

An audit of performance in the processing of macro-invertebrate samples in 1992. NRA Anglian Region

R.J.M Gunn, BA J.M. Winder, BSc J.H. Blackburn, BSc J.F. Wright, PhD



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INSTITUTE OF FRESHWATER ECOLOGY River Laboratory, East Stoke, Wareham, Dorset BH20 6BB

Tel: 0929 462314 Fax: 0929 462180

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

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1. INTRODUCTION

In 1992 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 Anglian 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 macroinvertebrates 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**

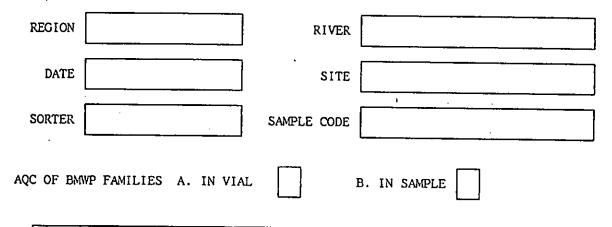
The results of each sample audit were recorded on a standard report form (Table 1). For audit samples where a vial of animals was included, the comparison between the NRA listing and the taxa found in the vial by IFE was shown in box A of the report form. Discrepancies could be due to carelessness, misidentifications 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.

ACKNOWLEDGEMENTS

Thanks to Kay Symes for help with production of results and to Valerie Palmer for typing the manuscript.



| 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 | | |
| | | | |

NOTES:

NET LOSSES

NET GAINS

TABLE 2.The 9 spring samples audited for Anglian Region.

| River | Site | Sorter | Losses | Gains | Omissions |
|----------------------------|-------------------------|--------|--------|-------|-----------|
| Tiffey | Abbey Bridge | EB | 0 | 0 | 0 |
| Exton Arm | u/s North Brook | CAE | 0 | 2 | 0 |
| Cam | Bottisham Lock | JN | 0 | 0 | 0 |
| Thet | Crowshall Bridge | SEH | 0 | · 4 | 0 |
| Cam | Clayhithe Bridge | JN · | 1 | 1 | 0 |
| Cam | Green Dragon Footbridge | JN | 0 | 0 | 0 |
| Newton Brook | A10 Bridge | TNA | . 3 | 5 | 3 |
| Middle Level Catchwater | Thistle Hill Farm | TNA | 0 | 3 | 2 |
| Melsop Stallard | Mount Pleasant Bridge | SEH | 0 | 4 | 0 |

 TABLE 3.
 The 16 summer samples audited for Anglian Region

| River | Site | Sorter | Losses | Gains | Omissions |
|------------------------|---------------------|--------|--------|-------|-----------|
| Deben | A1120 Bridge | BAW | 1 | 1 | 1 |
| Gipping | Sproughton Mill | ĒT | 0 | 3 | 0 |
| Rivenhall Brook | u/s Confluence | РЈМ | 0 | 1 | 0 |
| Domsey Brook | B1023 Bridge | PJM | 0 | 2 | 0 |
| Wendling Brook | Carr Lanc Bridge | ET | 0 | 3 | 0 |
| Brain | Faulkbourne Hall | PJM | 1 | · 1 | 0 |
| Ise | B571 Bridge | RPC | · 0 | 2 | 0 |
| Harrowden Brook | Rixon Road | RPC | 0 | 2 | 0 |
| Rattlesden | Gedding Corner | ET | 0 | 6 | · 0 |
| Earl Soham Watercourse | Kentish Town Bridge | BAW | 1 | 4 | 0 |
| Wendling Beck | Beetley Bridge | ET | 0 | . 3 | 1 |
| Blackwater | Greys Mill | PJM | 0 | 2 | 0 |
| Elstow Brook | Hardwick Bridge | JN | 0 | 2 | 0 |
| Old West | Smithy Fen Farm | SEH | 1 | 9 | 0 |
| Ouse | Harrold Bridge | TNA | 0 | 8 | 2 |
| Ouse | A428 Bridge | TNA | · 1 | 3 | 1 |

TABLE 4. The 35 autumn samples audited for Anglian Region

| River | Site | Sorter | Losses | Gains | Omissions |
|------------------------|--------------------------|--------|--------|-------|-----------|
| Stainfield Beck | Stainfield | PMW | 0 | 1 | 1 |
| Wittering Brook | Sacrewell Mill | RPC | 0 | . 3 | 0 |
| Legsby Beck | Snelland | PMW | 1 . | . 3 | 0 |
| Old Ancholme | Brigg | SJB | 0 | 2 | 2 |
| Alma Beck | Ditchingham Bridge | ET | 0 | 3 | 1 |
| Wittering Brook | A47 Bridge | RPC | 0 | 5 | 0 |
| Ancholme | Bishop Bridge | LJS | 0 | 1 | 1 |
| Harrowden Brook | Rixon Road | LJS | 1 | 2 | 0 |
| Brampton Branch | A50 Broughton Crossing | PMW | 1 | 3 | 0 |
| Sywell Brook | Sywell | LJS | 0 | 1 | 0 |
| Tham | Little Bytham | RPC | 0 | 1 | 2 |
| South Forty Foot Drain | Donnington Bridge | LJS | 1 | 0 | 0 |
| Ousemere Lode | u/s South Forty Foot | LJS | 1 | 3 | 0 |
| West Glen | Little Bytham | RPC | 0 | 1 | 1 |
| Nene | Nunn Mills Bridge | PMW | 1 | 5 | 0 |
| Chilton Brook | Folly Road Bridge | CAF | . 0 | 2 | 0 |
| Boreham Brook | Boreham Hall | CAF | 0 | 4 | 0 |
| Stour | Baythorne End Bridge | PJM | 0 | 1 | 0 |
| Stour | Stoke College Floodgates | CAF | . 0 | 0 | 1 |
| Stour | Little Thurlow | PJM | 0 | 0 | 1 |
| Blackwater | Wickham Mill | PJM | 0 | 1 | 0 |
| Waveney | Beccles Yacht Station | BAW | 0 | 4 | 0 |
| Stour | Sipsey Bridge | PJM | 0 | 2 | . 0 |
| Glaven | Wiveton Bridge | ET | 0 | 2 | 0 |
| Wensum | Sculthorpe Mill | BAW | 0 | 8 | 0 |
| Bure | Moor Hall Ford | ET | 0 | 6 | 2 |
| Burn | Burnham Overy | ΕT | 0 | 5 | 0 |
| Binham Tributary | Binham Ford | BAW | 0 | 2 | 0 |
| Witham | Langrick Bridge | PMW | 0 | 4 | 0 |

| River | Site | Sorter | Losses | Gains | Omissions |
|--------------------|----------------|--------|--------|-------|-----------|
| Burwell Lode | Upware Lock | SEH | 0 | 4 | 0 |
| Thet | Westcar Bridge | SEH | 0 | 1 | 0 |
| Cam | Dimmocks Cote | SEH | 0 | 2 | 0 |
| Grand Union Canal. | Ashton | TNA | 1 | 4 | 1 |
| Abbotsley Brook | Warsley | TNA | 0 | 0 | 0 |
| Melsop Stallard | B1077 Bridge | SEH | 0 | 5 | 0 |

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APPENDIX

Results of individual sample audits

| REC | ION | Anglian | RIVER | Tiffey | |
|-------|--------------------|---|----------------------------------|-----------|-------------------------------------|
| Ę | ATE | 11.3.92 | SITE | Abbey I | Bridge |
| SOF | TER | ЕВ | SAMPLE CODE | NRA01 (| 0800 |
| AQC C | DF BM | WP FAMILIES A. IN VI | AL + I | 3. IN SAN | MPLE + |
| A | | VIAL | BMWP FAMILIES NO FOUND BY IFE | TC | ADDITIONAL FAMILIES FOUND BY IFE |
| | i)] (ii)] | ferences between: BMWP families listed on sample data sheet and BMWP families found in VIAL by IFE | None | | None |
| В | | , SAMPLE | BMWP FAMILIES NO FOUND BY IFE | T | ADDITIONAL FAMILIES |
| | | | | | None |

| Differences between: i) BMWP families liste on sample data shee and ii) BMWP families found in SAMPLE by IFE | | None |
|---|--|------|
|---|--|------|

NOTES:

| REGION | Anglian | RIVER | Exton Arm |
|-----------|------------------------|-------------|---------------------|
| DATE | 8.5.92 | SITE | u/s North Brook |
| SORTER | CAE | SAMPLE CODE | NRA01 R05BFEXAR0704 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + | B. IN SAMPLE + |

| Α | 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 |

| В | 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 | | 1 Leptophlebiidae 2 Tipulidae |

NOTES: NOTES: 1 Habrophlebia fusca 1 only 2 Pilaria sp. 2

| REGION | Anglian | RIVER | Cam |
|--------|---------|-------------|------------------|
| DATE | 23.3.92 | SITE | Bottisham Lock |
| SORTER | JN | SAMPLE CODE | NRA01 R02BF33M09 |
| | | | r |

AQC OF BMWP FAMILIES A. IN VIAL

NOTES:

| + | |
|---|--|

B. IN SAMPLE +

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

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

NET LOSSES

0

NET GAINS 0

Label in vial says "Planariidae", "Ancylidae", "Oligochaeta". Acroloxus lacustris found by IFE in vial and sample, Tubificidae found in sample only and no Planariidae found in vial or sample.

| REGION | Anglian | RIVER | Thet |
|--------|---------|-------------|------------------|
| DATE | 23.3.92 | SITE | Crowshall Bridge |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF44M01 |
| | | | |

+

AQC OF BMWP FAMILIES A. IN VIAL

| В. | . IN | SAMPLE | + |
|----|------|--------|---|
| Б. | - 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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|---|
| | SAMPLE Differences between: i) EMWP families listed on sample data sheet and ii) EMWP families found in SAMPLE by IFE | (This box only completed when no vial is supplied with sample) | 1 Planorbidae 2 Caenidae 3 Limnephilidae 4 Tipulidae |
| 1 | NOTES: | NET LOSSES 0 | NET GAINS 4 |

1 Bathyomphalus contortus 1 only 2 Caenis luctuosa/macrura 1 only 3 Indet Limnephilids (juveniles) 4 Pilaria (Pilaria) sp. 1 only

| REGION | Anglian | RIVER | Cam |
|--------|---------|-------------|------------------|
| DATE | 23.3.92 | SITE | Clayhithe Bridge |
| SORTER | JN | SAMPLE CODE | NRA01 R02BF33M08 |
| | | | |

+

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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | • | 2 Valvatidae |

NET LOSSES

1

NET GAINS

1

r-----

NOTES:

2 Valvata cristata

Note on data sheet that Ancylidae and Sialidae "not in pot". Acroloxus lacustris found by IFE in sample, Sialidae not found in vial or sample.

| REGION | Anglian | RIVER | Cam |
|-----------|------------------------|-------------|-------------------------|
| DATE | 23.3.92 | SITE | Green Dragon Footbridge |
| SORTER | JN | SAMPLE CODE | NRA01 R02BF33M06 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + H | 3. IN SAMPLE + |

.

| AQC C | F BMWP | FAMILIES | Α. | IN | VIAL | |
|-------|--------|----------|----|----|------|--|
|-------|--------|----------|----|----|------|--|

| в. | IN | SAMPLE | + |
|----|----|--------|---|
| | | | L |

| . 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 |
| В | SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
| | | | None |

| | | None |
|-------------------------|--------------------------|------|
| Differences between: | (This box only completed | |
| i) BMWP families listed | when no vial is | |
| on sample data sheet | supplied with sample) | |
| and | | |
| ii) BMWP families found | | |
| in SAMPLE by IFE | | |
| | | |
| | | |
| · · · · | | |
| | | |
| | | |
| | | |
| | | |
| | l | |

NET LOSSES 0 NET GAINS 0 NOTES: .

| REGION | Anglian | RIVER | Newton Brook |
|--------|---------|-------------|----------------------------|
| DATE | 23.3.92 | SITE | A10 Hoffer Bridge, Harston |
| SORTER | TNA | SAMPLE CODE | NRA01 R02BF30M36 |
| | | | |

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

NOTES:

| + | |
|---|--|
|---|--|

| A | BMWP FAMILIES NOT 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 | | 7 Sericostomatidae |

| В | CANDLE: | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | <pre>8 Lymnaeidae* 9 Oligochaeta* 10 Glossiphoniidae 11 Baetidae 12 Elmidae 13 Psychomyiidae 14 Chironomidae*</pre> |

NET LOSSES

3

NET GAINS 5

| 7 Sericostoma personatum 8 Lymnaea stagnalis 9 Tubificidae 10 Glossiphonia complanata Chironomini | Cloeon dipterum, Centroptilum luteolum Elmis aenea (larva) 1 only Lype sp. Tanypodinae, Orthocladiinae, |
|---|--|
| Label in vial says "Gyrini found by IFE in sample. | dae". Gyrinus natator/substriatus (adult) |

| REGION | Anglian | RIVER | Middle Level Catchwater |
|--------|---------|-------------|-------------------------|
| DATE | 23.3.92 | SITE | Thistle Hill Farm |
| SORTER | TNA | SAMPLE CODE | NRAO1 RO2BF53M19 |
| | | | |

AQC OF BMWP FAMILIES A. IN VIAL

+ B. IN SAMPLE

| A | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES FOUND BY IFE |
|--|-----------------------------------|-------------------------------------|
| Differences between: i) BMWP families list on sample data she and ii) BMWP families foun in VIAL by IFE | et | 3 Glossiphoniidae 4 Chironomidae |

| <pre>SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE</pre> (This box only completed when no vial is supplied with sample) 5 Oligochaeta* 6 Asellidae* 7 Hydrophilidae | В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|---|-----------------------------------|---------------------|
| | | i) BMWP families listed on sample data sheet and ii) BMWP families found | when no vial is | 6 Asellidae* |

NET LOSSES

0

NET GAINS

3

3 Helobdella stagnalis

NOTES:

4 Chironomini in vial, Tanypodinae, Orthocladiinae in sample

5 Naididae, Tubificidae, Lumbriculidae

6 Asellus aquaticus

7 Anacaena limbata, Enochrus melanocephalus, E.testaceus (adults)

| REGION | Anglian | RIVER | Melsop Stallard |
|--------|---------|-------------|------------------|
| DATE | 23.3.92 | SITE | Mount Pleasant |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF44M31 |
| | | | |

+

AQC OF BMWP FAMILIES A. IN VIAL

NOTES:

| в. | 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 Glossiphoniidae 2 Haliplidae |

| В | CAMELE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|-----------------------------------|
| | SAMPLE 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 Rhyacophilidae |

NET LOSSES

0

NET GAINS

1 Glossiphonia complanata, Helobdella stagnalis 2 Haliplus sp. (larva) 3 Planaria torva 1 only 4 Agapetus sp. 4

| REGION | Anglian | RIVER | Deben | |
|--|---------|-------------|------------------------|--|
| DATE | 14.5.92 | SITE | A1120 Bridge, Ashfield | |
| SORTER | BAW | SAMPLE CODE | NRA01 0866 R04BFDEB020 | |
| 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 Physidae | None |

| в | , SAMDEE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-------------------------|--|--------------------------------|
| | i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 3 Planariidae* 4 Valvatidae |

NET LOSSES

5 | 1 |

NET GAINS

1

3 Polycelis nigra/tenuis 4 Valvata cristata 1 only

NOTES:

Note on data sheet that Gammaridae "seen on site". Not found by IFE in vial or sample.

| REGION | Anglian | RIVER | Gipping |
|-----------|------------------------|-------------|------------------------|
| DATE | 12.5.92 | SITE | Sproughton Mill |
| SORTER | ET | SAMPLE CODE | NRA01 0885 R04BFG1P190 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + | B. IN SAMPLE + |

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

| в | 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 | 1 | 1 Planariidae 2 Planorbidae 3 Polycentropodidae |

NET LOSSES

0

NET GAINS

3

1 Dugesia tigrina

NOTES:

2 Gyraulus albus 1 only

3 Polycentropus flavomaculatus 1 only

Note on data sheet that Dytiscidae "kept as specimen" and that Hydroptilidae "seen on site". Neither of these families found by IFE in vial or sample.

| REGION | Anglian | RIVER | Rivenhall Brook |
|------------|------------------------|-------------|-------------------|
| DATE | 9.6.92 | SITE | u/s Confluence |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFBL0310 |
| AQC OF BMV | WP 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

| В | SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|---------------------|
| | Differences between: i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 1 Planariidae |

NOTES:

J

NET LOSSES

0

NET GAINS

1

1 Polycelis nigra/tenuis 1 only

| REGION | Anglian | RIVER | Domsey Brook |
|-----------|------------------------|-------------|-------------------|
| DATE | 9.6.92 | SITE | B1023 Bridge |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFBL0365 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + | B. IN SAMPLE + |

, some a

 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 | 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 | | 1 Planorbidae 2 Caenidae |

| NOTES: | , | NET LO | DSSES 0 | NET GAINS | 2 |
|--|---|--------|---------|-----------|---|
| 1 Bathyomphalus con 2 Caenis luctuosa/m | | | | | |

| REGION | Anglian | RIVER | Wendling Brook |
|------------|------------------------|-------------|------------------|
| DATE | 10.6.92 | SITE | Carr Lane Bridge |
| SORTER | ET | SAMPLE CODE | NRA01 1044 |
| AQC OF BMV | WP 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

| В | 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 | | 1 Valvatidae 2 Hydrobiidae 3 Sphaeriidae |

NET LOSSES 0 NET GAINS NOTES: 1 Armiger crista 1 only 2 Potamopyrgus jenkinsi 1 only 3 Pisidium sp.

3

| REGION | Anglian | RIVER | Brain |
|--------|---------|-------------|-------------------|
| DATE | 9.6.92 | SITE | Faulkbourne Hall |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFBR0150 |
| | | | t |

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 |

| в | CANDLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Caenidae |

NET LOSSES

1

NET GAINS

1

2 Caenis luctuosa/macrura

NOTES:

Note on data sheet that Dendrocoelidae and Psychomyiidae "on site". Not found by IFE in vial or sample.

| REGION | Anglian | RIVER | Ise |
|--------|---------|-------------|---------------------|
| DATE | 9.6.92 | SITE | B571 Bridge |
| SORTER | RPC | SAMPLE CODE | NRA01 R05BFRISE310B |
| | | | |

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 |

| В | , 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 | | 1 Hydrobiidae 2 Hydrophilidae |

NET LOSSES

0

NET GAINS

2

NOTES:

1 Potamopyrgus jenkinsi 2 Indot Hydrophilid (larva) 1 (

2 Indet Hydrophilid (larva) 1 only

| REGION | Anglian | RIVER | Harrowden Brook |
|--------|---------|-------------|---------------------|
| DATE | 9.6.92 | SITE | Rixon Road |
| SORTER | RPC | SAMPLE CODE | NRA01 R05BFHARR050R |
| | | [3 | r |

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 |

| В | 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 | 1 1 | 1 Glossiphoniidae 2 Asellidae |

NOTES:

NET LOSSES

0

NET GAINS

2

1 Helobdella stagnalis 2 Asellus aquaticus 1 only

•

| REGION | Anglian | RIVER | Rattlesden |
|--|---------|-------------|------------------------|
| DATE | 12.5.92 | SITE | Gedding Corner |
| SORTER | ET | SAMPLE CODE | NRA01 0879 R04BFRAT010 |
| AQC OF BMWP FAMILIES A. IN VIAL + B. IN SAMPLE + | | | |

₩~~**~**₩₩**₩₩₩~~~**×

| Α | 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 |

| В | SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|--|
| | Differences between: i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 1 Planariidae 2 Planorbidae 3 Sphaeriidae 4 Nemouridae 5 Dytiscidae 6 Elmidae |

NOTES: NOTES:

| REGION | Anglian | RIVER | Earl Soham Watercourse |
|-----------|------------------------|-------------|------------------------|
| DATE | 14.5.92 | SITE | Kentish Town Bridge |
| SORTER | BAW | SAMPLE CODE | NRA01 0868 R04BFDEB026 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + I | 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 Physidae | 2 Scirtidae |

| B SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|--|---|
| SAMPLE 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 Valvatidae 4 Baetidae 5 Hydrophilidae |

NET LOSSES

NE.

1

NET GAINS

· 4

1 Succinea sp. in vial 2 Elodes sp. (larva) 3 Valvata cristata 4 Cloeon dipterum 1 only 5 Anacaena globulus (adult) 1 only

RF. - WARDER BY AND A CONTRACT OF A

NOTES:

| REGION | Anglian | RIVER | Wendling Beck | |
|--|---------|-------------|----------------|--|
| DATE | 10.6.92 | SITE | Beetley Bridge | |
| SORTER | ET | SAMPLE CODE | NRA01 0785 | |
| 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
 1 Chironomidae*
 None

 ii) BMWP families found in VIAL by IFE
 1 Chironomidae
 None
 None

| в | 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 | | 2 Physidae 3 Caenidae 4 Hydrophilidae 5 Chironomidae* |
| | | | |

NET LOSSES

ES | 0 |

NET GAINS

- - 4

NOTES:

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2 Physa fontinalis 1 only

3 Caenis luctuosa/macrura

4 Indet Hydrophilid larvae

5 Tanypodinae, Orthocladiinae, Chironomini

3

| REGION | Anglian | RIVER | Blackwater | |
|--|---------|-------------|-------------------|--|
| DATE | 9.6.92 | SITE | Greys Mill | |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFBL0350 | |
| 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

| в | , SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|-------------------------------------|
| | Differences between: i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 1 Dendrocoelidae 2 Hydroptilidae |

NET LOSSES

0

NET GAINS

2

1 Dendrocoelum lacteum 1 only 2 Hydroptila sp. (pupa) 1 only

NOTES:

Note on label in vial that Planariidae "seen on site but not recovered in sample". Not found by IFE in vial but Dugesia tigrina and D.polychroa/lugubris found in sample.

| REGION | Anglian | RIVER | Elstow Brook |
|-----------|------------------------|-------------|------------------|
| DATE | 12.5.92 | SITE | Hardwick Bridge |
| SORTER | JN | SAMPLE CODE | NRA01 R02BF12M14 |
| AQC OF BM | WP FAMILIES A. IN VIAL | (+) I | 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 | | l Piscicolidae |

| В | C MDI E | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Erpobdellidae |
| ľ | VOTES: | NET LOSSES 0 | NET GAINS 2 |

1 Piscicola geometra 2 Erpobdella octoculata 1 only Labels in vial say "Lymnaeidae" and "Calopterygidae". Lymnaea peregra and Calopteryx splendens found by IFE in sample.

| REGION | Anglian | RIVER | Old West |
|--------|---------|-------------|-----------------|
| DATE | 22.6.92 | SITE | Smithy Fen Farm |
| SORTER | SEH | SAMPLE CODE | NRA01 R0235M27 |
| | | | _ |

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AQC OF BMWP FAMILIES A. IN VIAL

NOTES:

| 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 | | 2 Psychomyiidae |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 3 Dendrocoelidae 4 Physidae 5 Ancylidae 6 Caenidae 7 Hydrophilidae 8 Elmidae 9 Hydroptilidae 10 Molannidae |
| | | | |

NET LOSSES

ES 1

NET GAINS 9

2 Tinodes waeneri7 Indet Hydrophilid (larva) 1only3 Dendrocoelum lacteum8 Oulimnius rivularis (adult + larva)4 Physa fontinalis9 Agraylea multipunctata, Hydroptila sp5 Acroloxus lacustris 1 only10 Molanna angustata6 Caenis robustaLabel in vial says "Unionidae + Aeshnidae". Anodonta sp. andAeshna sp. found by IFE in sample.

| REGION | Anglian | RIVER | Ouse |
|--------|---------|-------------|------------------|
| DATE | 3.6.92 | SITE | Harrold Bridge |
| SORTER | TNA | SAMPLE CODE | NRA01 R02BF11M09 |

AQC OF BMWP FAMILIES A. IN VIAL

NOTES:

| + | |
|---|--|
| | |

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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 | | 3 Chironomidae |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | <pre>4 Valvatidae 5 Planorbidae 6 Unionidae 7 Asellidae* 8 Baetidae* 9 Aphelocheiridae 10 Haliplidae 11 Hydroptilidae 12 Molannidae</pre> |

NET LOSSES

0

NET GAINS 8

3 Chironomini in vial, Tanypodinae, Orthocladiinae, Prodiamesinae in sample
4 Valvata cristata 1 only
5 Armiger crista
10 Haliplus sp. (larva) 1 only
6 Anodonta sp.
11 Hydroptila sp.
7 Asellus aquaticus
12 Molanna angustata
8 Centroptilum luteolum 1 only
9 Aphelocheirus aestivalis (nymph) 1 only

| REGION | Anglian | RIVER | Ouse |
|------------|------------------------|-------------|--------------------------|
| DATE | 3.6.92 | SITE | A428 Road Bridge, Turvey |
| SORTER | TNA | SAMPLE CODE | NRA01 R02BF11M08 |
| AQC OF BMV | WP FAMILIES A. IN VIAL | (+) E | 3. 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 Physidae 2 Elmidae* | 3 Planariidae 4 Baetidae |

| В | | BMWP FAMILIES NOT FOUND BY 1FE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|--------------------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 5 Ephemerellidae 6 Elmidae* |
| N | NOTES: | NET LOSSES 1 | NET GAINS 3 |

3 Polycelis nigra/tenuis
4 Indet Baetid (juvenile, not Baetis) in vial, Baetis sp. (head +
thorax) in sample
5 Ephemerella ignita
6 Oulimnius sp. (larva) 1 only

| REGION | Anglian | RIVER | Stainfield Beck |
|--------|---------|-------------|---------------------|
| DATE | 9.10.92 | SITE | Stainfield |
| SORTER | PMW | SAMPLE CODE | NRA01 R03BFSTAI1305 |
| | | 1 | |

AQC OF BMWP FAMILIES A. IN VIAL

+ B. IN SAMPLE +

| A | BMWP FAMILIES NOT 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 |

| В | SAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|--------------------------------|
| | Differences between: i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 2 Piscicolidae 3 Tipulidae* |

| NOTES: | NET LOSSES | 0 | NET GAINS | 1 |
|---|------------|---|-----------|---|
| 2 Piscicola geometra 1 only 3 Tipula montium group | | | | |

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1**1**1- 4

| REGION | Anglian | RIVER | Wittering Brook | |
|--------|---------|-------------|---------------------|---|
| DATE | 7.9.92 | SITE | Sacrewell Mill |] |
| SORTER | RPC | SAMPLE CODE | NRAO1 RO5BFWITB1305 |] |
| | | () | | |

AQC OF BMWP FAMILIES A. IN VIAL

| 1 | |
|-----|--|
| 11 | |
| 1 1 | |
| | |

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 |

| в | SAMDLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|--|
| • | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Coenagriidae 2 Haliplidae 3 Simuliidae |

NOTES: NOTES: NOTES: NOTES: NOTES: NOTES: NET LOSSES NET GAINS Haliplus sp. (juvenile) 1 only Haliplus sp. (larvae) Simulium ornatum group NET GAINS NET

| REGION | Anglian | RIVER | Legsby Beck |
|--------|---------|-------------|---------------------|
| DATE | 9.10.92 | SITE | Snelland |
| SORTER | PMW | SAMPLE CODE | NRA01 R03BFLEGS1105 |
| | | <u> </u> | Francis |

AQC OF BMWP FAMILIES A. IN VIAL

· ±, =

+ B. IN SAMPLE +

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

| В | SAMDI E | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|--|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Piscicolidae 3 Gammaridae 4 Coenagriidae |
| | | | |

NET LOSSES

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1

NET GAINS

:

2 Piscicola geometra 1 only

NOTES:

3 Gammarus pulex 1 only

4 Indet Coenagriid (juvenile) 1 only

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3

| REGION | Anglian | RIVER | Old Ancholme |
|------------|------------------------|-------------|---------------------|
| DATE | 30.9.92 | SITE | Brigg |
| SORTER | SJB | SAMPLE CODE | NRA01 R03BFANC0030B |
| AQC OF BMV | WP FAMILIES A. IN VIAL | + 1 | 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 Valvatidae*
 None

| в | SAMDLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|---|
| | SAMPLE 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 Valvatidae* 4 Sphaeriidae* 5 Elmidae 6 Hydroptilidae |

NET LOSSES

0

NET GAINS

2

NOTES:

3 Valvata piscinalis

4 Pisidium sp., Sphaerium sp.

5 Oulimnius sp. (larva) 1 only

6 Agraylea multipunctata

Note on data sheet that Viviparidae & Unionidae "individuals thrown back - not in sample" and Limnephilidae "seen in field, not in pot". None of these families found by IFE in vial or sample.

| REGION | Anglian | RIVER | Alma Beck |
|--------|---------|-------------|--------------------|
| DATE | 8.9.92 | SITE | Ditchingham Bridge |
| SORTER | ET | SAMPLE CODE | NRA01 0829 |
| | | | |

AQC OF BMWP FAMILIES A. IN VIAL

| | + | |
|--|---|--|
|--|---|--|

B. IN SAMPLE +

| A | BMWP FAMILIES NOT 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 | None |

| В | SANDI E | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|--|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | <pre>2 Dendrocoelidae 3 Hydroptilidae* 4 Leptoceridae 5 Simuliidae</pre> |

NET LOSSES

.

0

NET GAINS

3

2 Dendrocoelum lacteum 1 only

- 3 Hydroptila sp. (larvae + pupae)
 4 Athripsodes cinereus, Mystacides azurea
 5 Simulium aureum group

NOTES:

| REGION | Anglian | RIVER | Wittering Brook |
|-----------|------------------------|-------------|---------------------|
| DATE | 7.9.92 | SITE | A47 Bridge |
| SORTER | RPC | SAMPLE CODE | NRA01 R05BFWITB140A |
| AQC OF BM | VP 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

| В | 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 | | 1 Planariidae 2 Hydrobiidae 3 Leuctridae 4 Hydrophilidae 5 Hydroptilidae |

NOTES: NOTES: 1 Polycelis nigra/tenuis 1 only 2 Potamopyrgus jenkinsi 3 Leuctra fusca 1 only 4 Anacaena globulus (adult) 1 only 5 Hydroptila sp. 1 only

| REGION | Anglian | RIVER | Ancholme |
|-----------|------------------------|-------------|----------------------|
| DATE | 8.9.92 | SITE | Bishopbridge |
| SORTER | LJS | SAMPLE CODE | NRA01 R03BFANCHN060B |
| AQC OF BM | WP FAMILIES A. IN VIAL | + 1 | B. IN SAMPLE + |

+

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

| B | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|--|--|-------------------------------|
| Differences betwee i) BMWP families l | isted when no vial is sheet supplied with sample) ound | 2 Gammaridae* 3 Simuliidae |

NET LOSSES

0

NET GAINS

1

2 Crangonyx pseudogracilis 3 Simulium erythrocephalum 1 only

NOTES:

Note on data sheet that Unionidae "not in vial". Not found by IFE in vial or sample.

| REGION | Anglian | RIVER | Harrowden Brook |
|-----------|------------------------|-------------|---------------------|
| DATE | 28.10.92 | SITE | Rixon Road |
| SORTER | LJS | SAMPLE CODE | NRA01 R05BFHARR050R |
| AQC OF BM | WP FAMILIES A. IN VIAL | (+) I | 3. 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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|---------------------------------------|-----------------------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Glossiphoniidae 3 Dytiscidae |
| | | · · · · · · · · · · · · · · · · · · · | - |

| NOTES: NOTES: | SSES 1 | NET | GAINS | 2 |
|--|--------|-----------|-------|----------|
| 1 Small terrestrial snail with sini 2 Glossiphonia complanata 1 only 3 Platambus maculatus (larva) 1 onl | | l in vial | | <u> </u> |

| REGION | Anglian | RIVER | Brampton Branch |
|--------|----------|-------------|------------------------|
| DATE | 21.10.92 | SITE | A50 Broughton Crossing |
| SORTER | PMW | SAMPLE CODE | NRA01 R05BFBRAM120B |
| | | | |

AQC OF BMWP FAMILIES A. IN VIAL

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|---|--|--|
| + | | |

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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|--|
| | SAMPLE 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 Planorbidae 3 Coenagriidae 4 Dryopidae |

NET LOSSES 1 NET GAINS 3 NOTES: 2 Armiger crista, Gyraulus albus 3 Indet Coenagriid (juvenile) 1 only 4 Dryops sp. (larva) 1 only Assumed that Astacidae returned to river

| REGION | Anglian | RIVER | Sywell Brook |
|--------|----------|-------------|---------------------|
| DATE | 28.10.92 | SITE | Sywell |
| SORTER | LJS | SAMPLE CODE | NRA01 R05BFSYWB020S |
| | | | · |

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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | 1 | 1 Psychomyiidae |

NET LOSSES 0 NET GAINS 1

| NOTES: | L | | |
|------------------|---|--|--|
| 1 Lype sp.1 only | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| REGION | Anglian | RIVER | Tham |
|--------|----------|-------------|---------------------|
| DATE | 20.10.92 | SITE | Little Bytham |
| SORTER | RPC | SAMPLE CODE | NRA01 R05BFTHAM200L |
| | | 1 | |

AQC OF BMWP FAMILIES A. IN VIAL +

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| 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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-------------------------|--|--|
| | i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 3 Piscicolidae 4 Sericostomatidae* 5 Chironomidae* |

NOTES: NOTES: 3 Piscicola geometra 1 only

| REGION | Anglian | RIVER | South Forty Foot Drain |
|--------|----------|-------------|------------------------|
| DATE | 20.10.92 | SITE | Donnington Bridge |
| SORTER | LJS | SAMPLE CODE | NRA01 R03BFSFFD110D |
| | | | |

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 |

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

NET GAINS NET LOSSES 1 0 NOTES: 1 Empty shell in vial

| REGION | Anglian | RIVER | Ousemere Lode |
|-----------|------------------------|-------------|----------------------|
| DATE | 20.10.92 | SITE | u/s South Forty Foot |
| SORTER | LJS | SAMPLE CODE | NRA01 R03BFOUSE120S |
| AQC OF BM | NP FAMILIES A. IN VIAL | + I | B. IN SAMPLE + |

| 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 Hydrometridae | None |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-------------------------|--|---|
| | i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 2 Valvatidae 3 Physidae 4 Elmidae |

NET LOSSES

1

NET GAINS

3

NOTES:

2 Valvata piscinalis 1 only 3 Physa fontinalis 1 only

4 Oulimnius sp. (larva) 1 only

| REGION | Anglian | RIVER | West Glen |
|--------|----------|-------------|---------------------|
| DATE | 20.10.92 | SITE | Little Bytham |
| SORTER | RPC | SAMPLE CODE | NRA01 R05BFGLEN200L |
| SORTER | | | |

AQC OF BMWP FAMILIES A. IN VIAL

| + | |
|---|--|
| 1 | |

B. IN SAMPLE +

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

| В | SAMOLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-------------------------|--|--------------------------------|
| | i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 2 Planariidae 3 Simuliidae* |

NET LOSSES

0

NET GAINS

1

2 Dugesia lugubris/polychroa 1 only

3 Simulium ornatum group 1 only

NOTES:

| REGION | Anglian | RIVER | Nene |
|--------|----------|-------------|------------------------|
| DATE | 21.10.92 | SITE | Nunn Mills Road Bridge |
| SORTER | PMW | SAMPLE CODE | NRA01 R05BFNENE110N |
| | | 1 | I 1 |

AQC OF BMWP FAMILIES A. IN VIAL

| | ÷ | | |
|---|---|-----|--|
| 1 | | - 1 | |

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 | | 2 Physidae |

| В | CAMPLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 3 Planariidae 4 Planorbidae 5 Erpobdellidae 6 Baetidae |

NET LOSSES

1

NET GAINS

5

| Эт | haven | aguta /hatarastropha | |
|------------|---------------|----------------------------------|---|
| _ Z E | nysa | acuta/heterostropha | |
| 3 b | · · · · · · · | . In the last a local brack as a | n |

- 3 Dugesia lugubris/polychroa, D.tigrina
- 4 Armiger crista

NOTES:

- 5 Indet Erpobdellid (juvenile) 1 only
- 6 Baetis vernus 1 only

| REGION | Anglian | RIVER | Chilton Brook |
|-----------|------------------------|-------------|-------------------|
| DATE | 10.12.92 | SITE | Folly Road Bridge |
| SORTER | CAF | SAMPLE CODE | NRA01 R01BFST0942 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + I | B. IN SAMPLE + |

| B. IN |
|-------|
|-------|

| 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 | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-----------------------------------|-----------------------------------|
| SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Sphaeriidae 2 Hydropsychidae |

NET LOSSES

0

NET GAINS

2

1 Pisidium sp.

NOTES:

2 Hydropsyche siltalai 1 only

| REGION | Anglian | RIVER | Boreham Brook |
|--------|---------|-------------|-------------------|
| DATE | 9.12.92 | SITE | Boreham Hall Road |
| SORTER | CAF | SAMPLE CODE | NRA01 BFCHO276 |
| | | | |

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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 | P | None |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|--|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Hydrobiidae 2 Sphaeriidae 3 Caenidae 4 Haliplidae |

NOTES: NOTES: NOTES: NOTES: NOTES: NOTES: NET GAINS 4 Potamopyrgus jenkinsi 1 only Pisidium sp. Caenis luctuosa group 1 only Haliplus lineatocollis (adult) 1 only

| REGION | Anglian | RIVER | Stour |
|--------|----------|-------------|----------------------|
| DATE | 10.12.92 | SITE | Baythorne End Bridge |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFST1008 |
| | | — —– | |

AQC OF BMWP FAMILIES A. IN VIAL +

| в. | IN | SAMPLE | + |
|----|----|--------|---|
| | | | |

a.

| 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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Sphaeriidae |
| ľ | NOTES: | NET LOSSES 0 | NET GAINS 1 |

1 Sphaerium sp. 1 only

| REGION A | Anglian | RIVER | Stour |
|----------|---------|-------------|--------------------------|
| DATE 1 | 0.12.92 | SITE | Stoke College Floodgates |
| SORTER C | CAF | SAMPLE CODE | NRA01 R01BFST1002 |

+

AQC OF BMWP FAMILIES A. IN VIAL

| B. IN SAMPLE | ł |
|--------------|---|
|--------------|---|

| 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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|----------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Polycentropodidae* |

NOTES: 0 NET GAINS 0

.

| REGION | Anglian | RIVER | Stour |
|--------|----------|-------------|------------------------------|
| DATE | 10.12.92 | SITE | Little Thurlow Church Bridge |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFST1518 |
| | | | |

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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 |

| B | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-----------------------------------|---------------------|
| SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Caenidae* |

NET LOSSES

ES 0

NET GAINS

0

2 Caenis luctuosa/macrura

NOTES:

Note on data sheet that Planorbidae "seen on site". Anisus vortex found by IFE in sample.

| REGION | Anglian | RIVER | Blackwater |
|-----------|------------------------|-------------|---------------------|
| DATE | 9.12.92 | SITE | Wickham Mill Bridge |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFBL0160 |
| AQC OF BM | WP FAMILIES A. IN VIAL | + I | 3. 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 |

| | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|--|---------------------|
| SAMPLE 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 Limnephilidae |

NET LOSSES

ES 0

NET GAINS

1

1 Halesus sp. 1 only

NOTES:

Note on data sheet that Ancylidae "put in sample but not recovered". Not found by IFE in vial or sample.

| REGION | Anglian | RIVER | Waveney |
|-----------|------------------------|-------------|--------------------------|
| DATE | 22.9.92 | SITE | Beccles Yacht Station |
| SORTER | BAW | SAMPLE CODE | NRA01 0835 (R04BFWAV160) |
| AQC OF BM | WP FAMILIES A. IN VIAL | (+) E | 3. IN SAMPLE + |

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

| В | 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 | | 1 Lymnaeidae 2 Planorbidae 3 Ancylidae 4 Elmidae |
| | IOTES . | NET LOSSES 0 | NET GAINS 4 |

| 2 3 | Lymnaea peregra Gyraulus albus Acroloxus lacus Oulimnius sp. | 1 only stris 1 only | | |
|--------|---|------------------------|--|--|
| | | | | |

NOTES:

| REGION | Anglian | RIVER | Stour |
|------------|------------------------|-------------|-------------------|
| DATE | 10.12.92 | SITE | Sipsey Bridge |
| SORTER | РЈМ | SAMPLE CODE | NRA01 R01BFST1523 |
| AQC OF BMW | WP FAMILIES A. IN VIAL | [+] I | 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

| В | C MDI E | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Hydrobiidae 2 Chironomidae |
| | | | |

NOTES: NOTES: 1 Potamopyrgus jenkinsi 1 only 2 Orthocladiinae, Chironomini

| REGION | Anglian | RIVER | Glaven |
|-----------|------------------------|-------------|----------------|
| DATE | 21.10.92 | SITE | Wiveton Bridge |
| SORTER | ET | SAMPLE CODE | NRA01 0741 |
| AQC OF BM | VP FAMILIES A. IN VIAL | (+) I | 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

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|--|--|
| | SAMPLE 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 Hydropsychidae ' |

NET LOSSES

0

NET GAINS

S 2

.

NOTES:

1 Tubificidae 2 Hydropsyche siltalai 1 only

| REGION | Anglian | RIVER | Wensum | | |
|--|---------|-------------|--------------------------|--|--|
| DATE | 29.9.92 | SITE | Sculthorpe Mill | | |
| SORTER | BAW | SAMPLE CODE | NRA01 0776 (R04BFWEN040) | | |
| 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 |

| E | _ | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|-------------------------|--|--|
| | i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 1 Planariidae 2 Piscicolidae 3 Asellidae 4 Ephemerellidae 5 Caenidae 6 Leuctridae 7 Coenagriidae 8 Haliplidae |
| | | . [] | · · · · · · · · · · · · · · · · · · · |

| NOTES: | NET LOSS | ES 0 | NET GAINS | 8 |
|---|----------|---------------|-----------------|----|
| 1 Polycelis nigra/tenuis 1 2 Piscicola geometra 1 onl 3 Asellus aquaticus 1 only 4 Ephemerella ignita 1 onl 5 Caenis luctuosa/macrura 6 Leuctra fusca 7 Ischnura elegans 1 only 8 Brychius elevatus (larva | y y | lineatocollis | s (adult + larv | a) |

| REGION | Anglian | RIVER | Виге |
|--------|----------|-------------|-----------------------|
| DATE | 21.10.92 | SITE | Moor Hall Ford |
| SORTER | ET | SAMPLE CODE | NRA01 1045 (BFBUR010) |
| | | | () |

AQC OF BMWP FAMILIES A. IN VIAL

NOTES:

| + | |
|---|--|
| | |

B. IN SAMPLE +

| A | BMWP FAMILIES NOT 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 Chironomidae* | None |

| В | CAROLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 3 Hydrobiidae* 4 Planorbidae 5 Sphaeriidae 6 Heptageniidae 7 Gyrinidae 8 Scirtidae 9 Rhyacophilidae 10 Chironomidae* |

NET LOSSES

0

NET GAINS

б

1,3 Empty shell in vial, Potamopyrgus jenkinsi in sample
4 Anisus vortex 1 only
5 Pisidium sp.
6 Heptagenia sulphurea 1 only
7 Orectochilus villosus (larva) 1 only
8 Elodes sp. (larva) 1 only
9 Rhyacophila sp. (juvenile), Agapetus sp.
10 Prodiamesinae, Orthocladiinae, Chironomini, Tanytarsini

| REGION | Anglian | RIVER | Burn |
|--------|----------|-------------|--------------------------|
| DATE | 21.10.92 | SITE | Roys Mill, Burnham Overy |
| SORTER | ET . | SAMPLE CODE | NRA01 0728 (BFBRN040) |

AQC OF BMWP FAMILIES A. IN VIAL

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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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | 1 | 1 Valvatidae 2 Sphaeriidae 3 Hydroptilidae 4 Tipulidae 5 Simuliidae |
| I | NOTES: | NET LOSSES 0 | NET GAINS 5 |

1 Valvata cristata 2 Pisidium sp. 3 Oxyethira sp. 4 Pilaria (Neolimnomyia) sp. 1 only 5 Simulium aureum group

| REGION | Anglian | RIVER | Binham Tributary |
|----------|---------|-------------|--------------------------|
| DATE | 29.9.92 | SITE | Binham Ford (R.Stiffkey) |
| SORTER - | BAW | SAMPLE CODE | NRA01 0736 (R04BFSTF070) |
| | · · | | |

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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|-----------------------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Piscicolidae 2 Erpobdellidae |

NOTES: NOTES: 1 Piscicola geometra 1 only 2 Erpobdella octoculata 1 only

| REGION | Anglian | RIVER | Witham |
|--------|---------|-------------|---------------------|
| DATE | 21.9.92 | SITE | Langrick Bridge |
| SORTER | PMW | SAMPLE CODE | NRAO1 RO3BFWITH770L |
| | | F | <u> </u> |

AQC OF BMWP FAMILIES A. IN VIAL

| ł | в. | IN SA | MPLE | + |
|---|----|-------|------|---|
|---|----|-------|------|---|

| 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 | 5 | None |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Lymnaeidae 2 Baetidae 3 Hydroptilidae 4 Leptoceridae |

NET GAINS NET LOSSES 0 4 NOTES: 1 Lymnaea peregra 2 Cloeon dipterum 1 only 3 Agraylea multipunctata 4 Mystacides nigra/longicornis

| REGION | Anglian | RIVER | Burwell Lode |
|--------|----------|-------------|------------------|
| DATE | 13.10.92 | SITE | Upware Lock |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF34M13 |
| | | · · · | |

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 Oligochaeta |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 2 Ancylidae 3 Elmidae 4 Psychomyiidae |
| | | | |

NET LOSSES

0

NET GAINS

4

1 Naididae, Tubificidae

NOTES:

2 Acroloxus lacustris

3 Oulimnius rivularis (adult + larvaa)

4 Tinodes waeneri

| REGION | Anglian | RIVER | Thet |
|--------|---------|-------------|------------------------------|
| DATE | 28.9.92 | SITE | Westcar Bridge, Attleborough |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF44M02 |
| | |] | · |

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 |

| В | | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Ancylidae |

NOTES: 0 NET GAINS 1

| REGION | Anglian | RIVER | Cam |
|--------|----------|-------------|------------------|
| DATE | 13.10.92 | SITE | Dimmocks Cote |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF34M02 |
| | | | |

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 |

| В | CANDLE | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|-------------------------------|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Ancylidae 2 Leptoceridae |

NET LOSSES NET GAINS 0 2 NOTES: 1 Acroloxus lacustris 1 only 2 Oecetis ochracea 1 only

| REGION | Anglian | RIVER | Grand Union Canal |
|--------|---------|-------------|----------------------|
| DATE | 21.9.92 | SITE | Grafton Road, Ashton |
| SORTER | TNA | SAMPLE CODE | NRA01 R02BF04M27 |
| | | | |

AQC OF BMWP FAMILIES A. IN VIAL

| 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 | | 3 Platycnemididae |

| B | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|-------------------------|--|---|
| i) BMWP families listed | (This box only completed when no vial is supplied with sample) | 4 Valvatidae 5 Asellidae 6 Caenidae 7 Corixidae* |

NET LOSSES 1 NET GAINS 4 NOTES: 3 Platycnemis pennipes 4 Valvata piscinalis 1 only 5 Asellus aquaticus 6 Caenis luctuosa/macrura 1 only 7 Sigara dorsalis

| REGION | Anglian | RIVER | Abbotsley Brook |
|--------|---------|-------------|------------------|
| DATE | 14.9.92 | SITE | Warsley |
| SORTER | TNA | SAMPLE CODE | NRA01 R02BF20M14 |
| | | | |

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

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| 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 |

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

NET LOSSES 0 NET GAINS 0 NOTES:

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| REGION | Anglian | RIVER | Melsop Stallard |
|--------|---------|-------------|----------------------|
| DATE | 28.9.92 | SITE | B1077 Bridge, Castor |
| SORTER | SEH | SAMPLE CODE | NRA01 R02BF44M33 |
| | | _ | —— |

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 |

| В | C M CL E | BMWP FAMILIES NOT FOUND BY IFE | ADDITIONAL FAMILIES |
|---|---|-----------------------------------|---|
| | SAMPLE Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE | | 1 Sphaeriidae 2 Erpobdellidae 3 Elmidae 4 Hydroptilidae 5 Tipulidae |
| | | X | |

NOTES: NOTES: 1 Pisidium sp. 2 Erpobdella octoculata 1 only 3 Elmis aenea, Oulimnius sp. (larvae) 4 Oxyethira sp. 5 Dicranota sp. 1 only

Natural Environment Research Council

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