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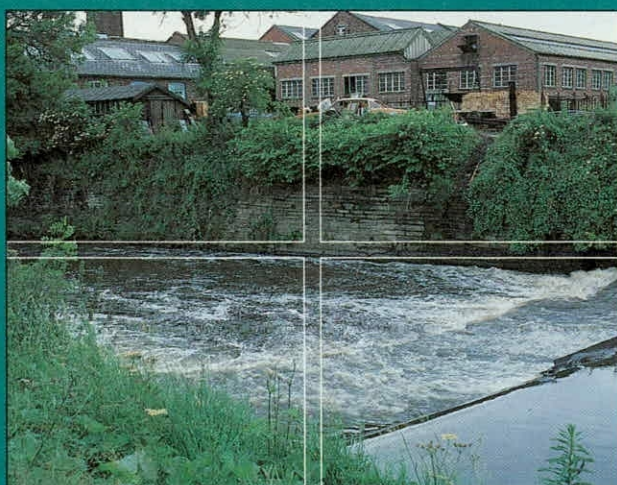
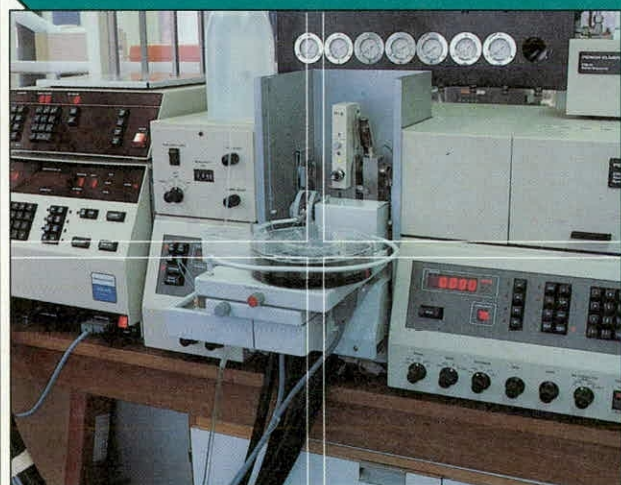
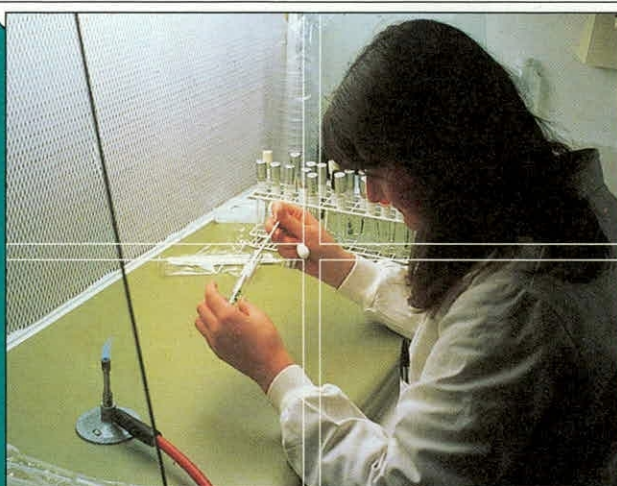
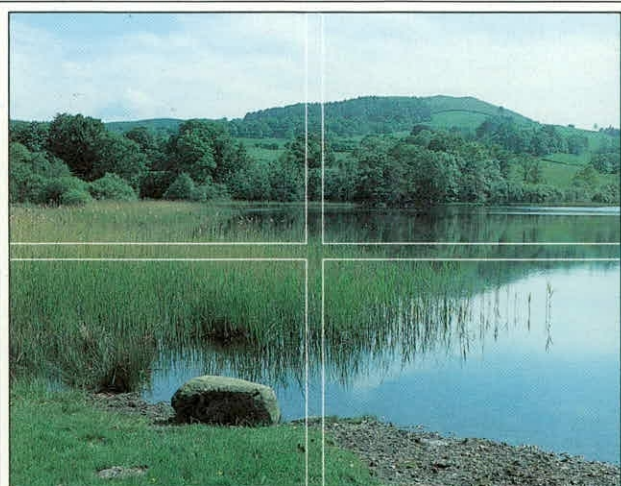
# **Quality audit of biological samples for the 1990 River Quality Survey NRA Thames Region**

**R.J.M Gunn, BSc**

**J.F. Wright, PhD**

**J.H. Blackburn, BSc**

**M.T. Furse, BSc**





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

Tel: 0929 462314

Fax: 0929 462180

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

R.J.M. Gunn, J.F. Wright, J.H. Blackburn & M.T. Furse

Project leader:	J.F. Wright
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Contract No:	
IFE Report Ref:	RL/T04053q1/9
TFS Project No:	T04053q1

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## 1. INTRODUCTION

The 1990 River Quality Survey included the sampling of aquatic macro-invertebrates for biological assessment of river quality throughout the United Kingdom. In England and Wales the survey was undertaken by the National Rivers Authority (NRA), the River Purification Boards (RPBs) sampled in Scotland and the Department of Economic Development (DED) undertook the work in Northern Ireland.

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

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

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

The IFE was contracted to undertake an audit of the sample sorting and identification performance of each NRA region, RPB and the DED. This report collates the results of 35 samples audited for Thames Region of the NRA. The IFE was not required to perform any statistical analyses nor interpretation of the results of the audit.

## 2. SAMPLE SELECTION

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

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

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

### 3. SAMPLE PROCESSING

Biologists processing samples for the 1990 Survey were instructed to sort their samples, ideally within the laboratory, and select examples of each scoring taxon within the BMWP system. In most cases, the invertebrates were placed in a vial of preservative (4% formaldehyde solution or 70% industrial alcohol) and the BMWP taxa were listed on a data sheet. The vial of animals and the sorted material were then returned to the sample container and preservative added. Thus, each sample available to IFE for selection for audit should have included:

- i) a list of the BMWP FAMILIES FOUND IN THE SAMPLE
- ii) a vial containing representatives from each family
- iii) the preserved sample

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

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

For a number of different reasons, some samples did not include a vial containing representative examples of the families listed on the NRA data sheet. These samples were avoided for audit, where possible. When selection of such samples was unavoidable (eg where a particular sorter would otherwise have been excluded from the audit exercise), only operations a), d) and e) above were appropriate.

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

#### **4. REPORTING**

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

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

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

Results of the audits of individual samples are presented in Table 5.

#### **ACKNOWLEDGEMENTS**

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

TABLE 1. The IFE Report form

## 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<input type="text"/>	RIVER	<input type="text"/>
SEASON	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	SAMPLE CODE	<input type="text"/>
AQC OF BMWP FAMILIES    A. IN VIAL <input type="checkbox"/> B. IN SAMPLE <input type="checkbox"/>			

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

NET LOSSES NET GAINS 

NOTES



TABLE 2. The 17 spring samples audited for Thames Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Stort	Cannons Mill Lane	JE	0	6	0
* Roding	Woodford Bridge	JE	1	4	0
* Cherwell	Twyford Road Br	LPR	1	2	0
Hart	Lea Br Hazeley	JB	0	4	0
Chess	Bois Mill	DJL	1	2	0
Ray	Cricklade	JB	0	5	0
Gade	Rickmansworth	DJL	1	6	0
Mimram	Panshanger	DJL	3	3	0
Veneymore Stream	D/s L. Faringdon	LPR	3	3	0
	Trout Farm				
Dun	Hungerford GS	JB	1	3	1
Dorn u/s Glyme	Milford Br Wooton	JB	0	6	2
Gainsbridge Brook	Little Milton	JB	0	1	0
Pang	Pangbourne GS	LPR	0	1	0
Cherwell	Heyford Bridge	LPR	0	3	0
Silk Stream	Rushgrove Park	JE	0	0	0
Lee	Keides Weir	DJL	2	4	1
Rib	Bengeo Hall	JE	0	2	0

\* indicates no vial of animals present in sample

TABLE 3. The 13 summer samples audited for Thames Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Froxfield Stream	U/s Dun	PL	1	4	0
Wey (N)	Mill Court Br Wyck	JB	0	4	0
Thames	Henley	LPR	0	3	3
Churn	Cerney Wick	JB	0	2	0
* Thames	Teddington	RAC	5	3	0
Denton Brook	Denton	RAC	1	0	1
Stort	Roydon	DJL	0	3	0
Loddon	Sherfield	LPR	1	1	2
Beane	Watton-at-Stone	JE	1	1	1
Hogsmill	U/s Hogsmill STW	JE	1	1	0
G.U.C. (Aylesbury)	Aston Clinton	DJL	1	2	0
Cripsey Brook	Moreton Bridge	JFM	0	3	0
Cripsey Brook	Ongar Bridge	JFM	0	3	0

\* indicates no vial of animals present in sample

TABLE 4. The 5 autumn samples audited for Thames Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'.

River	Site	Sorter	Losses	Gains	Omissions
Cove Brook	U/s Blackwater	JB	0	1	0
Hart	Lea Bridge Hazeley	JB	0	4	0
Kennet & Avon Canal	Ufton Bridge	LPR	0	4	0
G.U.C. (Cowley)	Horton Rd Bridge	JE	0	2	0
Colne	Bushey Mill Lane	DJL	0	0	0



**TABLE 5**  
**Results of individual sample audits**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Stort
SEASON	Spring	SITE	Cannons Mill Lane
SORTER	JE	SAMPLE CODE	070230

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

LOSSES		GAINS
A	VIAL	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	JE confirmed that not all BMWP families on sheet were placed in vial. Hence invalidated	N/a
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	
B	SAMPLE	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	1 Dendrocoelidae 2 Hydrobiidae 3 Planorbidae 4 Sphaeriidae 5 Hydroptilidae 6 Lymnaeidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES      0      NET GAINS      6

NOTES

- 1 Dendrocoelum lacteum
- 2 Potamopyrgus jenkinsi
- 3 Anisus vortex
- 4 Pisidium sp.
- 5 Hydroptila sp.? (lacks case)
- 6 Lymnaea peregra

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<b>Thames</b>	RIVER	<b>Roding</b>
SEASON	<b>Spring</b>	SITE	<b>Woodford Bridge</b>
SORTER	<b>JE</b>	SAMPLE CODE	<b>070227</b>

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

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	N/a	N/a
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  Corixidae	1. Gammaridae 2. Caenidae 3. Hydroptilidae 4. Chironomidae

NET LOSSES   

NET GAINS   

NOTES

**4. Category B abundance**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Cherwell
SEASON	Spring	SITE	Twyford Rd Br
SORTER	LPR	SAMPLE CODE	070010

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

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	N/a	N/a

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

NET LOSSES     NET GAINS

NOTES

1. Gyraulus albus  
2. Elmsis aenea



# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Hart
SEASON	Spring	SITE	Lea Br Hazeley
SORTER	JB	SAMPLE CODE	070109

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

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  N/a	1.Lymnaeidae 2.Caenidae 3.Haliplidae 4.Hydroptilidae

NET LOSSES     NET GAINS

NOTES	<p>1.Lymnaea peregra 3.(larva) 4.Hydroptila sp.</p>
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# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<b>Thames</b>	RIVER	<b>Chess</b>
SEASON	<b>Spring</b>	SITE	<b>Bois Mill</b>
SORTER	<b>DJL</b>	SAMPLE CODE	<b>070181</b>

AQC OF BMWP FAMILIES	A. IN VIAL	<input type="text" value="1"/>	B. IN SAMPLE	<input type="text" value="1"/>
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LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		<b>Erpobdellidae</b>
		<b>None</b>

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

NET LOSSES	<input type="text" value="1"/>	NET GAINS	<input type="text" value="2"/>
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NOTES	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>
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# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<b>Thames</b>	RIVER	<b>Ray</b>
SEASON	<b>Spring</b>	SITE	<b>Cricklade</b>
SORTER	<b>JB</b>	SAMPLE CODE	<b>070059</b>

AQC OF BMWP FAMILIES	A. IN VIAL	<input data-bbox="787 548 852 604" type="text" value="+"/>	B. IN SAMPLE	<input data-bbox="1193 548 1258 604" type="text" value="+"/>
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LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  N/a	1.Hydrobiidae 2.Sphaeriidae 3.Agridae 4.Limnephilidae 5.Chironomidae

NET LOSSES	<input data-bbox="982 1724 1079 1785" type="text" value="0"/>	NET GAINS	<input data-bbox="1412 1724 1510 1785" type="text" value="5"/>
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NOTES	<b>2.Category B abundance</b> <b>5.Category B abundance</b>
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# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<b>Thames</b>	RIVER	<b>Gade</b>
SEASON	<b>Spring</b>	SITE	<b>Rickmansworth</b>
SORTER	<b>DJL</b>	SAMPLE CODE	<b>070196</b>
AQC OF BMWP FAMILIES		A. IN VIAL	<input checked="" type="checkbox"/>
		B. IN SAMPLE	<input type="checkbox"/>

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	N/a	N/a

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  Viviparidae	1.Neritidae 2.Ancylidae 3.Caenidae 4.Hydroptilidae 5.Molannidae 6.Leptoceridae

NET LOSSES

NET GAINS

NOTES

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<b>Thames</b>	RIVER	<b>Mimran</b>
SEASON	<b>Spring</b>	SITE	<b>Panshanger</b>
SORTER	<b>DJL</b>	SAMPLE CODE	<b>070218</b>

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

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<b>1.Glossiphoniidae</b> <b>2.Perlodidae</b> <b>3.Goeridae</b>

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

NET LOSSES        NET GAINS   

NOTES

1. 4 spp. **T.tessulatum**  
           **H.stagnalis**  
           **G.complanata**  
           **B.paludosa**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Thames

RIVER Veneymore Stream

SEASON Spring

SITE D/s L.Faringdon Trout Farm

SORTER LPR

SAMPLE CODE NRA070080

AQC OF BMWP FAMILIES A. IN VIAL ?

B. IN SAMPLE +

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	N/a
	Many taxa recorded on sheet not placed in vial. Hence invalidated.	

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	
	(This box only completed when no vial supplied with sample)  1 Planariidae 2 Piscicolidae 3 Leptophlebiidae	4 Ephemeridae 5 Hydrophilidae 6 Leptoceridae

NET LOSSES 3

NET GAINS 3

NOTES  
 4 Ephemera vulgata  
 5 Larva  
 6 Mystacides azurea

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE 1 Baetidae* 2 Hygrobiidae
		ADDITIONAL FAMILIES FOUND BY IFE 3 Hydrophilidae

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

NET LOSSES

NET GAINS

NOTES

AQC - BIOLOGICAL SAMPLES

SAMPLE CODE NRA070023

B. IN SAMPLE	+
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<div style="border: 1px solid black; padding: 2px; display: inline-block;">B</div> <div style="text-align: center; padding: 5px;"><u>SAMPLE</u></div>	<div style="text-align: center; padding: 5px;">BMWP FAMILIES NOT FOUND BY IFE</div>	<div style="text-align: center; padding: 5px;">ADDITIONAL FAMILIES FOUND BY IFE</div>
<p>Differences between:</p> <p>i) BMWP families listed on sample data sheet and</p> <p>ii) BMWP families found in SAMPLE by IFE</p>	<p>(This box only completed when no vial supplied with sample)</p>	<p>5 Lymnaeidae</p> <p>6 Ancylidae*</p> <p>7 Haliplidae</p> <p>8 Helodidae</p> <p>9 Tipulidae</p> <p>10 Chironomidae*</p>

NET GAINS 6

NOTES	7 <i>Brychius elevatus</i> (adult)
	8 Larva
	9 <i>Limnophila</i> ( <i>Eloeophila</i> ) sp.



# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Pang
SEASON	Spring	SITE	Gs Pangbourne
SORTER	LPR	SAMPLE CODE	NRA070125

AQC OF BMWF FAMILIES    A. IN VIAL    ?    B. IN SAMPLE    +

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWF families listed on sample data sheet and ii) BMWF families found in VIAL by IFE	BMW FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		Many taxa recorded on sheet not placed in vial. Hence invalidated.
		N/a
B	SAMPLE	
	Differences between: i) BMWF families listed on sample data sheet and ii) BMWF families found in SAMPLE by IFE	BMW FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		Asellidae

NET LOSSES    0    NET GAINS    1

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Thames

RIVER Cherwell

SEASON Spring

SITE Heyford Bridge

SORTER LPR

SAMPLE CODE NRA07 0266

AQC OF BMWP FAMILIES A. IN VIAL ?

B. IN SAMPLE +

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	Many taxa recorded on sheet not placed in vial. Hence invalidated.	N/a

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  None	1 Erpobdellidae 2 Leptophlebiidae 3 Platycnemididae

NET LOSSES 0

NET GAINS 3

NOTES

1 Erpobdella octoculata  
2 Habrophlebia fusca

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

LOSSES		GAINS				
A	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<table><tr><th>BMWP FAMILIES NOT FOUND BY IFE</th><th>ADDITIONAL FAMILIES FOUND BY IFE</th></tr><tr><td>1 Physidae 2 Planorbidae 3 Asellidae*</td><td>4 Gammaridae</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	1 Physidae 2 Planorbidae 3 Asellidae*	4 Gammaridae
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
1 Physidae 2 Planorbidae 3 Asellidae*	4 Gammaridae					
B	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	<table><tr><th>BMWP FAMILIES NOT FOUND BY IFE</th><th>ADDITIONAL FAMILIES FOUND BY IFE</th></tr><tr><td>(This box only completed when no vial supplied with sample)</td><td>5 Asellidae* 6 Polycentropodidae 7 Hydroptilidae 8 Leptoceridae</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	(This box only completed when no vial supplied with sample)	5 Asellidae* 6 Polycentropodidae 7 Hydroptilidae 8 Leptoceridae
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
(This box only completed when no vial supplied with sample)	5 Asellidae* 6 Polycentropodidae 7 Hydroptilidae 8 Leptoceridae					

NET LOSSES

NET GAINS

NOTES

- 1 Specimen labelled "dextral Physa" = Succinea sp.
- 2 Empty shells
- 6 Cynus flavidus 1 only
- 7 Hydroptila sp. in sample, empty Agraylea case in vial
- 8 Mystacides nigra/longicornis 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

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

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

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<div>Thames</div>	RIVER	<div>Froxfield Stream</div>
SEASON	<div>Summer</div>	SITE	<div>Above Dun</div>
SORTER	<div>PL</div>	SAMPLE CODE	<div></div>

AQC OF BMWP FAMILIES    A. IN VIAL    

+

    B. IN SAMPLE    

+

LOSSES		GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	ADDITIONAL FAMILIES FOUND BY IFE  1 Dendrocoelidae  2 Valvatidae 3 Hydrobiidae 4 Goeridae
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	ADDITIONAL FAMILIES FOUND BY IFE  (This box only completed when no vial supplied with sample)  5 Sphaeriidae

NET LOSSES    

1

    NET GAINS    

4

NOTES	2 Valvata cristata 3 Potamopyrgus jenkinsi 4 Silo nigricornis 5 Pisidium sp.
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# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

### LOSSES

### GAINS

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

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	1 Gammaridae 2 Baetidae 3 Elmidae 4 Limnephilidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES

NET GAINS

### NOTES

2 Baetis sp. 1 only (just head & thorax)  
3 Elmis aenea, Oulimnius sp. (larvae)



# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	<div>Thames</div>	RIVER	<div>Thames</div>
SEASON	<div>Summer</div>	SITE	<div>Henley</div>
SORTER	<div>LPR</div>	SAMPLE CODE	<div>NRA07 0268</div>

AQC OF BMWP FAMILIES    A. IN VIAL 

+

    B. IN SAMPLE 

+

LOSSES		GAINS				
A	<u>VIAL</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<table><tr><td>BMWP FAMILIES NOT FOUND BY IFE</td><td>ADDITIONAL FAMILIES FOUND BY IFE</td></tr><tr><td>1 Planariidae* 2 Ancyliidae* 3 Hydroptilidae*</td><td>None</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	1 Planariidae* 2 Ancyliidae* 3 Hydroptilidae*	None
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
1 Planariidae* 2 Ancyliidae* 3 Hydroptilidae*	None					

B	<u>SAMPLE</u>  Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	<table><tr><td>BMWP FAMILIES NOT FOUND BY IFE</td><td>ADDITIONAL FAMILIES FOUND BY IFE</td></tr><tr><td>(This box only completed when no vial supplied with sample)</td><td>4 Planariidae* 5 Ancyliidae* 6 Baetidae 7 Hydrophilidae 8 Hydroptilidae* 9 Molannidae</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	(This box only completed when no vial supplied with sample)	4 Planariidae* 5 Ancyliidae* 6 Baetidae 7 Hydrophilidae 8 Hydroptilidae* 9 Molannidae
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
(This box only completed when no vial supplied with sample)	4 Planariidae* 5 Ancyliidae* 6 Baetidae 7 Hydrophilidae 8 Hydroptilidae* 9 Molannidae					

NET LOSSES 

0

NET GAINS 

3

NOTES  
6 Cloeon simile 1 only  
7 Helophorus brevipalpis  
9 Molanna angustata

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Churn**

SEASON **Summer**

SITE **Cerney Wick**

SORTER **JB**

SAMPLE CODE **NRA07 0013**

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

B. IN SAMPLE **+**

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

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

NET LOSSES **0**

NET GAINS **2**

### NOTES

1 Physa fontinalis 1 only  
2 Hydroptila sp. 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Thames**

SEASON **Summer**

SITE **Teddington**

SORTER **RAC**

SAMPLE CODE **NRA07 0160**

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

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	Not applicable	Not applicable

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)  1 Planariidae 2 Dendrocoelidae 3 Viviparidae 4 Unionidae 5 Sialidae	6 Physidae 7 Gammaridae 8 Baetidae

NET LOSSES **5**

NET GAINS **3**

### NOTES

6 Physa fontinalis 1 only  
7 Crangonyx pseudogracilis 1 only  
8 Baetis rhodani 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Denton Brook**

SEASON **Summer**

SITE **Denton**

SORTER **RAC**

SAMPLE CODE **NRA07 0390**

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

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Oligochaeta 2 Ephemeridae*	

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

NET LOSSES **1**

NET GAINS **0**

NOTES **3 Ephemeridae 1 only in sample**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Stort**

SEASON **Summer**

SITE **Roydon**

SORTER **DJL**

SAMPLE CODE **NRA07 0231**

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

B. IN SAMPLE **+**

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

NET LOSSES **0**

NET GAINS **3**

NOTES  
1 Valvata piscinalis 1 only  
2 Gyrinus sp. (larva) 1 only  
3 Indet larva 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Loddon**

SEASON **Summer**

SITE **Sherfield**

SORTER **LPR**

SAMPLE CODE **NRA07 0118**

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

B. IN SAMPLE **+**

### LOSSES

### GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Planariidae* 2 Dendrocoelidae 3 Asellidae*	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	4 Planariidae* 5 Asellidae* 6 Hydroptilidae

NET LOSSES **1**

NET GAINS **1**

### NOTES

**6 Hydroptila sp. 1 only**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

### LOSSES

### GAINS

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

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

NET LOSSES

NET GAINS

NOTES

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Hogsmill**

SEASON **Summer**

SITE **U/s Hogsmill STW**

SORTER **JE**

SAMPLE CODE **NRA07 0148**

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

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	1 Planariidae	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

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

NET LOSSES **1**

NET GAINS **1**

NOTES **2 Caenis luctuosa/macrura 1 only**



# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION Thames

RIVER G.u.c. (Aylesbury Arm)

SEASON Summer

SITE College Br, Aston Clinton

SORTER DJL

SAMPLE CODE NRA07 0168

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

### LOSSES

### GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1. Hydrometridae	None

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

NET LOSSES 1

NET GAINS 2

### NOTES

2 Bithynia tentaculata 1 only  
3 Oulimnius sp. (larva) 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Cripsey Brook
SEASON	Summer	SITE	Moreton Bridge
SORTER	JFM	SAMPLE CODE	NRA07 0209

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

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

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

NET LOSSES   

NET GAINS   

### NOTES

- 1 Gammarus pulex
- 2 Indet Hydrophilid larva 1 only
- 3 Hydroptila sp. (pupa) 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Cripsey Brook**

SEASON **Summer**

SITE **Ongar Bridge**

SORTER **JFM**

SAMPLE CODE **NRA07 0210**

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

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Lymnaeidae 2 Haliplidae 3 Leptoceridae

NET LOSSES **0**

NET GAINS **3**

### NOTES

- 1 Lymnaea peregra
- 2 Halipus sp. (larva) 1 only
- 3 Mystacides azurea 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Cove Brook
SEASON	Autumn	SITE	U/s Blackwater
SORTER	JB	SAMPLE CODE	NRA07 0095

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

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

NET LOSSES

NET GAINS

NOTES	1 Gyraulus albus 1 only
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# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION

RIVER

SEASON

SITE

SORTER

SAMPLE CODE

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

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

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE  (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE  1 Ancyliidae 2 Ephemeridae 3 Caenidae 4 Hydrometridae

NET LOSSES

NET GAINS

### NOTES

- 1 Acroloxus lacustris
- 2 Ephemera danica
- 3 Caenis luctuosa/macrura
- 4 Indet Hydrometrid nymphs

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION	Thames	RIVER	Kennet & Avon Canal
SEASON	Autumn	SITE	Ufton Bridge
SORTER	LPR	SAMPLE CODE	NRA07 0173

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

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		None
B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		1 Gammaridae 2 Elmidae 3 Sericostomatidae 4 Tipulidae

NET LOSSES        NET GAINS   

NOTES

- 1 Crangonyx pseudogracilis
- 2 Oulimnius sp. (larvae)
- 3 Notidobia ciliaris 1 only
- 4 Tipula montium group 1 only

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **G.U.C. (Cowley Reach)**

SEASON **Autumn**

SITE **Horton Road Bridge**

SORTER **JE**

SAMPLE CODE **NRA07 0245**

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

B. IN SAMPLE **+**

### LOSSES

### GAINS

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

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

NET LOSSES **0**

NET GAINS **2**

### NOTES

**1 Mesovelia furcata**  
**2 Agrylea multipunctata 1 only**

**Dendrocoelidae and Gerridae entered on data sheet but not found in vial or sample. Comments section on data sheet warns of this so not considered as "losses"**

# 1990 RIVER QUALITY SURVEY

## AQC - BIOLOGICAL SAMPLES

REGION **Thames**

RIVER **Colne**

SEASON **Autumn**

SITE **Bushey Mill Lane**

SORTER **DJL**

SAMPLE CODE **NRA07 0185**

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

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	ADDITIONAL FAMILIES FOUND BY IFE
		<b>None</b>

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

NET LOSSES **0**

NET GAINS **0**

NOTES



