## SUBMERGED, FLOATING AND EMERGENT PLANTS

Acorus calamus
~~Agrostis stolonifera~~ f
Alisma gramineum
lanceolatum
~~plantago-aquatica~~ o
Apium inundatum
nodiflorum
Aponogetum distachyos
Azolla filiculoides
Baldellia ranunculoides
Berula erecta
Butomus umbellatus
Callitriche brutia
cophocarpa
hamulata
hermaphroditica
obtusangula
platycarpa
stagnalis
truncata
sp. (undetermined)
~~Caltha palustris~~ f
Cardamine amara
Carex ~~acuta~~ a
acutiformis
aquatilis
elata
lasiocarpa
limosa
~~nigra~~ a
paniculata
pseudocyperus
riparia
~~rostrata~~ locally d
vesicaria
Catabrosa aquatica
Ceratophyllum demersum
submersum
Cicuta virosa
Cladium mariscus
Corrigiola litoralis
Damasonium alisma
Drosera rotundiflora
Egeria densa
Elatine hexandra
hydropiper
Eleocharis acicularis a
~~palustris~~
~~Elodea canadensis~~ f (S. inflow)
ernstiae
nuttallii
~~Equisetum fluviatile~~ locally d
palustre
Eriocaulon aquaticum
Eriophorum angustifolium
Glyceria declinata
fluitans
maxima
plicata
Groenlandia densa
Hippuris vulgaris
Hottonia palustris
Hydrocharis morsus-ranae
Hydrocotyle vulgaris
Iris pseudacorus
versicolor
Isoetes setacea
lacustris
Juncus alpinus
~~bulbosus~~ a
effusus

Lagarosiphon major
Lemna gibba
~~minor~~ r
trisulca
Limosella aquatica
australis
Littorella uniflora
Lobelia dortmanna
Ludwigia palustris
Luronium natans
Lysimachia thyrsiflora
Lythrum portula
~~Mentha aquatica~~ f
Menyanthes trifoliata
Myosotis laxa
~~scorpioides~~ f
secunda
stolonifera
Myosoton aquaticum
Myriophyllum alterniflorum
heterophyllum
~~spicatum~~ o
verticillatum
Najas flexilis
marina
Nasturtium microphyllum
officinale
microphyllum/officinale
~~Nuphar lutea~~ f
pumila
Nymphaea alba
Nymphoides peltata
Oenanthe aquatica
fistulosa
fluviatilis
~~Phalaris arundinacea~~ f
Phragmites australis
Pilularia globulifera
Polygonum amphibium
hydropiper
Potamogeton acutifolius
~~alpinus~~ r
~~berchtoldii~~ r
coloratus
compressus
~~crispus~~ r
epihydrus
filiformis
friesii
gramineus
lucens
natans !
nodosus
obtusifolius
~~pectinatus~~ a
perfoliatus
polygonifolius
praelongus
pusillus
rutilus
trichoides
hybrid(s)
Potentilla palustris
Ranunculus aquatilis
baudotii
circinatus f
~~flammula~~
fluitans
hederaceus
omiophyllus
peltatus

Ranunculus pseudofluitans
(penicillatus var. calcareus)
pseudofluitans
(penicillatus var. penicillatus)
sceleratus
trichophyllus
tripartitus
Rorippa amphibia
Rumex aquaticus
hydrolapathum
Ruppia cirrhosa
maritima
Sagittaria rigida
sagittifolia
Scheuchzeria palustris
Scirpus fluitans f
~~lacustris ssp. lacustris~~
lacustris ssp. tabernaemontani
maritimus
Sparganium angustifolium
emersum
erectum
minimum
Spirodela polyrrhiza
Stratiotes aloides
Subularia aquatica
Typha angustifolia
latifolia
Utricularia australis
intermedia
minor
vulgaris
australis/vulgaris
Vallisneria spiralis
Veronica anagallis-aquatica
beccabunga
catenata
scutellata
Wolffia arrhiza
Zanichellia palustris

*Algae* ~~Charophyta~~ r (S. inflow) *
Enteromorpha
Other large free-floating species f.
(e.g. Spirogyra)
*Bryophytes* ~~Calliergon (Acrocladium) sp.~~ o
Drepanocladus sp.
~~Fontinalis antipyretica~~ r
squamosa
Hygrohypnum sp.
Rhynchostegium (Eurhynchium)
riparioides
(Eurhynchium) riparioides
Riccia fluitans
Ricciocarpus natans
Scapania sp.
Sphagnum sp.
*Lichens* Submerged species

### ADDITIONAL PLANT SPECIES

* ?Chara globularis

## OTHER WETLAND AND RIPARIAN PLANTS

Achillea ptarmica
Aconitum napellus
Alnus glutinosa
Allium schoenoprasum
Alopecurus aequalis
geniculatus
Anagallis tenella
Andromeda polifolia
Angelica archangelica
sylvestris
Apium graveolens
Amoracia rusticana
Athyrium filix-femina
Barbarea intermedia
stricta
vulgaris
Bidens cernua
tripartita
Blysmus compressus
Brassica nigra
Calamagrostis canescens
epigejos
scotica
stricta
Carduus acanthoides
Cardamine flexuosa
pratensis
Carex appropinquata
buxbaumii
curta
demissa
diandra
dioica
disticha
echinata
flacca
hostiana
laevigata
~~lepidocarpa~~ o
otrubae
panicea
pendula
pulicaris
spicata
vulpina
Chrysosplenium alternifolium
oppositifolium
Cirsium dissectum
oleraceum
palustre
Conium maculatum
Crepis mollis
paludosa
Cyperus fuscus
longus
~~Dactylorhiza fuchsii~~ o
incarnata
~~majalis ssp. praetermissa~~ o
majalis ssp. purpurella
traunsterneri
Deschampsia caespitosa
setacea
Dipsacus fullonum
pilosus
Drosera anglica
intermedia
Dryopteris carthusiana
cristata
Eleocharis austriaca
multicaulis
quinqueflora

Eleocharis uniglumis
Epilobium adenocaulon
alsinifolium
anagallidifolium
hirsutum
nerterioides
obscurum
palustre
parviflorum
tetragonum
Epipactis palustris
Equisetum arvense
hyemale
pratense
variegatum
Erica tetralix
Eriophorum gracile
latifolium
vaginatum
Eupatorium cannabinum f
~~Filipendula ulmaria~~
Frangula ulnus
Galium boreale
debile f
~~palustre~~
uliginosum
Geum rivale
Hammarbya paludosa
Heracleum mantegazzianum
Hierochloë odorata
Hypericum elodes
tetrapterum
undulatum
Impatiens capensis
glandulifera
noli-tangere
Iris spuria
~~Juncus acutiflorus~~ a
articulatus
balticus
bufonius
castaneus
compressus
conglomeratus
filiformis
inflexus
squarrosus
subnodulosus
Lathyrus palustris
Leersia oryzoides
Lepidotis inundata
Liparis loeselii
Lotus uliginosus
Lupinus nootkatensis
Luzula sylvatica
~~Lychnis flos-cuculi~~ o
Lycopus europaeus
Lysimachia punctata
terrestris
vulgaris
Lythrum hyssopifolia
salicaria
Mentha arvensis
rotundifolia
Mimulus guttatus
luteus
Minuartia stricta
Molinia caerulea
Montia fontana
sibirica
Myrica gale

Narthecium ossifragum
Oenanthe crocata
lachenalii
Ophioglossum vulgatum
Osmunda regalis
Oxyria digyna
Parnassia palustris
Peucedanum ostruthium
palustre
Pedicularis sylvatica
Petasites hybridus
Pinguicula lusitanica
vulgaris
Plantago maritima
Polygonum lapathifolium
minus
mite
persicaria
Potentilla erecta
rupestris
Pulicaria dysenterica
vulgaris
Ranunculus lingua
ophioglossifolius
reptans
Rhynchospora alba
fusca
Rorippa islandica
sylvestris
Rumex longifolius
maritimus
palustris
Sagina procumbens
~~Salix sp.~~
Samolus valerandi
Saxifraga aizoides
stellaris
Schoenus nigricans
Scirpus cespitosus
cernuus
setaceus
sylvaticus
Scrophularia auriculata
Scutellaria galericulata
Selaginella selaginoides
Selinum carvifolia
Senecio aquaticus
fluviatilis
Sium latifolium
Solanum dulcamara
Sonchus arvensis
palustris
Stachys palustris
Stellaria alsine
neglecta
nemorum
palustris
Symphytum officinale
Teucrium scordium
Thalictrum flavum
Thelypteris palustris
Tofieldia pusilla
Triglochin palustris
Tritonia x crocosmiflora
Tussilago farfara
Urtica dioica
Vaccinium microcarpum
oxycoccus
Valeriana dioica
officinalis
Viola palustris

STANDING AND FLOWING WATER HABITATS (FRESHWATER AND BRACKISH WATER-EXCLUDING ESTUARIES AND MARSHES) CST OW2

| NAME OF SITE | FULL GRID REF. | RECORDER'S NAME | DATE OF VISIT TO SITE Day / Month / Year | RECORD NUMBER (leave blank) |
|---|---|---|---|---|
| SEMER WATER | SD 3 4 9 1 9 8 7 3 | Margaret Palmer. | 19 / 7 / 79 | |

## ADULT DRAGONFLIES (ODONATA)

Platycnemis pennipes
Ceriagrion tenellum
Erythromma najas
Coenagrion armatum
hastulatum
mercurale
puella
pulchellum
scitulum
~~Enallagma cyathigerum~~ f
Pyrrhosoma nymphula
Ischnura elegans
pumilio
Lestes dryas
sponsa
Agrion splendens
virgo

Gomphus vulgatissimus
Brachytron pratense
Aeshna caerulea
cyanea
grandis
isosceles
juncea
mixta
Anax imperator
Cordulegaster boltonii
Cordulia aenea
Somatochlora arctica
metallica
Oxygastra curtisii
Orthetrum cancellatum
coerulescens
Libellula depressa
fulva
quadrimaculata
Sympetrum flaveolum
fonscolombei
nigrescens
sanguineum
scoticum
striolatum
vulgatum
Leucorrhinia dubia

## MAMMALS

Otter
Mink
Coypu
Other species:

## BIRDS

Red-throated Diver
Great Crested Grebe
Little Grebe
Teal
Garganey
Gadwall
Wigeon
Pintail
Shoveler
Tufted Duck
Pochard
Goldeneye
Common Scoter
Red-breasted Merganser
Goosander
Greylag Goose
Pink-footed Goose
Canada Goose
Mute Swan
Water Rail
~~Black-headed Gull~~ f
Common Tern
Kingfisher
Dipper
Bearded Tit
Reed Warbler
Grey Wagtail
Other Species:

Peewit
Farmyard geese.

## FISH

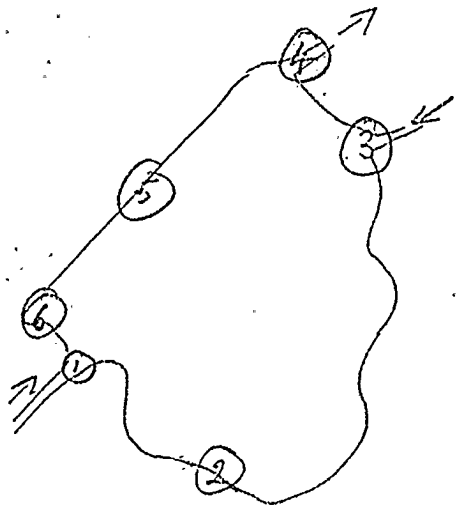
Barbel
Bleak
~~Bream — Common~~
— Silver
Bullhead
Burbot
Carp — Common
— Crucian
Chub
Charr
Dace
Grayling
Gudgeon
Lamprey — Brook
— River
— Sea
Loach — Spined f - 1, 5, 4
~~— Stone~~
Rudd
Ruffe (Pope)
Salmon
Stickleback — 9/10-spined
— 3-spined
Tench
Other species:

Roach
Perch
Brown Trout } fishermen's reports.
Bream

## AMPHIBIA

Great Crested Newt (Triturus cristatus)
Smooth Newt (Triturus vulgaris)
Palmate Newt (Triturus helveticus)
Common Toad (Bufo bufo)
Natterjack Toad (Bufo calamita)
Common Frog (Rana temporaria)
Edible Frog (Rana esculenta)
Marsh Frog (Rana ridibunda)
Other species:

## OTHER INFORMATION




(1) Sandy bottom. <10% veg. cover. Elodea, Pot. pect., Carex rostrata ab. Mayflies, Chiromonids, Corixid nymphs. Little Pot. lucens.

(2) Sand and soft mud. Nuphar, Equisetum, Carex rost., Pot. pect. ab. on margin. Little Pot. crispus. Corixids ab.

(3) Stony substrate covered with algae. Swift flow, shallow. Mayflies, Chiromonids, small fish abundant.

(4) Sand and stones on bottom. Swift flow, shallow. Eleocharis, Carex rostrata, Equisetum, Pot. pectinatus ab., and little Pot. crispus. Chiromonids, fish.

(5) Stony shore, with algae attached. Equisetum, Carex rostrata, Scirpus lacustris stands. Little Pot. alpinus. Small crayfish under stones.

(6) Reedswamp — Phalaris, Carex rostrata, Eleocharis, Equisetum. Little Alisma p-a, Pot. pectinatus, Pot. berchtoldii. Chiromonids & Corixid nymphs ab.

## SUBMERGED, FLOATING AND EMERGENT PLANTS

Acorus calamus
~~Agrostis stolonifera~~
Alisma gramineum
lanceolatum
plantago-aquatica
Apium inundatum
nodiflorum
Aponogetum distachyos
Azolla filiculoides
Baldellia ranunculoides
Berula erecta
Butomus umbellatus
Callitriche brutia
cophocarpa
hamulata
hermaphroditica
obtusangula
platycarpa
stagnalis
truncata
sp. (undetermined)
Caltha palustris
Cardamine amara
Carex acuta
acutiformis
aquatilis
elata
lasiocarpa
limosa
nigra
paniculata
pseudocyperus
riparia
~~rostrata~~
vesicaria
Catabrosa aquatica
Ceratophyllum demersum
submersum
Cicuta virosa
Cladium mariscus
Corrigiola litoralis
Damasonium alisma
Drosera rotundiflora
Egeria densa
Elatine hexandra
hydropiper
Eleocharis acicularis
palustris
Elodea canadensis
ernstiae
nuttallii
~~Equisetum fluviatile~~
palustre
Eriocaulon aquaticum
Eriophorum angustifolium
Glyceria declinata
fluitans
maxima
plicata
Groenlandia densa
Hippuris vulgaris
Hottonia palustris
Hydrocharis morsus-ranae
Hydrocotyle vulgaris
Iris pseudacorus
versicolor
Isoetes setacea
lacustris
Juncus alpinus
bulbosus
effusus

Lagarosiphon major
Lemna gibba
minor
trisulca
Limosella aquatica
australis
Littorella uniflora
Lobelia dortmanna
Ludwigia palustris
Luronium natans
Lysimachia thyrsiflora
Lythrum portula
Mentha aquatica
Menyanthes trifoliata
Myosotis laxa
scorpioides
secunda
stolonifera
Myosoton aquaticum
Myriophyllum alterniflorum
heterophyllum
spicatum
verticillatum
Najas flexilis
marina
Nasturtium microphyllum
officinale
microphyllum/officinale
~~Nuphar lutea~~
pumila
Nymphaea alba
Nymphoides peltata
Oenanthe aquatica
fistulosa
fluviatilis
~~Phalaris arundinacea~~
Phragmites australis
Pilularia globulifera
Polygonum amphibium
hydropiper
Potamogeton acutifolius
alpinus
berchtoldii
coloratus
compressus
crispus
epihydrus
filiformis
friesii
gramineus
lucens
natans
nodosus
obtusifolius
pectinatus
perfoliatus
polygonifolius
praelongus
pusillus
rutilus
trichoides
hybrid(s)
Potentilla palustris
Ranunculus aquatilis
baudotii
circinatus
flammula
fluitans
hederaceus
omiophyllus
peltatus

Ranunculus pseudofluitans
(penicillatus var. calcareus)
pseudofluitans
(penicillatus var. penicillatus)
sceleratus
trichophyllus
tripartitus
Rorippa amphibia
Rumex aquaticus
hydrolapathum
Ruppia cirrhosa
maritima
Sagittaria rigida
sagittifolia
Scheuchzeria palustris
Scirpus fluitans
~~lacustris ssp. lacustris~~
lacustris ssp. tabernaemontani
maritimus
Sparganium angustifolium
emersum
erectum
minimum
Spirodela polyrrhiza
Stratiotes aloides
Subularia aquatica
Typha angustifolia
latifolia
Utricularia australis
intermedia
minor
vulgaris
australis/vulgaris
Vallisneria spiralis
Veronica anagallis-aquatica
beccabunga
catenata
scutellata
Wolffia arrhiza
Zanichellia palustris

*Algae* Charophyta
Enteromorpha
Other large free floating species
(e.g. Spirogyra)
*Bryophytes* ~~Calliergon (Acroceladium) sp.~~
Drepanocladus sp.
Fontinalis antipyretica
squamosa
Hygrohypnum sp.
Rhynchostegium (Eurhynchium)
riparioides
(Eurhynchium) riparioides
Riccia fluitans
Ricciocarpus natans
Scapania sp.
Sphagnum sp.
*Lichens* Submerged species

### ADDITIONAL PLANT SPECIES

Lyffleur stream (Sta. 3)
Monostroma bullosum (alga)
Bryidodoles fontinaloides
Rhytidiadelphus squarrosus

## OTHER WETLAND AND RIPARIAN PLANTS

Achillea ptarmica
Aconitum napellus
Alnus glutinosa
Allium schoenoprasum
Alopecurus aequalis
geniculatus
Anagallis tenella
Andromeda polifolia
Angelica archangelica
sylvestris
Apium graveolens
Amoracia rusticana
Athyrium filix-femina
Barbarea intermedia
stricta
vulgaris
Bidens cernua
tripartita
Blysmus compressus
Brassica nigra
Calamagrostis canescens
epigejos
scotica
stricta
Carduus acanthoides
Cardamine flexuosa
pratensis
Carex appropinquata
buxbaumii
curta
demissa
diandra
dioica
disticha
echinata
flacca
hostiana
laevigata
lepidocarpa
otrubae
panicea
pendula
pulicaris
spicata
vulpina
Chrysosplenium alternifolium
oppositifolium
Cirsium dissectum
oleraceum
palustre
Conium maculatum
Crepis mollis
paludosa
Cyperus fuscus
longus
Dactylorhiza fuchsii
incarnata
majalis ssp. praetermissa
majalis ssp. purpurella
traunsterneri
Deschampsia caespitosa
setacea
Dipsacus fullonum
pilosus
Drosera anglica
intermedia
Dryopteris carthusiana
cristata
Eleocharis austriaca
multicaulis
quinqueflora

Eleocharis uniglumis
Epilobium adenocaulon
alsinifolium
anagallidifolium
hirsutum
nerterioides
obscurum
palustre
parviflorum
tetragonum
Epipactis palustris
Equisetum arvense
hyemale
pratense
variegatum
Erica tetralix
Eriophorum gracile
latifolium
vaginatum
Eupatorium cannabinum
Filipendula ulmaria
Frangula ulnus
Galium boreale
debile
palustre
uliginosum
Geum rivale
Hammarbya paludosa
Heracleum mantegazzianum
Hierochloë odorata
Hypericum elodes
tetrapterum
undulatum
Impatiens capensis
glandulifera
noli-tangere
Iris spuria
~~Juncus acutiflorus~~
articulatus
balticus
bufonius
castaneus
compressus
conglomeratus
filiformis
inflexus
squarrosus
subnodulosus
Lathyrus palustris
Leersia oryzoides
Lepidotis inundata
Liparis loeselii
Lotus uliginosus
Lupinus nootkatensis
Luzula sylvatica
Lychnis flos-cuculi
Lycopus europaeus
Lysimachia punctata
terrestris
vulgaris
Lythrum hyssopifolia
salicaria
Mentha arvensis
rotundifolia
Mimulus guttatus
luteus
Minuartia stricta
Molinia caerulea
Montia fontana
sibirica
Myrica gale

Narthecium ossifragum
Oenanthe crocata
lachenalii
Ophioglossum vulgatum
Osmunda regalis
Oxyria digyna
Parnassia palustris
Peucedanum ostruthium
palustre
Pedicularis sylvatica
Petasites hybridus
Pinguicula lusitanica
vulgaris
Plantago maritima
Polygonum lapathifolium
minus
mite
persicaria
Potentilla erecta
rupestris
Pulicaria dysenterica
vulgaris
Ranunculus lingua
ophioglossifolius
reptans
Rhynchospora alba
fusca
Rorippa islandica
sylvestris
Rumex longifolius
maritimus
palustris
Sagina procumbens
~~Salix sp.~~
Samolus valerandi
Saxifraga aizoides
stellaris
Schoenus nigricans
Scirpus cespitosus
cernuus
setaceus
sylvaticus
Scrophularia auriculata
Scutellaria galericulata
Selaginella selaginoides
Selinum carvifolia
Senecio aquaticus
fluviatilis
Sium latifolium
Solanum dulcamara
Sonchus arvensis
palustris
Stachys palustris
Stellaria alsine
neglecta
nemorum
palustris
Symphytum officinale
Teucrium scordium
Thalictrum flavum
Thelypteris palustris
Tofieldia pusilla
Triglochin palustris
Tritonia x crocosmiflora
Tussilago farfara
Urtica dioica
Vaccinium microcarpum
oxycoccus
Valeriana dioica
officinalis
Viola palustris

STANDING AND FLOWING WATER HABITATS (FRESHWATER AND BRACKISH WATER EXCLUDING ESTUARIES AND MARSHES) CST OW2

| NAME OF SITE | FULL GRID REF. | RECORDER'S NAME | DATE OF VISIT TO SITE Day / Month / Year | RECORD NUMBER (leave blank) |
|---|---|---|---|---|
| SEMER WATER (YORKS) | S D 3 4 9 1 9 8 7 3 | Chris Newbold, Margaret Palmer. | 9 / 5 / 79 | |

## ADULT DRAGONFLIES (ODONATA)

Platycnemis pennipes
Ceriagrion tenellum
Erythromma najas
Coenagrion armatum
hastulatum
mercurale
puella
pulchellum
scitulum
Enallagma cyathigerum
Pyrrhosoma nymphula
Ischnura elegans
pumilio
Lestes dryas
sponsa
Agrion splendens
virgo

Gomphus vulgatissimus
Brachytron pratense
Aeshna caerulea
cyanea
grandis
isosceles
juncea
mixta
Anax imperator
Cordulegaster boltonii
Cordulia aenea
Somatochlora arctica
metallica
Oxygastra curtisii
Orthetrum cancellatum
coerulescens
Libellula depressa
fulva
quadrimaculata
Sympetrum flaveolum
fonscolombei
nigrescens
sanguineum
scoticum
striolatum
vulgatum
Leucorrhinia dubia

## MAMMALS

Otter
Mink
Coypu
Other species:

Water vole.

## BIRDS

Red-throated Diver
~~Great-Crested Grebe~~
Little Grebe
Teal
Garganey
Gadwall
Wigeon
Pintail
Shoveler
Tufted Duck
Pochard
Goldeneye
Common Scoter
Red-breasted Merganser
~~Goosander~~
Greylag Goose
Pink-footed Goose
Canada Goose
Mute Swan
Water Rail
~~Black-headed Gull~~
Common Tern
Kingfisher
Dipper
Bearded Tit
Reed Warbler
Grey Wagtail
Other Species:

Peewit
Oystercatcher.
Common sandpiper
Mallard
Curlew.
Reed bunting
Redshank.

## FISH

Barbel
Bleak
Bream — Common
— Silver
Bullhead
Burbot
Carp — Common
— Crucian
Chub
Charr
Dace
Grayling
Gudgeon
Lamprey — Brook
— River
— Sea
Loach — Spined
— Stone
Rudd
Ruffe (Pope)
Salmon
Stickleback — 9/10-spined
— 3-spined
Tench
Other species:

? Minnow.

## AMPHIBIA

Great Crested Newt (Triturus cristatus)
Smooth Newt (Triturus vulgaris)
Palmate Newt (Triturus helveticus)
Common Toad (Bufo bufo)
Natterjack Toad (Bufo calamita)
Common Frog (Rana temporaria)
Edible Frog (Rana esculenta)
Marsh Frog (Rana ridibunda)
Other species:

## OTHER INFORMATION

Previous records 1) C.N, Dec. 1978.

* Potamogeton fluitans
Myriophyllum spicatum (emersion stem).

18 Whooper swans

2) NCR.

Phytoplankton dominated by Asterionella, Ceratium, Pediastrum.

Invertebrates - Gammarus pulex
Asellus aquaticus
Baetis rhodani
B. scambus/fuscatus
Brachycercus pseudorufulum
Paraleptophlebia cincta
Habroleptoides confusa

Fish - brown trout, rudd, bream, perch, bullhead, 3-sp. stickleback minnow.

cc Dr C Newbold
YORK
CIRC

M J Hudson Esq
Regional Officer (North East)
Newcastle

SEMERWATER SURVEY

Thank you for sending me a copy of Dr T B Bagenal's letter of 15.12.78., and for seeking my comments.

It seems to me that the (long awaited) report is of little or no use to us in helping us to decide whether, or how, water skiing has affected the importance of Semerwater for wildlife.

Short notice and a shortage of money are indeed both restrictive factors. Even if we could only expect one week's work (or about 8 days), I still think that a better report could or should have been expected from a body like the FBA.

If "Dr Fryer has a detailed cladocera list (F.B.A.)" (see file note headed "Aquatic interest of Lake Semerwater" - ?author and date), might we not have expected a comparison between his (Fryer's) records and 1978 survey information? - if more work is to be done in 1979, might we usefully pursue this line - especially if Dr Fryer's work was pre water-skiing days!

I feel it is not unreasonable to assume that the sampling work described in the report (10 minutes for each of 5 samples, and say 10 minutes for taking a water sample) could have been done in one day - even with some equipment to carry. Allowing time for:

(a) seeking permission to visit the site

(b) a preliminary reconnoitre

(c) the identification of material (to the level achieved)

(d) writing up a brief report

I feel there should have been time during the "equivalent of about 8 days" to produce more data.

Couldn't any comparisons have been made with other published or unpublished work? Could not some general searching of the waters have been carried out, particular species sought, or abundances of chosen species compared? How for example is the crayfish population? - is it still there?

I favour the idea (see last paragraph of Bagenal's letter of 15.12.78.) of arranging for the FBA to undertake further work in 1979, but I am not sure whether his proposal does meet us "halfway" financially, nor am I happy that it goes far enough. Should not the short-fall be made good free of further charge to us?

May I suggest that, in order to supplement the information provided, and thereby fulfil their existing commitment to us, the FBA be asked to answer a number of quite specific questions. (perhaps largely from information already possessed by them). Perhaps a number of such questions will occur to Dr C Newbold: perhaps some might relate to planktonic changes, or the absence of such, during recent years.

D C Ungley
York

9 January 1979