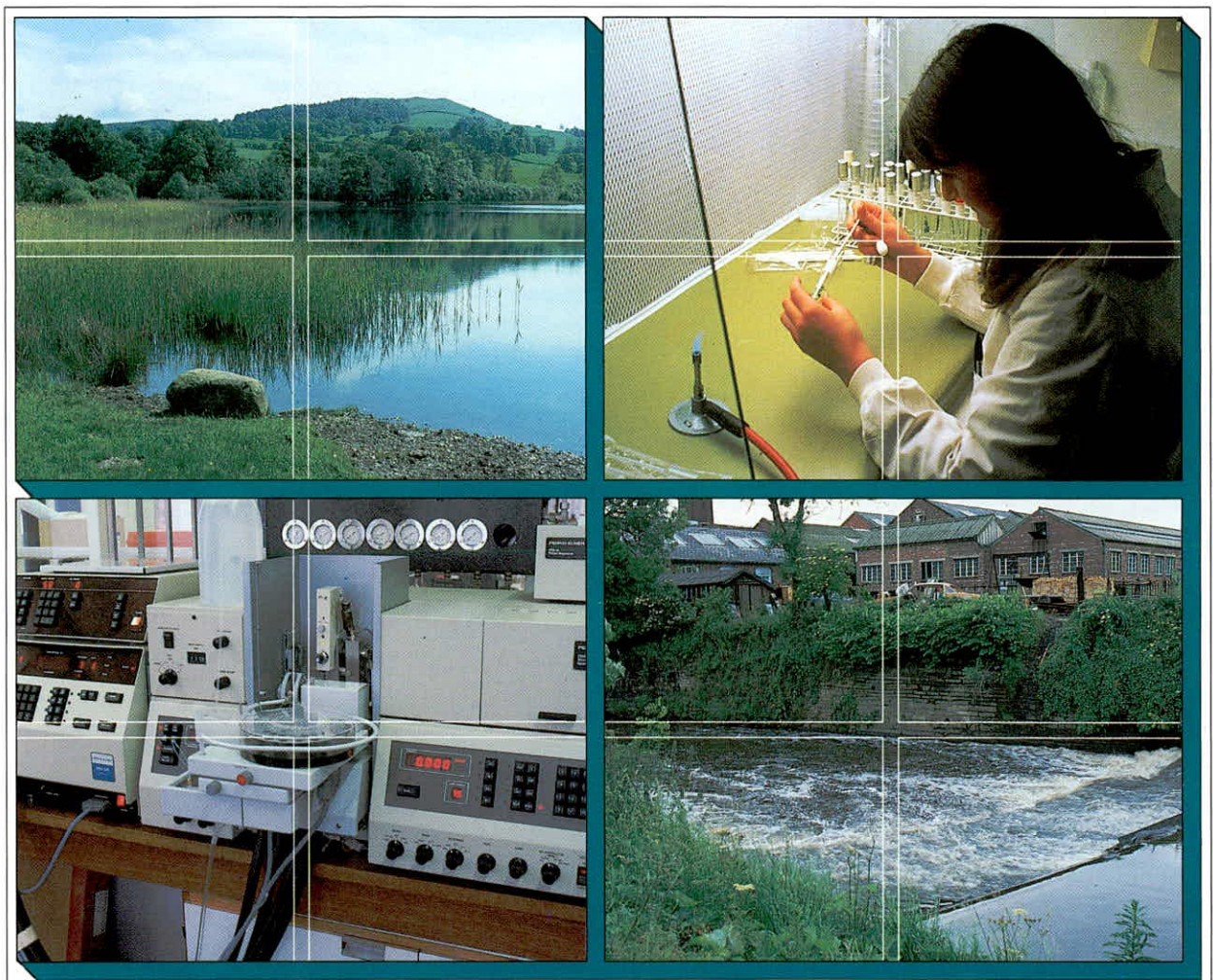




**Institute of  
Freshwater  
Ecology**

# **An audit of performance in the processing of macro-invertebrate samples in 1993. NRA Welsh Region**

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**NRA Welsh Region**

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## **1. INTRODUCTION**

In 1993 the sampling of aquatic macro-invertebrates for the biological assessment of river quality continued throughout the United Kingdom. This task was undertaken by the National Rivers Authority (NRA) in England and Wales, the River Purification Boards (RPBs) in Scotland and the Industrial Research & Technology Unit (IRTU) in Northern Ireland.

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

Each organisation employed standard collection procedures, as used in the 1990 River Quality Survey, and the sampling strategy was therefore compatible with RIVPACS (River InVertebrate Prediction And Classification System), which has been developed by the Institute of Freshwater Ecology (IFE).

Samples were sorted by NRA, RPB and IRTU personnel for the families of macro-invertebrates included in the Biological Monitoring Working Party (BMWP) system. Taxa present were recorded on site data sheets. Sample processing and recording techniques varied from region to region.

## **2. SAMPLE SELECTION**

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

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

Some of the samples audited for Welsh Region were selected from preserved 1992 material.

## **3. SAMPLE PROCESSING**

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

Thus, each sample available to IFE for audit should have included:

- i) a list of the BMWP families found in the sample
- ii) a vial containing representatives from each family
- iii) the preserved sample

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

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

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

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

#### 4. REPORTING

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

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

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

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

## **ACKNOWLEDGEMENTS**

Thanks to Valerie Palmer for typing the report.

TABLE 1. The IFE Report form

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	<input type="text"/>	RIVER	<input type="text"/>
DATE	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	SAMPLE CODE	<input type="text"/>

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

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

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

NOTES:

NET LOSSES

NET GAINS

--

TABLE 2. The 30 1992 samples audited for Welsh Region.

River	Site	Sorter	Losses	Gains	Omissions
Teifi	Llechyrd Road Bridge	JG	0	4	0
Tywi	Glanrhyd Bridge	SS	0	3	0
Dafen	u/s Radiators Discharge	SS	0	7	1
Gwenffrwd	Towi Fisheries	KJ	0	2	1
Melindwr	Capel Bangor	DB	0	4	0
Gwaun	Cilrhydun Bridge	JG	0	3	0
Rheidol	u/s Cwm Rheidol Mine	JG	0	9	0
Allt Wallis	u/s Llanpumpsaint	SS	1	2	2
Talog	Pencader	SS	0	2	0
Dulais	Rhosmaen	KJ	0	2	0
W. Cleddau	Trefgarne Bridge	KJ	1	1	1
Bran	d/s Llandovery STW	MS	0	4	0
Solva	d/s Footbridge	DB	0	4	0
Cwmwaungron	u/s Taf confluence	DB	0	2	0
Dowlais Brook	Llantarnam Abbey	SS	1	4	1
Neath	Blaengwrach	MS	0	1	0
Tywi	Manorafon	DB	0	2	0
Ydw	d/s Cilgwyn	JG	0	6	0
Bargoed	A484 Bridge	KJ	0	3	0
Marlais	A40 Bridge	DB	0	5	0
Dulais	Crynant	JG	0	4	0
Towy	u/s Brianne	MS	0	3	0
Afan	Port Talbot	DB	0	1	1
Tawe	Ystanglws G.S.	JG	0	0	2
Gwilli	Llanpumpsaint	MS	0	0	0
Clydach	Cwm Nant-garn	DB	1	3	0
Ystwyth	Llanafan Bridge	KJ	0	0	0
Dulais	Llanwrda	MS	1	0	0
Towy	Nantgaredig	MS	0	0	0
Lliw	Pontlliw Bridge	KJ	0	4	0



TABLE 3. The 15 spring 1993 samples audited for Welsh Region

River	Site	Sorter	Losses	Gains	Omissions
Cegidog	Llanfynydd	MW	0	0	0
Gwenfro	Hightown	PR	0	0	0
Kilhendre Brook	u/s Shell Brook	JB	0	4	0
Hesbin	Eyarth House	MH	0	1	0
Llynfi	Maesteg	DB	0	2	0
Ystwyth	Pontrhydygroes	DB	1	3	0
Diliw	u/s Ystwyth confluence	DB	0	0	0
Colwinston Brook	Parcau Farm	KJ	1	1	0
Gelyn	Ty Nant	JB	0	2	0
Crymlyn	u/s Pencoed	KJ	0	2	0
Usk	d/s Brecon	AD	0	1	0
Taff	d/s Pontypridd	AD	0	0	0
Dowlais Brook	Llantarnam Abbey	AT	0	1	0
Afon Tarell	Brecon	AT	0	1	0
Rhondda	Pontypridd	NS	0	0	0

TABLE 4. The 15 summer 1993 samples audited for Welsh Region

River	Site	Sorter	Losses	Gains	Omissions
Clywedog	Erddig Park	MW	2	0	0
Clywedog	Pickhill Bridge	JB	0	1	0
Black Brook	Penyfordd St	JB	0	1	0
Clwyd	d/s Ruthin STW	PR	0	0	0
Fferris Brook	Pantyyffynon	KJ	0	0	0
Afon Bach	u/s Clwyd	MW	1	3	0
Solva	u/s Road Bridge	SA	0	2	0
Dulais	Aberdulais	SA	0	1	0
Ewenny Fach	Llanharan	DB	0	0	0
Colwinston Brook	Parcau Farm	KJ	1	0	0
Cynon	d/s Hirwaun	DB	0	1	0
Afon Grwyne Fawr	Glan Grwyney	NS	1	0	0
Taf Fechan	d/s Vaynor	DB	0	3	0
Usk	Usk Bridge	AD	1	2	0
Rhondda Fach	Pontygwaith	NS	0	1	0

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**APPENDIX**  
**Results of individual sample audits**

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Teifi
DATE	8.5.92	SITE	Llechyrdd Road Bridge
SORTER	JG	SAMPLE CODE	NRA08 W212

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

4

NOTES:

- 1 Habrophlebia fusca 1 only
- 2 Oreodytes sanmarkii (adults)
- 3 Hydraena gracilis (adults)
- 4 Polycentropus flavomaculatus 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Tywi
DATE	5.8.92	SITE	Glanrhyd Bridge
SORTER	SS	SAMPLE CODE	NRA08 W119

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

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Planariidae 2 Dytiscidae 3 Hydropsychidae

NET LOSSES NET GAINS 

NOTES:

1 Crenobia alpina 1 only  
 2 Oreodytes sanmarkii (adult) 1 only  
 3 Hydropsyche sp. (larva + pupa)

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dafen
DATE	11.8.92	SITE	u/s Radiators Discharge
SORTER	SS	SAMPLE CODE	NRA08 W093

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	2 Planariidae 3 Planorbidae* 4 Caenidae 5 Nemouridae 6 Coenagriidae 7 Dytiscidae 8 Polycentropodidae 9 Simuliidae

NET LOSSES

0

NET GAINS

7

NOTES:

1,3 Terrestrial snail in vial, Planorbis carinatus 1 only in sample  
 2 Polycelis felina  
 4 Caenis sp. 1 anterior end only  
 5 Nemoura sp. (juvenile) 1 only  
 6 Pyrrhosoma nymphula 1 only  
 7 Ilybius sp. (larva) 1 only  
 8 Polycentropus flavomaculatus 1 only  
 9 Simulium noelleri 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Gwenffrwd
DATE	5.8.92	SITE	Towi Fisheries study site
SORTER	KJ	SAMPLE CODE	NRA08 W182

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

2

NOTES:

2 Leuctra sp. (damaged specimens)  
 3 Oreodytes sanmarkii (adult) 1 only  
 4 Hydraena gracilis (adults)

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Melindwr
DATE	18.8.92	SITE	Capel Bangor
SORTER	DB	SAMPLE CODE	NRA08 W279

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

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Heptageniidae 2 Nemouridae 3 Hydrophilidae 4 Limnephilidae

NET LOSSES

NET GAINS

NOTES:

- 1 Ecdyonurus sp.
- 2 Protonemura sp. (juveniles)
- 3 Hydraena gracilis (adults)
- 4 Indet Limnephilid (juvenile) 1 only



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Gwaun
DATE	23.7.92	SITE	Cilrhydun Bridge
SORTER	JG	SAMPLE CODE	NRA08 W209

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Protonemura sp. (juveniles)  
2 Chloroperla torrentium, C.tripunctata  
3 Odontocerum albicorne 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Rheidol
DATE	19.8.92	SITE	u/s Cwm Rheidol Mine
SORTER	JG	SAMPLE CODE	NRA08 W267

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

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	2 Chloroperlidae 3 Calopterygidae 4 Hydrophilidae 5 Scirtidae 6 Polycentropodidae 7 Limnephilidae 8 Goeridae 9 Lepidostomatidae

NET LOSSES NET GAINS 

## NOTES:

- |  |                                       |
|--|---------------------------------------|
| 1 Nemoura avicularis                             | 7 Indet Limnephilid (juvenile) 1 only |
| 2 Chloroperla tripunctata                        | 8 Silo pallipes 1 only                |
| 3 Calopteryx sp. (juvenile) 1 only               | 9 Lepidostoma hirtum 1 only           |
| 4 Hydraena gracilis (adults)                     |                                       |
| 5 Elodes sp. (larva) 1 only                      |                                       |
| 6 Polycentropus flavomaculatus/kingi (juveniles) |                                       |

Note on data sheet that Cordulegasteridae "released". Cordulegaster boltonii 1 only found by IFE in sample.

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Allt Wallis
DATE	4.8.92	SITE	u/s Llanpumpsaint
SORTER	SS	SAMPLE CODE	NRA08 W295

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Lymnaeidae 2 Baetidae* 3 Limnephilidae*	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	4 Piscicolidae 5 Baetidae* 6 Haliplidae 7 Limnephilidae*

NET LOSSES

1

NET GAINS

2

NOTES:

1 Succinea sp. found by IFE in sample  
 4 Piscicola geometra 1 only  
 5 Baetis rhodani  
 6 Brychius elevatus (adult) 1 only  
 7 Ecclisopteryx guttulata

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Talog
DATE	28.7.93	SITE	Pencader
SORTER	SS	SAMPLE CODE	NRA08 W236

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

2

NOTES:

1 Perlodes microcephala 1 only  
2 Hydraena gracilis (adult) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dulais
DATE	27.7.92	SITE	Rhosmaen
SORTER	KJ	SAMPLE CODE	NRA08 W165

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

2

NOTES:

1 Glossiphonia complanata 1 only  
2 Mystacides azurea

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	W.Cledau
DATE	9.8.92	SITE	Trefgarne Bridge
SORTER	KJ	SAMPLE CODE	NRA08 W192

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Terrestrial snail in vial  
 2,3 Empty shell in vial, Ancyliidae 1 only in sample  
 4 Indet Lepidostomatidae pupae

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Bran
DATE	30.7.92	SITE	d/s Llandovery STW
SORTER	MS	SAMPLE CODE	NRA08 W175

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Piscicolidae 2 Nemouridae 3 Dytiscidae 4 Lepidostomatidae

NET LOSSES

0

NET GAINS

4

NOTES:

- 1 Piscicola geometra 1 only
- 2 Protonemura sp. (juvenile) 1 only
- 3 Oreodytes sanmarkii (adult) 1 only
- 4 Indet Lepidostomatid (juvenile) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Solva
DATE	6.8.92	SITE	d/s Footbridge
SORTER	DB	SAMPLE CODE	NRA08 W207

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

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

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

NET LOSSES NET GAINS 

## NOTES:

- 1 Odontocerum albicorne (juvenile) in vial, pupa in sample  
 2 Lymnaea peregra 1 only  
 3 Ancylus fluviatilis 1 only  
 4 Hydraena gracilis (adult) 1 only



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Cwmwaungron
DATE	10.8.92	SITE	u/s Taf confluence
SORTER	DB	SAMPLE CODE	NRA08 W290

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

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

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

NET LOSSES

NET GAINS

NOTES:

1 Pisidium sp.  
2 Odontocerum albicorne (juvenile) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dowlais Brook
DATE	22.7.92	SITE	Llantarnam Abbey
SORTER	SS	SAMPLE CODE	NRA08 E184

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

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrobiidae* 2 Sialidae	3 Baetidae 4 Hydrometridae 5 Lepidostomatidae

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	6 Hydrobiidae* 7 Hydroptilidae

NET LOSSES

NET GAINS

NOTES:

3 Baetis rhodani  
 4 Hydrometra sp. (nymph)  
 5 Lepidostoma hirtum  
 6 Potamopyrgus jenkinsi  
 7 Hydroptila sp. 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Neath
DATE	10.8.92	SITE	Blaengwrach
SORTER	MS	SAMPLE CODE	NRA08 W050

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Sericostoma personatum

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION

Welsh

RIVER

Tywi

DATE

27.7.92

SITE

Manorafon Nr.Pumping Station

SORTER

DB

SAMPLE CODE

NRA08 W116

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

2

NOTES:

1 Goera pilosa  
2 Calopteryx splendens 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Ydw
DATE	30.7.92	SITE	d/s Cilgwyn
SORTER	JG	SAMPLE CODE	NRA08 W171

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

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Sphaeriidae 2 Piscicolidae 3 Glossiphoniidae 4 Goeridae 5 Lepidostomatidae 6 Sericostomatidae

NET LOSSES NET GAINS 

## NOTES:

- 1 Pisidium sp. 1 only
- 2 Piscicola geometra 1 only
- 3 Glossiphonia complanata 1 only
- 4 Silo sp.
- 5 Indet Lepidostomatid juveniles
- 6 Sericostoma personatum 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Bargoed
DATE	27.7.92	SITE	A484 Bridge
SORTER	KJ	SAMPLE CODE	NRA08 W233

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Pisidium sp. 1 only  
 2 Nemoura sp. (juvenile) 1 only  
 3 Oreodytes sanmarkii (adults)

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION

Welsh

RIVER

Marlais

DATE

10.8.92

SITE

A40 Bridge

SORTER

DB

SAMPLE CODE

NRA08 W141

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Piscicolidae 2 Glossiphoniidae 3 Calopterygidae 4 Dytiscidae 5 Sialidae

NET LOSSES

0

NET GAINS

5

NOTES:

- 1 Piscicola geometra 1 only
- 2 Glossiphonia complanata 1 only
- 3 Calopteryx virgo 1 only
- 4 Deronectes latus (adult) 1 only
- 5 Sialis lutaria 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dulais
DATE	10.8.92	SITE	Crynant
SORTER	JG	SAMPLE CODE	NRA08 W053

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Cordulegasteridae 2 Dytiscidae 3 Tipulidae 4 Simuliidae

NET LOSSES

0

NET GAINS

4

NOTES:

- 1 Cordulegaster boltonii 1 only
- 2 Oreodytes sanmarkii (adult) 1 only
- 3 Dicranota sp.
- 4 Simulium ornatum group, S.argyreatum/variegatum



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Towy
DATE	4.8.92	SITE	u/s Brianne
SORTER	MS	SAMPLE CODE	NRA08 W122

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

3

NOTES:

1 Crenobia alpina 1 only  
 2 Protonemura sp. (juvenile) 1 only  
 3 Limnius volckmari (adult) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Afan
DATE	18.8.92	SITE	Port Talbot
SORTER	DB	SAMPLE CODE	NRA08 W035

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

1

NOTES:

2 Potamopyrgus jenkinsi  
3 Simulium reptans 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION

Welsh

RIVER

Tawe

DATE

5.8.92

SITE

Ystanglws G.S.

SORTER

JG

SAMPLE CODE

NRA08 W065

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Planariidae* 2 Oligochaeta*	None

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

NET LOSSES

0

NET GAINS

0

NOTES:

3 Polycelis felina

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Gwili
DATE	4.8.92	SITE	Llanpumpsaint
SORTER	MS	SAMPLE CODE	NRA08 W146

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

0

NOTES:

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## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Clydach
DATE	23.7.92	SITE	Cwm Nant-garn
SORTER	DB	SAMPLE CODE	NRA08 E199

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

1

NET GAINS

3

NOTES:

- 1 Velia sp. (nymphs) in vial
- 2 Lymnaea peregra
- 3 Rhyacophila sp. (juvenile) 1 only
- 4 Hydropsyche sp. (juveniles)

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Ystwyth
DATE	19.8.92	SITE	Llanafan Bridge
SORTER	KJ	SAMPLE CODE	NRA08 W274

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

0

NOTES:

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## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dulais
DATE	30.7.92	SITE	Llanwrda
SORTER	MS	SAMPLE CODE	NRA08 W173

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

1

NET GAINS

0

NOTES:

1 Vial contains juvenile *Sericostoma personatum* in addition to large specimen.

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Towy
DATE	24.7.92	SITE	Nantgaredig
SORTER	MS	SAMPLE CODE	NRA08 W113

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

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

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

NET LOSSES NET GAINS 

NOTES:



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Lliw
DATE	11.8.92	SITE	Pontlliw Bridge
SORTER	KJ	SAMPLE CODE	NRA08 W095

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Sphaeriidae 2 Nemouridae 3 Perlodidae 4 Goeridae

NET LOSSES

0

NET GAINS

4

NOTES:

- 1 Pisidium sp. 1 only
- 2 Protonemura sp. (juveniles)
- 3 Isoperla grammatica 1 only
- 4 Silo pallipes

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Cegidog
DATE	26.4.93	SITE	Llanfynydd
SORTER	MW	SAMPLE CODE	NRA08 N141

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

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

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

NET LOSSES NET GAINS 

NOTES:

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Gwenfro
DATE	26.4.93	SITE	Hightown
SORTER	PR	SAMPLE CODE	New

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

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

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

NET LOSSES NET GAINS 

NOTES:

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Kilhendre Brook
DATE	26.4.93	SITE	u/s Shell Brook
SORTER	JB	SAMPLE CODE	NRA08 N012

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

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

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial is supplied with sample)	1 Planariidae 2 Nemouridae 3 Scirtidae 4 Rhyacophilidae

NET LOSSES NET GAINS 

NOTES:

1 Polycelis nigra/tenuis 1 only  
 2 Amphinemura standfussi 1 only  
 3 Elodes sp. (larva) 1 only  
 4 Rhyacophila dorsalis

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Hesbin
DATE	23.4.93	SITE	Eyarth House
SORTER	MH	SAMPLE CODE	NRA08 N121

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Leuctra fusca

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Llynfi
DATE	14.4.93	SITE	Ewenny Road Bridge, Maesteg
SORTER	DB	SAMPLE CODE	NRA08 W018

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

2

NOTES:

1 Chloroperla torrentium 1 only  
2 Sericostoma personatum 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Ystwyth
DATE	7.5.93	SITE	Pontrhydygroes
SORTER	DB	SAMPLE CODE	NRA08 W275

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

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Tipulidae	2 Scirtidae

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

NET LOSSES    NET GAINS    

NOTES:

2 Hydrocyphon deflexicollis (larvae)  
3 Drusus annulatus 1 only  
4 Lepidostoma hirtum 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Diliw
DATE	7.5.93	SITE	u/s Ystwyth confluence
SORTER	DB	SAMPLE CODE	NRA08 W362

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

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

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

NET LOSSES NET GAINS 

NOTES:



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Colwinston Brook
DATE	20.5.93	SITE	Parcau Farm
SORTER	KJ	SAMPLE CODE	NRA08 W302

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

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

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

NET LOSSES NET GAINS 

NOTES:

2 Amphinemura standfussi 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Gelyn
DATE	29.4.93	SITE	Ty Nant
SORTER	JB	SAMPLE CODE	NRA08 N200

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Enchytraeidae, Naididae  
2 Simulium argyreatum group

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Crymlyn
DATE	20.5.93	SITE	u/s Pencoed
SORTER	KJ	SAMPLE CODE	NRA08 W305

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Pisidium sp.  
2 Oreodytes sanmarkii (larva), Hydroporus obsoletus (adult)

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Usk
DATE	26.4.93	SITE	d/s Brecon
SORTER	AD	SAMPLE CODE	NRA08 E173

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Odontocerum albicorne 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Taff
DATE	20.4.93	SITE	d/s Pontypridd
SORTER	AD	SAMPLE CODE	NRA08 E271

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

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

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

NOTES:

NET LOSSES NET GAINS

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dowlais Brook
DATE	4.5.93	SITE	Llantarnam Abbey
SORTER	AT	SAMPLE CODE	NRA08 E184

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Limnius volckmari (larva) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Afon Tarell
DATE	26.4.93	SITE	Brecon
SORTER	AT	SAMPLE CODE	NRA08 E207

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Brachyptera risi 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Rhondda
DATE	20.4.93	SITE	Pontypridd
SORTER	NS	SAMPLE CODE	NRA08 E284

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

0

NOTES:

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## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Clywedog
DATE	22.7.93	SITE	Erddig Park
SORTER	MW	SAMPLE CODE	NRA08 N165

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

2

NET GAINS

0

NOTES:

1 Empty shell in vial  
2 Nematode in vial

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Clywedog
DATE	21.7.93	SITE	Pickhill Bridge
SORTER	JB	SAMPLE CODE	NRA08 N161

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Leuctra fusca 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Black Brook
DATE	22.7.93	SITE	Penyffordd St
SORTER	JB	SAMPLE CODE	NRA08 N143

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

0

NET GAINS

1

NOTES:

1 Potamopyrgus jenkinsi 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Clwyd
DATE	19.7.93	SITE	d/s Ruthin STW
SORTER	PR	SAMPLE CODE	NRA08 N097

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

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

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

NET LOSSES NET GAINS 

NOTES:

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION RIVER DATE SITE SORTER SAMPLE CODE AQC OF BMWP FAMILIES A. IN VIAL  B. IN SAMPLE 

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

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

NET LOSSES

NET GAINS

NOTES:

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Afon Bach
DATE	13.7.93	SITE	u/s Clwyd
SORTER	MW	SAMPLE CODE	NRA08 N112

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Limnophora sp. (Muscidae) in vial  
 2 Physa sp. (juvenile) 1 only  
 3 Indet Glossiphoniid (juvenile) 1 only  
 4 Asellus aquaticus

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Solva
DATE	23.8.93	SITE	u/s Road Bridge
SORTER	SA	SAMPLE CODE	NRA08 W357

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Asellus meridianus  
2 Lepidostoma hirtum

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Dulais
DATE	23.8.93	SITE	Aberdulais
SORTER	SA	SAMPLE CODE	NRA08 W052

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

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

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

NOTES:

NET LOSSES NET GAINS 

1 Pisidium sp. 1 only



## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Ewenny Fach
DATE	3.8.94	SITE	Llanharan u/s Bridge
SORTER	DB	SAMPLE CODE	NRA08 W011

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

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

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

NET LOSSES NET GAINS 

NOTES:

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Colwinston Brook
DATE	2.8.93	SITE	Parcau Farm
SORTER	KJ	SAMPLE CODE	NRA08 W302

AQC OF BMWP FAMILIES A. IN VIAL

+

B. IN SAMPLE

+

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

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

NET LOSSES

1

NET GAINS

0

NOTES:

1 Terrestrial snails in vial, empty Planorbid shells in sample

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Cynon
DATE	20.8.93	SITE	d/s Hirwaun
SORTER	DB	SAMPLE CODE	NRA08 E306

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Oreodytes sanmarkii (adult) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Afon Grwyne Fawr
DATE	16.8.93	SITE	Glan Grwyney
SORTER	NS	SAMPLE CODE	NRA08 E200

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

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

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

NET LOSSES

NET GAINS

NOTES:

1 Terrestrial bug in vial

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Taf Fechan
DATE	15.7.93	SITE	d/s Vaynor
SORTER	DB	SAMPLE CODE	NRA08 E351

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

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

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

NET LOSSES    NET GAINS    

NOTES:

1 Lymnaea sp. (juveniles)  
2 Ancylus fluviatilis 1 only  
3 Helophorus brevipalpis (adult) 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Usk
DATE	12.8.93	SITE	Usk Bridge
SORTER	AD	SAMPLE CODE	NRA08 E358

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

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

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

NET LOSSES NET GAINS 

NOTES:

2 Potamonectes sp. (larva) 1 only  
3 Psychomyia pusilla 1 only

## EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1993

REGION	Welsh	RIVER	Rhondda Fach
DATE	28.7.93	SITE	Pontygwaith
SORTER	NS	SAMPLE CODE	NRA08 E291

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

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

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

NET LOSSES NET GAINS 

NOTES:

1 Leuctra fusca 1 only

