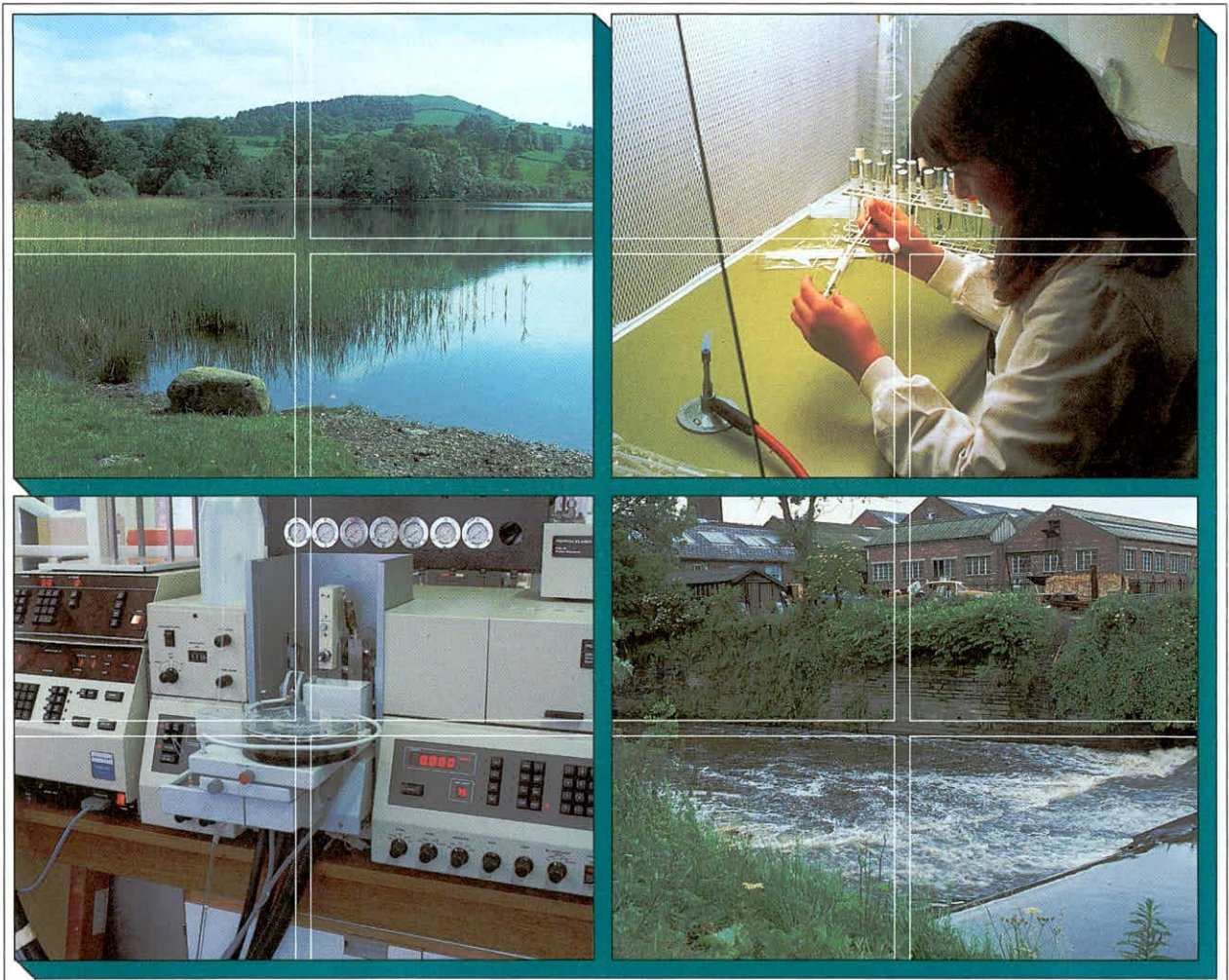


## MACROINVERTEBRATE SPECIES IDENTIFICATION - THAMES CATCHMENT (NORTH EAST AREA)

Principal investigators:

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J H Blackburn BSc

Report to The Environment Agency (Thames Region) - November 1997



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## 1. INTRODUCTION

The aim of this project was to process and identify, to species level (if possible), the macroinvertebrates present in 39 samples collected from various rivers within the NE area of the Thames catchment by the Environment Agency (Thames Region) during 1995 (**Table 1**). In addition, to the compilation of validated taxon lists, there was a remit to provide abundance estimates for each taxa in each macroinvertebrate sample as well as notes highlighting taxa of conservation interest.

**Table 1. Summary of samples collected from rivers within the Thames catchment .**

River	Number of sample sites	Number of samples
Ash (Lee)	2	4
Beane	2	4
Cuffley Brook	1	1
Lee	6	11
Lee (Nav.)	2	3
Mimram	1	2
Quin	1	1
Rib	4	6
Stanstead Brook	1	2
Stort	1	2
Stort Navigation	1	1
Turkey Brook	1	2

## 2. METHODS

### 2.1. Sample sorting

The sample sorting procedures adopted were based on those laid out in the NRA Document BT001, *Procedure for Collecting and Analysing River Macroinvertebrate Samples for RIVPACS Application*. First, the samples were thoroughly washed to remove the formaldehyde preservative, all the material being retained in a 500µm sieve. Small quantities of the washed material were then sorted in water in a white enamel tray marked with sixteen equal sized grid squares. Macroinvertebrates were picked from the tray and placed in either petri-dishes or vials containing 70% IMS. Specimens of the Chironomidae, Oligochaeta and Sphaeriidae groups were stored in separate labelled vials. A maximum of 50 specimens of each taxon requiring microscopic identification were picked out for further analysis. This sorting and picking process was repeated until the whole sample had been processed, each tray being thoroughly searched for macroinvertebrates, in order to ensure that no rare taxa were missed. In those samples where the amount of material was sufficiently great to warrant sub-sampling, quantitative estimates were limited to 25% of the tray area, picked as two separate eighths (see below).

### 2.2. Macroinvertebrate identification

The macroinvertebrates were identified to the level requested in the invitation to tender which was generally to species level or the level required for RIVPACS analysis, using the most recently available keys (see list of taxonomic keys). However, specimens which were either too small or in a poor state of preservation for reliable species level identification were identified to the level appropriate to their size and condition, usually to genus but sometimes to family. If, there were some specimens of a particular taxon mature enough to identify to species level in the same sample as specimens which were not readily identifiable but believed to be the same, then these latter specimens were assigned to the named species. Specific identifications were also provided for some taxa which are normally identified only to genus level for RIVPACS (e.g. *Corophium* sp. and *Oxycera* sp.) but only when specimens were sufficiently mature to allow quick identification.

Difficult and contentious specimens, species with national conservation status (Red Data Book or Nationally Notable) and taxa which occur in less than 5% of the reference sites used in the RIVPACS III data base were examined by two experienced IFE staff members. Taxa of known conservation value as well as a number of others that were considered to be of potential interest (e.g. for keeping in reference collections) were retained in separate labelled vials in order that they may be examined by Environment Agency biologists, if required. The Chironomidae, Oligochaeta and Sphaeriidae groups were not identified further in this study but were kept in separate vials for possible genus or species level identification at a later date. All the other identified sample taxa were bulked together in small labelled bottles in case they were required for further examination. The nomenclature follows that laid down in the latest revision of the 'Maitland' coded checklist, a copy of which is held by the Environment Agency (Thames Region).

### 2.3. Estimation of abundances

In those samples without too much material all the macroinvertebrates were identified and counted. For those samples which were sub-sampled, two equal sized fractions (i.e. eighths) were picked and counted separately to provide a maximum and a minimum estimate of abundance for each taxon, from which a mean value was calculated. The mean number of each taxa was then multiplied by eight to obtain abundance estimates for the whole sample based on the following logarithmic categories :

- A— 1-9 animals
- B —10-99 animals
- C— 100-999 animals
- D —1000-9999 animals

Where specimens were removed from outside the sub-sample area, the taxa concerned and the number removed from the whole sample were added to the taxon abundance list. In the situation of where a maximum of about 50 specimens of a particular taxon type was removed and other taxa of a similar appearance tally-counted, the composition of the tally-counted specimens was assumed to be in the same relative proportions as the specific taxonomic composition of those animals (i.e. *ca* 50 individuals) which were removed and fully identified.

### 2.4. Threatened and rare taxa

Accompanying the validated taxon list for each sample are notes indicating whether or not there were any threatened or rare taxa present as defined by the following Red Data Book (RDB) and Nationally Notable categories respectively:

RDB 1 Endangered: Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating.

RDB 2 Vulnerable: Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating.

RDB 3 Rare: Taxa with small populations that are not presently Endangered or Vulnerable, but are at risk.

Nationally Notable: Taxa known to occur in fewer than 100 10 km squares of the National Grid.

In addition, records of those taxa which occur in less than 5% of the RIVPACS III data base are also highlighted to indicate those species which are infrequent members of the macroinvertebrate fauna within the wide range of running waters included in the selected 614 reference sites. It should be stressed that species with a low frequency of occurrence in the RIVPACS III data set do not necessarily merit RDB or Nationally Notable status as many of these taxa, though rare in rivers, are common in standing waters or other types of water body.

### 3. RESULTS

The results for each of the 39 samples are listed in the following pages. For every individual sample there is a validated taxon list with abundance estimates and notes highlighting rare taxa. A summary list of the RDB and Nationally Notable species found during the study is given in Table 2.

**Table 2. Red Data Book and Nationally Notable species recorded in study.**

TAXA	CONSERVATION STATUS	No. OF SAMPLES FOUND IN	No. OF SITES FOUND IN
COLEOPTERA			
<i>Anacaena bipustulata</i> (Marsham)	Nationally Notable	Two	Two
<i>Haliplus laminatus</i> Schaller	Nationally Notable	Six	Six
MEGALOPTERA			
<i>Sialis nigripes</i> Pictet	Nationally Notable	Two	One
TRICHOPTERA			
<i>Ceraclea senilis</i> (Burmeister)	Nationally Notable	One	One

For the purposes of this report each taxa list is arranged according to the BMWP scoring system (rather than to taxonomic group) in order to make comparisons with the already available family level information somewhat easier to digest.



**Macroinvertebrate taxon list for River Ash (Lee) at Bridge North of Widford (TL42421691) - 30/3/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the corixid *Hesperocorixa sahlbergi* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes albifrons</i> (L.)	B
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Tinodes waeneri</i> (L.)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Anabolia nervosa</i> (Curtis)	A
<i>Halesus</i> sp.	A
<i>Limnephilus lunatus</i> Curtis	A
Limnephilidae	A
<i>Potamophylax</i> group	A
<i>Ancyclus fluviatilis</i> Müller	B
<i>Hydroptila</i> sp.	A
<i>Gammarus pulex</i> (L.)	C
<i>Hesperocorixa sahlbergi</i> (Fieber)	A
<i>Sigara dorsalis</i> group	A
<i>Elmis aenea</i> Müller	C
<i>Hydropsyche pellucidula</i> (Curtis)	A
<i>Hydropsyche sitalai</i> Döhler	B
<i>Antocha vitripennis</i> (Meigen)	A
<i>Tipula montium</i> group	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Simulium (Nevermannia) venum</i> group	A
<i>Baetis rhodani</i> (Pictet)	C
<i>Centroptilum luteolum</i> (Müller)	A
<i>Valvata piscinalis</i> Müller	A
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Anisus vortex</i> (L.)	A
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
Chironomidae	D
Oligochaeta	C
Ceratopogonidae	B
Hydracarina	B
<i>Chelifera</i> group	A
<i>Hemerodromia</i> group	A

Macroinvertebrate taxon list for River Ash (Lee) at Bridge North of Widford  
(TL42421691) - 9/11/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the caddis *Glyptotendipes pellucidus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia</i> sp.	A
<i>Ephemera danica</i> Müller	A
<i>Athripsodes albifrons</i> (L.)	B
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Silo nigricornis</i> (Pictet)	A
<i>Lype</i> sp.	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Glyptotendipes pellucidus</i> (Retzius)	A
<i>Ancyclus fluviatilis</i> Müller	B
<i>Gammarus pulex</i> (L.)	C
<i>Brychius elevatus</i> (Panzer)	A
Dytiscidae	A
<i>Orectochilus villosus</i> Müller	B
<i>Elmis aenea</i> Müller	C
<i>Oulimnius</i> sp.	B
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Hydropsyche pellucidula</i> (Curtis)	A
<i>Hydropsyche siltalai</i> Döhler	C
<i>Dicranota</i> sp.	B
<i>Tipula montium</i> group	A
<i>Simulium (Simulium) ornatum</i> group	B
<i>Baetis rhodani</i> (Pictet)	B
<i>Piscicola geometra</i> (L.)	A
<i>Valvata piscinalis</i> Müller	A
<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Lymnaea peregra</i> (Müller)	B
<i>Anisus vortex</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	A
<i>Gyraulus albus</i> (Müller)	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	A
Chironomidae	C
Oligochaeta	B
Ceratopogonidae	A
Hydracarina	B
<i>Limnophora</i> sp.	B
Ostracoda	A
<i>Dixa nebulosa</i> Meigen	A

**Macroinvertebrate taxon list for River Ash (Lee) at Easneye (TL37701330) - 30/3/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the leech species *Glossiphonia heteroclita* and *Trocheta subviridis* occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Limnophora</i> sp.	A
<i>Ephemera danica</i> Müller	B		
<i>Molanna angustata</i> Curtis	A		
<i>Athripsodes albifrons</i> (L.)	B		
<i>Athripsodes aterrimus</i> (Stephens)	A		
<i>Athripsodes cinereus</i> (Curtis)	A		
<i>Mystacides nigra</i> (L.)	A		
<i>Tinodes waeneri</i> (L.)	A		
<i>Caenis horaria</i> (L.)	A		
<i>Caenis luctuosa</i> group	C		
<i>Rhyacophila dorsalis</i> (Curtis)	A		
<i>Anabolia nervosa</i> (Curtis)	A		
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	A		
<i>Ancylus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	A		
<i>Gammarus pulex</i> (L.)	C		
<i>Sigara dorsalis</i> group	A		
<i>Orectochilus villosus</i> Müller	A		
<i>Elmis aenea</i> Müller	C		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Oulimnius tuberculatus</i> (Müller)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Antocha vitripennis</i> (Meigen)	A		
<i>Pilaria</i> ( <i>Pilaria</i> ) sp.	A		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	C		
<i>Centroptilum luteolum</i> (Müller)	B		
<i>Valvata piscinalis</i> Müller	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis carinatus</i> Müller	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Glossiphonia heteroclita</i> (L.)	A		
<i>Helobdella stagnalis</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
<i>Trocheta subviridis</i> Dutrochet	A		
<i>Asellus aquaticus</i> (L.)	A		
Chironomidae	C		
Oligochaeta	C		
<i>Hemerodromia</i> group	B		
Hydracarina	B		
<i>Oxycera fallenii</i> Staeger	A		

**Macroinvertebrate taxon list for River Ash (Lee) at Easneye (TL37701330) - 16/11/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the neuropteran *Sisyra* sp. and the horsehair worm family Chordodidae.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Ephemerella ignita</i> (Poda)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Ephemera danica</i> Müller	C	Chironomidae	C
<i>Athripsodes albifrons</i> (L.)	B	Oligochaeta	C
<i>Athripsodes cinereus</i> (Curtis)	B	Ceratopogonidae	A
<i>Mystacides azurea</i> (L.)	A	<i>Hemerodromia</i> group	B
<i>Goera pilosa</i> (Fabricius)	A	Hydracarina	B
<i>Lype</i> sp.	A	Ostracoda	A
<i>Tinodes waeneri</i> (L.)	A	Chordodidae	A
<i>Caenis horaria</i> (L.)	B	<i>Sisyra</i> sp.	B
<i>Caenis luctuosa</i> group	D		
<i>Agapetus</i> sp.	A		
<i>Rhyacophila dorsalis</i> (Curtis)	A		
<i>Polycentropus flavomaculatus</i> (Pictet)	A		
<i>Potamophylax</i> group	A		
<i>Ancylus fluviatilis</i> Müller	C		
<i>Hydroptila</i> sp.	A		
<i>Gammarus pulex</i> (L.)	C		
Corixidae	A		
Dytiscidae	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Orectochilus villosus</i> Müller	A		
<i>Elmis aenea</i> Müller	C		
<i>Limnius volckmari</i> (Panzer)	B		
<i>Oulimnius tuberculatus</i> (Müller)	B		
<i>Oulimnius</i> sp.	C		
<i>Hydropsyche pellucidula</i> (Curtis)	C		
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Dicranota</i> sp.	B		
<i>Tipula montium</i> group	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Eusimulium</i> ) <i>aureum</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	C		
<i>Centroptilum luteolum</i> (Müller)	B		
<i>Sialis lutaria</i> (L.)	B		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Bathyomphalus contortus</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Helobdella stagnalis</i> (L.)	A		

## Macroinvertebrate taxon list for River Beane at Watton-at-Stone (TL30101950) - 20/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the water beetle *Haliphus wehnckeii* and the Tipulid flies *Nephrotoma analis* and *N. quadrifaria*.

<u>Taxa</u>	<u>Abundance</u>
<i>Mystacides azurea</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Lype</i> sp.	A
<i>Tinodes waeneri</i> (L.)	A
<i>Ancyclus fluviatilis</i> Müller	B
<i>Gammarus pulex</i> (L.)	C
<i>Ischnura elegans</i> (Van der Linden)	A
<i>Haliphus wehnckeii</i> (Gerhardt)	A
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Nephrotoma analis</i> Schummel	A
<i>Nephrotoma quadrifaria</i> (Meigen)	A
<i>Polycelis nigra</i> group	B
<i>Dugesia polychroa</i> group	A
<i>Dugesia tigrina</i> (Girard)	A
<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Baetis rhodani</i> (Pictet)	B
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Anisus vortex</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	B
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	B
<i>Erpobdella octoculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	B
Oligochaeta	C
Trichoceridae	A

## Macroinvertebrate taxon list for River Beane at Watton-at-Stone (TL30101950) - 5/10/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the water beetle *Haliphus wehnckeii* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Mystacides azurea</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	B
<i>Ancylus fluviatilis</i> Müller	A
<i>Gammarus pulex</i> (L.)	C
<i>Haliphus lineatocollis</i> (Marsham)	A
<i>Haliphus wehnckeii</i> (Gerhardt)*	A
Dytiscidae	A
<i>Elmis aenea</i> (Müller)	A
<i>Hydropsyche angustipennis</i> (Curtis)	C
<i>Polycelis nigra</i> group	A
<i>Dugesia tigrina</i> (Girard)	A
<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Baetis rhodani</i> (Pictet)	A
<i>Baetis vernus</i> Curtis	A
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea peregra</i> (Müller)	A
<i>Lymnaea stagnalis</i> (L.)	A
<i>Physa fontinalis</i> (L.)	A
<i>Anisus vortex</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	B
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	B
<i>Theromyzon tessulatum</i> (Müller)	A
<i>Erpobdella octoculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	A
Oligochaeta	B
Ceratopogonidae	A
Hydracarina	A
<i>Limnophora</i> sp.	A

\*Specimens retained in separate vial

**Macroinvertebrate taxon list for River Beane at Hartham Common (TL32701330) - 20/3/95**

No Red Data Book or Nationally Notable species were found in sample. None of the recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	A	<i>Asellus aquaticus</i> (L.)	C
<i>Isoperla grammatica</i> (Poda)	A	Chironomidae	B
<i>Molanna angustata</i> Curtis	A	Oligochaeta	B
<i>Athripsodes albifrons/bilineatus</i>	B	Ceratopogonidae	A
<i>Athripsodes cinereus</i> (Curtis)	B	Hydracarina	A
<i>Mystacides azurea</i> (L.)	A	<i>Chelifera</i> group	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Hemerodromia</i> group	A
<i>Silo nigricornis</i> (Pictet)	A	<i>Wiedemannia</i> group	A
<i>Tinodes waeneri</i> (L.)	A	<i>Pericoma trivialis</i> group	A
<i>Caenis horaria</i> (L.)	B	Succineidae	A
<i>Caenis luctuosa</i> group	A		
<i>Rhyacophila dorsalis</i> (Curtis)	A		
<i>Polycentropus flavomaculatus</i> (Pictet)	A		
<i>Anabolia nervosa</i> (Curtis)	A		
<i>Halesus</i> sp.	B		
<i>Limnephilus lunatus</i> Curtis	B		
Limnephilidae	B		
<i>Potamophylax</i> group	A		
<i>Acroloxus lacustris</i> (L.)	A		
<i>Ancylus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	C		
<i>Gammarus pulex</i> (L.)	A		
Corixidae	A		
<i>Sigara dorsalis</i> group	A		
<i>Potamonectes depressus</i> (Fabricius)	B		
<i>Elmis aenea</i> Müller	A		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche sitalai</i> Döhler	B		
<i>Antocha vitripennis</i> (Meigen)	A		
<i>Tipula montium</i> group	A		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	B		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A		
<i>Polycelis nigra</i> group	B		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata cristata</i> Müller	A		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Lymnaea stagnalis</i> (L.)	B		
<i>Anisus vortex</i> (L.)	B		
<i>Bathyomphalus contortus</i> (L.)	B		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis carinatus</i> Müller	C		
Sphaeriidae	A		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	B		

**Macroinvertebrate taxon list for River Beane at Hartham Common (TL32701330) - 7/9/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis species *Limnephilus extricatus* and *L. rhombicus* and the corixids *Callicorixa praeusta*, *Corixa panzeri* and *C.punctata*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B	<i>Lymnaea stagnalis</i> (L.)	B
<i>Leuctra fusca</i> (L.)	A	<i>Anisus vortex</i> (L.)	C
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Bathyomphalus contortus</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Gyraulus albus</i> (Müller)	C
<i>Mystacides azurea</i> (L.)	A	<i>Planorbis carinatus</i> Müller	B
<i>Goera pilosa</i> (Fabricius)	A	Sphaeriidae	B
<i>Silo nigricornis</i> (Pictet)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Caenis horaria</i> (L.)	A	<i>Asellus aquaticus</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	Chironomidae	C
<i>Limnephilus extricatus</i> McLachan	A	Oligochaeta	C
<i>Limnephilus rhombicus</i> (L.)	B	Ceratopogonidae	A
<i>Ancylus fluviatilis</i> Müller	A	Hydracarina	B
<i>Hydroptila</i> sp.	B	<i>Pericoma trivialis</i> group	A
<i>Gammarus pulex</i> (L.)	C	<i>Limnophora</i> sp.	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	A	<i>Eurycercus lamellatus</i> (Müller)	A
Notonectidae	A		
<i>Callicorixa praeusta</i> (Fieber)	A		
<i>Corixa panzeri</i> (Fieber)*	A		
<i>Corixa punctata</i> (Illiger)	A		
Corixidae	C		
<i>Sigara dorsalis</i> group	B		
<i>Sigara falleni</i> (Fieber)	B		
<i>Brychius elevatus</i> (Panzer)	A		
<i>Haliplus fluviatilis</i> Aubé	A		
<i>Haliplus</i> sp.	A		
Dytiscidae	B		
<i>Platambus maculatus</i> (L.)	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Orectochilus villosus</i> (Müller)	A		
<i>Elmis aenea</i> Müller	B		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Dicranota</i> sp.	A		
<i>Simulium (Nevermannia) angustitarse</i> group	A		
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Baetis scambus</i> group	C		
<i>Baetis vernus</i> Curtis	B		
<i>Centroptilum luteolum</i> (Müller)	C		
<i>Centroptilum pennulatum</i> Eaton	B		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	B		

\*Specimen retained in separate vial



**Macroinvertebrate taxon list for Cuffley Brook at Whitewebbs Golf Course (TQ32829901)  
- 6/9/95**

The Nationally Notable water beetle *Haliphus laminatus* was found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the bivalve mollusc *Anodonta* group, the corixid *Hesperocorixa linnei*, the water beetle *Colymbetes fuscus*, the Flat Ramshorn snail *Hippeutis complanatus* and the leech species *Glossiphonia heteroclita* and *Trocheta subviridis*.

<u>Taxa</u>	<u>Abundance</u>
<i>Acroloxus lacustris</i> Müller	A
<i>Anodonta</i> group	A
<i>Gammarus pulex</i> (L.)	C
<i>Crangonyx pseudogracilis</i> (Bousfield)	A
<i>Gerris</i> sp.	A
<i>Hesperocorixa linnei</i> (Fieber)	A
<i>Haliphus</i> sp.	A
<i>Haliphus laminatus</i> Schaller*	A
<i>Haliphus lineatocollis</i> (Marsham)	A
<i>Colymbetes fuscus</i> (L.)	A
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Baetis rhodani</i> (Pictet)	A
<i>Sialis lutaria</i> (L.)	B
<i>Valvata cristata</i> Müller	A
<i>Bithynia tentaculata</i> (L.)	C
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea peregra</i> (Müller)	B
<i>Anisus vortex</i> (L.)	A
<i>Armiger crista</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	B
<i>Gyraulus albus</i> (Müller)	B
<i>Hippeutis complanatus</i> (L.)	A
<i>Planorbarius corneus</i> (L.)	A
Sphaeriidae	D
<i>Glossiphonia complanata</i> (L.)	B
<i>Glossiphonia heteroclita</i> (L.)	A
<i>Helobdella stagnalis</i> (L.)	B
<i>Erpobdella octoculata</i> (L.)	B
<i>Trocheta subviridis</i> Dutrochet	A
<i>Asellus aquaticus</i> (L.)	C
Chironomidae	C
Oligochaeta	C
<i>Pericoma trivialis</i> group	A
<i>Limnophora</i> sp.	A
Ostracoda	A

\*Specimen retained in separate vial

## Macroinvertebrate taxon list for River Lee below Waterhall (TL30000990) - 29/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the Tipulid fly species *Pedicia (Trichyphona)* sp. and *Nephrotoma* sp. occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Habrophlebia fusca</i> (Curtis)	B
<i>Ephemerella ignita</i> (Poda)	A
<i>Isoperla grammatica</i> (Poda)	A
<i>Athripsodes cinereus</i> (Curtis)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Lype</i> sp.	A
<i>Caenis luctuosa</i> group	B
<i>Nemoura cinerea</i> (Retzius)	B
<i>Plectrocnemia conspersa</i> (Curtis)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A
<i>Halesus</i> sp.	A
<i>Limnephilus lunatus</i> Curtis	A
<i>Ancyclus fluviatilis</i> Müller	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	A
<i>Gammarus pulex</i> (L.)	C
<i>Ischnura</i> sp.	A
<i>Elmis aenea</i> Müller	A
<i>Hydropsyche pellucidula</i> (Curtis)	A
<i>Hydropsyche siltalai</i> Döhler	A
<i>Nephrotoma</i> sp.	A
<i>Pedicia (Trichyphona)</i> sp.	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Simulium (Wilhelmia)</i> sp.	A
<i>Baetis rhodani</i> (Pictet)	B
<i>Sialis lutaria</i> (L.)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	A
Sphaeriidae	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A

## Macroinvertebrate taxon list for River Lee below Waterhall (TL30000990) - 30/11/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the caddis *Glyptotaelius pellucidus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A
<i>Athripsodes cinereus</i> (Curtis)	A
<i>Mystacides azurea</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Lype</i> sp.	A
<i>Caenis luctuosa</i> group	C
<i>Nemoura</i> sp.	A
<i>Agapetus</i> sp.	B
<i>Cyrnus trimaculatus</i> (Curtis)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B
<i>Glyptotaelius pellucidus</i> (Retzius)	A
<i>Ancylus fluviatilis</i> Müller	B
<i>Hydroptila</i> sp.	B
<i>Crangonyx pseudogracilis</i> (Bousfield)	A
<i>Gammarus pulex</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	A
<i>Elmis aenea</i> Müller	C
<i>Hydropsyche angustipennis</i> (Curtis)	B
<i>Hydropsyche contubernalis</i> McLachlan	B
<i>Hydropsyche pellucidula</i> (Curtis)	B
<i>Hydropsyche siltalai</i> Döhler	C
<i>Anotocha vitripennis</i> (Meigen)	A
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	B
<i>Simulium (Simulium) ornatum</i> group	B
<i>Simulium (Wilhelmia)</i> sp.	B
<i>Dugesia tigrina</i> (Girard)	B
<i>Baetis rhodani</i> (Pictet)	C
<i>Sialis lutaria</i> (L.)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea stagnalis</i> (L.)	A
<i>Anisus vortex</i> (L.)	A
<i>Gyraulus albus</i> (Müller)	A
Sphaeriidae	B
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A
Hydracarina	A
<i>Limnophora</i> sp.	A
Ostracoda	B
<i>Hemerodromia</i> group	A
Nematoda	A

## Macroinvertebrate taxon list for River Lee at Hartham Common (TL33001340) - 13/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis *Limnephilus rhombicus*, the water beetle *Helophorus obscurus* and the Tipulid fly *Limonia* sp.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Ephemerella ignita</i> (Poda)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Ephemera vulgata</i> L.	A	<i>Asellus aquaticus</i> (L.)	A
<i>Isoperla grammatica</i> (Poda)	A	Chironomidae	C
<i>Molanna angustata</i> Curtis	A	Oligochaeta	C
<i>Athripsodes cinereus</i> (Curtis)	B	Ceratopogonidae	B
<i>Mystacides azurea</i> (L.)	B	<i>Chelifera</i> group	A
<i>Calopteryx splendens</i> (Harris)	A	Hydracarina	A
<i>Tinodes waeneri</i> (L.)	A	Nematoda	A
<i>Caenis horaria</i> (L.)	A		
<i>Caenis luctuosa</i> group	A		
<i>Rhyacophila dorsalis</i> (Curtis)	A		
<i>Polycentropus flavomaculatus</i> (Pictet)	B		
<i>Anabolia nervosa</i> (Curtis)	A		
<i>Halesus</i> sp.	B		
<i>Limnephilus lunatus</i> Curtis	B		
<i>Limnephilus rhombicus</i> (L.)	A		
<i>Potamophylax</i> group	A		
<i>Ancylus fluviatilis</i> Müller	A		
<i>Hydroptila</i> sp.	A		
<i>Anodonta</i> group	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura</i> sp.	A		
<i>Helophorus obscurus</i> Mulsant	A		
<i>Elmis aenea</i> Müller	A		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche contubernalis</i> McLachlan	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Antocha vitripennis</i> (Meigen)	A		
<i>Limonia</i> sp.	A		
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	A		
<i>Simulium (Simulium) ornatum</i> group	A		
<i>Simulium (Wilhelmia)</i> sp.	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Centroptilum luteolum</i> (Müller)	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Armiger crista</i> (L.)	A		
<i>Bathynomphalus contortus</i> (L.)	A		
Sphaeriidae	C		

## Macroinvertebrate taxon list for River Lee at Hartham Common (TL33001340) - 7/9/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the crustacean *Corophium curvispinum* the neuropteran *Sisyra* sp. and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Ephemera vulgata</i> L.	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Molanna angustata</i> Curtis	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Leuctra fusca</i> (L.)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Asellus aquaticus</i> (L.)	A
<i>Mystacides azurea</i> (L.)	B	Chironomidae	D
<i>Goera pilosa</i> (Fabricius)	A	Oligochaeta	D
<i>Caenis luctuosa</i> group	A	Ceratopogonidae	A
<i>Cyrtus trimaculatus</i> (Curtis)	A	Hydracarina	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	Ostracoda	A
<i>Potamophylax</i> group	A	<i>Simocephalus</i> sp.	A
<i>Ancylus fluviatilis</i> Müller	A	<i>Sida crystallina</i> Müller	A
<i>Hydroptila</i> sp.	B	<i>Eurycercus lamellatus</i> Sars	A
<i>Anodonta</i> group	A	<i>Argulus foliaceus</i> (L.)	A
<i>Corophium curvispinum</i> Sars	A	Lepidoptera	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura</i> sp.	A		
<i>Gerris</i> sp.	A		
Corixidae	B		
<i>Sigara dorsalis</i> group	B		
<i>Sigara falleni</i> (Fieber)	B		
<i>Haliphus lineatocollis</i> (Marsham)	A		
Dytiscidae	A		
<i>Platambus maculatus</i> (L.)	A		
<i>Elmis aenea</i> Müller	B		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Oulimnius tuberculatus</i> (Müller)	A		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche contubernalis</i> McLachlan	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Simulium (Eusimulium) aureum</i> group	A		
<i>Baetis scambus</i> group	A		
<i>Baetis vernus</i> Curtis	A		
<i>Centroptilum luteolum</i> (Müller)	B		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	B		
<i>Sisyra</i> sp.	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Bithynia tentaculata</i> (L.)	C		
<i>Potamopyrgus jenkinsi</i> (Smith)	D		
<i>Lymnaea auricularia</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Bathyomphalus contortus</i> (L.)	A		

## Macroinvertebrate taxon list for River Lee above New Gauge (TL33801380) - 13/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis species *Cyrnus flavidus* and *Limnephilus rhombicus*, the Ramshorn snail *Planorbis planorbis* and the leech *Glossiphonia heteroclita*.

<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera vulgata</i> L.	A
<i>Phryganea</i> sp.	A
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Mystacides azurea</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Caenis horaria</i> (L.)	A
<i>Cyrnus flavidus</i> McLachlan	A
<i>Anabolia nervosa</i> (Curtis)	A
<i>Limnephilus lunatus</i> Curtis	A
<i>Limnephilus rhombicus</i> (L.)	B
Limnephilidae	A
<i>Acroloxus lacustris</i> (L.)	A
Anodonta group	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	B
<i>Gammarus pulex</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	A
<i>Sigara dorsalis</i> group	A
<i>Sigara falleni</i> (Fieber)	B
<i>Potamonectes depressus</i> (Fabricius)	A
<i>Orectochilus villosus</i> (Müller)	A
<i>Elmis aenea</i> Müller	A
<i>Polycelis nigra</i> group	A
<i>Centropilum luteolum</i> (Müller)	B
<i>Cloeon dipterum</i> (L.)	A
<i>Sialis lutaria</i> (L.)	B
<i>Valvata piscinalis</i> (Müller)	B
<i>Bithynia leachii</i> (Sheppard)	A
<i>Bithynia tentaculata</i> (L.)	B
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Lymnaea stagnalis</i> (L.)	A
<i>Physa fontinalis</i> (L.)	A
<i>Anisus vortex</i> (L.)	B
<i>Gyraulus albus</i> (Müller)	A
<i>Planorbis planorbis</i> (L.)	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Glossiphonia heteroclita</i> (L.)	A
<i>Helobdella stagnalis</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	C
Oligochaeta	C
Hydracarina	A
Ostracoda	B

## Macroinvertebrate taxon list for River Lee below Enfield Weir (TQ37309830) - 14/9/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Neureclipsis bimaculata*, the River Snail *Viviparus viviparus* and the bivalve mollusc *Anodonta* group.

<u>Taxa</u>	<u>Abundance</u>
<i>Aphelocheirus aestivalis</i> (Fabricius)	B
<i>Mystacides</i> sp.	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Caenis horaria</i> (L.)	A
<i>Caenis luctuosa</i> group	A
<i>Neureclipsis bimaculata</i> (L.)	A
<i>Theodoxus fluviatilis</i> (L.)	C
<i>Viviparus viviparus</i> (L.)	B
<i>Hydroptila</i> sp.	A
<i>Anodonta</i> group	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	C
<i>Ischnura elegans</i> (Van der Linden)	A
Corixidae	A
<i>Sigara dorsalis</i> group	B
<i>Sigara falleni</i> (Fieber)	A
<i>Oulimnius</i> sp.	A
<i>Simulium (Boopthora) erythrocephalum</i> (de Geer)	A
<i>Dugesia polychroa</i> group	A
<i>Dugesia tigrina</i> (Girard)	A
<i>Polycelis nigra</i> group	A
<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Baetis scambus</i> group	B
<i>Baetis vernus</i> Curtis	A
<i>Sialis lutaria</i> (L.)	A
<i>Valvata piscinalis</i> (Müller)	A
<i>Bithynia leachii</i> (Sheppard)	C
<i>Bithynia tentaculata</i> (L.)	B
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Physa</i> sp.	A
<i>Physa fontinalis</i> (L.)	A
<i>Anisus vortex</i> (L.)	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Hemiclepsis marginata</i> (Müller)	A
<i>Erpobdella octoculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	D
Chironomidae	A
Oligochaeta	C
Ostracoda	A
<i>Eurycercus lamellatus</i> Sars	A

## Macroinvertebrate taxon list for River Lee at Amwell Magna (TL38001270) - 9/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the fly *Pericoma cognata* and the bivalve mollusc *Anodonta* group occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Asellus aquaticus</i> (L.)	B
<i>Molanna angustata</i> Curtis	A	Chironomidae	C
<i>Athripsodes aterrimus</i> (Stephens)	A	Oligochaeta	C
<i>Athripsodes cinereus</i> (Curtis)	B	Hydracarina	B
<i>Mystacides azurea</i> (L.)	A	Ostracoda	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Pericoma cognata</i> Eaton	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Pericoma trivialis</i> group	A
<i>Caenis horaria</i> (L.)	A	<i>Ptychoptera</i> sp.	A
<i>Caenis luctuosa</i> group	C	<i>Oxycera</i> sp.	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B		
<i>Anabolia nervosa</i> (Curtis)	A		
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	A		
<i>Potamophylax</i> group	A		
Limnephilidae	B		
<i>Theodoxus fluviatilis</i> (L.)	A		
<i>Ancylus fluviatilis</i> Müller	A		
<i>Anodonta</i> group	A		
<i>Crangonyx pseudogracilis</i> (Bousfield)	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Sigara dorsalis</i> group	A		
<i>Sigara falleni</i> (Fieber)	A		
<i>Brychius elevatus</i> (Panzer)	A		
Dytiscidae	A		
<i>Orectochilus villosus</i> (Müller)	A		
<i>Elmis aenea</i> Müller	A		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	A		
<i>Simulium (Simulium) ornatum</i> group	A		
<i>Polycelis nigra</i> group	A		
<i>Dugesia tigrina</i> (Girard)	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Centroptilum luteolum</i> (Müller)	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata cristata</i> Müller	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Helobdella stagnalis</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		



## Macroinvertebrate taxon list for River Lee at Amwell Magna (TL38001270) - 1/11/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis species *Agraylea multipunctata*, *Cyrnus flavidus* and *Oecetis lacustris*, and the leech *Glossiphonia heteroclita*. The greater water boatman *Notonecta marmorea viridis* was not recorded at any of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Piscicola geometra</i> (L.)	A
<i>Ephemera vulgata</i> L.	A	<i>Valvata cristata</i> Müller	A
<i>Molanna angustata</i> Curtis	A	<i>Valvata piscinalis</i> (Müller)	B
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Bithynia leachii</i> (Sheppard)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Mystacides azurea</i> (L.)	B	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Oecetis lacustris</i> (Pictet)	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Goera pilosa</i> (Fabricius)	B	<i>Lymnaea stagnalis</i> (L.)	B
<i>Calopteryx splendens</i> (Harris)	B	<i>Physa fontinalis</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	A	<i>Anisus vortex</i> (L.)	B
<i>Caenis horaria</i> (L.)	B	<i>Bathyomphalus contortus</i> (L.)	A
<i>Caenis luctuosa</i> group	C	<i>Gyraulus albus</i> (Müller)	C
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Planorbis carinatus</i> Müller	A
<i>Cyrnus flavidus</i> McLachlan	A	Sphaeriidae	C
<i>Cyrnus trimaculatus</i> (Curtis)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Glossiphonia heteroclita</i> (L.)	A
Limnephilidae	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Ancylus fluviatilis</i> Müller	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Agraylea multipunctata</i> Curtis	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Hydroptila</i> sp.	A	<i>Asellus aquaticus</i> (L.)	B
<i>Crangonyx pseudogracilis</i> (Bousfield)	A	Chironomidae	D
<i>Gammarus pulex</i> (L.)	B	Oligochaeta	D
<i>Ischnura elegans</i> (Van der Linden)	B	Ceratopogonidae	A
<i>Notonecta marmorea viridis</i> Delcourt*	A	Hydracarina	B
Corixidae	B	Nematoda	A
<i>Sigara dorsalis</i> group	A	Ostracoda	A
<i>Sigara falleni</i> (Fieber)	A	<i>Eurycercus lamellatus</i> Sars	A
<i>Brychius elevatus</i> (Panzer)	A	<i>Hemerodromia</i> group	A
<i>Haliplus</i> sp.	A	<i>Pericoma trivialis</i> group	A
Dytiscidae	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Orectochilus villosus</i> (Müller)	A		
<i>Elmis aenea</i> Müller	B		
<i>Oulimnius tuberculatus</i> (Müller)	A	*Specimen retained in separate vial	
<i>Oulimnius</i> sp.	B		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Simulium (Eusimulium) aureum</i> group	A		
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Baetis scambus</i> group	A		
<i>Baetis vernus</i> Curtis	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	A		

**Macroinvertebrate taxon list for River Lee above Dobbs Weir (TL38500820) - 15/9/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis species *Agraylea multipunctata* and *Cyrnus flavidus*, the saucer bug *Ilyocoris cimicoides*, the water beetles *Haliplus immaculatus* and *Noterus clavicornis*, the Tipulid fly *Helius* sp., the Great Ramshorn snail *Planorbarius corneus*, the leech *Glossiphonia heteroclita* and the dipteran family Ephydriidae.

<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Caenis horaria</i> (L.)	A
<i>Cyrnus flavidus</i> McLachlan	A
<i>Theodoxus fluviatilis</i> (L.)	A
<i>Acroloxus lacustris</i> (L.)	B
<i>Agraylea multipunctata</i> Curtis	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	B
<i>Gammarus pulex</i> (L.)	A
<i>Ischnura elegans</i> (Van der Linden)	A
<i>Ilyocoris cimicoides</i> (L.)	A
Corixidae	A
<i>Sigara dorsalis</i> group	A
<i>Haliplus immaculatus</i> Gerhardt	A
<i>Haliplus</i> sp.	B
<i>Noterus clavicornis</i> (Degeer)	A
<i>Helius</i> sp.	A
<i>Cloeon dipterum</i> (L.)	B
<i>Sialis lutaria</i> (L.)	A
<i>Valvata cristata</i> Müller	A
<i>Valvata piscinalis</i> (Müller)	C
<i>Bithynia leachii</i> (Sheppard)	B
<i>Bithynia tentaculata</i> (L.)	B
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea peregra</i> (Müller)	A
<i>Lymnaea stagnalis</i> (L.)	A
<i>Physa fontinalis</i> (L.)	C
<i>Anisus vortex</i> (L.)	C
<i>Gyraulus albus</i> (Müller)	B
<i>Hippeutis complanatus</i> (L.)	C
<i>Planorbarius corneus</i> (L.)	A
<i>Planorbis carinatus</i> Müller	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Glossiphonia heteroclita</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	C
Chironomidae	B
Oligochaeta	B
Hydracarina	B
Ostracoda	A
<i>Eurycercus lamellatus</i> Sars	A
<i>Simocephalus</i> sp.	B
<i>Argulus foliaceus</i> (L.)	A
Ephydriidae	A

**Macroinvertebrate taxon list for River Lee (Nav.) below Stanstead Lock (TL38121203) - 13/3/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis species *Cyrnus flavidus*, the River Snail *Viviparus viviparus*, the crustacean *Corophium curvispinum*, the Common Blue Damselfly *Enallagma cyathigerum*, the water scorpion *Nepa cinerea*, the greater water boatman *Notonecta glauca*, the water beetles *Gyrinus marinus* and *Hygrotus inaequalis*, the flatworm *Planaria torva*, the Ear Snail *Lymnaea auricularia* and the mosquito *Anopheles* sp.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera vulgata</i> L.	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Molanna angustata</i> Curtis	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Asellus aquaticus</i> (L.)	C
<i>Goera pilosa</i> (Fabricius)	A	Chironomidae	C
<i>Caenis horaria</i> (L.)	A	Oligochaeta	C
<i>Caenis luctuosa</i> group	B	Ostracoda	A
<i>Cyrnus flavidus</i> McLachlan	A	Dolichopodidae	A
<i>Anabolia nervosa</i> (Curtis)	A	<i>Anopheles</i> sp.	A
<i>Halesus</i> sp.	A	<i>Oxycera</i> sp.	A
<i>Limnephilus lunatus</i> Curtis	A		
Limnephilidae	A		
<i>Theodoxus fluviatilis</i> (L.)	A	*Specimen retained in separate vial	
<i>Viviparus viviparus</i> (L.)	A		
<i>Acroloxus lacustris</i> (L.)	A		
<i>Anyclus fluviatilis</i> Müller	A		
<i>Unio</i> sp.	A		
<i>Corophium curvispinum</i> Sars	B		
<i>Crangonyx pseudogracilis</i> (Bousfield)	C		
<i>Enallagma cyathigerum</i> (Charpentier)	A		
<i>Nepa cinerea</i> L.	A		
<i>Notonecta glauca</i> L.	A		
Corixidae	A		
<i>Sigara dorsalis</i> group	A		
<i>Sigara falleni</i> (Fieber)	A		
<i>Haliplus fluviatilis</i> Aubé	A		
<i>Hygrotus inaequalis</i> (Fabricius)	A		
<i>Gyrinus marinus</i> Gyllenhal*	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Oulimnius tuberculatus</i> (Müller)	A		
<i>Dugesia polychroa</i> group	A		
<i>Planaria torva</i> (Müller)*	A		
<i>Cloeon dipterum</i> (L.)	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea auricularia</i> (L.)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	A		
Sphaeriidae	B		

**Macroinvertebrate taxon list for River Lee (Nav.) below Stanstead Lock (TL38121203) - 15/9/95**

The Nationally Notable water beetle *Haliphus laminatus* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis species *Agraylea multipunctata* and *Cyrnus flavidus*, the bivalve mollusc *Unio* sp., the crustacean *Corophium curvispinum*, the saucer bug *Ilyocoris cimicoides*, the greater water boatman *Notonecta glauca* and the water beetle *Laccophilus hyalinus*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera vulgata</i> L.	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Phryganea</i> sp.	A	<i>Asellus aquaticus</i> (L.)	B
<i>Athripsodes aterrimus</i> (Stephens)	B	Chironomidae	B
<i>Mystacides azurea</i> (L.)	A	Oligochaeta	B
<i>Mystacides nigra</i> (L.)	A	Hydracarina	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Eurycercus lamellatus</i> Sars	A
<i>Tinodes waeneri</i> (L.)	A	<i>Sida crystallina</i> (Müller)	B
<i>Caenis luctuosa</i> group	A	<i>Simocephalus</i> sp.	A
<i>Cyrnus flavidus</i> McLachlan	A		
<i>Cyrnus trimaculatus</i> (Curtis)	A		
<i>Agraylea multipunctata</i> Curtis	A	*Specimen retained in separate vial	
<i>Hydroptila</i> sp.	A		
<i>Unio</i> sp.	A		
<i>Corophium curvispinum</i> Sars	A		
<i>Crangonyx pseudogracilis</i> (Bousfield)	B		
<i>Ischnura</i> sp.	A		
<i>Gerris</i> sp.	A		
<i>Ilyocoris cimicoides</i> (L.)	A		
<i>Notonecta glauca</i> L.	A		
Corixidae	A		
<i>Haliphus fluviatilis</i> Aubé	A		
<i>Haliphus laminatus</i> Schaller*	A		
<i>Haliphus</i> sp.	A		
<i>Laccophilus hyalinus</i> (Degeer)	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Oulimnius</i> sp.	A		
<i>Polycelis</i> sp.	A		
<i>Dugesia tigrina</i> (Girard)	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Cloeon dipterum</i> (L.)	B		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis carinatus</i> Müller	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		

**Macroinvertebrate taxon list for River Lee (Nav.) above Marshgate Lane Hertford (TL33151325) - 15/9/95**

The Nationally Notable water beetle *Haliphus laminatus* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the River Snail *Viviparus viviparus*, the crustacean *Corophium curvispinum*, the water beetles *Haliphus immaculatus*, *Hyphydrus ovatus* and *Laccophilus hyalinus*, the Tipulid fly *Helius* sp., the Ear Snail *Lymnaea auricularia* and the Dipteran family Sciomyzidae.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Molanna angustata</i> Curtis	B	<i>Hemiclepsis marginata</i> (Müller)	A
<i>Athripsodes aterrimus</i> (Stephens)	B	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Asellus aquaticus</i> (L.)	C
<i>Lype</i> sp.	A	Chironomidae	C
<i>Caenis horaria</i> (L.)	B	Oligochaeta	C
<i>Caenis luctuosa</i> group	B	<i>Eurycercus lamellatus</i> Sars	C
<i>Cyrnus trimaculatus</i> (Curtis)	A	Ostracoda	A
<i>Theodoxus fluviatilis</i> (L.)	B	<i>Sida crystallina</i> (Müller)	B
<i>Viviparus viviparus</i> (L.)	A	<i>Simocephalus</i> sp.	B
<i>Ancylus fluviatilis</i> Müller	A	Succineidae	A
<i>Acroloxus lacustris</i> (L.)	A	Sciomyzidae	A
<i>Corophium curvispinum</i> Sars	A		
<i>Crangonyx pseudogracilis</i> (Bousfield)	C		
<i>Ischnura elegans</i> (Van der Linden)	A	*Specimens retained in separate vial	
<i>Gerris</i> sp.	A		
Corixidae	B		
<i>Sigara falleni</i> (Fieber)	A		
<i>Haliphus immaculatus</i> Gerhardt	A		
<i>Haliphus laminatus</i> Schaller*	A		
<i>Haliphus</i> sp.	A		
<i>Hyphydrus ovatus</i> (L.)	A		
<i>Laccophilus hyalinus</i> (Degeer)	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
Dytiscidae	A		
<i>Oulimnius</i> sp.	A		
<i>Dugesia polychroa</i> group	A		
<i>Helius</i> sp.	A		
<i>Centropilum luteolum</i> (Müller)	B		
<i>Cloeon dipterum</i> (L.)	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Bithynia leachii</i> (Sheppard)	C		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea auricularia</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Armiger crista</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	A		

## Macroinvertebrate taxon list for River Mimram at Panshanger (TL28221331) - 28/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Limnephilus rhombicus* and the snail *Physa acuta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	B	<i>Oxycera</i> sp.	A
<i>Ephemerella ignita</i> (Poda)	A		
<i>Ephemera danica</i> Müller	A		
<i>Isoperla grammatica</i> (Poda)	B		
<i>Athripsodes cinereus</i> (Curtis)	A		
<i>Silo nigricornis</i> (Pictet)	A		
<i>Sericostoma personatum</i> (Spence)	B		
<i>Agapetus</i> sp.	B		
<i>Rhyacophila dorsalis</i> (Curtis)	A		
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	A		
<i>Limnephilus rhombicus</i> (L.)	A		
<i>Potamophylax</i> group	B		
Limnephilidae	A		
<i>Acroloxus lacustris</i> (L.)	A		
<i>Ancyclus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	A		
<i>Gammarus pulex</i> (L.)	D		
<i>Elmis aenea</i> Müller	A		
<i>Hydropsyche sitalai</i> Döhler	B		
<i>Simulium (Nevermannia) angustitarse</i> group	A		
<i>Simulium (Simulium) ornatum</i> group	B		
<i>Simulium (Wilhelmia)</i> sp.	A		
<i>Polycelis felina</i> (Dalyell)	A		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Centropilum luteolum</i> (Müller)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Physa acuta</i> group	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Bathyomphalus contortus</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis</i> sp.	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Helobdella stagnalis</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
<i>Asellus aquaticus</i> (L.)	B		
Chironomidae	C		
Oligochaeta	C		
Ceratopogonidae	A		

## Macroinvertebrate taxon list for River Mimram at Panshanger (TL28221331) - 12/9/95

No abundance estimates due to decomposition of sample (before being preserved). Most of the identifications are based on animals from vial containing Family representatives. No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the snail *Physa acuta* group occurs in <5% of the RIVPACS III reference sites.

### Taxa

*Ephemerella ignita* (Poda)  
*Leuctra fusca* (L.)  
*Athripsodes cinereus* (Curtis)  
*Silo nigricornis* (Pictet)  
*Sericostoma personatum* (Spence)  
*Agapetus* sp.  
*Rhyacophila dorsalis* (Curtis)  
*Drusus annulatus* (Stephens)  
*Potamophylax* group  
*Ancyclus fluviatilis* Müller  
*Oxyethira* sp.  
*Gammarus pulex* (L.)  
*Sigara dorsalis* group  
*Stictotarsus duodecimpustulatus* (Fabricius)  
*Elmis aenea* Müller  
*Hydropsyche pellucidula* (Curtis)  
*Hydropsyche sitalai* Döhler  
*Dicranota* sp.  
*Simulium (Simulium) ornatum* group  
*Polycelis felina* (Dalyell)  
*Baetis rhodani* (Pictet)  
*Baetis scambus* group  
*Sialis lutaria* (L.)  
*Piscicola geometra* (L.)  
*Valvata piscinalis* (Müller)  
*Potamopyrgus jenkinsi* (Smith)  
*Lymnaea palustris* (Müller)  
*Physa acuta* group  
*Physa fontinalis* (L.)  
*Anisus vortex* (L.)  
*Gyraulus albus* (Müller)  
Sphaeriidae  
*Glossiphonia complanata* (L.)  
*Helobdella stagnalis* (L.)  
*Erpobdella octoculata* (L.)  
*Asellus aquaticus* (L.)  
Chironomidae  
Oligochaeta  
Ceratopogonidae

## Macroinvertebrate taxon list for River Quin at Braughing Bridge - 8/9/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the stonefly *Nemurella picteti* and the caddis *Limnephilus extricatus*.

<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B
<i>Leuctra fusca</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	B
<i>Nemurella picteti</i> Klapálek	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Limnephilus extricatus</i> McLachlan	A
<i>Ancylus fluviatilis</i> Müller	A
<i>Hydroptila</i> sp.	A
<i>Oxyethira</i> sp.	A
<i>Gammarus pulex</i> (L.)	B
<i>Haliplus</i> sp.	A
Dytiscidae	B
<i>Elmis aenea</i> Müller	A
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Hydropsyche siltalai</i> Döhler	B
<i>Dicranota</i> sp.	B
<i>Tipula montium</i> group	B
<i>Simulium (Simulium) ornatum</i> group	A
<i>Simulium (Wilhelmia)</i> sp.	A
<i>Baetis rhodani</i> (Pictet)	C
<i>Sialis lutaria</i> (L.)	B
<i>Piscicola geometra</i> (L.)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lymnaea peregra</i> (Müller)	B
<i>Bathyomphalus contortus</i> (L.)	A
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	D
Oligochaeta	C
Ostracoda	A
<i>Pericoma trivialis</i> group	A
<i>Chelifera</i> group	A
<i>Clinocera</i> group	B
<i>Wiedemannia</i> group	A
Empididae	B
<i>Limnophora</i> sp.	B



## Macroinvertebrate taxon list for River Rib at Westmill (TL36901750) - 19/4/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the the caddis *Limnephilus extricatus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Mystacides azurea</i> (L.)	A
<i>Caenis luctuosa</i> group	C
<i>Halesus</i> sp.	A
<i>Limnephilus extricatus</i> McLachlan	A
<i>Crangonyx pseudogracilis</i> (Bousfield)	A
<i>Gammarus pulex</i> (L.)	B
Dytiscidae	A
<i>Elmis aenea</i> Müller	A
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Tipula montium</i> group	A
<i>Simulium (Nevermannia) vernum</i> group	A
<i>Polycelis nigra</i> group	A
<i>Baetis rhodani</i> (Pictet)	B
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Armiger crista</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	A
Sphaeriidae	A
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	C
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	B
Hydracarina	A
Nematoda	A
<i>Oxycera</i> sp.	A

## Macroinvertebrate taxon list for River Rib above River Quin (TL38802470) - 21/4/95

No Red Data Book or Nationally Notable species were found in sample. None of the recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	B
<i>Ephemera danica</i> Müller	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Lype</i> sp.	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Halesus</i> sp.	A
<i>Ancyclus fluviatilis</i> Müller	A
<i>Hydroptila</i> sp.	A
<i>Gammarus pulex</i> (L.)	B
<i>Platambus maculatus</i> (L.)	A
<i>Elmis aenea</i> Müller	B
<i>Hydropsyche siltalai</i> Döhler	C
<i>Dicranota</i> sp.	A
<i>Tipula montium</i> group	A
<i>Baetis rhodani</i> (Pictet)	C
<i>Piscicola geometra</i> (L.)	A
<i>Valvata cristata</i> Müller	A
<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Lymnaea peregra</i> (Müller)	A
<i>Anisus vortex</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	A
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	A
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A
Hydracarina	A
<i>Pericoma exquisita</i> Eaton	A
<i>Hemerodromia</i> group	A

## Macroinvertebrate taxon list for River Rib above Standon (TL39202370) - 19/4/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the the caddis *Limnephilus extricatus* and the fly *Pericoma cognata* occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia</i> sp.	A
<i>Ephemerella ignita</i> (Poda)	A
<i>Ephemera danica</i> Müller	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Tinodes waeneri</i> (L.)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Halesus</i> sp.	A
<i>Limnephilus extricatus</i> McLachlan	A
<i>Limnephilus lunatus</i> Curtis	A
<i>Chaetopteryx villosa</i> (Fabricius)	A
<i>Potamophylax</i> group	A
<i>Ancylus fluviatilis</i> Müller	B
<i>Hydroptila</i> sp.	B
<i>Gammarus pulex</i> (L.)	B
<i>Elmis aenea</i> Müller	B
<i>Hydropsyche siltalai</i> Döhler	C
<i>Dicranota</i> sp.	A
<i>Tipula montium</i> group	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Simulium (Wilhelmia)</i> sp.	A
<i>Polycelis nigra</i> group	A
<i>Baetis rhodani</i> (Pictet)	C
<i>Piscicola geometra</i> (L.)	A
<i>Valvata cristata</i> Müller	B
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea palustris</i> (Müller)	A
<i>Anisus vortex</i> (L.)	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	D
Oligochaeta	C
Ceratopogonidae	B
Hydracarina	A
<i>Pericoma cognata</i> Eaton	A
Nematoda	B
Ostracoda	A

## Macroinvertebrate taxon list for River Rib above Standon (TL39202370) - 14/9/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the stonefly *Nemurella picteti*, the caddis *Limnephilus extricatus* and the dipteran family Sciomyzidae.

<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B
<i>Mystacides azurea</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Leuctra fusca</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	A
<i>Nemurella picteti</i> Klapálek	A
<i>Rhyacophila dorsalis</i> (Curtis)	A
<i>Limnephilus extricatus</i> McLachlan	A
<i>Ancylus fluviatilis</i> Müller	B
<i>Hydroptila</i> sp.	A
<i>Gammarus pulex</i> (L.)	C
<i>Brychius elevatus</i> (Panzer)	A
<i>Haliphus</i> sp.	B
Dytiscidae	B
<i>Elmis aenea</i> Müller	B
<i>Oulimnius</i> sp.	A
<i>Hydropsyche siltalai</i> Döhler	B
<i>Dicranota</i> sp.	B
<i>Tipula montium</i> group	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Baetis rhodani</i> (Pictet)	C
<i>Sialis lutaria</i> (L.)	A
<i>Piscicola geometra</i> (L.)	A
<i>Valvata cristata</i> Müller	A
<i>Valvata piscinalis</i> (Müller)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Lymnaea peregra</i> (Müller)	C
<i>Anisus vortex</i> (L.)	B
<i>Bathyomphalus contortus</i> (L.)	A
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A
Hydracarina	B
Ostracoda	B
<i>Clinocera</i> group	B
Empididae	B
<i>Limnophora</i> sp.	A
Sciomyzidae	A

**Macroinvertebrate taxon list for River Rib at Bengoe Hall, Hertford (TL33101390) - 25/4/95**

The Nationally Notable alderfly *Sialis nigripes* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis *Limnephilus rhombicus* and the bivalve mollusc *Anodonta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	A	Ceratopogonidae	A
<i>Ephemerella ignita</i> (Poda)	A	Hydracarina	A
<i>Ephemera danica</i> Müller	B	Nematoda	A
<i>Ephemera vulgata</i> L.	B		
<i>Molanna angustata</i> Curtis	A		
<i>Athripsodes cinereus</i> (Curtis)	B		
<i>Mystacides azurea</i> (L.)	A	*Specimen retained in separate vial	
<i>Goera pilosa</i> (Fabricius)	B		
<i>Calopteryx splendens</i> (Harris)	A		
<i>Tinodes waeneri</i> (L.)	A		
<i>Caenis horaria</i> (L.)	B		
<i>Caenis luctuosa</i> group	C		
<i>Polycentropus flavomaculatus</i> (Pictet)	A		
<i>Anabolia nervosa</i> (Curtis)	B		
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	A		
<i>Limnephilus rhombicus</i> (L.)	A		
<i>Ancylus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	C		
<i>Anodonta</i> group	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Orectochilus villosus</i> (Müller)	A		
<i>Elmis aenea</i> Müller	B		
<i>Oulimnius tuberculatus</i> (Müller)	A		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche angustipennis</i> (Curtis)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Antocha vitripennis</i> (Meigen)	B		
<i>Simulium (Simulium) ornatum</i> group	A		
<i>Simulium (Wilhelmia)</i> sp.	A		
<i>Baetis scambus</i> group	A		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Sialis nigripes</i> Pictet*	A		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
<i>Asellus aquaticus</i> (L.)	A		
Chironomidae	C		
Oligochaeta	C		

**Macroinvertebrate taxon list for River Rib at Bengo Hall, Hertford (TL33101390) - 26/9/95**

The Nationally Notable alderfly *Sialis nigripes* and the Nationally Notable water beetle *Anacaena bipustulata* were found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis *Beraeodes minutus*, the bivalve mollusc *Anodonta* group, the water measurer *Hydrometra stagnorum* and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Paraleptophlebia submarginata</i> (Stephens)	B	<i>Bithynia tentaculata</i> (L.)	B
<i>Ephemera danica</i> Müller	A	<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Ephemera vulgata</i> L.	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Leuctra fusca</i> (L.)	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Phyrganea</i> sp.	A	<i>Anisus vortex</i> (L.)	A
<i>Molanna angustata</i> Curtis	A	<i>Armiger crista</i> (L.)	B
<i>Beraeodes minutus</i> (L.)	A	<i>Gyraulus albus</i> (Müller)	C
<i>Athripsodes aterrimus</i> (Stephens)	A	Sphaeriidae	C
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Mystacides nigra</i> (L.)	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Calopteryx splendens</i> (Harris)	B	<i>Asellus aquaticus</i> (L.)	C
<i>Tinodes waeneri</i> (L.)	A	Chironomidae	B
<i>Caenis horaria</i> (L.)	A	Oligochaeta	C
<i>Caenis luctuosa</i> group	C	Ceratopogonidae	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	Hydracarina	A
Limnephilidae	A	<i>Pericoma trivialis</i> group	A
<i>Ancylus fluviatilis</i> Müller	B	<i>Oxycera pulchella</i> Meigen	A
<i>Hydroptila</i> sp.	A	Succineidae	A
<i>Anodonta</i> group	A		
<i>Gammarus pulex</i> (L.)	C		
<i>Hydrometra stagnorum</i> (L.)	A		
Dytiscidae	A		
<i>Stictotarsus duodecimpustulatus</i> (Fabricius)	A		
<i>Orectochilus villosus</i> (Müller)	A		
<i>Anacaena bipustulata</i> (Marsham)*	A		
<i>Elmis aenea</i> Müller	B		
<i>Oulimnius</i> sp.	B		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Dicranota</i> sp.	A		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>augustitarse</i> group	A		
<i>Simulium</i> ( <i>Eusimulium</i> ) <i>aureum</i> group	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A		
<i>Baetis scambus</i> group	A		
<i>Baetis vernus</i> Curtis	A		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Sialis nigripes</i> Pictet*	A		
<i>Valvata cristata</i> Müller	A		
<i>Valvata piscinalis</i> (Müller)	A		

\*Specimens retained in separate vial

**Macroinvertebrate taxon list for Stanstead Brook above Gypsy Lane (TL50502400) - 20/3/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Limnephilus extricatus* and the leech *Trocheta subviridis*.

<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Mystacides azurea</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	A
<i>Halesus</i> sp.	B
<i>Limnephilus extricatus</i> McLachlan	A
<i>Micropterna sequax</i> McLachlan	A
<i>Gammarus pulex</i> (L.)	C
<i>Haliphus</i> sp.	A
<i>Potamonectes depressus</i> (Fabricius)	A
<i>Elmis aenea</i> Müller	A
<i>Limnius volckmari</i> (Panzer)	B
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Hydropsyche pellucidula</i> (Curtis)	A
<i>Hydropsyche siltalai</i> Döhler	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Polycelis nigra</i> group	A
<i>Baetis rhodani</i> (Pictet)	B
<i>Valvata piscinalis</i> (Müller)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Gyraulus albus</i> (Müller)	A
<i>Planorbis carinatus</i> Müller	A
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	A
<i>Erpobdella octocolata</i> (L.)	A
<i>Trocheta subviridis</i> Dutrochet	A
<i>Asellus aquaticus</i> (L.)	C
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A
<i>Pericoma fallax</i> Eaton	A
<i>Hemerodromia</i> group	A

**Macroinvertebrate taxon list for Stanstead Brook above Gypsy Lane (TL50502400) - 19/9/95**

The Nationally Notable water beetle *Haliplus laminatus* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Limnephilus extricatus*, the greater water boatman *Notonecta maculata*, the corixid *Hesperocorixa sahlbergi*, the water beetle *Haliplus wehncke* and the Flat Ramshorn snail *Hippeutis complanatus*.

<u>Taxa</u>	<u>Abundance</u>	
<i>Athripsodes aterrimus</i> (Stephens)	A	*Specimens retained in separate vial
<i>Mystacides azurea</i> (L.)	B	
<i>Calopteryx splendens</i> (Harris)	A	
<i>Lype</i> sp.	A	
<i>Tinodes waeneri</i> (L.)	A	
Limnephilidae	B	
<i>Limnephilus extricatus</i> McLachlan	A	
<i>Micropterna sequax</i> McLachlan	A	
<i>Ancylus fluviatilis</i> Müller	B	
<i>Gammarus pulex</i> (L.)	C	
<i>Notonecta maculata</i> Fabricius	A	
<i>Hesperocorixa sahlbergi</i> (Fieber)	A	
<i>Sigara dorsalis</i> group	A	
<i>Haliplus laminatus</i> Schaller*	A	
<i>Haliplus lineatocollis</i> (Marsham)	B	
<i>Haliplus wehncke</i> (Gerhardt)	A	
<i>Potamonectes depressus</i> (Fabricius)	B	
<i>Elmis aenea</i> Müller	B	
<i>Limnius volckmari</i> (Panzer)	B	
<i>Dicranota</i> sp.	B	
<i>Dugesia polychroa</i> group	A	
<i>Dendrocoelum lacteum</i> (Müller)	A	
<i>Baetis rhodani</i> (Pictet)	A	
<i>Baetis vernus</i> Curtis	A	
<i>Centroptilum luteolum</i> (Müller)	A	
<i>Sialis lutaria</i> (L.)	A	
<i>Piscicola geometra</i> (L.)	A	
<i>Valvata piscinalis</i> (Müller)	B	
<i>Bithynia tentaculata</i> (L.)	A	
<i>Potamopyrgus jenkinsi</i> (Smith)	C	
<i>Lymnaea peregra</i> (Müller)	A	
<i>Gyraulus albus</i> (Müller)	B	
<i>Hippeutis complanatus</i> (L.)	A	
<i>Planorbis carinatus</i> Müller	C	
Sphaeriidae	C	
<i>Erpobdella octoculata</i> (L.)	A	
<i>Asellus aquaticus</i> (L.)	C	
Chironomidae	B	
Oligochaeta	C	
Ceratopogonidae	A	
Hydracarina	B	
<i>Hemerodromia</i> group	A	
Ostracoda	A	



Macroinvertebrate taxon list for River Stort above Roydon, at Briggens (TL41701130) - 30/3/95

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the caddis *Glyptotaelius pellucidus* and the bivalve mollusc *Anodonta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera vulgata</i> L.	A	<i>Asellus aquaticus</i> (L.)	C
<i>Phryganea</i> sp.	A	Chironomidae	C
<i>Athripsodes cinereus</i> (Curtis)	A	Oligochaeta	C
<i>Mystacides azurea</i> (L.)	A		
<i>Calopteryx splendens</i> (Harris)	A		
<i>Lype</i> sp.	A		
<i>Tinodes waeneri</i> (L.)	A		
<i>Caenis horaria</i> (L.)	B		
<i>Caenis luctuosa</i> group	B		
<i>Glyptotaelius pellucidus</i> (Retzius)	A		
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	A		
<i>Ancylus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	A		
<i>Anodonta</i> group	A		
<i>Ischnura</i> sp.	A		
<i>Haliplus</i> sp.	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Elmis aenea</i> Müller	A		
<i>Oulimnius tuberculatus</i> (Müller)	A		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Dicranota</i> sp.	A		
<i>Antocha vitripennis</i> (Meigen)	A		
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	B		
<i>Simulium (Simulium) ornatum</i> group	A		
<i>Dugesia polychroa</i> group	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Bithynia leachii</i> (Sheppard)	B		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Armiger crista</i> (L.)	A		
<i>Bathynomphalus contortus</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Helobdella stagnalis</i> (L.)	A		
<i>Theromyzon tessulatum</i> (Müller)	A		
<i>Erpobdella octoculata</i> (L.)	B		

**Macroinvertebrate taxon list for River Stort above Roydon, at Briggens (TL41701330) - 13/9/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the River Snail *Viviparus viviparus*, the water measurer *Hydrometra stagnorum* and the greater water boatman *Notonecta glauca*.

<u>Taxa</u>	<u>Abundance</u>
<i>Molanna angustata</i> Curtis	A
<i>Athripsodes cinereus</i> (Curtis)	A
<i>Mystacides azurea</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Lype</i> sp.	A
<i>Caenis horaria</i> (L.)	A
<i>Caenis luctuosa</i> group	B
<i>Viviparus viviparus</i> (L.)	A
<i>Ancyclus fluviatilis</i> Müller	A
<i>Crangonyx pseudogracilis</i> Bousfield	A
<i>Ischnura</i> sp.	A
<i>Hydrometra stagnorum</i> (L.)	A
<i>Gerris</i> sp.	A
<i>Notonecta glauca</i> L.	A
<i>Haliphus lineatocollis</i> (Marshall)	A
<i>Elmis aenea</i> Müller	A
<i>Oulimnius</i> sp.	A
<i>Hydropsyche angustipennis</i> (Curtis)	B
<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Baetis scambus</i> group	B
<i>Baetis vernus</i> Curtis	A
<i>Centroptilum luteolum</i> (Müller)	A
<i>Sialis lutaria</i> (L.)	A
<i>Valvata piscinalis</i> (Müller)	A
<i>Bithynia leachii</i> (Sheppard)	A
<i>Bithynia tentaculata</i> (L.)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lymnaea peregra</i> (Müller)	A
Sphaeriidae	B
<i>Glossiphonia complanata</i> (L.)	A
<i>Helobdella stagnalis</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	B
Oligochaeta	C

**Macroinvertebrate taxon list for Stort Navigation above Harlow Lock (TL47401290) - 26/4/95**

The Nationally Notable water beetle *Haliphus laminatus* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the River Snail *Viviparus viviparus*, the greater water boatman *Notonecta glauca*, the corixid *Callicorixa praeusta*, the snail *Physa acuta* group and the leech *Glossiphonia heteroclita*.

<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A
<i>Athripsodes aterrimus</i> (Stephens)	B
<i>Mystacides azurea</i> (L.)	A
<i>Mystacides nigra</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A
<i>Caenis horaria</i> (L.)	A
<i>Limnephilus lunatus</i> Curtis	A
<i>Viviparus viviparus</i> (L.)	A
<i>Crangonyx pseudogracilis</i> Bousfield	B
<i>Gammarus pulex</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	B
<i>Notonecta glauca</i> L.	A
<i>Callicorixa praeusta</i> (Fieber)	A
<i>Sigara dorsalis</i> group	A
<i>Haliphus fluviatilis</i> Aubé	A
<i>Haliphus laminatus</i> Schaller*	A
<i>Potamonectes depressus</i> (Fabricius)	A
<i>Oulimnius tuberculatus</i> (Müller)	A
<i>Hydropsyche siltalai</i> Döhler	A
<i>Dugesia polychroa</i> group	A
<i>Centroptilum luteolum</i> (Müller)	A
<i>Cloeon dipterum</i> (L.)	B
<i>Sialis lutaria</i> (L.)	B
<i>Bithynia leachii</i> (Sheppard)	B
<i>Bithynia tentaculata</i> (L.)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Lymnaea stagnalis</i> (L.)	A
<i>Physa acuta</i> group	A
<i>Anisus vortex</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	A
<i>Planorbis carinatus</i> Müller	A
Sphaeriidae	C
<i>Glossiphonia heteroclita</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	C
Oligochaeta	C
Ceratopogonidae	A
Hydracarina	A
<i>Oxycera pulchella</i> Meigen	A

\*Specimen retained in separate vial

**Macroinvertebrate taxon list for Turkey Brook above Maidens Bridge, Forty Hill (TQ34209880) - 1/3/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa only the Tipulid fly *Nephrotoma* sp. occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A
<i>Athripsodes cinereus</i> (Curtis)	A
<i>Mystacides azurea</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A
<i>Lype</i> sp.	A
<i>Polycentropus</i> sp.	A
<i>Crangonyx pseudogracilis</i> Bousfeld	A
<i>Gammarus pulex</i> (L.)	B
<i>Elmis aenea</i> (Müller)	A
<i>Hydropsyche angustipennis</i> (Curtis)	A
<i>Hydropsyche siltalai</i> Döhler	A
<i>Nephrotoma</i> sp.	A
<i>Simulium (Simulium) ornatum</i> group	A
<i>Baetis rhodani</i> (Pictet)	A
<i>Bithynia tentaculata</i> (L.)	A
<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lymnaea peregra</i> (Müller)	A
<i>Armiger crista</i> (L.)	A
<i>Bathyomphalus contortus</i> (L.)	A
Sphaeriidae	A
<i>Glossiphonia complanata</i> (L.)	A
<i>Helobdella stagnalis</i> (L.)	A
<i>Erpobdella octoculata</i> (L.)	A
<i>Asellus aquaticus</i> (L.)	A
Chironomidae	B
Oligochaeta	B

**Macroinvertebrate taxon list for Turkey Brook above Maidens Bridge, Forty Hill (TQ34209880) - 6/9/95**

No Red Data Book or Nationally Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Limnephilus extricatus*, the water measurer *Hydrometra stagnorum*, the corixid *Hesperocorixa sahlbergi*, the water beetles *Agabus didymus* and *Laccobius striatulus*, the Flat Ramshorn *Hippeutis complanatus*, the Great Ramshorn snail *Planorbarius corneus* and the leech species *Glossiphonia heteroclita* and *Trocheta subviridis*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A	Sphaeriidae	C
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Glossiphonia complanata</i> (L.)	B
<i>Mystacides nigra</i> (L.)	A	<i>Glossiphonia heteroclita</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Helobdella stagnalis</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	A	<i>Hemiclepsis marginata</i> (Müller)	A
<i>Caenis luctuosa</i> group	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Limnephilus extricatus</i> McLachlan	A	<i>Trocheta subviridis</i> Dutrochet	A
<i>Ancylus fluviatilis</i> Müller	A	<i>Asellus aquaticus</i> (L.)	C
<i>Hydroptila</i> sp.	A	Chironomidae	C
<i>Crangonyx pseudogracilis</i> Bousfeld	A	Oligochaeta	C
<i>Gammarus pulex</i> (L.)	C	Ceratopogonidae	A
<i>Hydrometra stagnorum</i> (L.)	A	Hydracarina	A
<i>Gerris</i> sp.	A	<i>Limnophora</i> sp.	A
Corixidae	A		
<i>Hesperocorixa sahlbergi</i> (Fieber)	A		
<i>Sigara dorsalis</i> group	A		
<i>Agabus didymus</i> (Olivier)	A	*Specimen retained in separate vial	
<i>Platambus maculatus</i> (L.)	A		
<i>Helochares</i> sp.	A		
<i>Laccobius striatulus</i> (Fabricius)*	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche pellucidula</i> (Curtis)	C		
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Tipula montium</i> group	A		
<i>Dugesia polychroa</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Baetis scambus</i> group	B		
<i>Baetis vernus</i> Curtis	B		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	B		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Lymnaea peregra</i> (Müller)	C		
<i>Armiger crista</i> (L.)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Bathyomphalus contortus</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Hippeutis complanatus</i> (L.)	A		
<i>Planorbarius corneus</i> (L.)	A		

#### 4. LIST OF TAXONOMIC KEYS USED IN TAXA IDENTIFICATION

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