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A BRIEF ACCOUNT OF THE MACROINVERTEBRATE COMMUNITIES OF FIVE PONDS IN
THE ISLE OF WIGHT (SURVEYED FOR THE NATIONAL POND SURVEY) 1990/91

POND ACTION
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1. INTRODUCTION

Five ponds in the Isle of Wight were surveyed as part of the National Pond Survey. Surveys were undertaken in three seasons: summer (18th July 1990), autumn (22nd November 1990) and spring (5th April 1991). Macroinvertebrate samples were taken, and species lists were drawn up. This short report discusses the macroinvertebrate data obtained during these surveys.

2. MACROINVERTEBRATE COMMUNITIES OF PONDS

All the ponds were found to be of at least High value to nature conservation, and one, Pond E, bordered on Very High. (See Section 4.)

Pond A (SZ 438912) was found to be supporting 46 species, of which 3 were local. (See footnote.)

Pond B (SZ 439 916) supported 54 species, with 6 of these being local.

Pond C (SZ 432 918) yielded 34 species, 2 of them local.

Pond D (SZ 430 921) was found to support 37 species, including, again, 2 local species.

Pond E (SZ 442 908) supported the highest number of species, 62, of which 9 were local.

Local*: Uncommon and/or of limited distribution.

3. Local Species found in the Isle of Wight ponds

As will be seen from Section 2 and from the species lists in the Appendix, all the ponds supported at least 2 local species, and one pond, Pond E, was found to be supporting 9 local species. (See Section 4.) The distribution and ecology of these is described briefly below.

3.1 Hirudinea (Leeches)

The leech Erpobdella testacea was found in Ponds B and C. This species is restricted to England and Wales, where it is widespread but uncommon. It is typically found in small, poorly-oxygenated and overgrown ponds.

3.2 Odonata (Dragonflies and Damselflies)

The ponds supported 3 uncommon dragonfly species.

Aeshna mixta (the Migrant Hawker) was found only in Pond B. This species appears to be confined to South-eastern Britain and is possibly a recent immigrant from the European mainland. It favours reedy ponds.

Anax imperator (the Emperor Dragonfly) was found only in Pond E. This large, very attractive dragonfly is restricted to the southern counties of Britain, where it is not uncommon in some areas. It is usually found in the vicinity of large ponds or canals.

Sympetrum sanguineum (the Ruddy Darter) was the most widely distributed of all the dragonflies, having been found in all the ponds surveyed. (It was, in fact, the only dragonfly species found in Pond D.) This species is restricted to Eastern England, where its numbers are dwindling due to habitat loss (Hammond, 1985). It favours well-reeded, marshy ponds where it basks on the rushes or reeds, while the larvae lurk in tangles of roots.

3.3 Hemiptera (Water Bugs)

Corixa affinis (a lesser waterboatman) was found in Pond A and Pond E. This species appears to be restricted to the Midlands and Southern England, where it is believed to be very uncommon.

(Contd.)

Hesperocorixa moesta (a lesser waterboatman) was found in Pond B and Pond E. This species is also a southern one, but its range extends also to Wales. It is typical of ponds, and is uncommon.

Notonecta marmorea viridis (a greater waterboatman) appears at present to be an uncommon species which has been restricted to coastal areas of Southern England, but seems to be moving inland and increasing in numbers. Only Pond E supported this species.

Sigara stagnalis (a lesser waterboatman) was also found only in Pond E. This species is widespread except in Scotland, but scarce in numbers. It favours ponds with large, but not extensive, plant stands, and is more commonly found in slightly brackish water.

3.4 Trichoptera (Caddis Flies)

Agraylea sexmaculata, a hydroptilid cased caddis, is not very well-known in Britain at present. Its range is unknown, but it is believed to be local. It is found in a wide variety of waterbodies; from our own observation its main requirement appears to be broad-leaved vegetation to which to attach its case. The Potamogeton in Pond E (the only pond where it was found) would fulfil this need.

Holocentropus stagnalis is a caseless caddis which, whilst imperfectly studied at present, seems to be limited to the southern half of Britain and to be widespread but uncommon. It is restricted to still water. This species was only found in Pond B.

The range, distribution and ecology of some caddis species in Britain is not as yet fully understood.

3.5 Coleoptera (Beetles)

Berosus affinis only occurred in Pond E. This beetle is mainly found in southern Britain, where it is common and widespread. Although it seems to prefer silt ponds and drains, it sometimes turns up in brackish water.

Helochares lividus, again, was only found in Pond E. This species, though Nationally Notable B, is probably under-recorded. It is typically found in ponds.

Ochthebius punctatus and Ochthebius viridis are both typical of brackish-water ponds. O. viridis is the less frequent of the two, but neither are common species.

4. NATURE CONSERVATION VALUE OF FIVE SURVEYED PONDS ON THE ISLE OF WIGHT

(NB: See Table 1.)

The pond with the richest macroinvertebrate community was Pond E, with 9 local species and 62 species overall. This pond should be considered to be, therefore, of High to Very High value to nature conservation.

Pond B was found to be supporting 54 macroinvertebrate species, of which 6 were local species. Pond B should be considered as of High value to nature conservation.

Ponds A, C and D supported smaller numbers of species. Pond A supported 46 species overall with 3 local species; Pond C supported 34 species with 2 local species; and Pond D supported 37 species with, again, 2 of these being local. All 3 ponds, then, are of lower value than Ponds B or E, but should be considered of High value to nature conservation by virtue of the local species for which they provide habitats.

The species counts in some, or all, of these ponds may be lower than might have been expected had they not been affected by the unusually dry weather experienced during 1990, when some of them apparently dried out completely for a period. It should, however, be noted that in their present condition they all appear to provide suitable habitats for a number of uncommon and local species. At least one of these (Sympetrum sanguineum) is thought to have suffered nationally from habitat loss which has reduced its numbers. With this in mind, the ponds may be assumed not to have undergone any lasting damage and should not be subjected to any extensive management work which would in any way alter their character, such as clearance or excavation. Many ponds dry out temporarily from time to time, and the invertebrate communities they support are adapted to this and reflect this fact.

TABLE 1. PROVISIONAL SYSTEM USED FOR ASSESSING NATURE CONSERVATION VALUE OF AQUATIC MACROINVERTEBRATE COMMUNITIES

CONSERVATION VALUE	DESCRIPTION OF COMMUNITY
VERY HIGH	<p>Supporting a rich community of macroinvertebrate species, including local species and/or rare (ie Red Data book) species.</p> <p>Sites in this category are likely either to be Sites of Special Scientific Interest in their own right, or within larger SSSI's.</p>
HIGH	<p>Supporting a rich variety of common macroinvertebrate species. A small number of local species present. No rare species.</p> <p>Could include sites on SSSI's or sites of local nature conservation value.</p>
MODERATE/LOW	<p>Supporting only common macroinvertebrate species. No rare or uncommon species.</p>

APPENDIX 1. MACROINVERTEBRATE SPECIES FOUND IN 5 PONDS ON THE ISLE OF
WIGHT IN 1990/1991

[Note: Species of particular interest/importance are marked *. English species names are given where they exist.]

POND A (Grid Reference SZ 438 912)

Hirudinea (Leeches)

Glossiphonia heteroclita
Helobdella stagnalis

Gastropoda (Snails)

Lymnaea peregra (Wandering Snail)
Lymnaea truncatula (Dwarf Pond Snail)
Planorbis crista (Nautilus Ramshorn)
Potamopyrgus jenkinsi (Jenkins' Spire Shell)
Segmentina complanata (Flat Ramshorn)

Ephemeroptera (Mayflies)

Cloeon dipterum (Lake Olive Dun)

Odonata (Dragonflies and Damselflies)

Coenagrion puella/pulchellum (Azure Damselfly/Variable Damselfly)
Libellula depressa (Broad-bodied Chaser)
*Sympetrum sanguineum (Ruddy Darter)
Sympetrum striolatum (Common Darter)

Hemiptera (Water Bugs)

*Corixa affinis (a lesser waterboatman)
Corixa punctata (a lesser waterboatman)
Hesperocorixa sahlbergi (a lesser waterboatman)
Notonecta glauca (a greater waterboatman)
Plea leachi (Lesser Backswimmer)
Sigara distincta (a lesser waterboatman)
Sigara falleni (a lesser waterboatman)

(Contd.)

POND A (contd.)

Megaloptera (Alderflies)

Sialis lutaria

Trichoptera (Caddis Flies)

Limnephilus affinis/incisus

Limnephilus vittatus

Coleoptera (Beetles)

Agabus bipustulatus

Agabus nebulosus

Anacaena limbata

Colymbetes fuscus

Copelatus haemorrhoidalis

Cymbiodyta marginella

Dryops luridus

Haliplus fulvus

Helophorus aequalis

Helophorus brevipalpis

Helophorus grandis

Helophorus minutus

Helophorus obscurus

Hydrobius fuscipes

Hydroporus erythrocephalus

Hydroporus palustris

Hydroporus planus

Hydroporus tessellatus

Hygrobia hermanni (Screech Beetle)

Hyphydrus ovatus

Ilybius fuliginosus

Noterus clavicornis

Ochthebius minimus

**Ochthebius viridis*

POND B (Grid Reference SZ 439 916)

Hirudinea (Leeches)

*Erpobdella testacea
Helobdella stagnalis

Gastropoda (Snails)

Lymnaea peregra (Wandering Snail)
Lymnaea truncatula (Dwarf Pond Snail)
Planorbis crista (Nautilus Ramshorn)
Potamopyrgus jenkinsi (Jenkins' Spire Shell)
Segmentina complanata (Flat Ramshorn)

Ephemeroptera (Mayflies)

Cloeon dipterum (Lake Olive Dun)

Odonata (Dragonflies and Damselflies)

*Aeshna mixta (Migrant Hawker)
Coenagrion puella/pulchellum (Azure Damselfly/Variable Damselfly)
Pyrrhosoma nymphula (Large Red Damselfly)
*Sympetrum sanguineum (Ruddy Darter)
Sympetrum striolatum (Common Darter)

Hemiptera (Water Bugs)

Corixa punctata (a lesser waterboatman)
Gerris lacustris (a pond skater)
Hesperocorixa moesta (a lesser waterboatman)
Hesperocorixa sahlbergi (a lesser waterboatman)
Notonecta glauca (a greater waterboatman)
Plea leachi (Lesser Backswimmer)
Sigara falleni (a lesser waterboatman)

Megaloptera (Alderflies)

Sialis lutaria

(Contd.)

POND B (contd.)

Trichoptera (Caddis Flies)

**Holocentropus stagnalis*
Limnephilus affinis/incisus
Limnephilus flavicornis
Limnephilus stigma
Limnephilus vittatus

Coleoptera (Beetles)

Acilius sulcatus
Agabus bipustulatus
Anacaena limbata
Colymbetes fuscus
Copelatus haemorrhoidalis
Cymbiodyta marginella
Gyrinus substriatus (a whirligig beetle)
Haliplus fulvus
Haliplus lineatocollis
Haliplus ruficollis
Helophorus aequalis
Helophorus brevipalpis
Helophorus grandis
Helophorus minutus
Helophorus obscurus
Hydraena testacea
Hydrobius fuscipes
Hydroporus palustris
Hydroporus planus
Hygrobia hermanni (Screech Beetle)
Hygrotus inaequalis
Hyphydrus ovatus
Laccobius bipunctatus
Laccophilus minutus
Noterus clavicornis
Ochthebius minimus
**Ochthebius punctatus*
Suphrodytes dorsalis

POND C (Grid Reference SZ 432 918)

Hirudinea (Leeches)

*Erpobdella testacea

Gastropoda (Snails)

Acroloxus lacustris (Lake Limpet)

Lymnaea peregra (Wandering Snail)

Planorbis crista (Nautilus Ramshorn)

Potamopyrgus jenkinsi (Jenkins' Spire Shell)

Segmentina complanata (Flat Ramshorn)

Malacostraca (Shrimps, Water Slaters)

Asellus meridianus (a water slater or hog louse)

Odonata (Dragonflies and Damselflies)

Lestes sponsa (Emerald Damselfly)

*Sympetrum sanguineum (Ruddy Darter)

Plecoptera (Stoneflies)

Nemoura cinerea

Hemiptera (Water Bugs)

Hesperocorixa sahlbergi (a lesser waterboatman)

Trichoptera (Caddis Flies)

Glyphotaelius pellucidus

Limnephilus affinis/incisus

Limnephilus auricula

Limnephilus flavicornis

Limnephilus vittatus

(Contd.)

POND C (contd.)

Coleoptera (Beetles)

Copelatus haemorrhoidalis
Cymbiodyta marginella
Haliphus fulvus
Haliphus lineatocollis
Haliphus ruficollis
Helophorus brevipalpis
Helophorus grandis
Helophorus obscurus
Hydrobius fuscipes
Hydroporus gyllenhalii
Hydroporus palustris
Hydroporus planus
Hydroporus pubescens
Hydroporus tessellatus
Hygrotus inaequalis
Hyphydrus ovatus
Ochthebius minimus
Suphrodytes dorsalis

POND D (Grid Reference SZ 430 921)

Hirudinea (Leeches)

Erpobdella octoculata
Helobdella stagnalis

Gastropoda (Snails)

Lymnaea peregra (Wandering Snail)
Planorbis crista (Nautilus Ramshorn)
Segmentina complanata (Flat Ramshorn)

Malacostraca (Shrimps and Water Slaters)

Asellus meridianus (a water slater or hog louse)

Ephemeroptera (Mayflies)

Cloeon dipterum (Lake Olive Dun)

Odonata (Dragonflies and Damselflies)

*Sympetrum sanguineum (Ruddy Darter)

Plecoptera (Stoneflies)

Nemoura cinerea

Hemiptera (Water Bugs)

Callicorixa praeusta (a lesser waterboatman)
Corixa punctata (a lesser waterboatman)
Hesperocorixa sahlbergi (a lesser waterboatman)
Notonecta glauca (a greater waterboatman)
Plea leachi (Lesser Backswimmer)
Sigara lateralis (a lesser waterboatman)

Megaloptera (Alderflies)

Sialis lutaria

(Contd.)

POND D (contd.)

Trichoptera (Caddis Flies)

Limnephilus affinis/incisus
Limnephilus flavicornis
Limnephilus vittatus
Trianaodes bicolor

Coleoptera (Beetles)

Agabus bipustulatus
Anacaena limbata
Colymbetes fuscus
Cymbiodyta marginella
Dryops luridus
Enochrus coarctatus
Haliphus fulvus
Helophorus brevipalpis
Helophorus grandis
Helophorus obscurus
Hydrobius fuscipes
Hydroporus pubescens
Hygrotus inaequalis
Ilybius ater
Noterus clavicornis
Ochthebius minimus
**Ochthebius viridis*

POND E (Grid Reference SZ 442 908)

Tricladida (Flatworms)

Dugesia polychroa

Hirudinea (Leeches)

Theromyzon tessulatum

Gastropoda (Snails)

Lymnaea peregra (Wandering Snail)

Planorbis crista (Nautilus Ramshorn)

Potamopyrgus jenkinsi (Jenkins' Spire Shell)

Malacostraca (Shrimps and Water Slaters)

Asellus meridianus (a water slater or hog louse)

Ephemeroptera (Mayflies)

Caenis horaria (a "white midge" or "angler's curse")

Cloeon dipterum (Lake Olive Dun)

Odonata (Dragonflies and Damselflies)

**Anax imperator* (Emperor Dragonfly)

Coenagrion puella/pulchellum (Azure Damselfly/Variable Damselfly)

Enallagma cyathigerum (Common Blue Damselfly)

Ischnura elegans (Blue-tailed Damselfly)

Lestes sponsa (Emerald Damselfly)

Pyrrhosoma nymphula (Large Red Damselfly)

**Sympetrum sanguineum* (Ruddy Darter)

Sympetrum striolatum (Common Darter)

Plecoptera (Stoneflies)

Nemoura cinerea

Hemiptera (Water Bugs)

**Corixa affinis* (a lesser waterboatman)

Corixa panzeri (a lesser waterboatman)

Corixa punctata (a lesser waterboatman)

(Contd.)

POND E (contd.)

Hemiptera (Water Bugs) contd.

Gerris odontogaster (a pond skater)
*Hesperocorixa moesta (a lesser waterboatman)
Hydrometra stagnorum (Water Measurer)
Ilyocoris cimicoides (Saucer Bug)
Notonecta glauca (a greater waterboatman)
*Notonecta marmorea viridis (a greater waterboatman)
Plea leachi (Lesser Backswimmer)
Sigara distincta (a lesser waterboatman)
Sigara falleni (a lesser waterboatman)
Sigara fossarum (a lesser waterboatman)
Sigara lateralis (a lesser waterboatman)
*Sigara stagnalis (a lesser waterboatman)

Megaloptera (Alderflies)

Sialis lutaria

Trichoptera (Caddis Flies)

*Agraylia sexmaculata
Agrypnia varia
Athripsodes aterrimus
Holocentropus dubius
Limnephilus affinis/incisus
Limnephilus auricula
Limnephilus flavicornis
Limnephilus marmoratus
Limnephilus vittatus

Coleoptera (Beetles)

Acilius sulcatus
Agabus bipustulatus
Agabus nebulosus
*Berosus affinis
Coelambus confluens
Dryops similaris
Gyrinus substriatus (a whirligig beetle)

(Contd.)

POND E (contd.)

Coleoptera (Water beetles) contd.

Haliphus confinis
Haliphus flavicollis
Haliphus ruficollis
*Helochares lividus
Helophorus brevipalpis
Helophorus grandis
Hydroporus erythrocephalus
Hygrobia hermanni (Screech Beetle)
Hygrotus inaequalis
Hyphydrus ovatus
Laccophilus minutus
Noterus clavicornis
Ochthebius minimus

**APPENDIX 2. COMPOSITE LIST: MACROINVERTEBRATE SPECIES IN ALL 5 PONDS
SURVEYED ON THE ISLE OF WIGHT**

[Note: species of particular interest/importance marked *. English names given, where they exist, in lists for individual ponds.]

Tricladida (Flatworms)	A	B	C	D	E
Dugesia polychroa	-	-	-	-	+
Hirudinea (Leeches)					
Erpobdella octoculata	-	-	-	+	-
*Erpobdella testacea	-	+	+	-	-
Glossiphonia heteroclita	+	-	-	-	-
Helobdella stagnalis	+	+	-	+	-
Theromyzon tessulatum	-	-	-	-	+
Gastropoda (Snails)					
Acroloxus lacustris	-	-	+	-	-
Lymnaea peregra	+	+	+	+	+
Lymnaea truncatula	+	+	-	-	-
Planorbis crista	+	+	+	+	+
Potamopyrgus jenkinsi	+	+	+	-	+
Segmentina complanata	+	+	+	+	-
Malacostraca (Shrimps and Water Slaters)					
Asellus meridianus	-	-	+	+	+
Ephemeroptera (Mayflies)					
Caenis horaria	-	-	-	-	+
Cloeon dipterum	+	+	-	+	+

(Contd.)

ISLE OF WIGHT: COMPOSITE LIST (Contd.)

Odonata (Dragonflies and Damselflies)

*Aeshna mixta	-	+	-	-	-
*Anax imperator	-	-	-	-	+
Coenagrion puella/pulchellum	+	+	-	-	+
Enallagma cyathigerum	-	-	-	-	+
Ischnura elegans	-	-	-	-	+
Lestes sponsa	-	-	+	-	+
Libellula depressa	+	-	-	-	-
Pyrrhosoma nymphula	-	+	-	-	+
*Sympetrum sanguineum	+	+	+	+	+
Sympetrum striolatum	+	+	-	+	+

Plecoptera (Stoneflies)

Nemoura cinerea	-	-	+	+	+
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Hemiptera (Water Bugs)

Callicorixa praeusta	-	-	-	+	-
*Corixa affinis	+	-	-	-	+
Corixa panzeri	-	-	-	-	+
Corixa punctata	+	+	-	+	+
Gerris lacustris	-	+	-	-	-
Gerris odontogaster	-	-	-	-	+
*Hesperocorixa moesta	-	+	-	-	+
Hesperocorixa sahlbergi	+	+	+	+	+
Hydrometra stagnorum	-	-	-	-	+
Ilyocoris cimicoides	-	-	-	-	+
Notonecta glauca	+	+	+	+	+
*Notonecta marmorea viridis	-	-	-	-	+
Plea leachi	+	+	-	+	+
Sigara distincta	+	-	-	-	+
Sigara falleni	+	+	-	-	+
Sigara fossarum	-	-	-	-	+
Sigara lateralis	-	-	-	+	+
*Sigara stagnalis	-	-	-	-	+

Megaloptera (Alderflies)

Sialis lutaria	+	+	-	+	+
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(Contd.)

ISLE OF WIGHT: COMPOSITE LIST (Contd.)

Trichoptera (Caddis Flies)

*Agraylia sexmaculata	-	-	-	-	+
Agrypnia varia	-	-	-	-	+
Athripsodes aterrimus	-	-	-	-	+
Holocentropus dubius	-	-	-	-	+
Holocentropus stagnalis	-	+	-	-	-
Limnephilus affinis/incisus	+	+	+	+	+
Limnephilus auricula	-	-	+	-	+
Limnephilus flavicornis	-	+	+	+	+
Limnephilus marmoratus	-	-	-	-	+
Limnephilus stigma	-	+	-	-	-
Limnephilus vittatus	+	+	+	+	+
Triaenodes bicolor	-	-	-	+	-

Coleoptera (Beetles)

Acilius sulcatus	-	+	-	-	+
Agabus bipustulatus	+	+	-	+	+
Agabus nebulosus	+	-	-	-	+
*Berosus affinis	-	-	-	-	+
Coelambus confluens	-	-	-	-	+
Colymbetes fuscus	+	+	-	+	-
Copelatus haemorrhoidalis	+	+	+	-	-
Cymbiodata marginella	+	+	+	+	-
Dryops luridus	+	-	-	+	-
Dryops similaris	-	-	-	-	+
Enochrus coarctatus	-	-	-	+	-
Gyrinus substriatus	-	+	-	-	+
Halplus confinis	-	-	-	-	+
Halplus flavicollis	-	-	-	-	+
Halplus fulvus	+	+	+	+	-
Halplus lineatocollis	-	+	+	-	-
Halplus ruficollis	-	+	+	-	+
*Helochares lividus	-	-	-	-	+
Helophorus aequalis	+	+	-	-	-
Helophorus brevipalpis	+	+	+	+	+
Helophorus grandis	+	+	+	+	+
Helophorus minutus	+	+	-	-	-
Helophorus obscurus	+	+	+	+	-
Hydraena testacea	-	+	-	-	-

(Contd.)

ISLE OF WIGHT: COMPOSITE LIST (Contd.)

Coleoptera (Beetles) contd.

Hydrobius fuscipes	+	+	+	+	-
Hydroporus erythrocephalus	+	-	-	-	+
Hydroporus gyllenhalii	-	-	+	-	-
Hydroporus palustris	+	+	+	-	-
Hydroporus planus	+	+	+	-	-
Hydroporus pubescens	-	-	+	+	-
Hydroporus tessellatus	+	-	+	-	-
Hygrobia hermanni	+	+	-	-	+
Hygrotus inaequalis	-	+	+	+	+
Hyphydrus ovatus	+	+	+	-	+
Ilybius ater	-	-	-	+	-
Ilybius fuliginosus	+	-	-	-	-
Laccobius bipunctatus	-	+	-	-	-
Laccophilus minutus	-	+	-	-	+
Noterus clavicornis	+	+	-	+	+
Ochthebius minimus	+	+	+	+	+
*Ochthebius punctatus	-	+	-	-	-
*Ochthebius viridis	+	-	-	+	-
Suphrodytes dorsalis	-	+	+	-	-
TOTAL NUMBER OF SPECIES	46	54	34	37	62

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