



An audit of performance in the processing of macro-invertebrate samples in 1994. NRA South West Area of South Western Region

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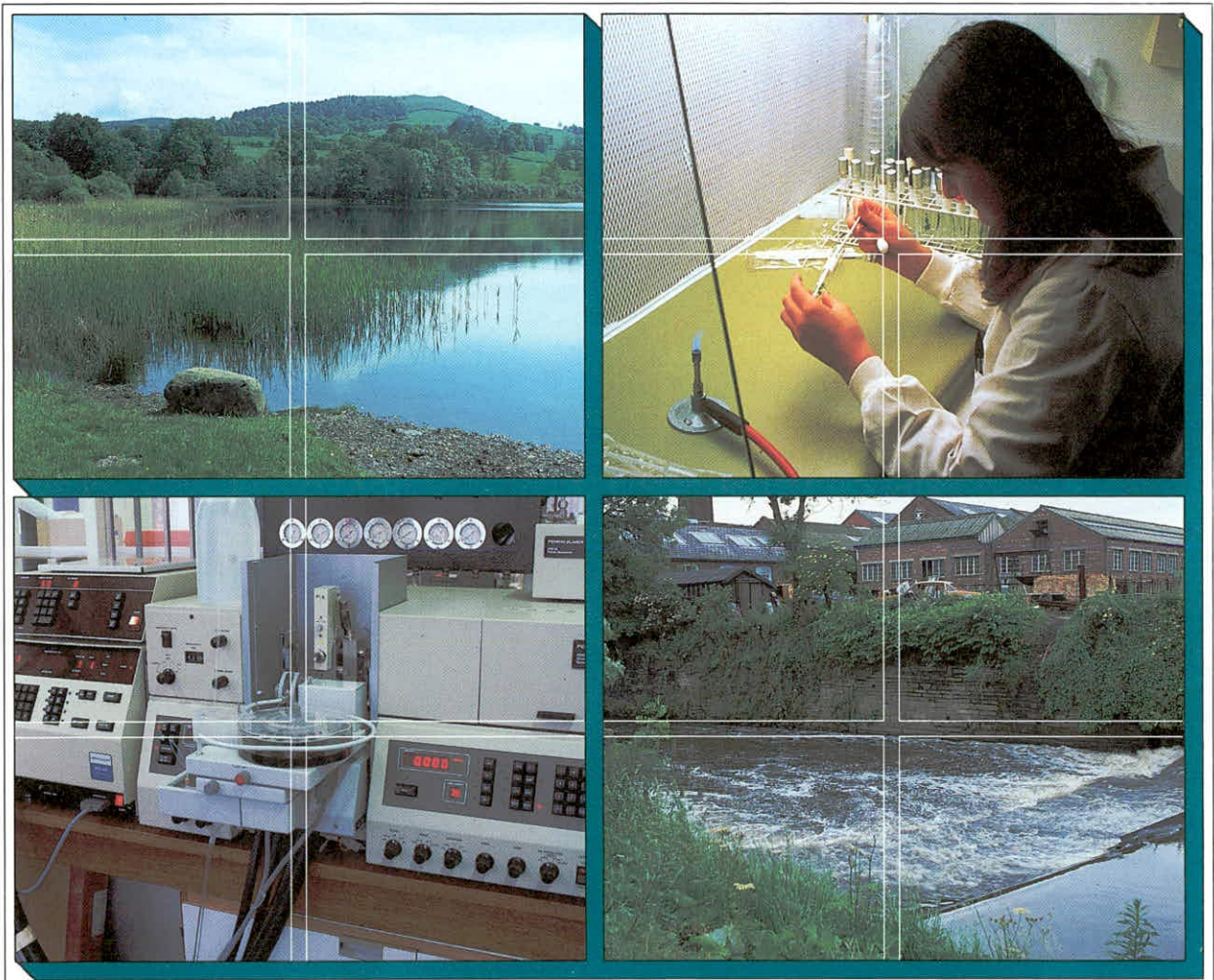
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Report To:

National Rivers Authority,
South Western Region

IFE Report Ref. No:

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1995.



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**An audit of performance in the
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NRA South West Area of
South Western Region**

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1. INTRODUCTION

In 1994 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 61 samples audited for South West Area of NRA South Western Region. The IFE was not required to perform any statistical analyses nor interpretation of the results of the audit.

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

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

2. SAMPLE SELECTION

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

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

3. SAMPLE PROCESSING

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

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

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

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

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

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

4. REPORTING

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

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

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

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

TABLE 1. The IFE Report form

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

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

| | | | |
|----------|---|---|---|
| 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 FOUND BY IFE |
| | Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | (This box is only completed when no vial is supplied with the sample) | |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

NET GAINS

OMISSIONS

NOTES:

TABLE 2. The 23 spring samples audited for South West Area.

| River | Site | Sorter | Losses | Gains | Omissions |
|---------------------------|-----------------------------|--------|--------|-------|-----------|
| Marwood Stream | d/s Marwood STW | LB | 0 | 0 | 0 |
| Dalch | Barton Bridge | AA | 0 | 4 | 0 |
| Langham Lake Tributary | u/s Yarnscombe STW fence | AA | 1 | 3 | 0 |
| Little Dart Tributary | Rackenford | AA | 0 | 2 | 0 |
| Nadrid Water | Clapworthy | AA | 0 | 0 | 0 |
| Mole | u/s Footbridge | NB | 0 | 1 | 0 |
| Taw | East Rowden Bridge | NB | 0 | 3 | 0 |
| Taw Tributary | South Tawton STW | TAB | 0 | 2 | 1 |
| Tiddy | Tilland Mill Bridge | TAB | 0 | 0 | 0 |
| Venn Stream | Bishops Tawton | PG | 0 | 3 | 0 |
| Kitcott Lake | d/s Meshaw STW | PB | 1 | 3 | 0 |
| Fal | Tregony GS | KAD | 0 | 2 | 0 |
| Tamar | Gunnislake Bridge | SDT | 0 | 1 | 0 |
| Yealm | Yealm Bridge | TAB | 0 | 0 | 0 |
| Tamar | Dexbeer Bridge | KAD | 0 | 0 | 0 |
| Connon Stream | d/s Tip discharge | KAD | 0 | 0 | 0 |
| Penpont Water | Two Bridges | SDT | 0 | 0 | 0 |
| Withey Brook | u/s R. Lynher | KAD | 0 | 0 | 0 |
| Tamar | Polson Bridge | SDT | 1 | 0 | 0 |
| Meavy | u/s Burrator Reservoir | TAB | 0 | 1 | 0 |
| Claw | Tetcott Bridge | KAD | 0 | 0 | 0 |
| West Looe | Herodsfoot Bridge | TAB | 0 | 0 | 0 |
| Pont | Trethake Mill | TAB | 0 | 2 | 0 |

TABLE 3. The 31 summer samples audited for South West Area.

| River | Site | Sorter | Losses | Gains | Omissions |
|--------------------|---------------------------------|--------|--------|-------|-----------|
| West Looe | Bosent Bridge | SDT | 0 | 1 | 0 |
| Connon Stream | Trevillis Wood | KAD | 0 | 3 | 0 |
| Fowey | Bodithiel Bridge | KAD | 0 | 0 | 0 |
| Tamar | Dexbeer Bridge | TAB | 0 | 2 | 0 |
| Tamar | Buses Bridge | KAD | 0 | 1 | 0 |
| St Neot | Colliford Bridge | KAD | 0 | 0 | 0 |
| Tamar | Tamerton Bridge | SDT | 0 | 0 | 0 |
| Wolf | u/s R. Thrushel | SDT | 0 | 0 | 0 |
| Small Brook | Youldon Bridge | KAD | 0 | 2 | 0 |
| Newton Creek | Bridgend | SDT | 4 | 0 | 1 |
| Haye Valley Stream | Haye | SDT | 1 | 1 | 0 |
| Tamar | Boyton Bridge | KAD | 0 | 1 | 2 |
| Tamar | Polson Bridge | KAD | 0 | 2 | 0 |
| Claw | Clawton Bridge | KAD | 0 | 1 | 0 |
| Wolf | Roadford New Bridge | KAD | 1 | 1 | 0 |
| Latchley Brook | Latchley | TAB | 0 | 3 | 0 |
| Hennard Stream | u/s Roadford Lake | SDT | 0 | 0 | 0 |
| Exe | d/s Rainbow Valley Fish Farm | AA | 0 | 4 | 0 |
| Shuttern Brook | d/s Morebath STW | AH | 0 | 0 | 0 |
| Dawlish Water | Burrows WTW | AA | 0 | 0 | 0 |
| Exe | d/s Exe Valley Fisheries | AA | 0 | 2 | 0 |
| Culm | u/s Culmstock STW | AA | 0 | 1 | 0 |
| Withiel Brook | u/s Castle Hill Fish Farm | DO | 0 | 1 | 0 |
| Jackmoor Brook | Langford | PG | 1 | 3 | 0 |
| Weaver | d/s Kerswell STW | NB | 0 | 1 | 0 |
| Torridge | Woodford Bridge | AA | 0 | 0 | 0 |

| River | Site | Sorter | Losses | Gains | Omissions |
|--------------------------|---------------------------|---------------|---------------|--------------|------------------|
| Corry Brook | d/s Dalwood STW | AA | 0 | 1 | 0 |
| Otter | u/s Rawridge STW | AA | 0 | 0 | 0 |
| Coombe Raleigh Stream | d/s Coombe Raleigh STW | DO | 0 | 3 | 0 |
| Erme | Sequers Bridge | AA | 0 | 1 | 0 |
| Lim Tributary | u/s Uplyme STW | AA | 0 | 2 | 0 |

TABLE 4. The 7 autumn samples audited for South West Area

| River | Site | Sorter | Losses | Gains | Omissions |
|-----------------------|-------------------|--------|--------|-------|-----------|
| Hennard Stream | u/s Roadford Lake | KAD | 0 | 0 | 0 |
| Otter | Tipton St John | NB | 1 | 1 | 1 |
| Otter | Fenny Bridges | DO | 0 | 0 | 0 |
| Taw | d/s Spires Lake | AA | 0 | 1 | 0 |
| Hayne Brook | d/s Manaton STW | AA | 0 | 0 | 0 |
| Molland Yeo | Mornacott Moor | DO | 0 | 3 | 0 |
| Aller Brook Tributary | Coffinswell STW | AA | 0 | 0 | 0 |

APPENDIX

Results of individual sample audits

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Marwood Stream |
| DATE | 10.3.94 | SITE | d/s Marwood STW |
| SORTER | LB | CODE | NRA06 SW3003D/S |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------------|
| REGION | South West | RIVER | Dalch |
| DATE | 15.3.94 | SITE | u/s Mill, Barton Bridge |
| SORTER | AA | CODE | NRA06 3017 |

| | | | |
|---|---|--------------------------------|----------------------------------|
| 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 Polycentropodidae |

| | | | |
|---|---|---|--|
| 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 is only completed when no vial is supplied with the sample) | 2 Leuctridae 3 Leptoceridae 4 Lepidostomatidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- 1 Polycentropus flavomaculatus/kingi (juveniles)
- 2 Leuctra geniculata 1 only
- 3 Athripsodes sp. (juvenile) 1 only
- 4 Lepidostoma hirtum 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------------------|
| REGION | South West | RIVER | Langham Lake Tributary |
| DATE | 11.3.94 | SITE | u/s Yarnscombe STW fence |
| SORTER | AA | CODE | NRA06 SW3007U/S |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 Gyrinidae | 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 is only completed when no vial is supplied with the sample) | 2 Leuctridae 3 Hydrophilidae 4 Simuliidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Leuctra nigra 1 only
3 Helophorus flavipes/obscurus (adult) 1 only
4 Simulium cryophilum gp/vernum gp (juvenile) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------------------|
| REGION | South West | RIVER | Little Dart Tributary |
| DATE | 15.3.94 | SITE | d/s Discharge, Rackenford |
| SORTER | AA | CODE | NRA06 SW3012D/S |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Hydrophilidae 2 Lepidostomatidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Limnebius truncatellus (adult), Indet Hydrophilid (larva)
2 Crunoecia irrorata 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------|
| REGION | South West | RIVER | Nadrid Water |
| DATE | 27.4.94 | SITE | Clapworthy |
| SORTER | AA | CODE | NRA06 3069 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

| |
|--|
| |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Mole |
| DATE | 26.4.94 | SITE | u/s Footbridge |
| SORTER | NB | CODE | NRA06 3075 |

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

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Chloroperla torrentium 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------------|
| REGION | South West | RIVER | Taw |
| DATE | 15.3.94 | SITE | East Rowden Bridge |
| SORTER | NB | CODE | NRA06 3013 |

| | | | |
|---|---|--------------------------------|----------------------------------|
| 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 Ephemerellidae |

| | | | |
|---|---|---|----------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 2 Ancyliidae 3 Leptoceridae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Ephemerella ignita
2 Ancylos fluviatilis 1 only
3 Adicella reducta, Oecetis testacea

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | Taw Tributary |
| DATE | 18.4.94 | SITE | South Tawton STW |
| SORTER | TB | CODE | NRA06 SW3025 |

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

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1,4 Terrestrial species in vial, Anacaena globulus (adult) 1 only in vial
2 Habrophlebia fusca 1 only
3 Amphinemura standfussi

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------------|
| REGION | South West | RIVER | Tiddy |
| DATE | 15.3.94 | SITE | Tilland Mill Bridge |
| SORTER | TAB | CODE | NRA06 12141 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Venn Stream |
| DATE | 21.4.94 | SITE | Bishops Tawton |
| SORTER | PG | CODE | NRA06 3076 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Caenidae 2 Hydrophilidae 3 Hydroptilidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Caenis rivulorum 1 only
2 Hydraena gracilis (adults)
3 Hydroptila sp. 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Kitcott Lake |
| DATE | 6.4.94 | SITE | d/s Meshaw STW |
| SORTER | PB | CODE | NRA06 3018D/S |

| | | | |
|---|---|--------------------------------|----------------------------------|
| 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 Planariidae | 2 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 is only completed when no vial is supplied with the sample) | 3 Lymnaeidae 4 Polycentropodidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- 1 Small grey slug in vial
- 2 Crunoecia irrorata
- 3 Lymnaea truncatula 1 only
- 4 Plectrocnemia sp. (juvenile) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------|
| REGION | South West | RIVER | Fal |
| DATE | 1.3.94 | SITE | Tregony GS |
| SORTER | KAD | CODE | NRA06 1924 |

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

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Elmis aenea (adult + larva)
2 Agapetus sp. 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | Tamar |
| DATE | 17.3.94 | SITE | Gunnislake Bridge |
| SORTER | SDT | CODE | NRA06 1288 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Dryopidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Helichus substriatus (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------|
| REGION | South West | RIVER | Yealm |
| DATE | 2.3.94 | SITE | Yealm Bridge |
| SORTER | TAB | CODE | NRA06 1002 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES 0 NET GAINS 0 OMISSIONS 0

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Tamar |
| DATE | 4.3.94 | SITE | Dexbeer Bridge |
| SORTER | KAD | CODE | NRA06 1247 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | Cannon Stream |
| DATE | 3.3.94 | SITE | d/s Tip Discharge |
| SORTER | KAD | CODE | NRA06 1408 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Penpont Water |
| DATE | 2.3.94 | SITE | Two Bridges |
| SORTER | SDT | CODE | NRA06 1266 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------|
| REGION | South West | RIVER | Withey Brook |
| DATE | 15.3.94 | SITE | u/s R.Lynher |
| SORTER | KAD | CODE | NRA06 1272 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Tamar |
| DATE | 14.4.94 | SITE | Polson Bridge |
| SORTER | SDT | CODE | NRA06 12106 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

1

NET GAINS

0

OMISSIONS

0

NOTES:

| |
|--|
| |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------------|
| REGION | South West | RIVER | Meavy |
| DATE | 17.3.94 | SITE | u/s Burrator Reservoir |
| SORTER | TAB | CODE | NRA06 1114 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Taeniopterygidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Brachyptera risi 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Claw |
| DATE | 3.3.94 | SITE | Tetcott Bridge |
| SORTER | KAD | CODE | NRA06 1242 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | West Looe |
| DATE | 3.3.94 | SITE | Herodsfoot Bridge |
| SORTER | TAB | CODE | NRA06 1417 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Pont |
| DATE | 11.3.94 | SITE | Trethake Mill |
| SORTER | TAB | CODE | NRA06 1501 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Hydrophilidae 2 Scirtidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Hydraena gracilis, H. riparia (adults)
2 Elodes sp. (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | West Looe |
| DATE | 9.6.94 | SITE | Bosent Bridge |
| SORTER | SDT | CODE | NRA06 1404 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Gammaridae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Gammarus pulex 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Connon Stream |
| DATE | 23.6.94 | SITE | Trevillis Wood |
| SORTER | KAD | CODE | NRA06 1409 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Planariidae 2 Lymnaeidae 3 Dytiscidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Polycelis felina
2 Lymnaea sp. (without shell) 1 only
3 Stictotarsus duodecimpustulatus (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | Fowey |
| DATE | 20.6.94 | SITE | Bodithiel Bridge |
| SORTER | KAD | CODE | NRA06 1515 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Tamar |
| DATE | 29.6.94 | SITE | Dexbeer Bridge |
| SORTER | TAB | CODE | NRA06 1247 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Planorbidae 2 Calopterygidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Gyraulus albus 1 only
2 Calopteryx splendens 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------|
| REGION | South West | RIVER | Tamar |
| DATE | 29.6.94 | SITE | Buses Bridge |
| SORTER | KAD | CODE | NRA06 12111 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Leptoceridae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Athripsodes bilineatus 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | St. Neot |
| DATE | 14.6.94 | SITE | Colliford Bridge |
| SORTER | KAD | CODE | NRA06 1517 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Tamar |
| DATE | 13.7.94 | SITE | Tamerton Bridge |
| SORTER | SDT | CODE | NRA06 1249 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Wolf |
| DATE | 27.7.94 | SITE | u/s R.Thrushel |
| SORTER | SDT | CODE | NRA06 1234 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Small Brook |
| DATE | 29.6.94 | SITE | Youldon Bridge |
| SORTER | KAD | CODE | NRA06 1254 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Ephemerellidae 2 Elmidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

2

OMISSIONS

0

NOTES:

1 Ephemerella ignita 1 only
2 Oulimnius sp. (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------|
| REGION | South West | RIVER | Newton Creek |
| DATE | 2.8.94 | SITE | Bridgend |
| SORTER | SDT | CODE | NRA06 1017 |

| | | | |
|---|---|--|---|
| 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 Baetidae 2 Ephemeridae 3 Dytiscidae 4 Hydrophilidae 5 Tipulidae* | 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 is only completed when no vial is supplied with the sample) | 6 Tipulidae* |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- 1 Abdomen only. IFE instructed not to include posterior ends of animals in the audit
- 2 Last 4 abdominal segments only
- 3 Empty larval skin in vial
- 4 Specimen of *Octhebius dilatatus* considered dead at time that sample was taken
- 6 Dicranota sp.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------------|
| REGION | South West | RIVER | Haye Valley Stream |
| DATE | 19.8.94 | SITE | Haye |
| SORTER | SDT | CODE | NRA06 12139 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| A | VIAL | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES FOUND BY IFE |
| | Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE | 1 Oligochaeta | 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 is only completed when no vial is supplied with the sample) | 2 Limnephilidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

1

NET GAINS

1

OMISSIONS

0

NOTES:

1 Nematode in vial
2 Indet Limnephilid (juvenile) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Tamar |
| DATE | 13.7.94 | SITE | Boyton Bridge |
| SORTER | KAD | CODE | NRA06 12104 |

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

| | | | |
|---|---|--|---|
| B | SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES FOUND BY IFE |
| | Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | (This box is only completed when no vial is supplied with the sample) | 3 Unionidae 4 Sphaeriidae* 5 Hydrophilidae* |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

2

NOTES:

3 Anodonta sp. (juvenile) 1 only
4 Pisidium sp.
5 Hydraena gracilis (adults)

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Tamar |
| DATE | 14.7.94 | SITE | Polson Bridge |
| SORTER | KAD | CODE | NRA06 12106 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Planariidae 2 Hydroptilidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Polycelis felina 1 only
2 Hydroptila sp. (pupae)

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Claw |
| DATE | 29.6.94 | SITE | Clawton Bridge |
| SORTER | KAD | CODE | NRA06 12108 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Sphaeriidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Pisidium sp.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------------|
| REGION | South West | RIVER | Wolf |
| DATE | 14.7.94 | SITE | Roadford New Bridge |
| SORTER | KAD | CODE | NRA06 1298 |

| | | | |
|---|--|--------------------------------|----------------------------------|
| 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 | 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 is only completed when no vial is supplied with the sample) | 2 Calopterygidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

2 Calopteryx splendens 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Latchley Brook |
| DATE | 24.8.94 | SITE | Latchley |
| SORTER | TAB | CODE | NRA06 1217 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Sphaeriidae 2 Cordulegasteridae 3 Lepidostomatidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Pisidium sp. 1 only
2 Cordulegaster boltonii 1 only
3 Crunoecia irrorata 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | Hennard Stream |
| DATE | 14.7.94 | SITE | u/s Roadford Lake |
| SORTER | SDT | CODE | NRA06 12142 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

| |
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------------------|
| REGION | South West | RIVER | Exe |
| DATE | 23.8.94 | SITE | d/s Rainbow Valley Fish Farm |
| SORTER | AA | CODE | 05E FF0511 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Planariidae 2 Asellidae 3 Nemouridae 4 Hydrophilidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

- 1 Polycelis felina 1 only
- 2 Asellus aquaticus 1 only
- 3 Protonemura sp. 1 only
- 4 Hydraena gracilis (adult) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | Shuttern Brook |
| DATE | 12.8.94 | SITE | d/s Morebath STW |
| SORTER | AH | CODE | 05F SW0516 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Dawlish Water |
| DATE | 8.8.94 | SITE | u/s Burrows WTW |
| SORTER | AA | CODE | 05A WT0502 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

| |
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| |
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------------------|
| REGION | South West | RIVER | Exe |
| DATE | 19.8.94 | SITE | d/s Exe Valley Fisheries |
| SORTER | AA | CODE | 05E FF0509 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Glossiphoniidae 2 Polycentropodidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

2

OMISSIONS

0

NOTES:

- 1 Helobdella stagnalis 1 only
2 Note on data sheet under heading of Other Taxa "Polycentropodidae
head?". One anterior end of Polycentropus sp. found by IFE in sample.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | Culm |
| DATE | 10.8.94 | SITE | u/s Culmstock STW |
| SORTER | AA | CODE | 05C SW0512 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Sphaeriidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Sphaerium sp.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------------------|
| REGION | South West | RIVER | Withiel Brook |
| DATE | 12.8.94 | SITE | u/s Castle Hill Fish Farm |
| SORTER | DO | CODE | 05G FF0515 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Planariidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Polycelis nigra/tenuis 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Jackmoor Brook |
| DATE | 9.8.94 | SITE | Langford |
| SORTER | PG | CODE | NRA06 0596 |

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

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

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES 1 NET GAINS 3 OMISSIONS 0

NOTES:

- 1 Succinea sp. in vial
 - 2 Asellus meridianus 1 only
 - 3 Hydrometra stagnorum (nymphs)
 - 4 Orectochilus villosus (adult) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | Weaver |
| DATE | 27.7.94 | SITE | d/s Kerswell STW |
| SORTER | NB | CODE | 05C SW0502 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Hydrophilidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Anacaena globulus (adult) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Torridge |
| DATE | 7.7.94 | SITE | Woodford Bridge |
| SORTER | AA | CODE | NRA06 2916 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Corry Brook |
| DATE | 4.7.94 | SITE | d/s Dalwood STW |
| SORTER | AA | CODE | NRA06 SW0204 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Gammaridae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Gammarus pulex, Crangonyx pseudogracilis

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------|
| REGION | South West | RIVER | Otter |
| DATE | 14.7.94 | SITE | u/s Rawridge STW |
| SORTER | AA | CODE | NRA06 PW0405 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|------------------------|
| REGION | South West | RIVER | Coombe Raleigh Stream |
| DATE | 20.7.94 | SITE | d/s Coombe Raleigh STW |
| SORTER | DO | CODE | NRA06 SW0404 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 Hydrometridae |

| | | | |
|---|---|--|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 2 Planariidae 3 Leptophlebiidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

3

OMISSIONS

0

NOTES:

1 Hydrometra sp. (nymph)
2 Polycelis sp. 1 only
3 Habrophlebia fusca

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Erme |
| DATE | 16.8.94 | SITE | Sequers Bridge |
| SORTER | AA | CODE | NRA06 0903 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Beraeidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

1 Beraea maurus 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Lim Tributary |
| DATE | 12.7.94 | SITE | u/s Uplyme STW |
| SORTER | AA | CODE | NRA06 SW0101 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Baetidae 2 Tipulidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

2

OMISSIONS

0

NOTES:

1 Baetis muticus 1 only
2 Tipula sp. (juvenile), Scleroprocta sp.

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-------------------|
| REGION | South West | RIVER | Hennard Stream |
| DATE | 29.11.94 | SITE | u/s Roadford Lake |
| SORTER | KAD | CODE | NRA06 12142 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Otter |
| DATE | 13.10.94 | SITE | Tipton St.John |
| SORTER | NB | CODE | NRA06 0405 |

| | | | |
|---|---|-------------------------------------|-------------------------------------|
| A | VIAL | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES FOUND BY IFE |
| | Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE | 1 Hydrophilidae* 2 Hydroptilidae | 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 is only completed when no vial is supplied with the sample) | 3 Dytiscidae 4 Hydrophilidae* |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

| |
|---|
| 1 |
|---|

 NET GAINS

| |
|---|
| 1 |
|---|

 OMISSIONS

| |
|---|
| 1 |
|---|

NOTES:

| |
|--|
| 2 Empty cases only in sample 3 Oreodytes sanmarkii (adult) 1 only 4 Hydraena gracilis (adults) |
|--|

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|---------------|
| REGION | South West | RIVER | Otter |
| DATE | 12.10.94 | SITE | Fenny Bridges |
| SORTER | DO | CODE | NRA06 0414 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

0

OMISSIONS

0

NOTES:

| |
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| |
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EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------------------|
| REGION | South West | RIVER | Taw |
| DATE | 28.9.94 | SITE | d/s Spires Lake confluence |
| SORTER | AA | CODE | NRA06 3078 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Gyrinidae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES

0

NET GAINS

1

OMISSIONS

0

NOTES:

1 Orectochilus villosus (larva) 1 only

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|-----------------|
| REGION | South West | RIVER | Hayne Brook |
| DATE | 2.9.94 | SITE | d/s Manaton STW |
| SORTER | AA | CODE | NRA06 SW0604 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E. in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|----------------|
| REGION | South West | RIVER | Molland Yeo |
| DATE | 29.9.94 | SITE | Mornacott Moor |
| SORTER | DO | CODE | NRA06 3063 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | 1 Caenidae 2 Odontoceridae 3 Leptoceridae |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES

0

NET GAINS

3

OMISSIONS

0

NOTES:

1 Caenis rivulorum
2 Odontocerum albicorne 1 only
3 Athripsodes albifrons

EXTERNAL AUDIT OF BIOLOGICAL SAMPLES - 1994

| | | | |
|--------|------------|-------|--------------------------|
| REGION | South West | RIVER | Aller Brook Tributary |
| DATE | 8.9.94 | SITE | Track at Coffinswell STW |
| SORTER | AA | CODE | NRA06 SW0602 |

| | | | |
|---|---|-----------------------------------|-------------------------------------|
| 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 is only completed when no vial is supplied with the sample) | None |

* Taxa recorded on data sheet but absent from vial and found by I.F.E.
in sample (omissions)

NET LOSSES NET GAINS OMISSIONS

NOTES:

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