRA08 E305

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 Capniidae	2 Leuctridae

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 Sphaeriidae 4 Glossiphoniidae 5 Polycentropodidae 6 Tipulidae

NET LOSSES NET GAINS

NOTES

- 2 Leuctra fusca
- 3 Pisidium sp. 1 only
- 4 Glossiphonia complanata 1 only
- 5 Polycentropus flavomaculatus 1 only
- 6 Antocha vitripennis 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Leri**

SEASON **Summer**

SITE **Doly Bont**

SORTER **NS**

SAMPLE CODE **NRA08 N004**

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 Hydrobiidae 2 Sphaeriidae
	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 Potamopyrgus jenkinsi 1 only
2 Pisidium sp.

Data sheet shows Dicranota sp. under "Other Taxa" for spring yet Tipulidae is not recorded in Group 5 taxa

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Braint
SEASON	Summer	SITE	Pont Mynach
SORTER	MDW	SAMPLE CODE	NRA08 N077

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
		1 Planariidae
		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)
		2 Valvatidae 3 Lymnaeidae 4 Planorbidae 5 Haliplidae 6 Dytiscidae 7 Hydrophilidae 8 Leptoceridae 9 Simuliidae

NET LOSSES NET GAINS

NOTES

- 2 Valvata piscinalis
- 3 Lymnaea peregra 1 only
- 4 Indet. Planorbid (damaged specimen) 1 only
- 5 Brychius elevatus (adults)
- 6 Oreodytes sanmarkii
- 7 Helophorus brevipalpis, Hydraena gracilis
- 8 Athripsodes sp. (pupa) 1 only
- 9 Simulium ornatum group, Simulium aureum group

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

Welsh

RIVER

Kenfig

SEASON

Summer

SITE

Pyle Bridge

SORTER

LR

SAMPLE CODE

NRA08 W032

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 Heptageniidae 2 Hydroptilidae

NET LOSSES

0

NET GAINS

2

NOTES

1 Ecdyonurus sp. 1 only
2 Hydroptila sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Elver Reen
SEASON	Summer	SITE	Grangefield
SORTER	SS	SAMPLE CODE	NRA08 E165
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 1 Valvatidae 2 Oligochaeta 3 Haliplidae*	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 4 Haliplidae*
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NET LOSSES **2** NET GAINS **0**

NOTES **2 Thin spiral of plant material in vial. No Oligochaetes found in sample.**

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Hindwell Brook**

SEASON **Summer**

SITE **Combe Bridge**

SORTER **SS**

SAMPLE CODE **NRA08 E105**

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 Lepidostomatidae 2 Brachycentridae

NET LOSSES **0**

NET GAINS **2**

NOTES **1 Lepidostoma hirtum (pupa) 1 only**
2 Brachycentrus subnubilus 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Dock Feeder**

SEASON **Summer**

SITE **Butetown**

SORTER **SS**

SAMPLE CODE **NRA08 E265**

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 Physidae

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 **1**

NOTES **1 Physa fontinalis**

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Loughor**

SEASON **Autumn**

SITE **Pontardulais Road Bridge**

SORTER **LR**

SAMPLE CODE **NRA08 W083**

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	

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 Caenidae 4 Hydroptilidae

NET LOSSES **1**

NET GAINS **3**

NOTES

2 Indet Polycentropodid (juvenile)
3 Caenis rivulorum 1 only
4 Hydroptila sp. 1 only

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Welsh	RIVER	Black Brook
SEASON	Autumn	SITE	Penyffordd St
SORTER	IT	SAMPLE CODE	NRA08 N143

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 Planorbidae 2 Sphaeriidae
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NET LOSSES NET GAINS

NOTES

1 Planorbis carinatus 1 only

2 Pisidium sp.

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**

RIVER **Clydach**

SEASON **Autumn**

SITE **Blackrock**

SORTER **SS**

SAMPLE CODE **NRA08 E198**

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

1990 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Welsh**RIVER **Wye**SEASON **Autumn**SITE **Glasbury**SORTER **KA**SAMPLE CODE **NRA08 E013**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 Leptophlebiidae	2 Potamanthidae

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 Taeniopterygidae 4 Polycentropodidae

NET LOSSES **1**NET GAINS **3**

NOTES

3 Taeniopteryx nebulosa 1 only
4 Polycentropus sp. 1 only