United Kingdom Acid Waters Monitoring Network

Summary of Data for Year 13 (2000-2001)

THE UNITED KINGDOM ACID WATERS MONITORING NETWORK

DATA REPORT FOR 2000 - 2001 (YEAR 13)

Report to the Department Environment, Food and Rural Affairs
(Contract EPG 1/3/160)
and the Department of the Environment Northern Ireland
(Contract CON 4/4 (38))

2002

Editors

E. M. Shilland[1]
D. T. Monteith[1]
J. Smith[2]
W. R. C. Beaumont[3]

[1]ENSIS Ltd
[2]CEH Wallingford
[3]CEH Wareham

TABLE OF CONTENTS

TABLE OF CONTENTS **3**

INTRODUCTION **10**

THE MONITORING NETWORK **10**

DATA FORMAT **11**

REFERENCES **12**

LOCATION OF UKAWMN SITES **13**

1. LOCH COIRE NAN ARR **14**
1.1. Spot sampled chemistry data **14**
1.2. Macroinvertebrate data **15**
1.2.1. Percentage abundance summary, Loch Coire nan Arr 15
1.2.2. Summary statistics, Loch Coire nan Arr 16
1.3. Fish data (for outflow stream) **17**
1.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Loch Coire nan Arr 17
1.4. Epilithic diatom data **18**
1.4.1. Percentage abundance summary, Loch Coire nan Arr 18
1.4.2. Summary statistics, Loch Coire nan Arr 19
1.5. Aquatic macrophyte data, Loch Coire nan Arr **20**
1.6. Sediment trap data, Loch Coire nan Arr **21**

2. ALLT A'MHARCAIDH **22**
2.1. Spot sampled chemistry data **22**
2.2. Macroinvertebrate data **23**
2.2.1. Percentage abundance summary, Allt a'Mharcaidh 23
2.2.2. Summary statistics, Allt a'Mharcaidh 24
2.3. Fish data **25**
2.3.1. Summary of mean Salmon density (total numbers $100m^{-2}$), Allt a'Mharcaidh .. 25
2.3.2. Summary of mean Trout density (numbers $100m^{-2}$), Allt a'Mharcaidh 25
2.4. Epilithic diatom data **26**
2.4.1. Percentage abundance summary, Allt a'Mharcaidh 26
2.4.2. Summary statistics, Allt a'Mharcaidh 27
2.5. Aquatic macrophyte data, Allt a'Mharcaidh **28**

3. ALLT NA COIRE NAN CON **29**
3.1. Spot sampled chemistry data **29**
3.2. Macroinvertebrate data **30**
3.2.1. Percentage abundance summary, Allt na Coire nan Con 30
3.2.2. Summary statistics, Allt na Coire nan Con 31

3.3. Fish data **32**
3.3.1. Summary of mean Salmon density (total numbers 100m^{-2}), Allt na Coire nan Con 32
3.3.2. Summary of mean Trout density (numbers 100m^{-2}), Allt na Coire nan Con 32
3.4. Epilithic diatom data **33**
3.4.1. Percentage abundance summary, Allt na Coire nan Con 33
3.4.2. Summary statistics, Allt na Coire nan Con 34
3.5. Aquatic macrophyte data, Allt na Coire nan Con **35**

4. LOCHNAGAR **36**
4.1. Spot sampled chemistry data **36**
4.2. Macroinvertebrate data **37**
4.2.1. Percentage abundance summary, Lochnagar 37
4.2.2. Summary statistics, Lochnagar 38
4.3. Fish data (for outflow stream) **39**
4.3.1. Summary of mean Trout density (numbers 100m^{-2}), Lochnagar 39
4.4. Epilithic diatom data **40**
4.4.1. Percentage abundance summary, Lochnagar 40
4.4.2. Summary statistics, Lochnagar 41
4.5. Aquatic macrophyte data, Lochnagar **42**
4.6. Sediment trap data, Lochnagar **43**

5. LOCH CHON **44**
5.1. Spot sampled chemistry data **44**
5.2. Macroinvertebrate data **45**
5.2.1. Percentage abundance summary, Loch Chon 45
5.2.2. Summary statistics, Loch Chon 46
5.3. Fish data (for outflow stream) **47**
5.3.1. Summary of mean Trout density (numbers 100m^{-2}), Loch Chon 47
5.4. Epilithic diatom data **48**
5.4.1. Percentage abundance summary, Loch Chon 48
5.4.2. Summary statistics, Loch Chon 49
5.5. Aquatic macrophyte data, Loch Chon **50**
5.6. Sediment trap data, Loch Chon **51**

6. LOCH TINKER **52**
6.1. Spot sampled chemistry data **52**
6.2. Macroinvertebrate data **53**
6.2.1. Percentage abundance summary, Loch Tinker 53
6.2.2. Summary statistics, Loch Tinker 54
6.3. Fish data (for outflow stream) **55**
6.3.1. Summary of mean Trout density (numbers 100m^{-2}), Loch Tinker 55
6.4. Epilithic diatom data **56**
6.4.1. Percentage abundance summary, Loch Tinker 56
6.4.2. Summary statistics, Loch Tinker 57
6.5. Aquatic macrophyte data, Loch Tinker **58**
6.6. Sediment trap data, Loch Tinker **59**

7. ROUND LOCH OF GLENHEAD 60
7.1. Spot sampled chemistry data 60
7.2. Macroinvertebrate data 61
7.2.1. Percentage abundance summary, Round Loch of Glenhead 61
7.2.2. Summary statistics, Round Loch of Glenhead 62
7.3. Fish data (for outflow stream) 63
7.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Round Loch of Glenhead 63
7.4. Epilithic diatom data 64
7.4.1. Percentage abundance summary, Round Loch of Glenhead 64
7.4.2. Summary statistics, Round Loch of Glenhead 65
7.5. Aquatic macrophyte data, Round Loch of Glenhead 66
7.6. Sediment trap data, Round Loch of Glenhead 67

8. LOCH GRANNOCH 68
8.1. Spot sampled chemistry data 68
8.2. Macroinvertebrate data 69
8.2.1. Percentage abundance summary, Loch Grannoch 69
8.2.2. Summary statistics, Loch Grannoch 70
8.3. Fish data (for outflow stream) 71
8.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Loch Grannoch 71
8.4. Epilithic diatom data 72
8.4.1. Percentage abundance summary, Loch Grannoch 72
8.4.2. Summary statistics, Loch Grannoch 73
8.5. Aquatic macrophyte data, Loch Grannoch 74
8.6. Sediment trap data, Loch Grannoch 75

9. DARGALL LANE 76
9.1. Spot sampled chemistry data 76
9.2. Macroinvertebrate data 77
9.2.1. Percentage abundance summary, Dargall Lane 77
9.2.2. Summary statistics, Dargall Lane 78
9.3. Fish data 79
9.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Dargall Lane 79
9.4. Epilithic diatom data 80
9.4.1. Percentage abundance summary, Dargall Lane 80
9.4.2. Summary statistics, Dargall Lane 81
9.5. Aquatic macrophyte data, Dargall Lane 82

10. SCOAT TARN 83
10.1. Spot sampled chemistry data 83
10.2. Macroinvertebrate data 84
10.2.1. Percentage abundance summary, Scoat Tarn 84
10.2.2. Summary statistics, Scoat Tarn 85
10.3. Fish data (for outflow stream) 86
10.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Scoat Tarn 86
10.4. Epilithic diatom data 87
10.4.1. Percentage abundance summary, Scoat Tarn 87

10.4.2. Summary statistics, Scoat Tarn 88
10.5. Aquatic macrophyte data, Scoat Tarn 89
10.6. Sediment trap data, Scoat Tarn 90

11. BURNMOOR TARN 91
11.1. Spot sampled chemistry data 91
11.2. Macroinvertebrate data 92
11.2.1. Percentage abundance summary, Burnmoor Tarn 92
11.2.2. Summary statistics, Burnmoor Tarn 93
11.3. Fish data (for outflow stream) 94
11.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Burnmoor Tarn 94
11.4. Epilithic diatom data 95
11.4.1. Percentage abundance summary, Burnmoor Tarn 95
11.4.2. Summary statistics, Burnmoor Tarn 96
11.5. Aquatic macrophyte data, Burnmoor Tarn 97
11.6. Sediment trap data, Burnmoor Tarn 98

12. RIVER ETHEROW 99
12.1. Spot sampled chemistry data 99
12.2. Macroinvertebrate data 100
12.2.1. Percentage abundance summary, River Etherow 100
12.2.2. Summary statistics, River Etherow 101
12.3. Fish data 102
12.4. Epilithic diatom data 103
12.4.1. Percentage abundance summary, River Etherow 103
12.4.2. Summary statistics, River Etherow 104
12.5. Aquatic macrophyte data, River Etherow 105

13. OLD LODGE 106
13.1. Spot sampled chemistry data 106
13.2. Macroinvertebrate data 107
13.2.1. Percentage abundance summary, Old Lodge 107
13.2.2. Summary statistics, Old Lodge 108
13.3. Fish data 109
13.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Old Lodge 109
13.4. Epilithic diatom data 110
13.4.1. Percentage abundance summary, Old Lodge 110
13.4.2. Summary statistics, Old Lodge 111
13.5. Aquatic macrophyte data, Old Lodge 112

14. NARRATOR BROOK 113
14.1. Spot sampled chemistry data 113
14.2. Macroinvertebrate data 114
14.2.1. Percentage abundance summary, Narrator Brook 114
14.2.2. Summary statistics, Narrator Brook 115
14.3. Fish data 116
14.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Narrator Brook 116

14.4. Epilithic diatom data 117
14.4.1. Percentage abundance summary, Narrator Brook 117
14.4.2. Summary statistics, Narrator Brook 118
14.5. Aquatic macrophyte data, Narrator Brook 119

15. LLYN LLAGI 120
15.1. Spot sampled chemistry data 120
15.2. Macroinvertebrate data 121
15.2.1. Percentage abundance summary, Llyn Llagi 121
15.2.2. Summary statistics, Llyn Llagi 122
15.3. Fish data (for outflow stream) 123
15.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Llyn Llagi 123
15.4. Epilithic diatom data 124
15.4.1. Percentage abundance summary, Llyn Llagi 124
15.4.2. Summary statistics, Llyn Llagi 125
15.5. Aquatic macrophyte data, Llyn Llagi 126
15.6. Sediment trap data, Llyn Llagi 127

16. LLYN CWM MYNACH 128
16.1. Spot sampled chemistry data 128
16.2. Macroinvertebrate data 129
16.2.1. Percentage abundance summary, Llyn Cwm Mynach 129
16.2.2. Summary statistics, Llyn Cwm Mynach 130
16.3. Fish data (for outflow stream) 131
16.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Llyn Cwm Mynach 131
16.4. Epilithic diatom data 132
16.4.1. Percentage abundance summary, Llyn Cwm Mynach 132
16.4.2. Summary statistics, Llyn Cwm Mynach 133
16.5. Aquatic macrophyte data, Llyn Cwm Mynach 134
16.6. Sediment trap data, Llyn Cwm Mynach 135

17. AFON HAFREN 136
17.1. Spot sampled chemistry data 136
17.2. Macroinvertebrate data 137
17.2.1. Percentage abundance summary, Afon Hafren 137
17.2.2. Summary statistics, Afon Hafren 138
17.3. Fish data 139
17.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Afon Hafren 139
17.4. Epilithic diatom data 140
17.4.1. Percentage abundance summary, Afon Hafren 140
17.4.2. Summary statistics, Afon Hafren 141
17.5. Aquatic macrophyte data, Afon Hafren 142

18. AFON GWY 143
18.1. Spot sampled chemistry data 143
18.2. Macroinvertebrate data 144
18.2.1. Percentage abundance summary, Afon Gwy 144

18.2.2. Summary statistics, Afon Gwy 145
18.3. Fish data 146
18.3.1. Summary of mean Trout density (numbers 100m^{-2}), Afon Gwy 146
18.4. Epilithic diatom data 147
18.4.1. Percentage abundance summary, Afon Gwy 147
18.4.2. Summary statistics, Afon Gwy 148
18.5. Aquatic macrophyte data, Afon Gwy 149

19. BEAGHS BURN 150
19.1. Spot sampled chemistry data 150
19.2. Macroinvertebrate data 151
19.2.1. Percentage abundance summary, Beaghs Burn 151
19.2.2. Summary statistics, Beaghs Burn 152
19.3. Fish data 153
19.3.1. Summary of mean Trout density (numbers 100m^{-2}), Beaghs Burn 153
19.4. Epilithic diatom data 154
19.4.1. Percentage abundance summary, Beaghs Burn 154
19.4.2. Summary statistics, Beaghs Burn 155
19.5. Aquatic macrophyte data, Beaghs Burn 156

20. BENCROM RIVER 157
20.1. Spot sampled chemistry data 157
20.2. Macroinvertebrate data 158
20.2.1. Percentage abundance summary, Bencrom River 158
20.2.2. Summary statistics, Bencrom River 159
20.3. Fish data 160
20.3.1. Summary of mean Trout density (numbers 100m^{-2}), Bencrom River 160
20.4. Epilithic diatom data 161
20.4.1. Percentage abundance summary, Bencrom River 161
20.4.2. Summary statistics, Bencrom River 162
20.5. Aquatic macrophyte data, Bencrom River 163

21. BLUE LOUGH 164
21.1. Spot sampled chemistry data 164
21.2. Macroinvertebrate data 165
21.2.1. Percentage abundance summary, Blue Lough 165
21.2.2. Summary statistics, Blue Lough 166
21.3. Fish data (for outflow stream) 167
21.3.1. Summary of mean Trout density (numbers 100m^{-2}), Blue Lough 167
21.4. Epilithic diatom data 168
21.4.1. Percentage abundance summary, Blue Lough 168
21.4.2. Summary statistics, Blue Lough 169
21.5. Aquatic macrophyte data, Blue Lough 170
21.6. Sediment trap data, Blue Lough 171

22. CONEYGLEN BURN 172
22.1. Spot sampled chemistry data 172

22.2. Macroinvertebrate data..... 173
22.2.1. Percentage abundance summary, Coneyglen Burn..... 173
22.2.2. Summary statistics, Coneyglen Burn..... 174
22.3. Fish data..... 175
22.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Coneyglen Burn 175
22.4. Epilithic diatom data 176
22.4.1. Percentage abundance summary, Coneyglen Burn..... 176
22.4.2. Summary statistics, Coneyglen Burn..... 177
22.5. Aquatic macrophyte data, Coneyglen Burn 178

INTRODUCTION

The UK Acid Waters Monitoring Network (UKAWMN) has been in continuous operation since 1988. For the first ten years biological and chemical data were summarised in an annual series of printed reports and these were followed by a detailed analysis of data in an interpretative report (Monteith and Evans, 2000), which is available on the UKAWMN web page. From this year annual data reports will be solely available from the UKAWMN web page. These will be of a similar format to earlier annual reports but will primarily concentrate on graphical representations of time trends in raw data and diagnostic statistics (e.g. species richness and diversity indices).
A full description of sampling methods and analytical procedures, together with site descriptions, is presented in Patrick *et al.* (1991).

THE MONITORING NETWORK

The UKAWMN originally consisted of 10 stream sites and 10 lakes, situated in those parts of the country most susceptible to acidification (see map, page 15). In 1990, two additional sites, Blue Lough and Coneyglen Burn, were added to the Network with funding from the Department of Environment (Northern Ireland). In January 1991 site 18, the Nant y Gronwen, was withdrawn from the Network at the request of the landowner and was replaced by a nearby moorland stream, the Afon Gwy.

All sites are monitored chemically and biologically. At lake sites, water samples are collected monthly. Epilithic diatoms and benthic invertebrates are sampled annually at stream sites and bi-annually at lake sites between June and September. Stream sites and the outflow streams of lake sites are electro-fished annually in the autumn. Sediment traps have been deployed in all lake sites since around 1990. The contents of sediment traps are analysed for diatom species composition and the flux of carbonaceous particles, derived from the combustion of fossil fuels (Rose *et al.* 1995).

In addition to the annual surveys, sediment cores have been taken from all lake sites during the first five years of monitoring. The cores have been radiometrically dated and analysed for diatoms, carbonaceous particles and trace metals and results are presented in Patrick *et al.* (1995).

For the first time since the onset of monitoring, water chemistry and macroinvertebrate sampling was prevented at several sites in the spring of 2001 by foot-and-mouth related access restrictions. Sampling was resumed across the Network in June 2001 and there have been no further problems at any site.

All chemical, physical and biological data are stored in a database managed by the Centre for Ecology and Hydrology and ENSIS. Summary data are available to scientific and other interested organisations on request. Further information on the UKAWMN, including site descriptions and photographs, is available via the Internet at the address: http://www.geog.ucl.ac.uk/ukawmn

DATA FORMAT

The chemical and biological data are presented in a series of sections, summarised below, on a site-by-site basis.

Section 1: Time series graphs of key spot sampled chemical determinands for individual samples. (Current year - filled circles; previous years - open circles).
Summary table of all chemical determinands (mean, maximum, minimum and standard deviation values) recorded for the current year. The expected number of observations per year is 4 for lakes and 12 for streams.
Summary table of past records for all chemical determinands presented in the same format as the current year table.

Section 2: Macroinvertebrates. Time series of macroinvertebrate taxon % abundance in annual aggregated samples (5 kick samples from lake littoral habitats or from riffle areas in streams), and annual total number of individual animals. Some species occurring at less than 1% relative abundance are omitted.
Macroinvertebrate summary statistic time series:

1) total number of individuals;
2) number of individuals identified at Genus level only (excludes some ubiquitous groups such as the chironomids and oligochaetes);
3) total number of taxa;
4) Diversity Indices. Although we have observed a general between-site relationship between acidity and the total number of macroinvertebrate species found, it is difficult to predict how chemical recovery might influence measures of diversity at specific sites. However, trends in the diversity scores described below should provide an indication of directional changes in community structure.

a) Hill's N_1, the exponent of Shannon's Index and a measure of the number of abundant species in a sample (Hill, 1973).
b) Hill's N_2, the reciprocal of Simpson's Index and a measure of the number of very abundant species in a sample (Hill, 1973).
c) E_5, a measure of evenness based on the ratio $(N_2-1):(N_1-1)$. As a single species becomes more and more dominant, E_5 tends to zero.

Section 3: Salmonids. Summary histogram of mean density of trout and salmon, if present, in three 50m reaches (number of individuals caught per $100m^2$ survey area) for each year of the monitoring period. (0+ = new recruits, >0+ = all fish over one year of age).

Section 4: Epilithic diatoms. Time series of annual mean percentage frequency (from 3-4 replicate samples) of taxa occurring at greater than 2 % abundance in any one sample.
Epilithic diatom summary statistic time series. Mean, maximum and minimum for:

a) Hill's N_1 (see above)
b) Hill's N_2 (see above)
c) E_5 (see above)
d) Diatom inferred pH (Di pH), based on the weighted average of species pH optima in the surface sediments of the 167 lake Surface Water Acidification

Project dataset (Stevenson *et al*. 1991).

pH reconstructions are intended only for application to sedimentary diatoms but directional trends in inferred pH of epilithic assemblages should provide an indication of the direction of a response to changing acidity.

Section 5: Aquatic macrophytes. For lakes relative species abundance was determined on a five point scale (comparable to the DAFOR scoring system, Palmer *et al*. 1992) following shoreline survey, shore transects and deep water grapnel trawls, as follows:

1. rare/infrequent
2. occasional but not abundant
3. widespread but not abundant
4. locally abundant
5. widespread and abundant

For streams, total macrophyte cover was estimated for 5m sections of a 50m survey stretch and each was then partitioned into proportional species abundance to provide percentage cover for each species. Data analysed for this report are the mean species cover estimates for the 50m stretches.

Section 6: For lake sites only. Histogram of diatom species composition and carbonaceous particle flux estimated from annually retrieved sediment traps. Species occurring at less than 1% abundance in all years are omitted. Carbonaceous particle flux data presented in units of number of particles accumulated per trap (uniform trap size for all sites) per day.

REFERENCES

Hill, M.O. 1973 Diversity and evenness: a unifying notation and its consequences. *Ecology*, **54**, 427-31.

Monteith, D.T. & Evans, C.D. (Eds.) 2000 *UK Acid Waters Monitoring Network: 10 Year Report. Analysis and Interpretation of Results, April 1988-March 1998.* ENSIS Ltd, London.

Palmer, M.A., Bell, S.L. & Butterfield, I. 1992 A botanical classification of standing waters in Britain: applications for conservation and monitoring. *Aquatic conservation: marine and freshwater ecosystems,* **2**, 125-143.

Patrick, S.T., Waters, D., Juggins, S. & Jenkins, A. (Eds.) 1991 *The United Kingdom Acid Waters Monitoring Network. Site descriptions and methodology report.* ENSIS Ltd, London.

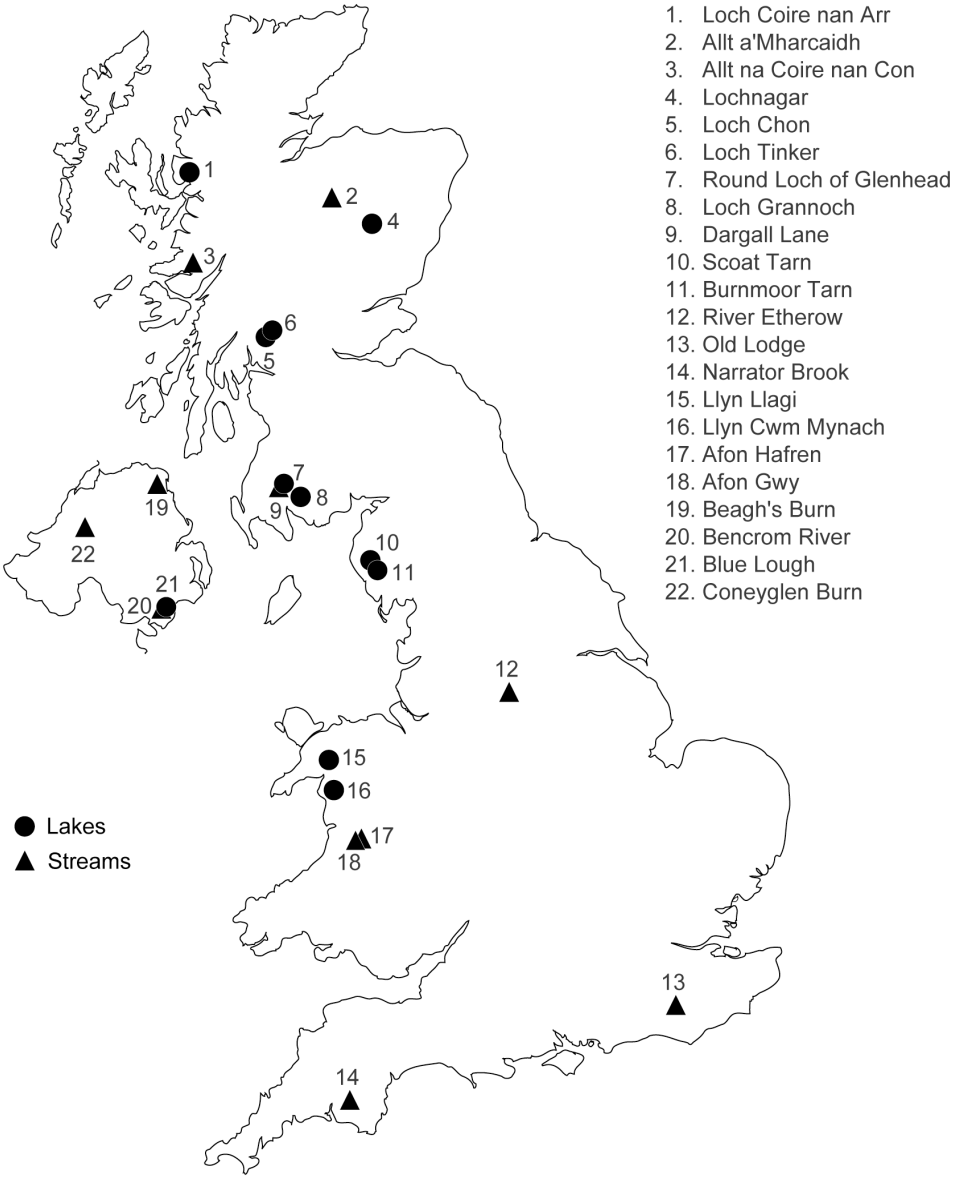
Patrick, S.T., Monteith, D.T. & Jenkins, A. 1995 *UK Acid Waters Monitoring Network: The First Five Years. Analysis and interpretation of results, April 1988 - March 1993.* ENSIS Ltd, London.

Rose, N.L., Harlock, S., Appleby, P.G. & Battarbee, R.W. 1995 Dating of recent lake sediments in the United Kingdom and Ireland using spheroidal carbonaceous particle (SCP) concentration profiles. *The Holocene*, **5**, **3**, 328-335.

Stevenson, A.C., Juggins, S., Birks, H.J.B., Anderson, N.J., Battarbee, R.W., Berge, F., Davis, R.B., Flower, R.J., Haworth, E.Y., Jones, V.J., Kingston, J.C., Kreiser, A.M., Line, J.M., Munro, M.A.R. & Renberg, I. 1991 *The surface waters acidification project palaeolimnology programme: Modern diatom/lake-water chemistry data-set.* ENSIS Ltd, London.

LOCATION OF UKAWMN SITES

Click on individual sites to navigate to data



1. Loch Coire nan Arr
2. Allt a'Mharcaidh
3. Allt na Coire nan Con
4. Lochnagar
5. Loch Chon
6. Loch Tinker
7. Round Loch of Glenhead
8. Loch Grannoch
9. Dargall Lane
10. Scoat Tarn
11. Burnmoor Tarn
12. River Etherow
13. Old Lodge
14. Narrator Brook
15. Llyn Llagi
16. Llyn Cwm Mynach
17. Afon Hafren
18. Afon Gwy
19. Beagh's Burn
20. Bencrom River
21. Blue Lough
22. Coneyglen Burn

1. Loch Coire nan Arr


Back to main map

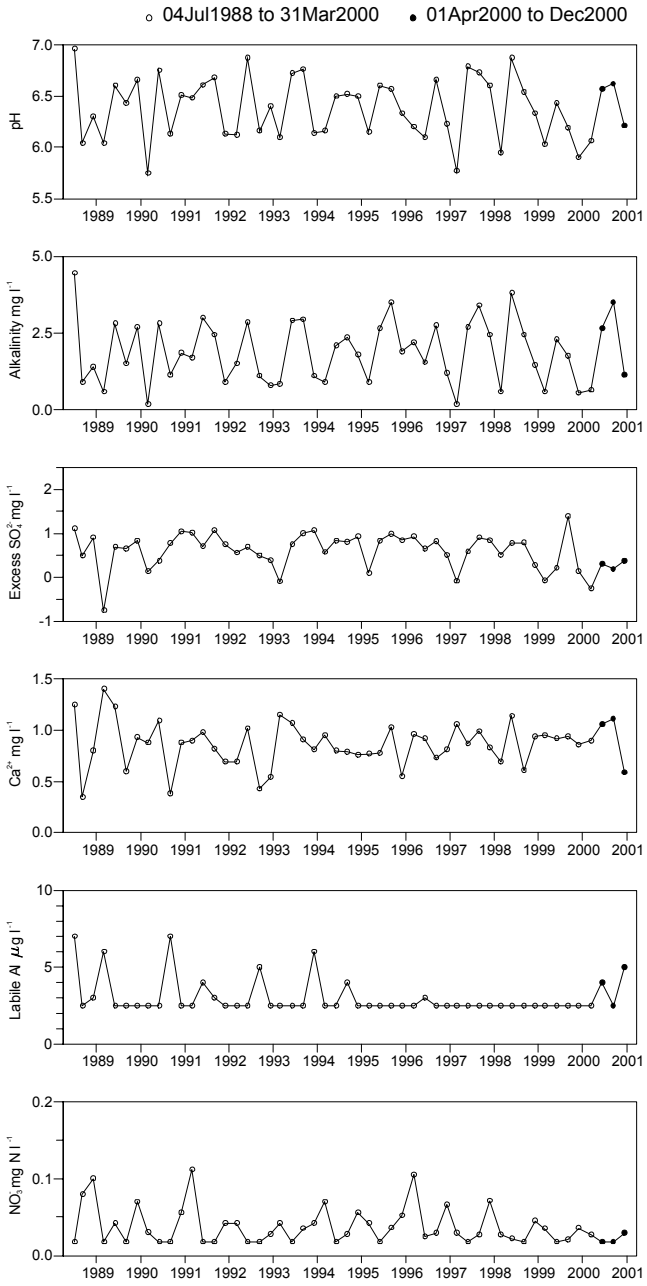
Grid Ref: NG 808422

Lake altitude:	125 m	Lake area:	12 ha
Maximum depth:	12.0 m	Catchment area:	897 ha
Mean depth:	4.8 m	Catchment:lake ratio:	77.3
Volume:	0.56 x 10^6 m^3	Net relief:	771 m

Soils: Peat Geology: Torridonian sandstone Vegetation: 99 % Moorland, 1 % Conifers

1.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.47	6.62	6.21	0.22	75.0
Alk($CaCO_3$)	2.43	3.50	1.15	1.19	75.0
Cond	37.0	41.0	32.0	4.6	75.0
Ca	0.92	1.11	0.59	0.29	75.0
Mg	0.77	1.10	0.50	0.31	75.0
Na	5.10	5.60	4.60	0.50	75.0
K	0.34	0.47	0.25	0.12	75.0
Ba	0.01	0.01	0.01	0.00	75.0
Sr	0.01	0.01	0.01	0.00	75.0
Fe	0.05	0.06	0.04	0.02	50.0
Mn	0.00	0.01	0.00	0.00	75.0
Sol.Al	28.0	38.0	18.0	10.0	75.0
Sol.lab.Al	3.8	5.0	2.5	1.3	75.0
Cl	8.73	9.80	7.90	0.97	75.0
SO_4	1.53	1.70	1.40	0.15	75.0
XSO_4	0.29	0.38	0.19	0.09	75.0
NO_3	0.02	0.03	0.02	0.01	75.0
PO_4	All recorded data below detection limit.				75.0
Br	0.02	0.02	0.01	0.00	50.0
F	No recorded data.				
Si	0.47	0.70	0.30	0.21	75.0
DOC	3.83	4.70	3.20	0.78	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$.

Past record statistics

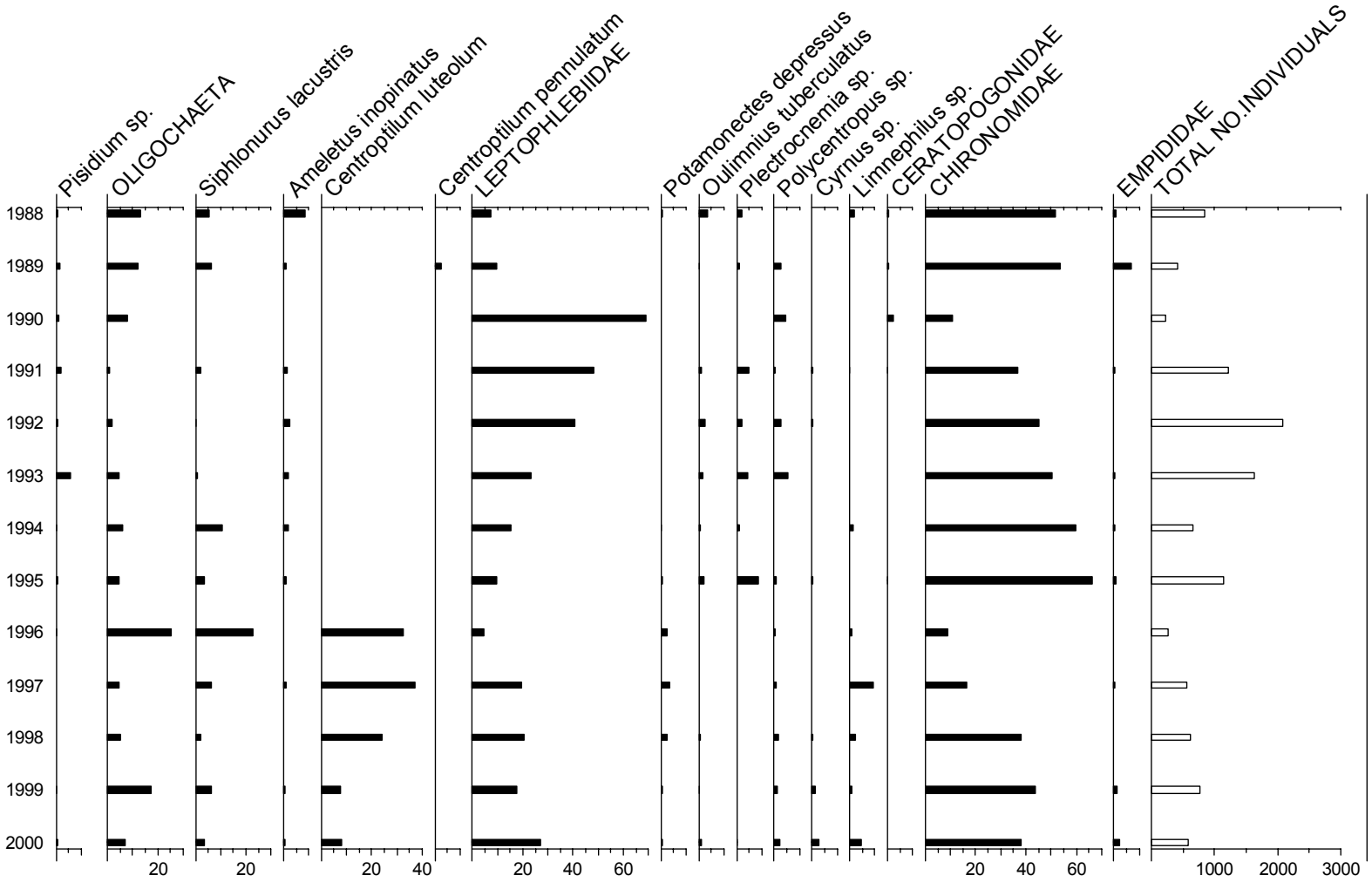
Chemistry statistics for period April 1998 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.38	6.96	5.75	0.31	100.0
Alk($CaCO_3$)	1.86	4.45	0.20	1.02	100.0
Cond	39.8	85.0	21.0	13.6	100.0
Ca	0.86	1.40	0.35	0.22	100.0
Mg	0.75	1.90	0.30	0.29	100.0
Na	5.43	11.40	3.00	1.80	100.0
K	0.39	0.60	0.15	0.06	100.0
Ba	0.01	0.03	0.01	0.00	100.0
Sr	0.01	0.02	0.00	0.00	100.0
Fe	0.04	0.23	0.01	0.03	100.0
Mn	0.00	0.03	0.00	0.00	100.0
Sol.Al	15.0	40.0	2.5	8.2	100.0
Sol.lab.Al	3.0	7.0	2.5	1.2	100.0
Cl	9.40	23.60	4.30	4.34	100.0
SO_4	1.95	2.70	1.30	0.35	100.0
XSO_4	0.62	1.39	-0.75	0.41	100.0
NO_3	0.04	0.11	0.02	0.02	100.0
PO_4	0.00	0.01	0.00	0.00	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.01	0.12	0.00	0.02	93.8
Si	0.49	0.80	0.20	0.13	100.0
DOC	2.28	5.80	0.10	1.27	100.0

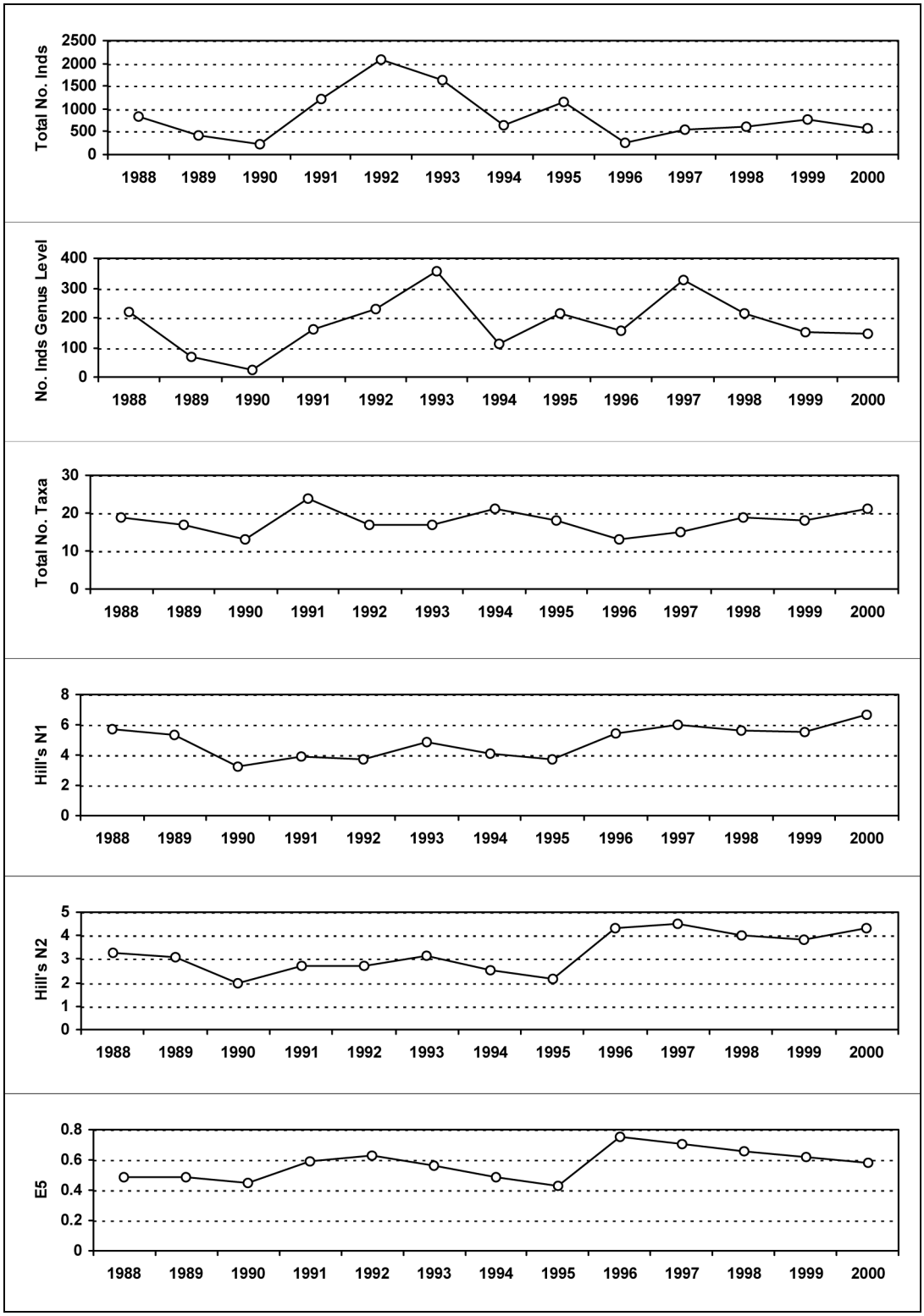
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$.

1.2. Macroinvertebrate data

1.2.1. Percentage abundance summary, Loch Coire nan Arr

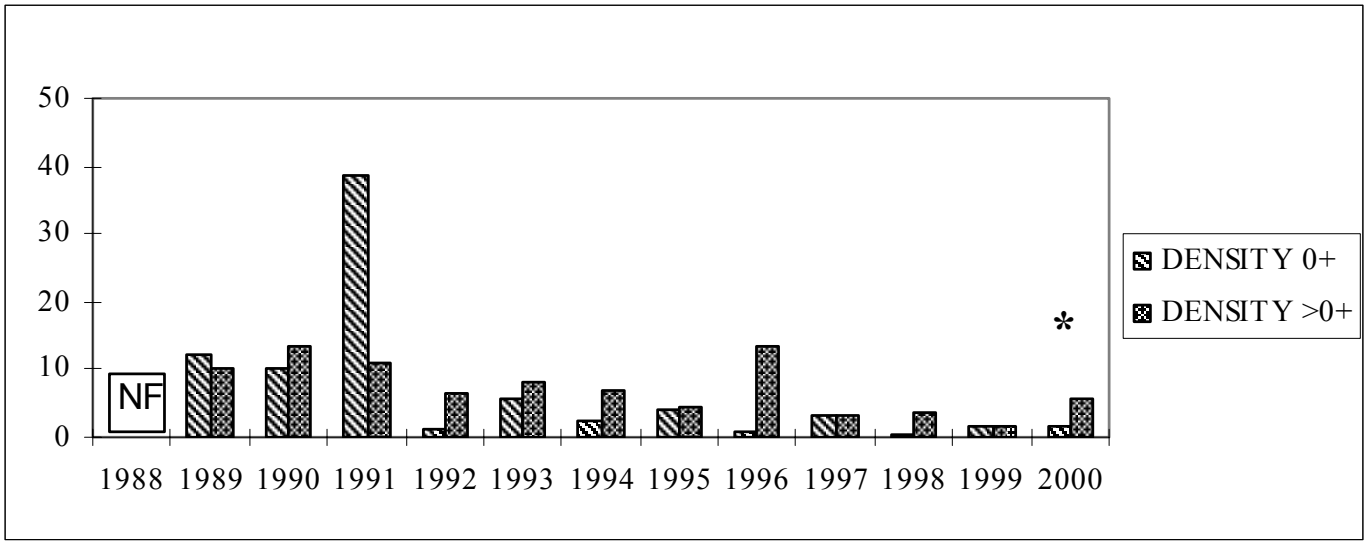


1.2.2. Summary statistics, Loch Coire nan Arr



1.3. Fish data (for outflow stream)

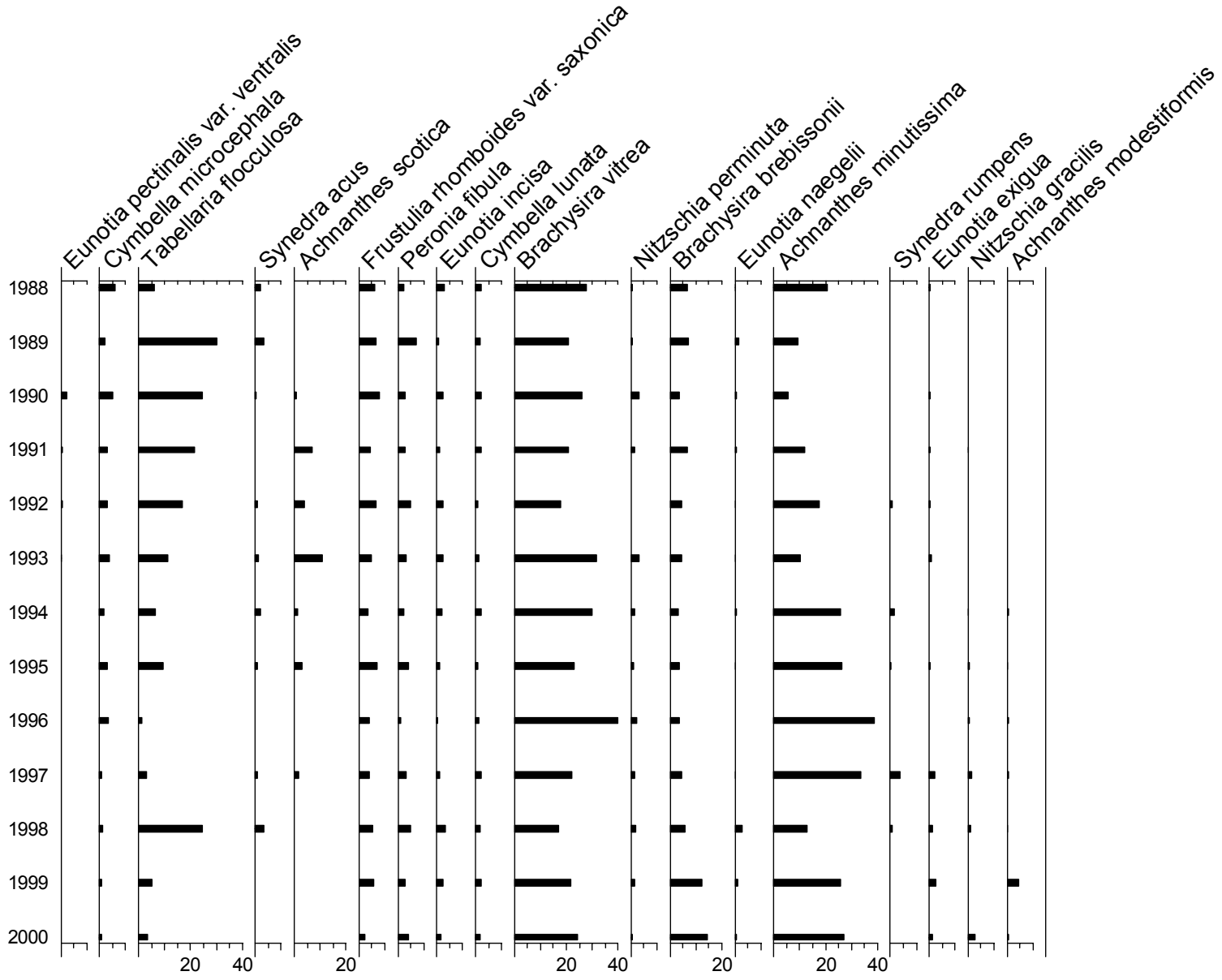
1.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Loch Coire nan Arr



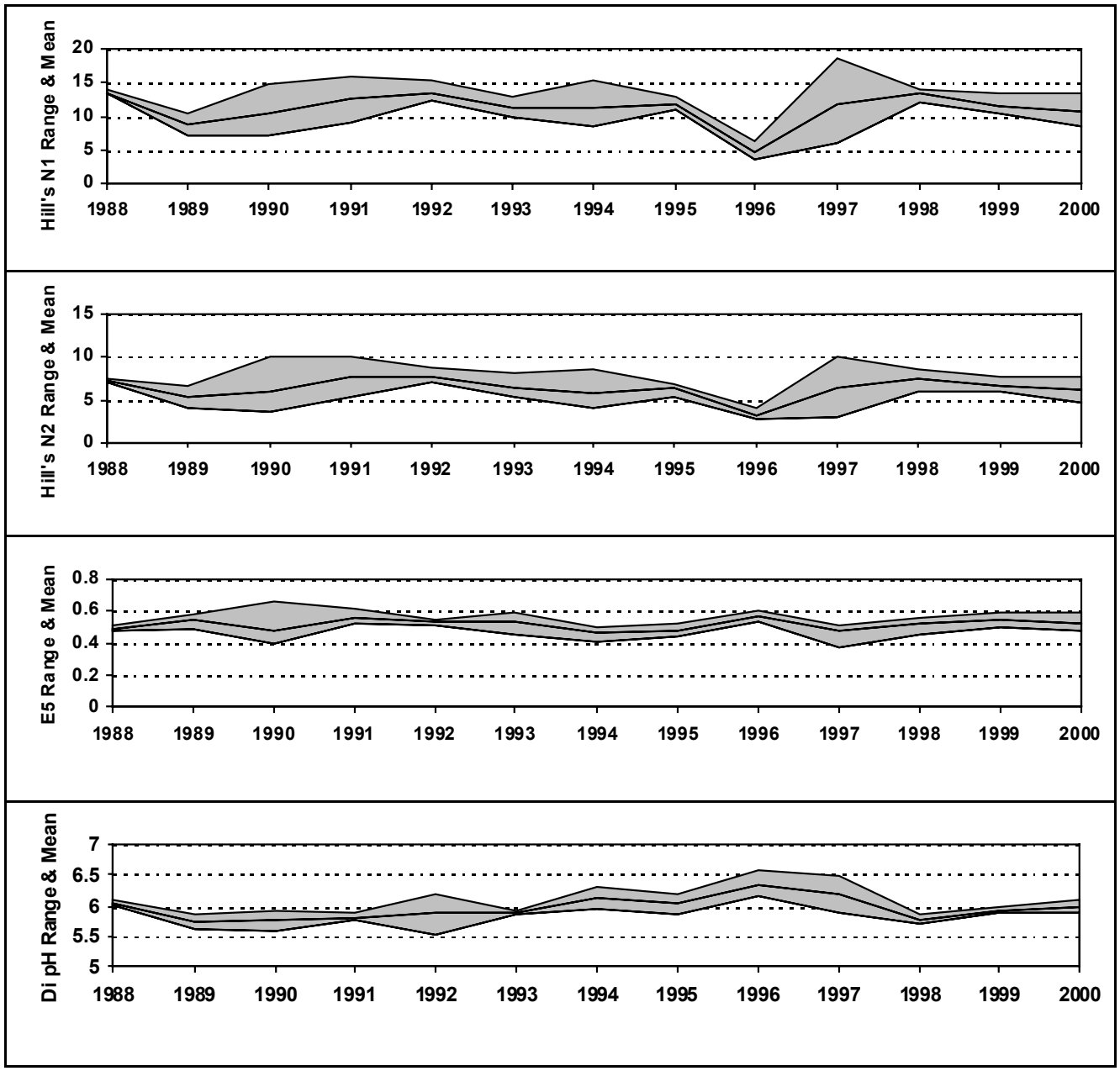
NF = Not fished
* Not all 3 reaches fished

1.4. Epilithic diatom data

1.4.1. Percentage abundance summary, Loch Coire nan Arr

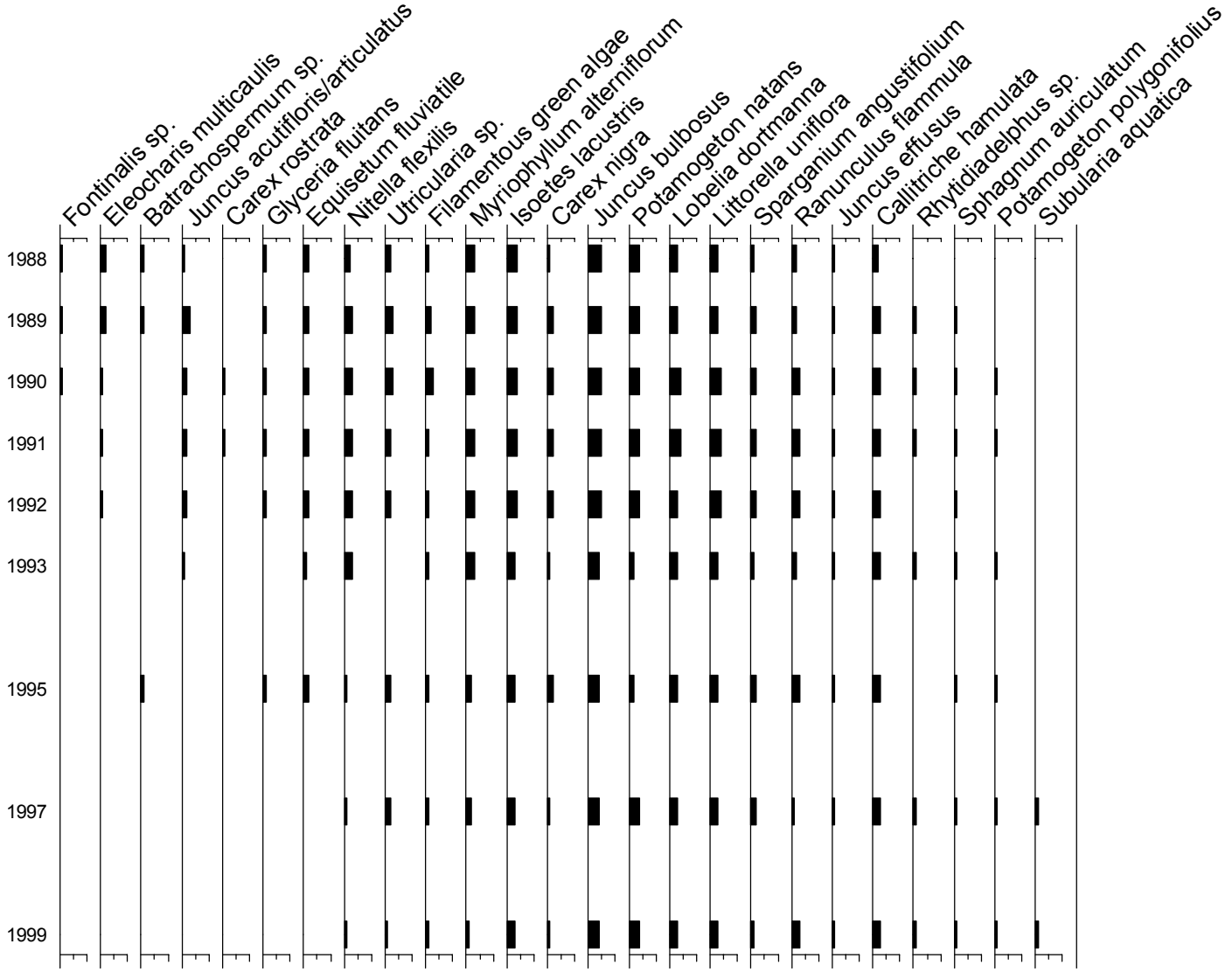


1.4.2. Summary statistics, Loch Coire nan Arr



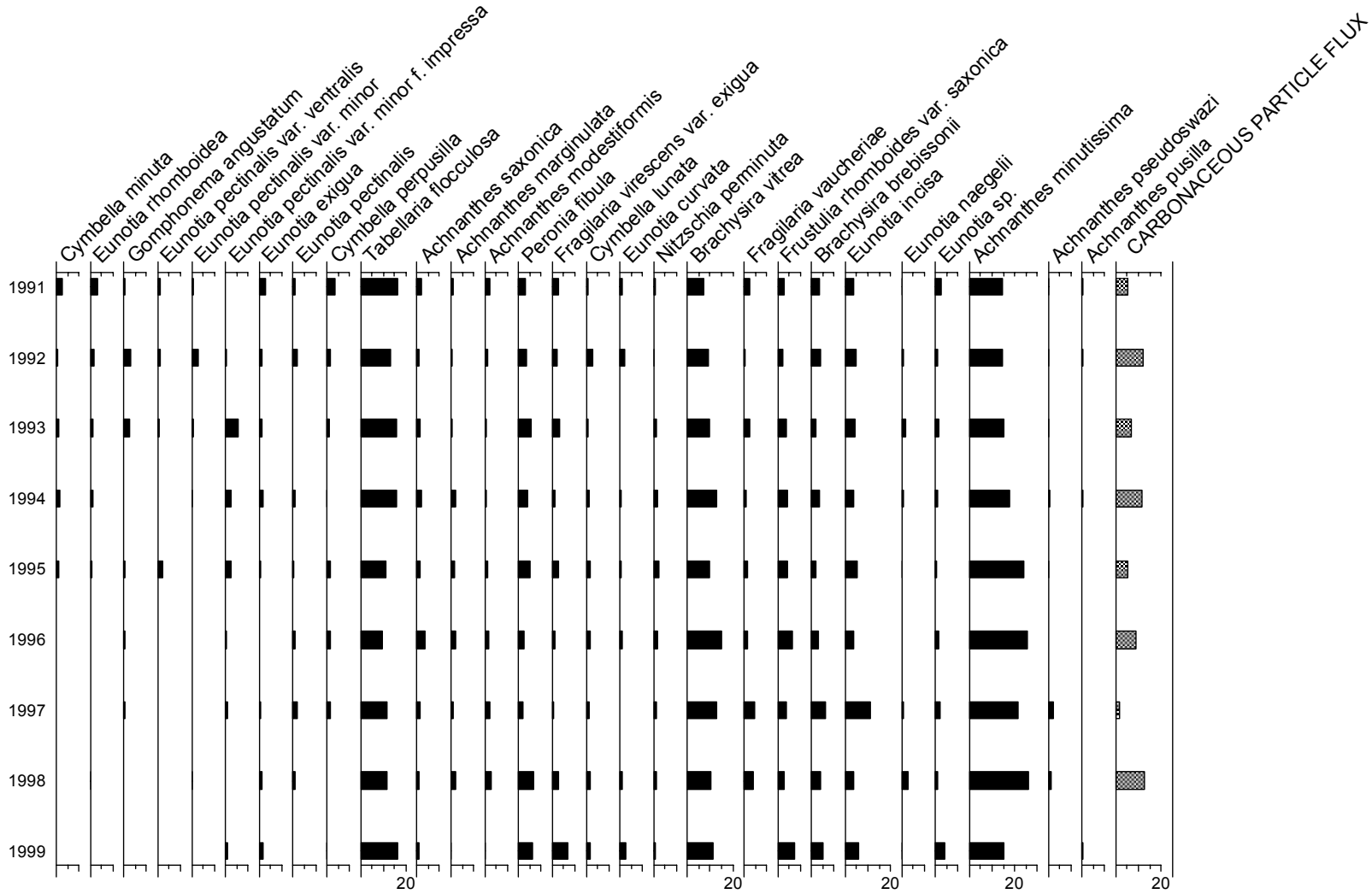
1.5. Aquatic macrophyte data, Loch Coire nan Arr

Species Scores (1-5)



1.6. Sediment trap data, Loch Coire nan Arr

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



2. Allt a'Mharcaidh

Catchment area: 998 ha
Minimum catchment altitude: 325 m
Maximum catchment altitude: 1111 m

Grid Ref: NH 881045

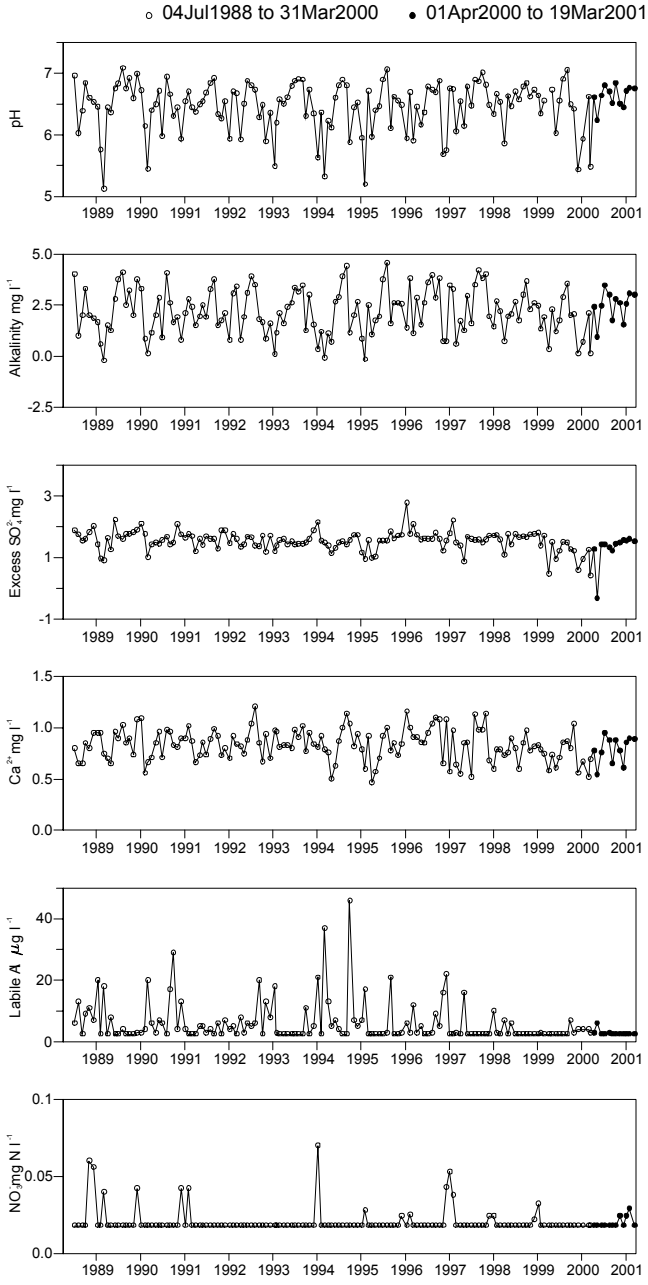
Soils: Alpine podsols
Peaty podsol
Blanket peat

Geology Granite

Vegetation: 90 % Moorland
10 % Conifers

2.1 Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.62	684	6.23	0.18	100.0
Alk($CaCO_3$)	2.46	3.45	0.95	0.72	100.0
Cond	22.4	27.0	18.0	2.6	100.0
Ca	0.79	0.95	0.54	0.13	100.0
Mg	0.43	0.80	0.30	0.19	100.0
Na	2.97	3.50	2.40	0.31	100.0
K	0.22	0.26	0.17	0.03	100.0
Ba	0.00	0.00	0.00	0.00	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.01	0.02	0.00	0.01	83.3
Mn	0.00	0.01	0.00	0.00	41.7
Sol.Al	18.6	41.0	5.0	10.8	100.0
Sol.lab.Al	2.9	6.0	2.5	1.0	100.0
Cl	3.90	5.90	3.10	0.75	100.0
SO_4	1.84	2.10	0.50	0.44	100.0
XSO_4	1.29	1.59	-0.34	0.52	100.0
NO_3	0.02	0.03	0.02	0.00	100.0
PO_4	0.00	0.00	0.00	0.00	100.0
Br	No recorded data.				
F	0.09	0.12	0.04	0.02	100.0
Si	2.68	4.00	1.60	0.72	100.0
DOC	2.11	3.10	1.30	0.52	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

Past record statistics

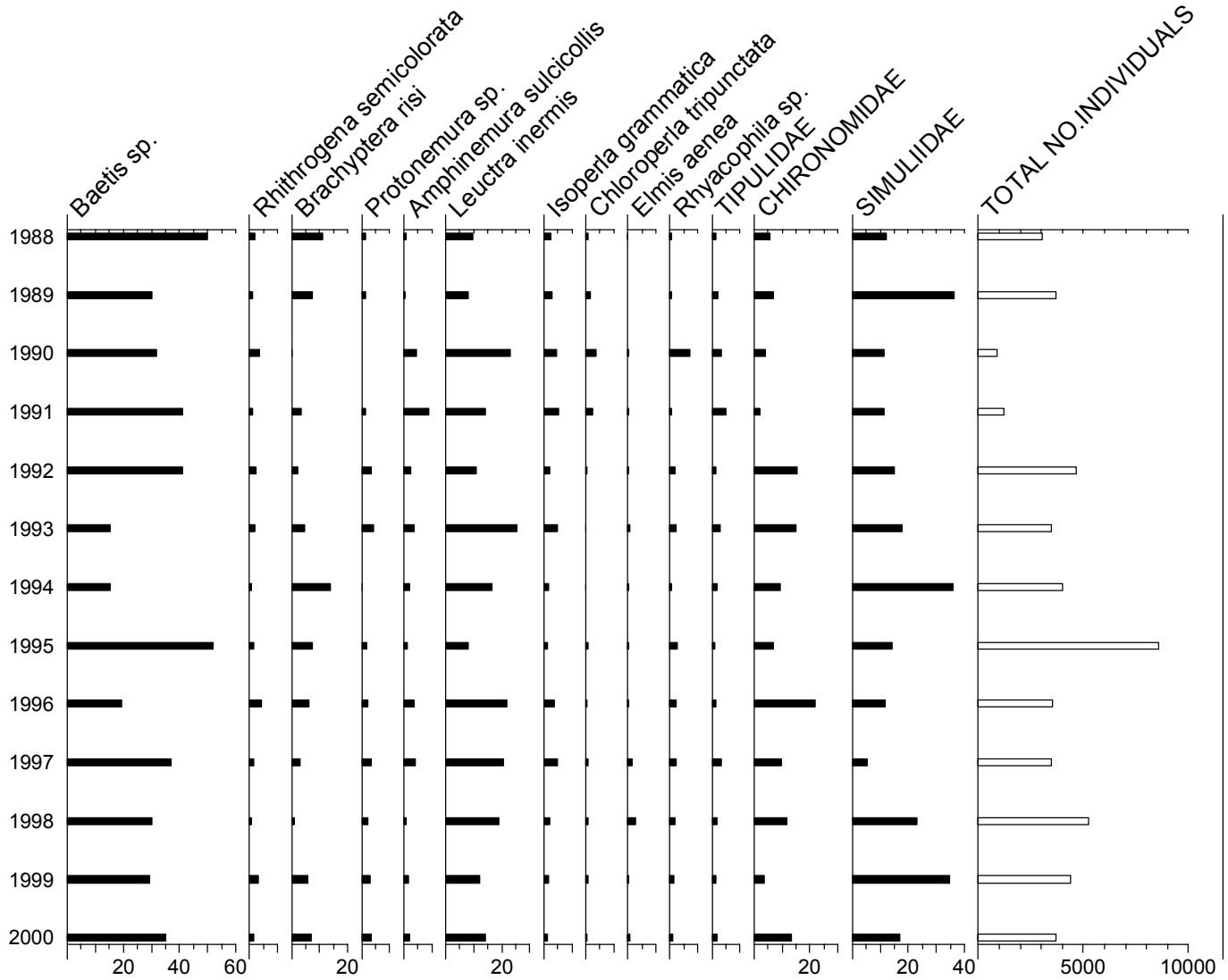
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.45	7.08	5.12	0.41	100.0
Alk($CaCO_3$)	2.16	4.55	-0.20	1.12	100.0
Cond	23.8	38.0	14.0	3.3	100.0
Ca	0.83	1.21	0.47	0.15	100.0
Mg	0.35	0.60	0.20	0.07	100.0
Na	3.10	4.90	2.10	0.41	100.0
K	0.36	0.50	0.15	0.05	100.0
Ba	0.00	0.01	0.00	0.00	90.3
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.02	0.07	0.01	0.01	93.8
Mn	0.00	0.01	0.00	0.00	91.7
Sol.Al	36.0	166.0	2.5	31.9	100.0
Sol.lab.Al	6.2	46.0	2.5	6.8	100.0
Cl	3.94	9.20	2.00	0.93	100.0
SO_4	2.10	3.50	1.00	0.32	100.0
XSO_4	1.54	2.78	0.42	0.32	100.0
NO_3	0.02	0.07	0.02	0.01	100.0
PO_4	0.00	0.03	0.00	0.00	100.0
Br	0.01	0.02	0.00	0.00	89.6
F	0.09	0.14	0.00	0.03	100.0
Si	2.42	3.50	0.70	0.61	100.0
DOC	2.39	12.10	0.10	1.74	100.0

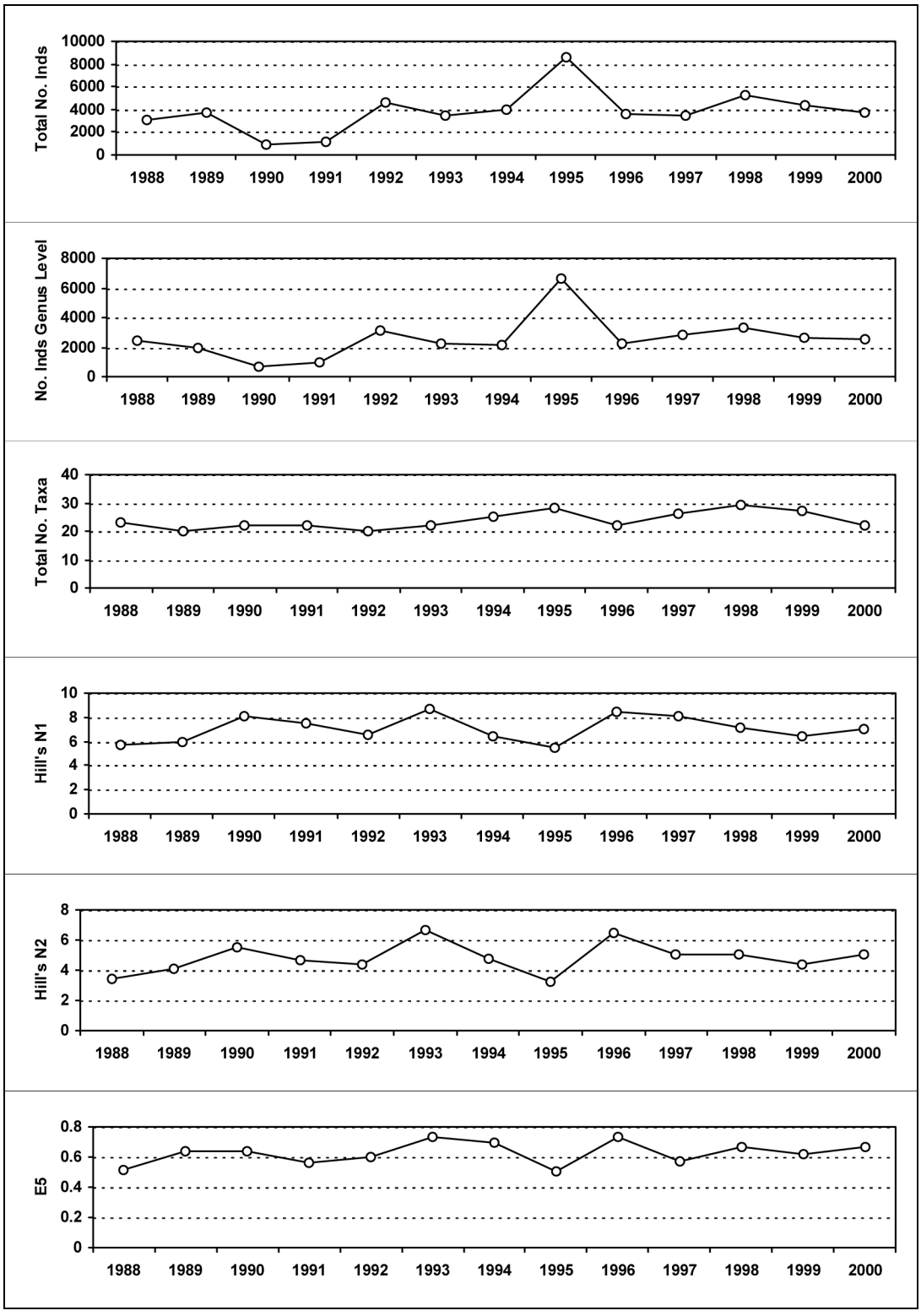
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

2.2. Macroinvertebrate data

2.2.1. Percentage abundance summary, Allt a'Mharcaidh

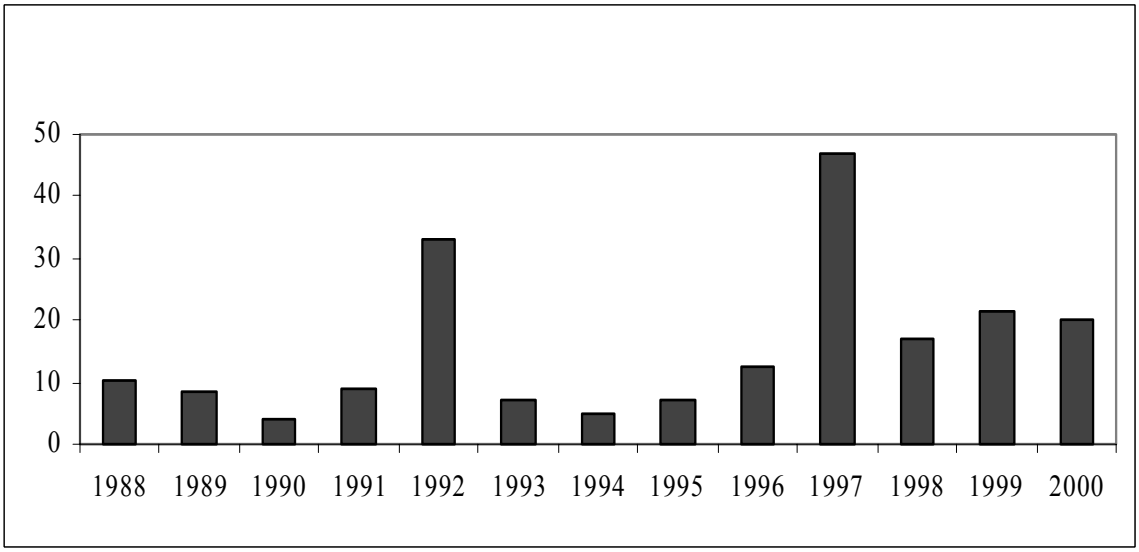


2.2.2. Summary statistics, Allt a'Mharcaidh

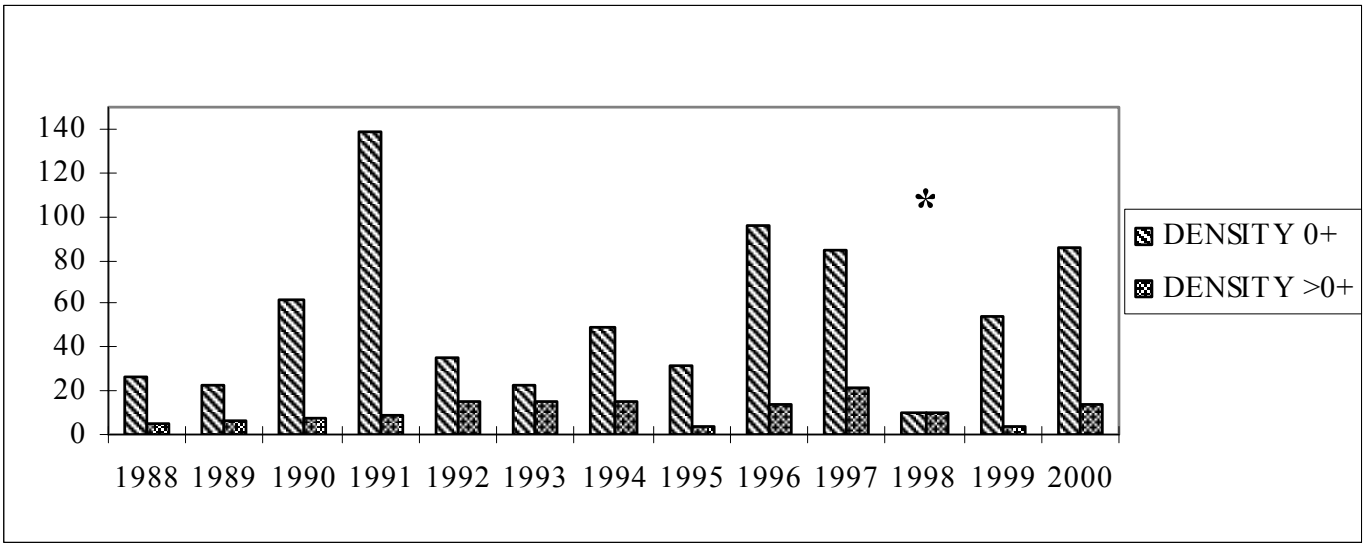


2.3. Fish data

2.3.1. Summary of mean Salmon density (total numbers 100m^{-2}), Allt a'Mharcaidh



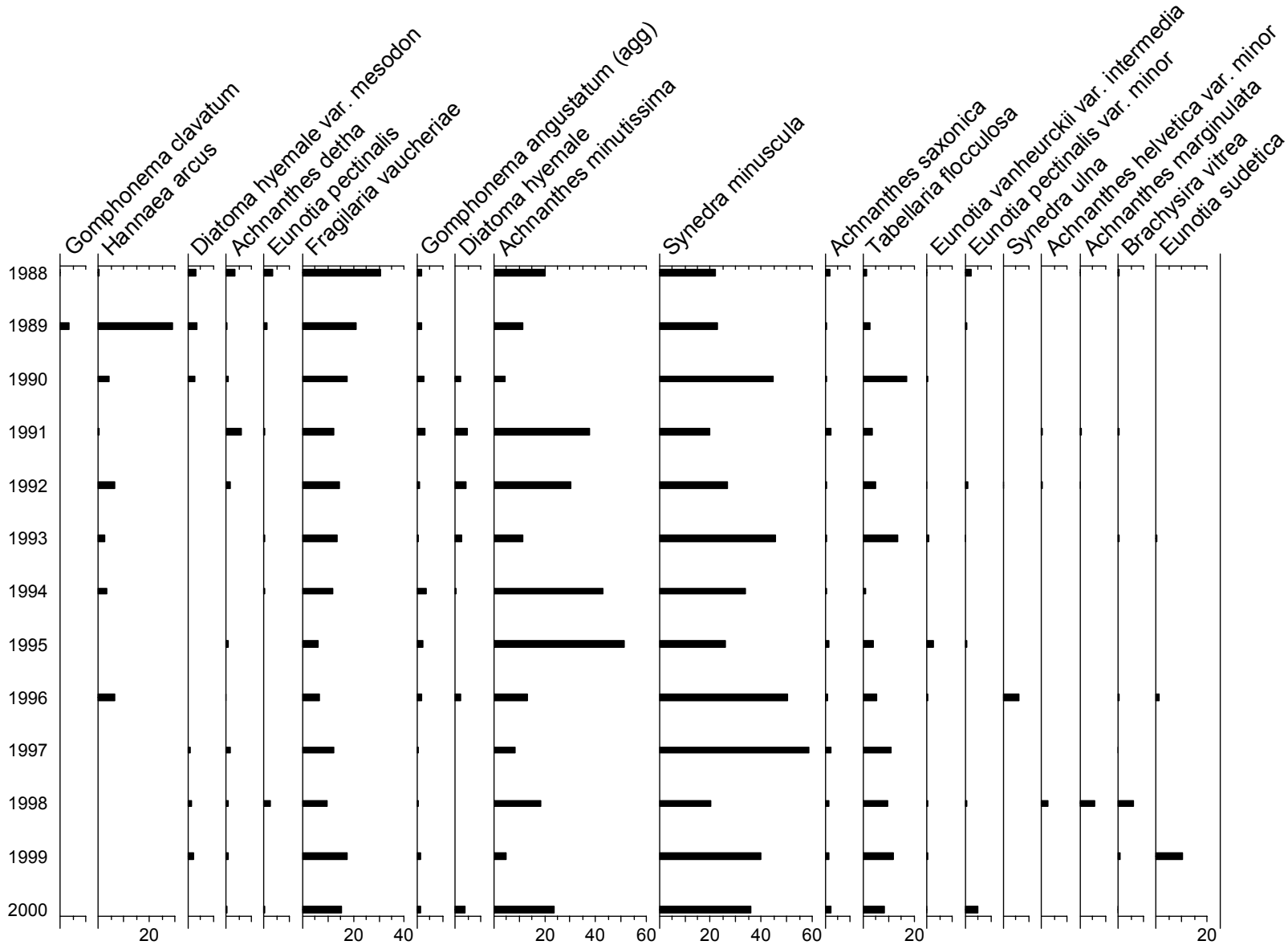
2.3.2. Summary of mean Trout density (numbers 100m^{-2}), Allt a'Mharcaidh



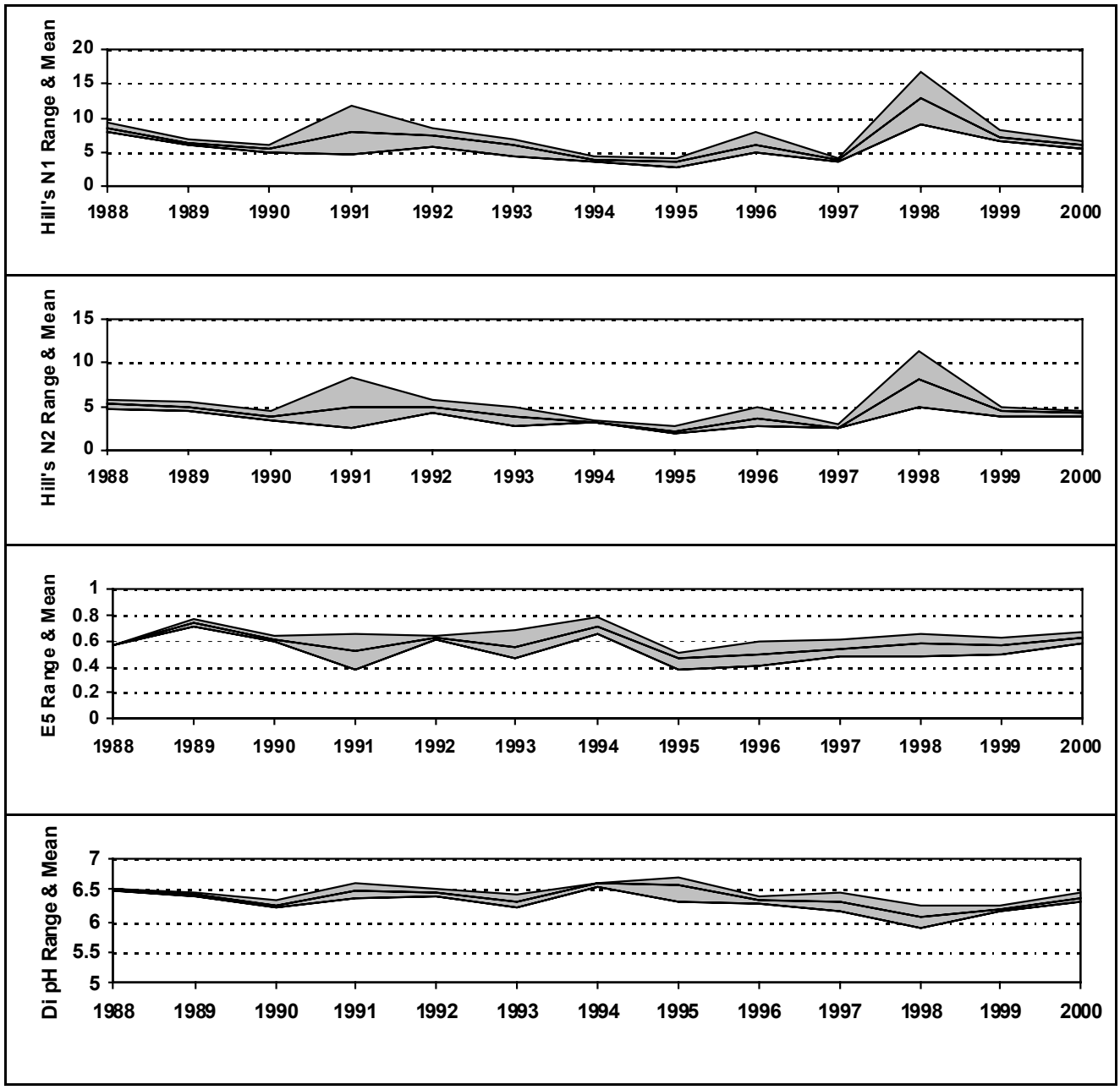
* Not all 3 reaches fished

2.4. Epilithic diatom data

2.4.1. Percentage abundance summary, Allt a'Mharcaidh

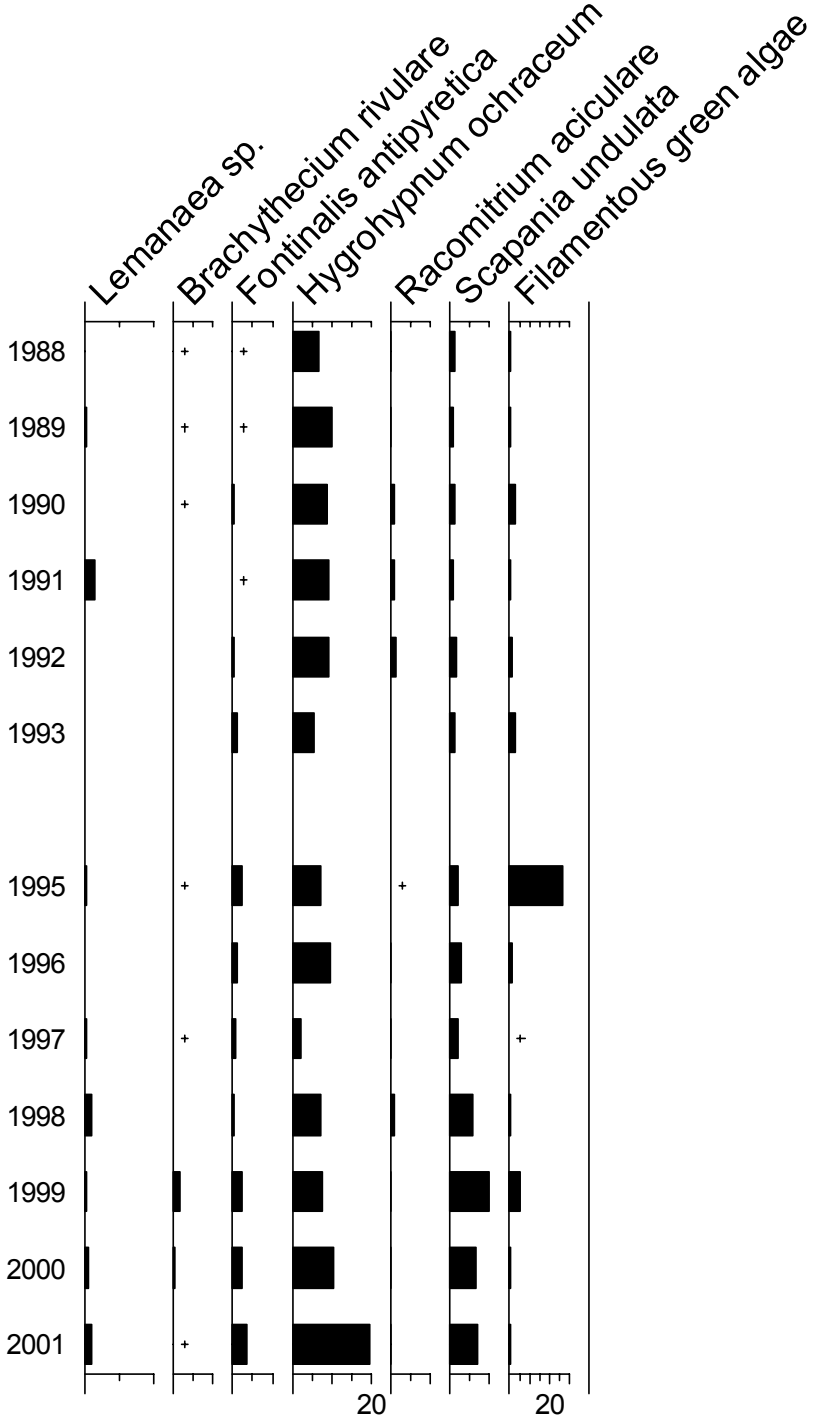


2.4.2. Summary statistics, Allt a'Mharcaidh



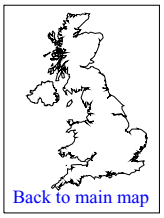
2.5. Aquatic macrophyte data, Allt a'Mharcaidh

Percentage Species Cover



+ Represents <0.1% abundance

3. Allt na Coire nan Con



Catchment area: 790 ha
Minimum catchment altitude: 10 m
Maximum catchment altitude: 756 m

Grid Ref: NM 793688

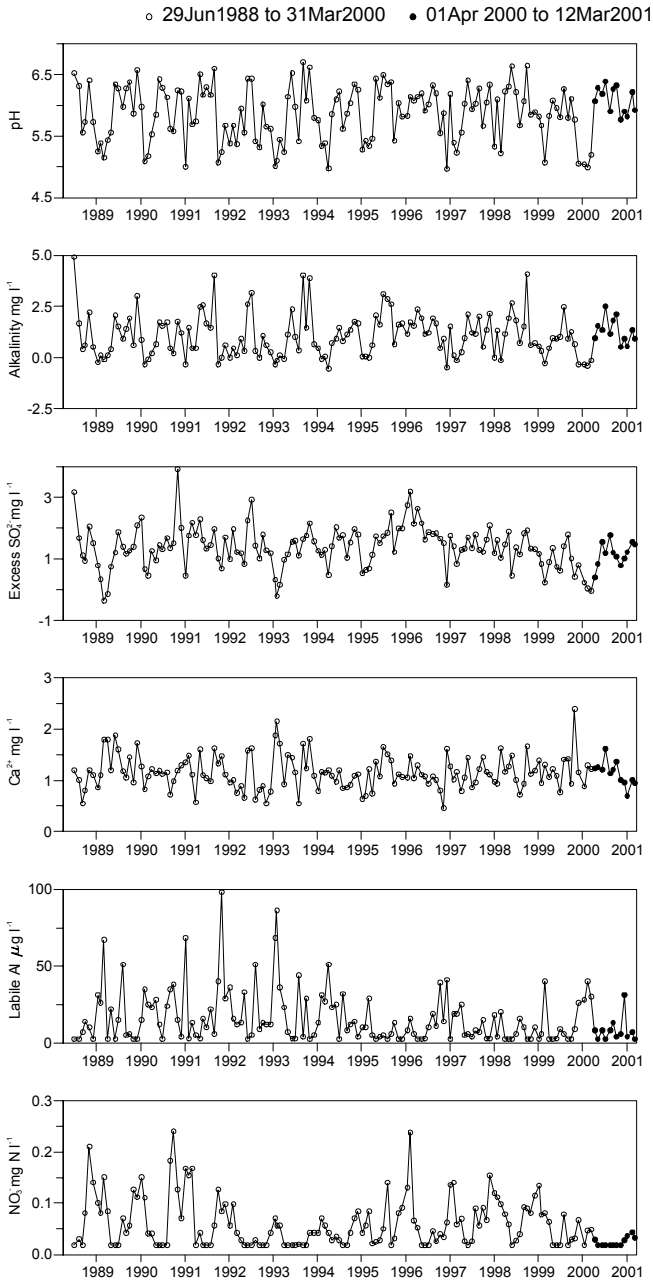
Soils: Peaty podsol, Peaty gley, Peat

Geology: Schists, Gneiss

Vegetation: 58 % Moorland, 42 % Conifers

3.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.08	6.38	5.76	0.22	100.0
Alk($CaCO_3$)	1.30	2.50	0.50	0.61	100.0
Cond	43.6	53.0	31.0	6.1	100.0
Ca	1.14	1.61	0.70	0.23	100.0
Mg	0.84	1.30	0.50	0.28	100.0
Na	5.78	6.80	4.30	0.78	100.0
K	0.24	0.31	0.16	0.04	100.0
Ba	0.00	0.00	0.00	0.00	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.12	0.23	0.02	0.06	91.7
Mn	0.00	0.01	0.00	0.00	100.0
Sol.Al	60.5	106.0	35.0	20.4	100.0
Sol.lab.Al	8.0	31.0	2.5	7.9	100.0
Cl	10.19	14.20	6.90	2.08	100.0
SO_4	2.61	3.10	2.20	0.30	100.0
XSO_4	1.16	1.76	0.38	0.39	100.0
NO_3	0.02	0.04	0.02	0.01	100.0
PO_4	All recorded data below detection limit.				100.0
Br	0.02	0.03	0.01	0.01	75.0
F	0.02	0.02	0.01	0.00	100.0
Si	1.02	1.50	0.30	0.35	100.0
DOC	5.33	9.10	3.40	1.72	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

Past record statistics

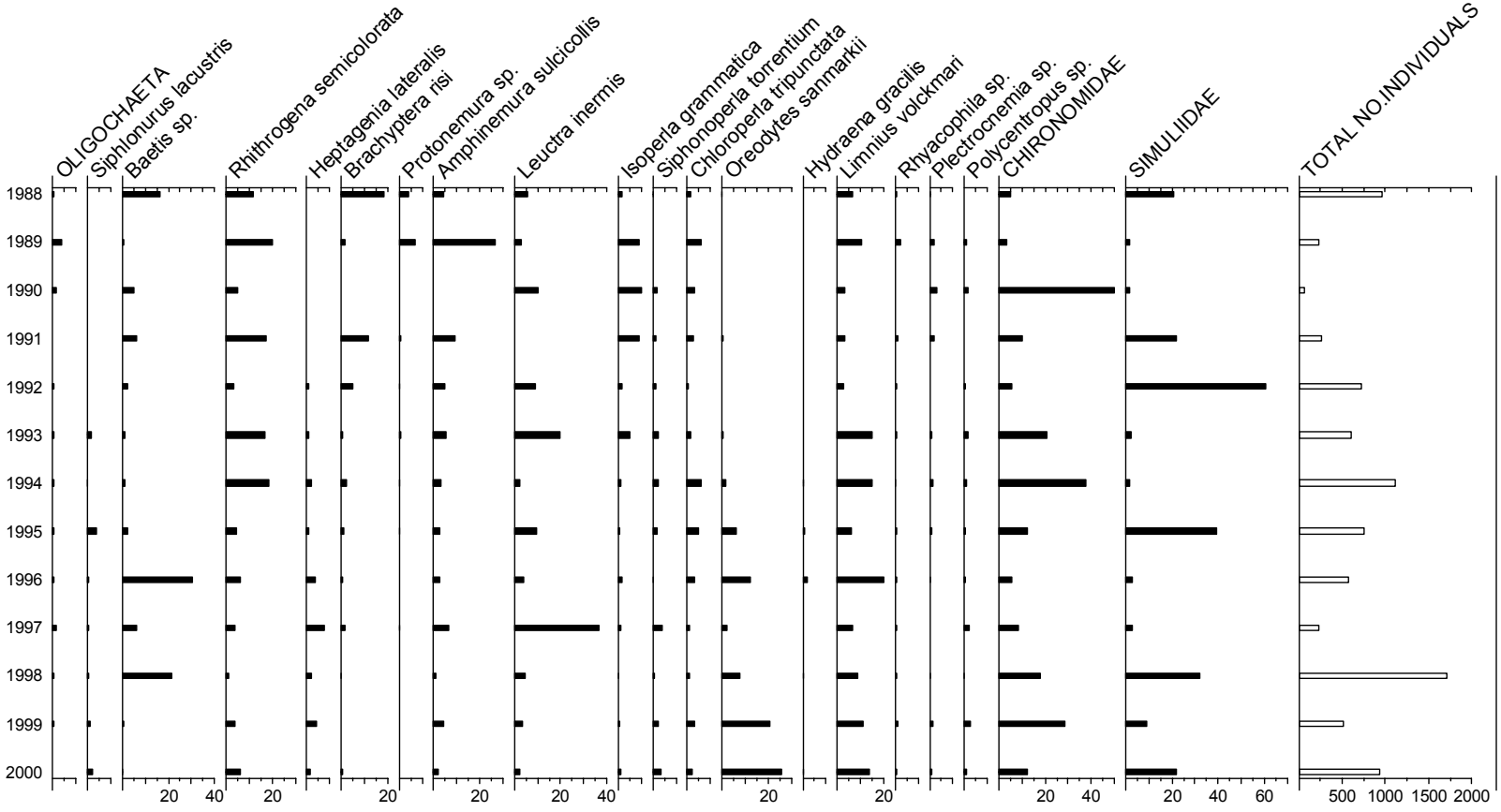
Chemistry statistics for period April 1988 to march 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.85	6.70	4.96	0.45	100.0
Alk($CaCO_3$)	1.06	4.90	-0.55	1.06	100.0
Cond	46.6	108.0	20.0	14.8	100.0
Ca	1.16	2.39	0.45	0.33	100.0
Mg	0.82	2.10	0.30	0.30	100.0
Na	6.06	13.10	3.40	1.78	100.0
K	0.39	1.08	0.13	0.09	100.0
Ba	0.01	0.05	0.00	0.00	93.8
Sr	0.01	0.04	0.00	0.00	100.0
Fe	0.09	0.27	0.02	0.06	100.0
Mn	0.01	0.03	0.00	0.00	100.0
Sol.Al	65.0	131.0	12.0	27.8	100.0
Sol.lab.Al	16.3	98.0	2.5	17.3	100.0
Cl	10.64	29.00	4.50	4.63	100.0
SO_4	2.89	5.30	1.40	0.62	100.0
XSO_4	1.37	3.91	-0.37	0.68	100.0
NO_3	0.06	0.24	0.02	0.05	100.0
PO_4	0.00	0.03	0.00	0.00	100.0
Br	0.02	0.10	0.00	0.01	100.0
F	0.02	0.10	0.00	0.01	100.0
Si	1.00	2.10	0.40	0.35	100.0
DOC	4.05	11.00	0.10	2.13	100.0

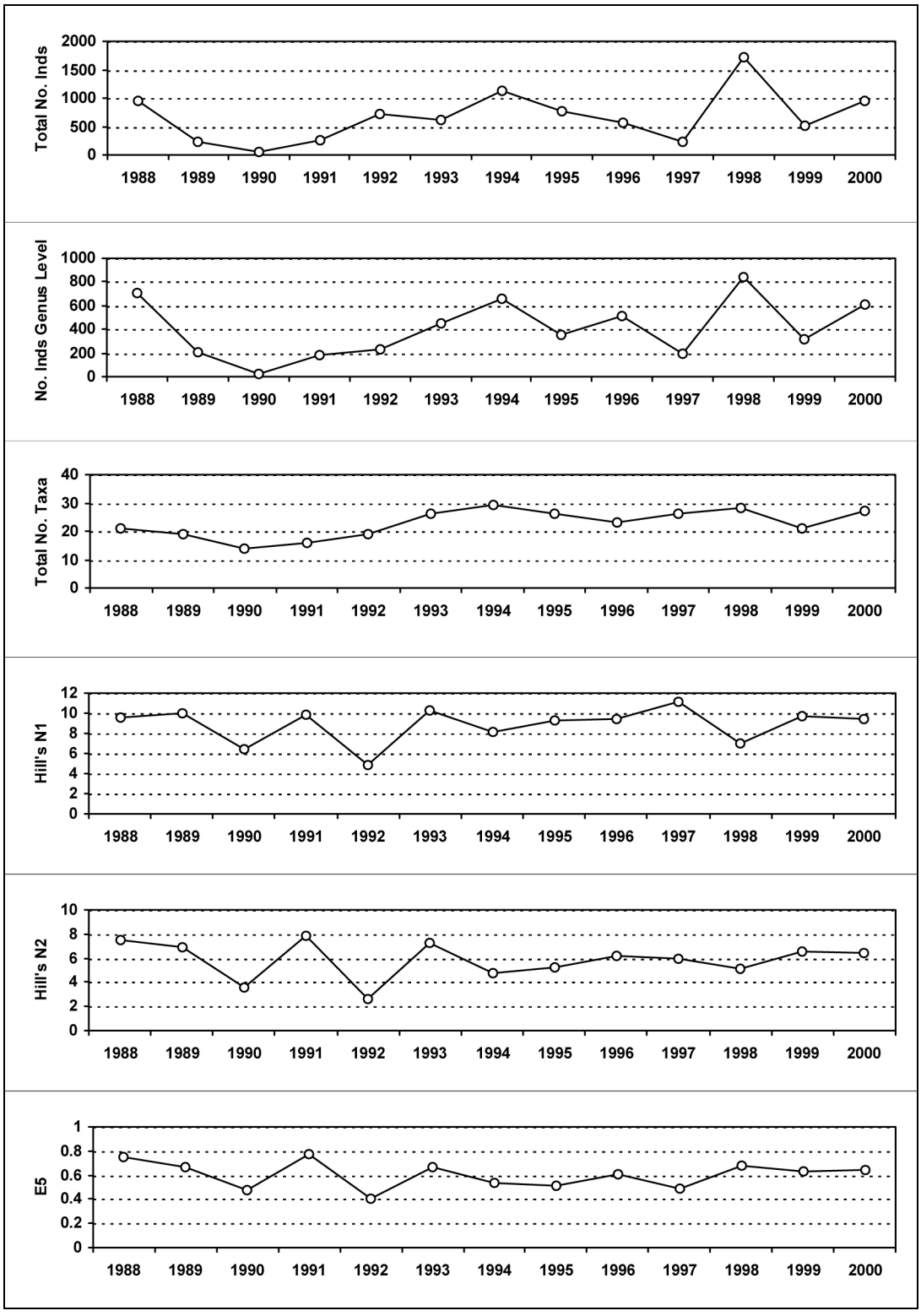
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

3.2. Macroinvertebrate data

3.2.1. Percentage abundance summary, Allt na Coire nan Con

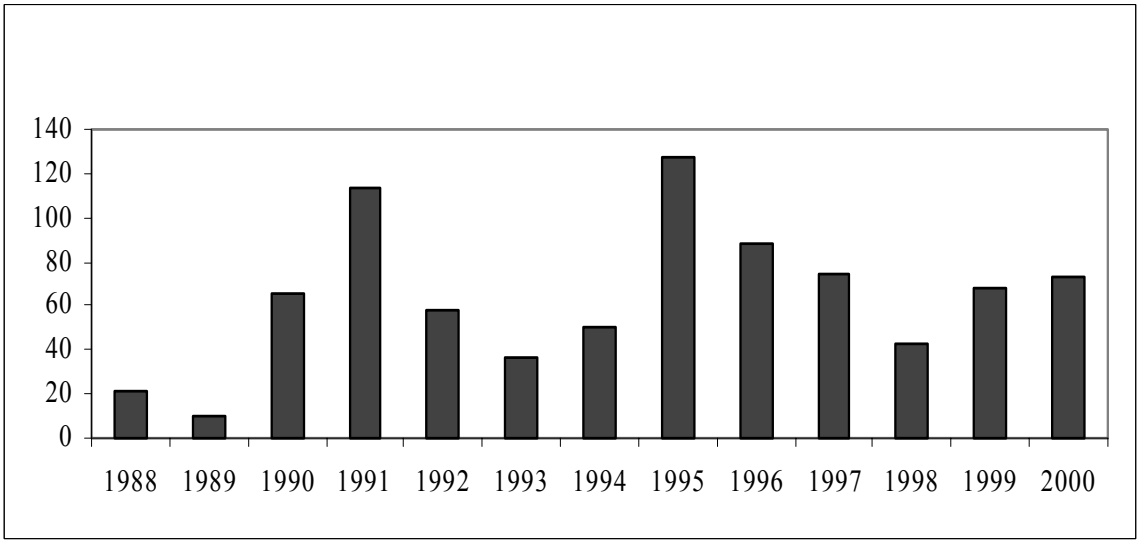


3.2.2. Summary statistics, Allt na Coire nan Con

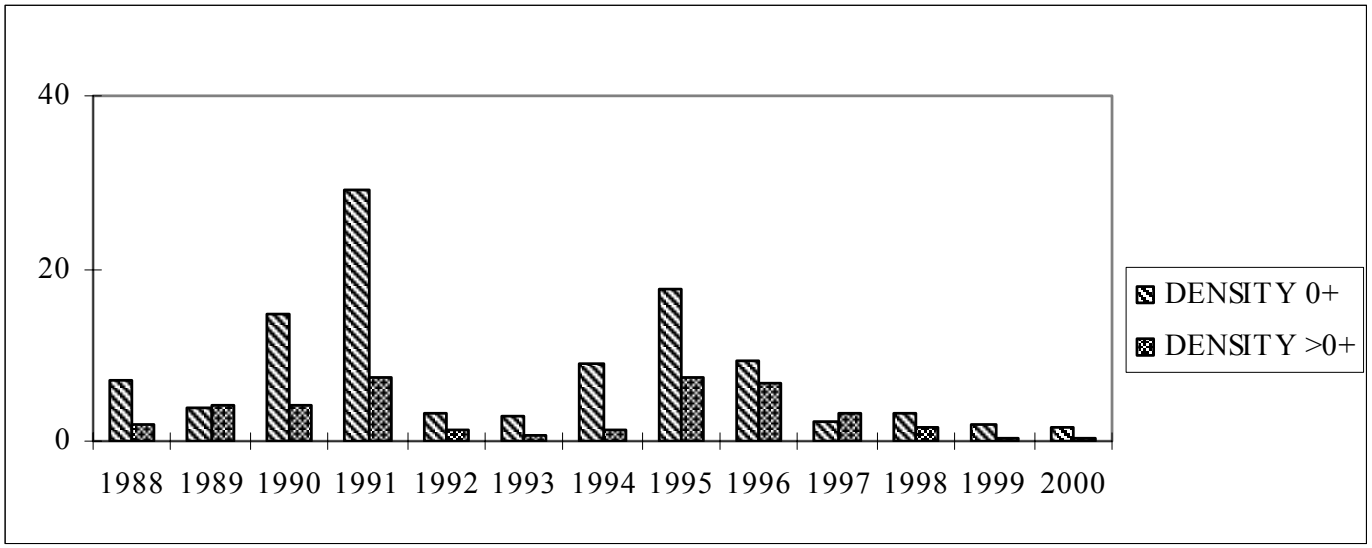


3.3. Fish data

3.3.1. Summary of mean Salmon density (total numbers 100m^{-2}), Allt na Coire nan Con

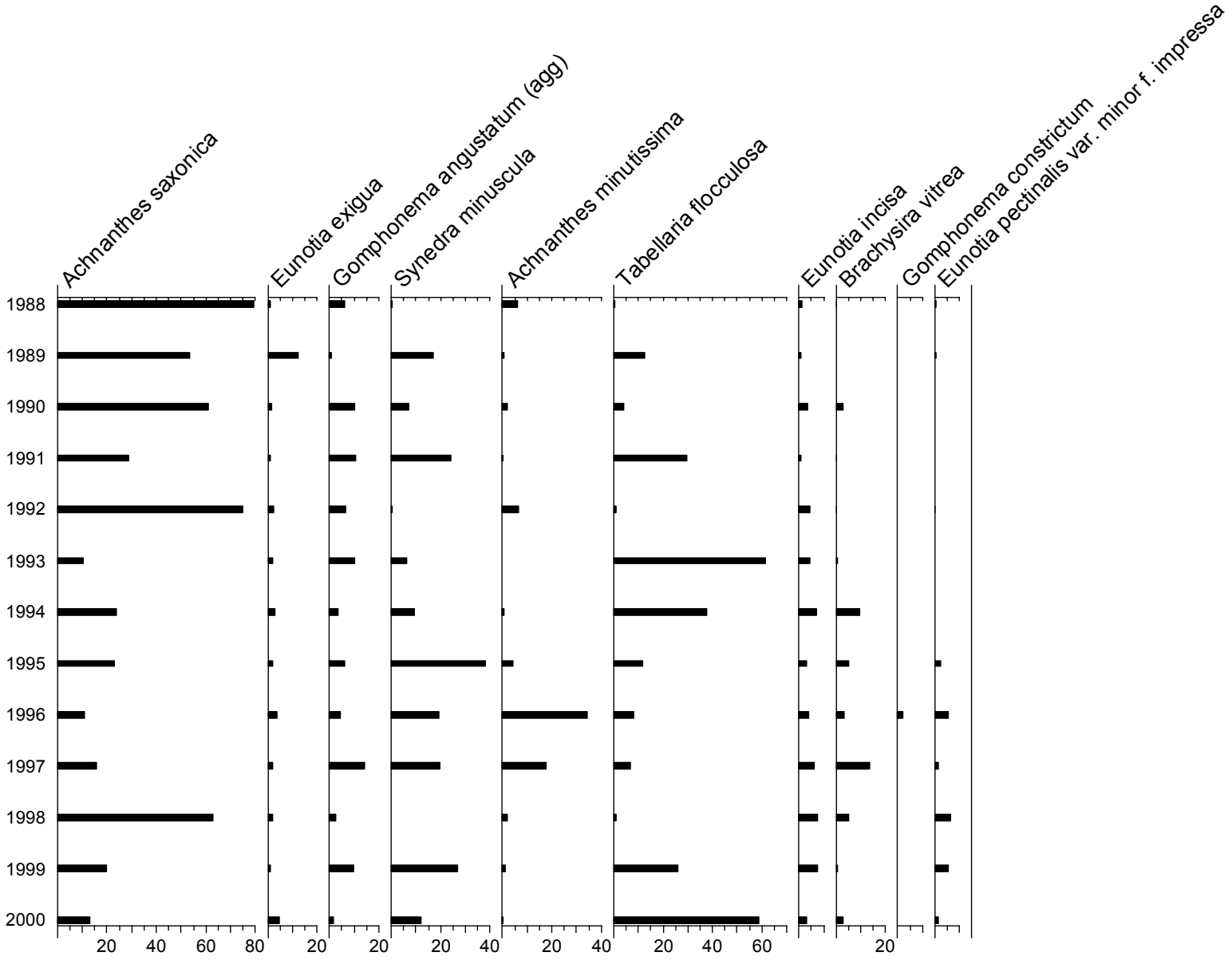


3.3.2. Summary of mean Trout density (numbers 100m^{-2}), Allt na Coire nan Con

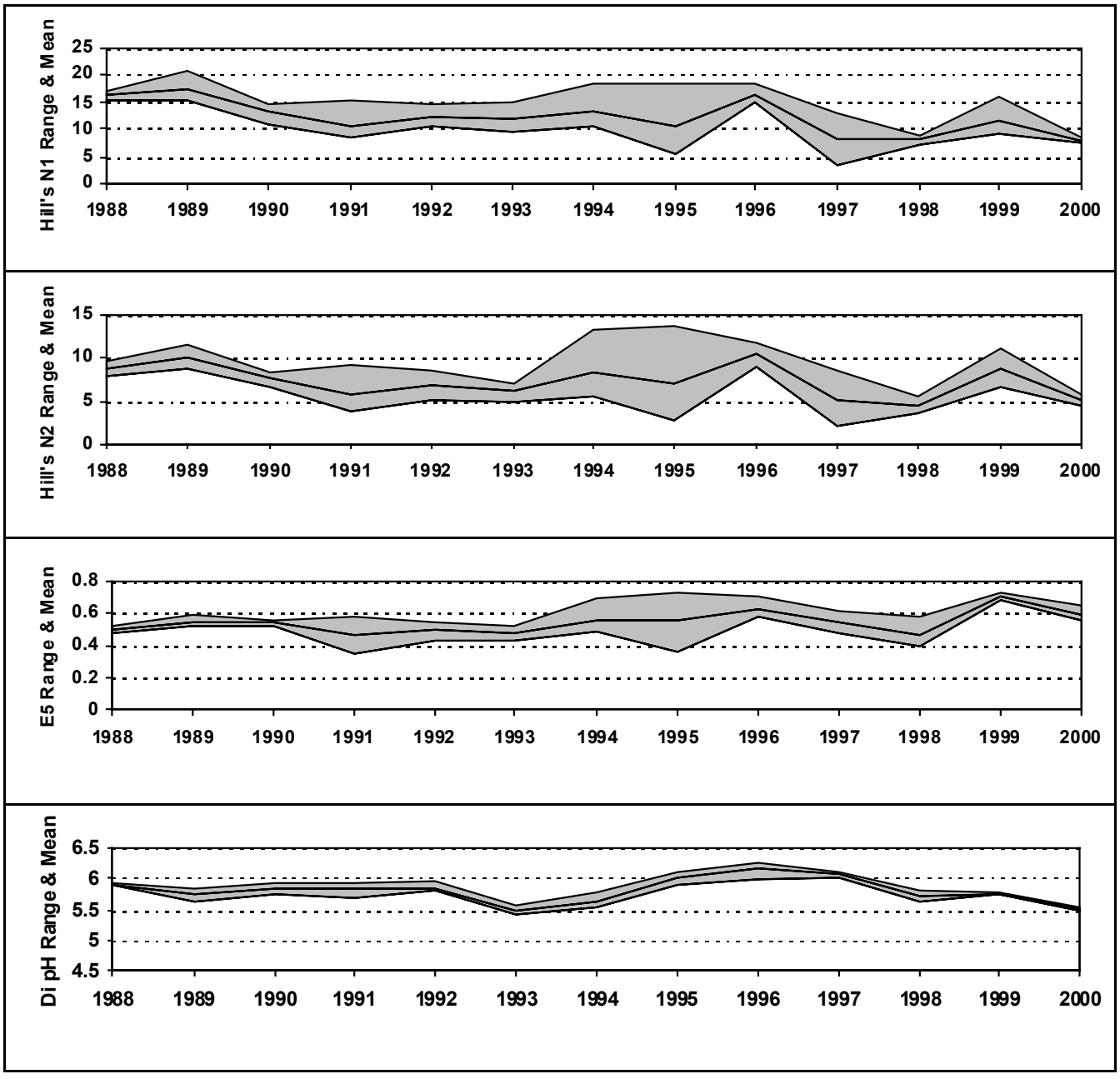


3.4. Epilithic diatom data

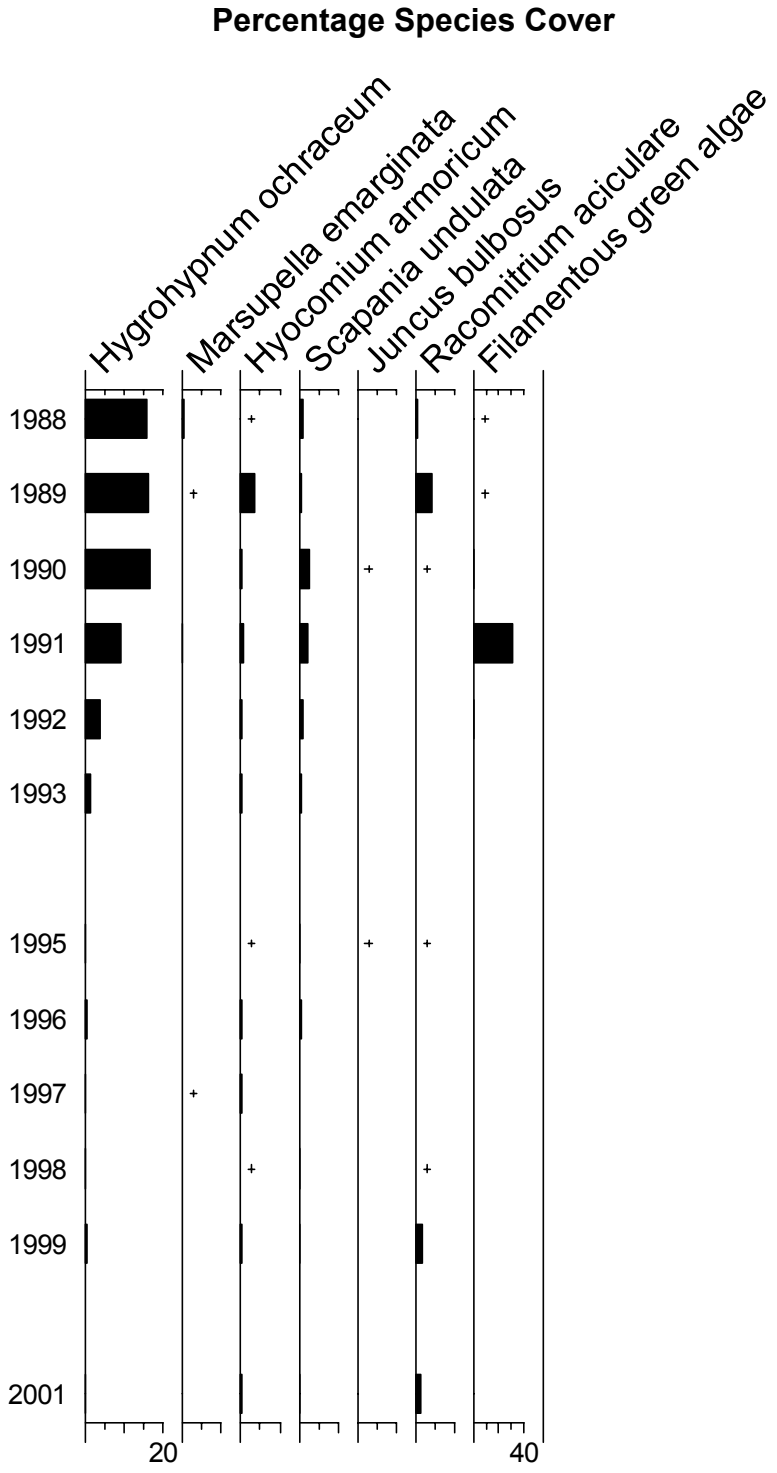
3.4.1. Percentage abundance summary, Allt na Coire nan Con



3.4.2. Summary statistics, Allt na Coire nan Con

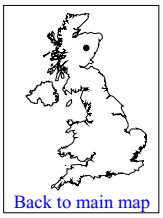


3.5. Aquatic macrophyte data, Allt na Coire nan Con



+ Represents <0.1% abundance

4. Lochnagar


Back to main map

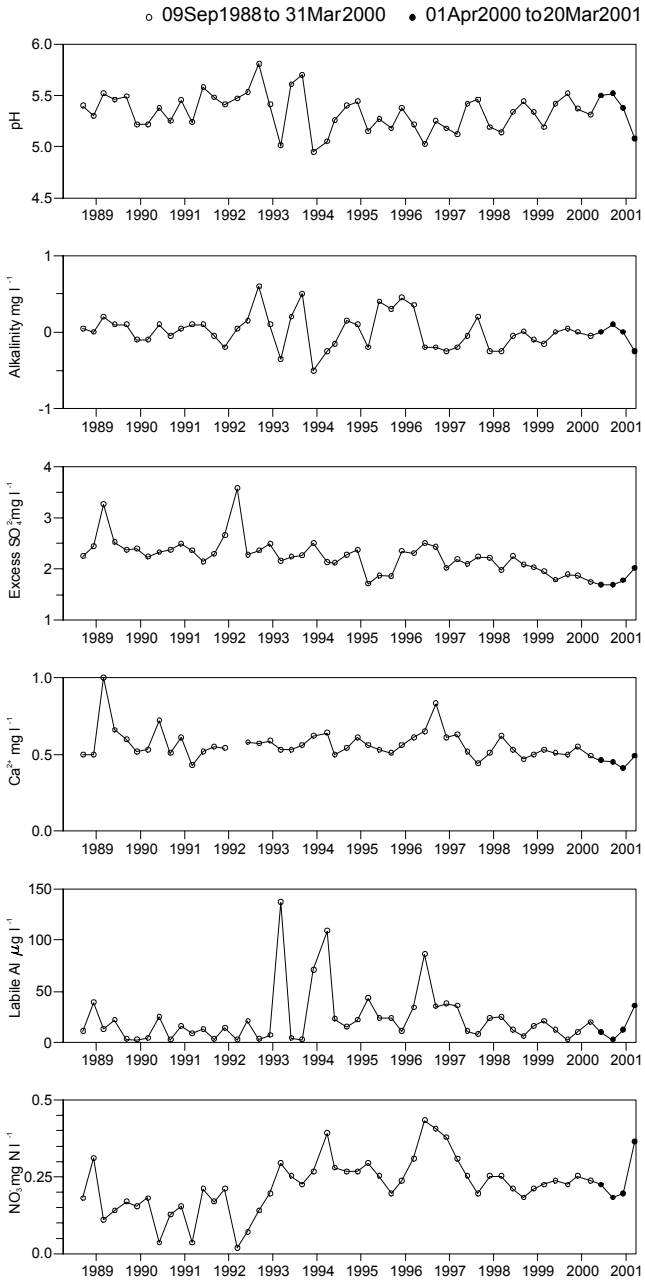
Lake altitude:	785 m	Lake area:	10 ha
Maximum depth:	24.0 m	Catchment area:	92 ha
Mean depth:	8.4 m	Catchment:lake ratio:	9.4
Volume:	0.82 x 10^6 m^3	Net relief:	370 m

Grid Ref: NO 252859

Soils: Peat Geology: Granite Vegetation: 100 % Moorland

4.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.37	5.52	5.08	0.20	100.0
Alk($CaCO_3$)	-0.04	0.10	-0.25	0.15	100.0
Cond	19.2	23.0	17.0	2.6	100.0
Ca	0.45	0.49	0.41	0.03	100.0
Mg	0.38	0.50	0.30	0.10	100.0
Na	1.90	2.00	1.80	0.08	100.0
K	0.17	0.20	0.16	0.02	100.0
Ba	0.02	0.02	0.02	0.00	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.02	0.04	0.01	0.01	100.0
Mn	0.01	0.01	0.01	0.00	100.0
Sol.Al	33.8	54.0	15.0	17.2	100.0
Sol.lab.Al	15.1	36.0	2.5	14.5	100.0
Cl	2.70	2.90	2.30	0.28	100.0
SO_4	2.17	2.40	2.10	0.15	100.0
XSO_4	1.79	2.02	1.69	0.16	100.0
NO_3	0.24	0.36	0.18	0.08	100.0
PO_4	All recorded data below detection limit.				100.0
Br	No recorded data.				
F	All recorded data below detection limit.				75.0
Si	1.05	1.30	0.80	0.29	100.0
DOC	1.52	1.90	0.90	0.45	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

Past record statistics

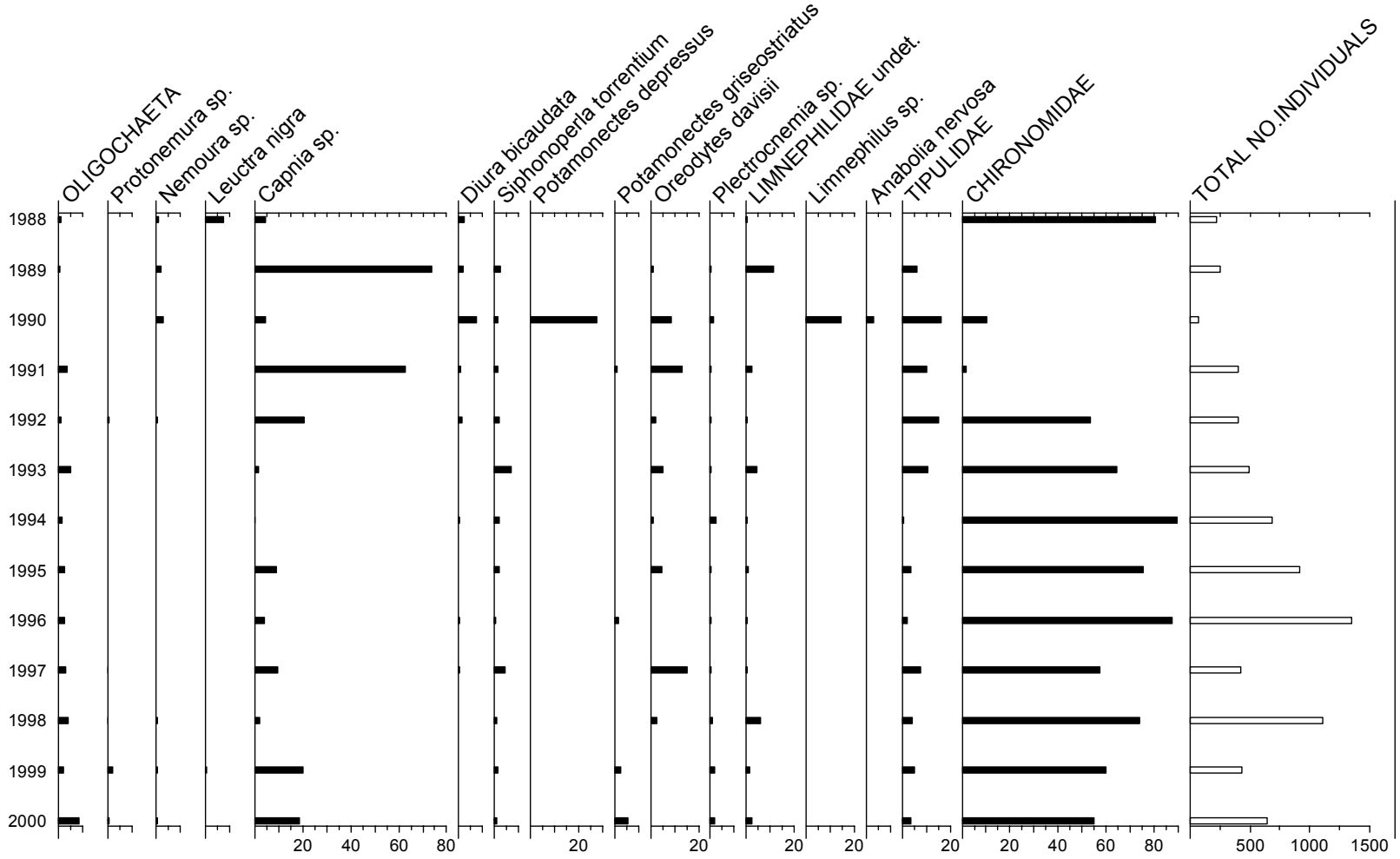
Chemistry statistics for period Sept 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.34	5.81	4.95	0.18	100.0
Alk($CaCO_3$)	0.02	0.60	-0.50	0.23	100.0
Cond	21.8	35.0	4.0	4.5	100.0
Ca	0.57	1.00	0.43	0.10	100.0
Mg	0.40	0.70	0.30	0.07	100.0
Na	2.15	4.00	1.60	0.36	100.0
K	0.36	0.50	0.16	0.06	100.0
Ba	0.03	0.10	0.01	0.01	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.02	0.05	0.01	0.01	87.5
Mn	0.01	0.01	0.00	0.00	100.0
Sol.Al	39.5	147.0	4.0	29.4	100.0
Sol.lab.Al	23.2	137.0	2.5	27.3	100.0
Cl	3.19	5.90	1.80	0.68	100.0
SO_4	2.71	4.10	2.20	0.36	100.0
XSO_4	2.26	3.57	1.70	0.33	100.0
NO_3	0.22	0.43	0.02	0.09	100.0
PO_4	0.00	0.03	0.00	0.00	93.8
Br	0.02	0.31	0.00	0.05	87.5
F	0.02	0.03	0.00	0.00	100.0
Si	1.02	1.50	0.30	0.18	100.0
DOC	1.13	3.40	0.20	0.59	100.0

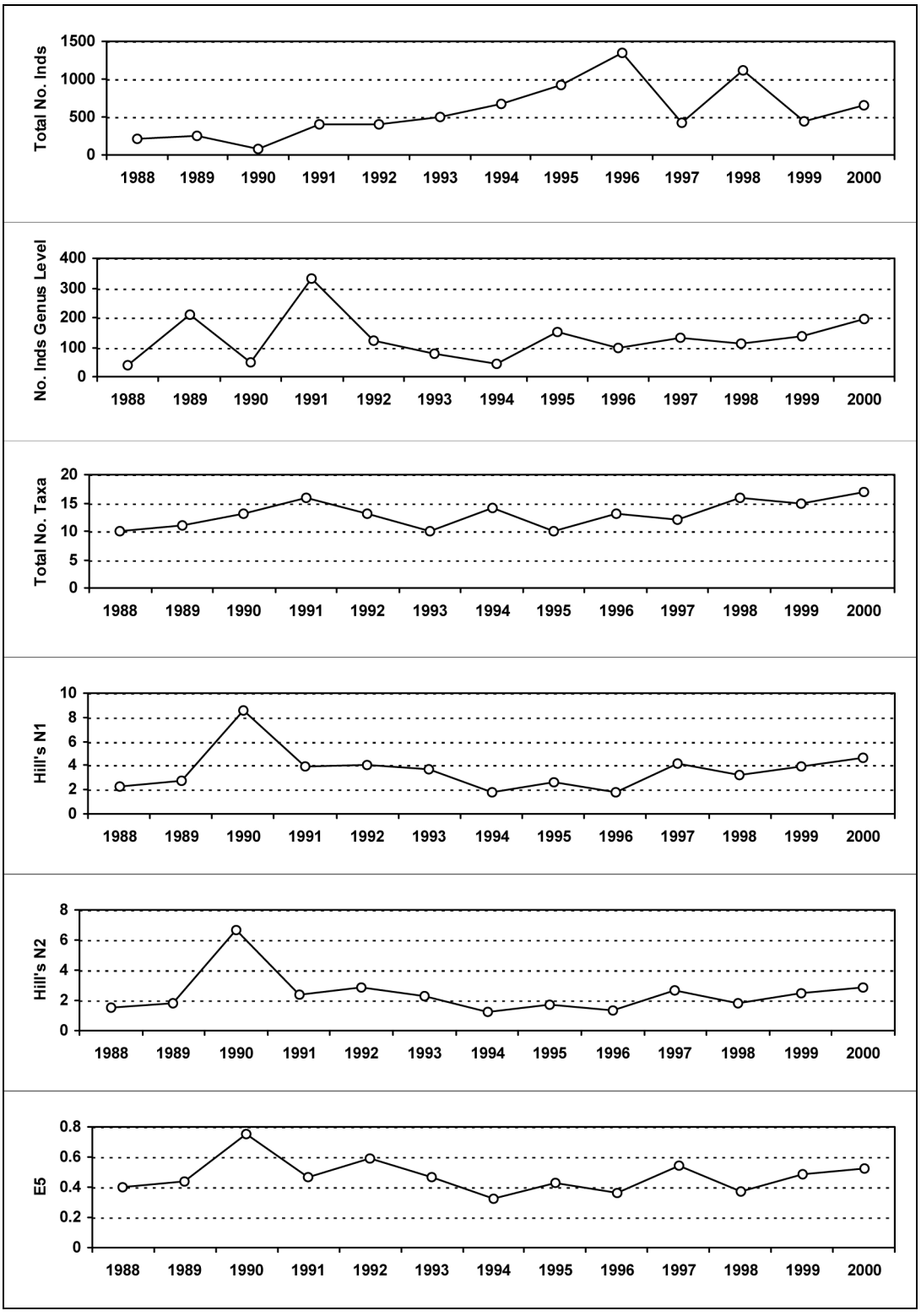
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

4.2. Macroinvertebrate data

4.2.1. Percentage abundance summary, Lochnagar

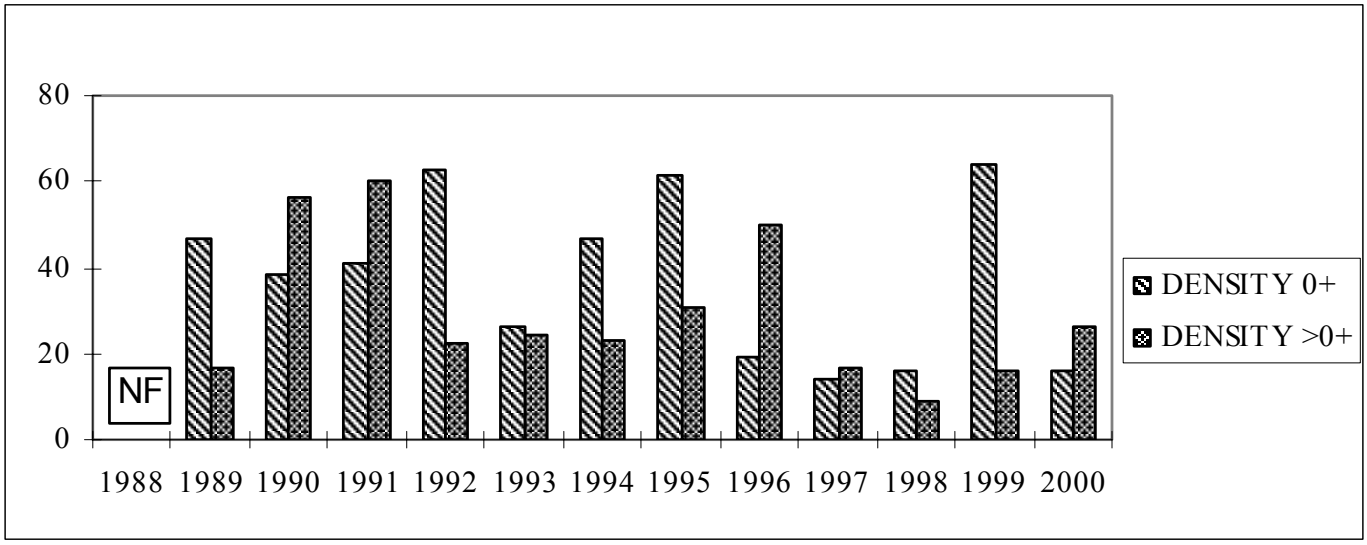


4.2.2. Summary statistics, Lochnagar



4.3. Fish data (for outflow stream)

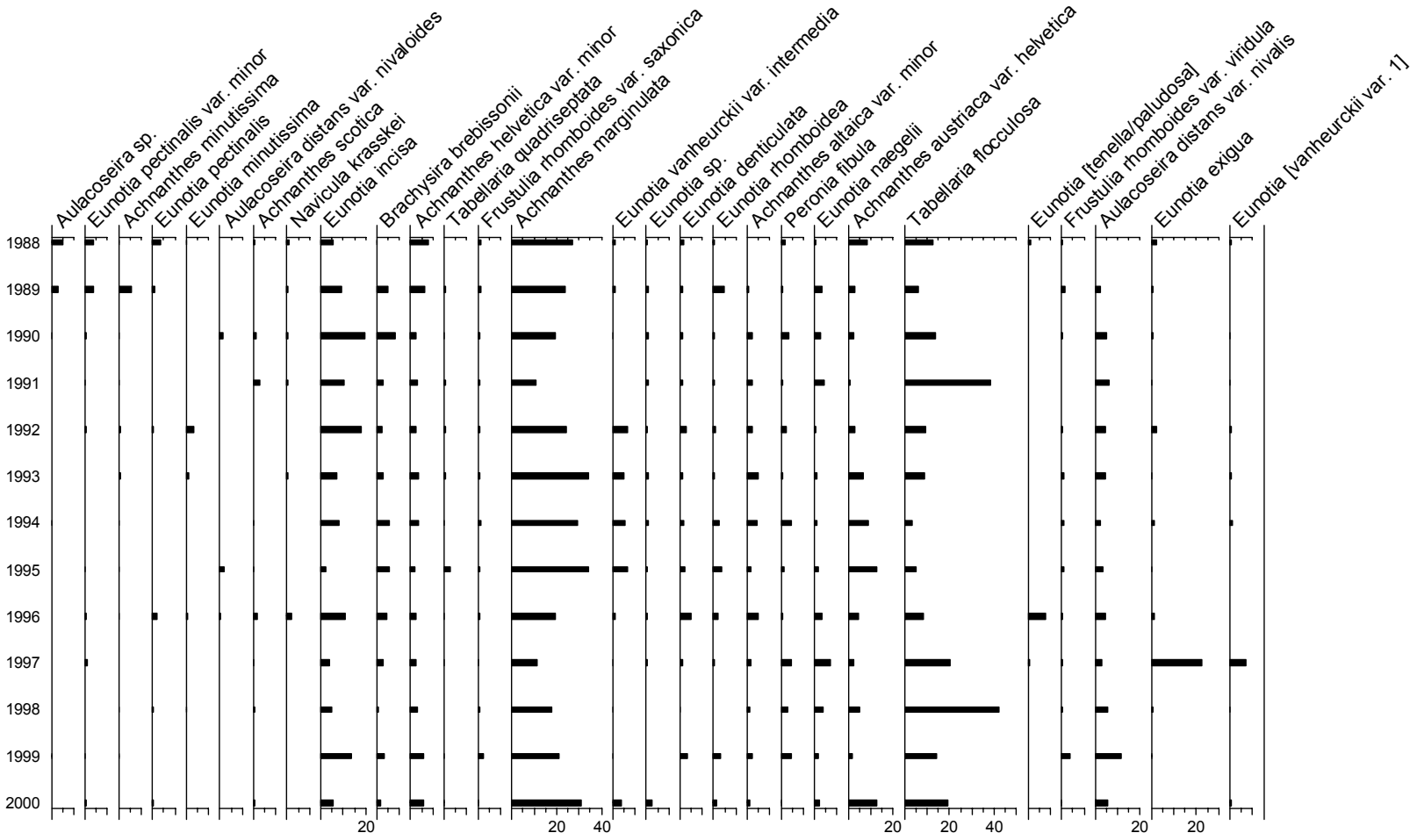
4.3.1. Summary of mean Trout density (numbers 100m^{-2}), Lochnagar



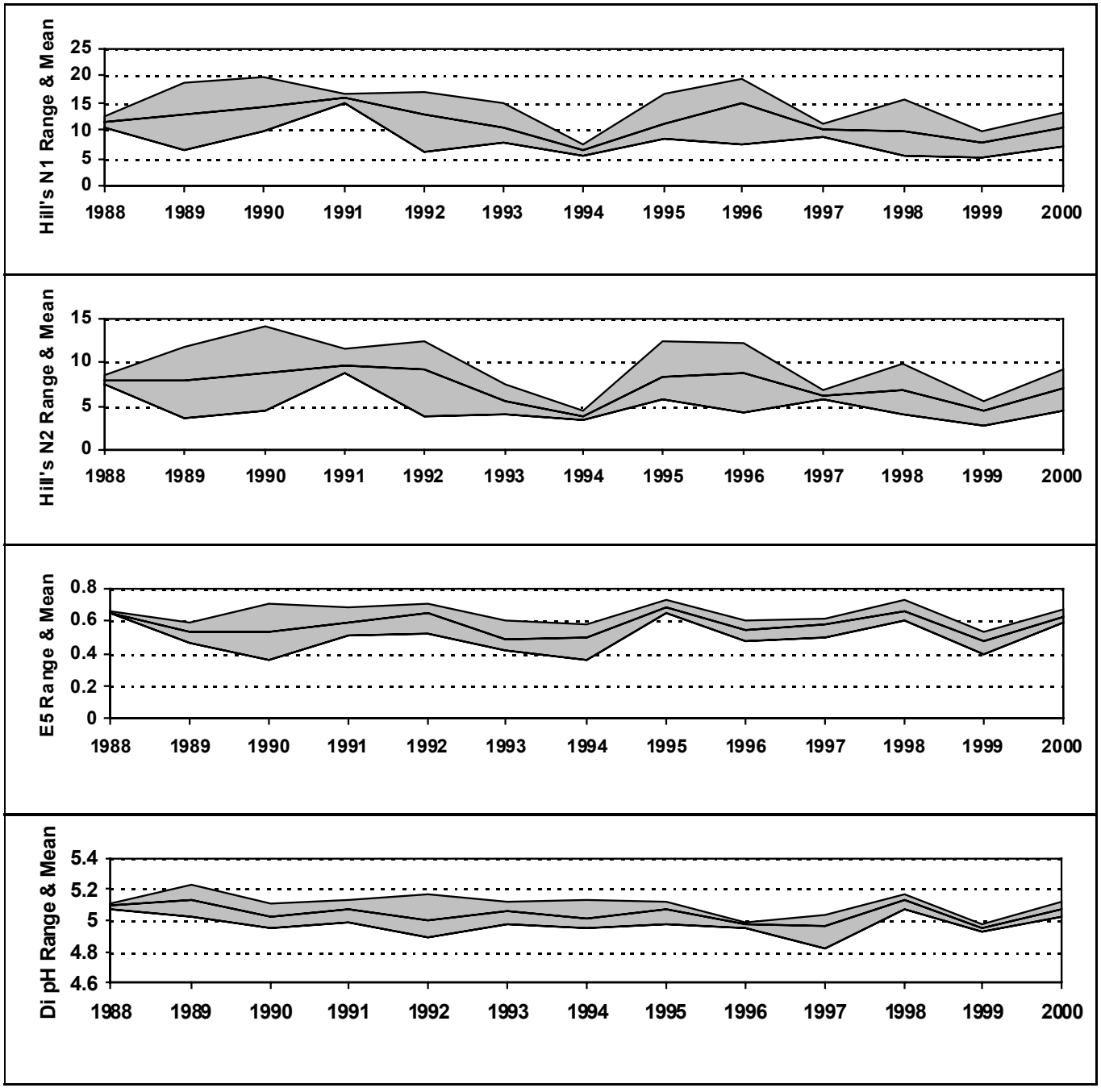
NF = Not fished

4.4. Epilithic diatom data

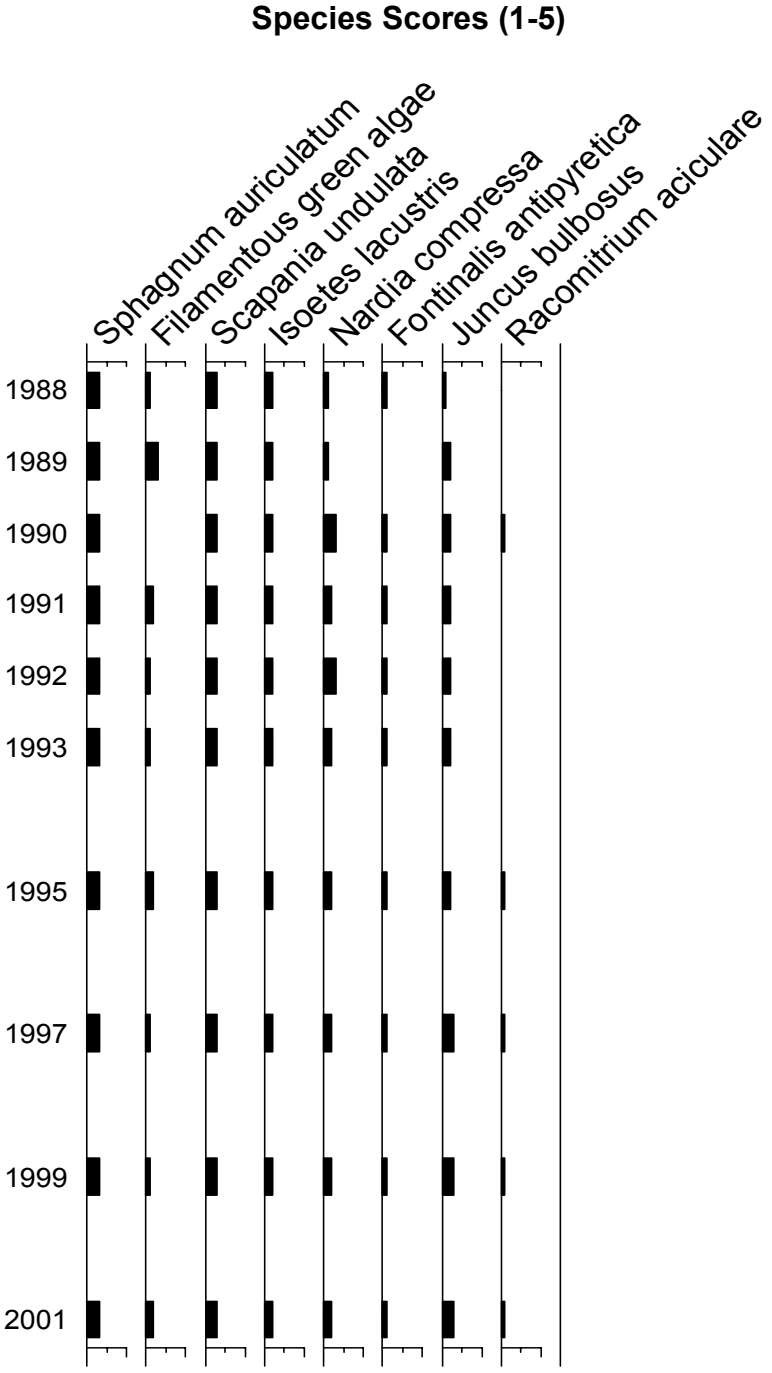
4.4.1. Percentage abundance summary, Lochnagar



4.4.2. Summary statistics, Lochnagar

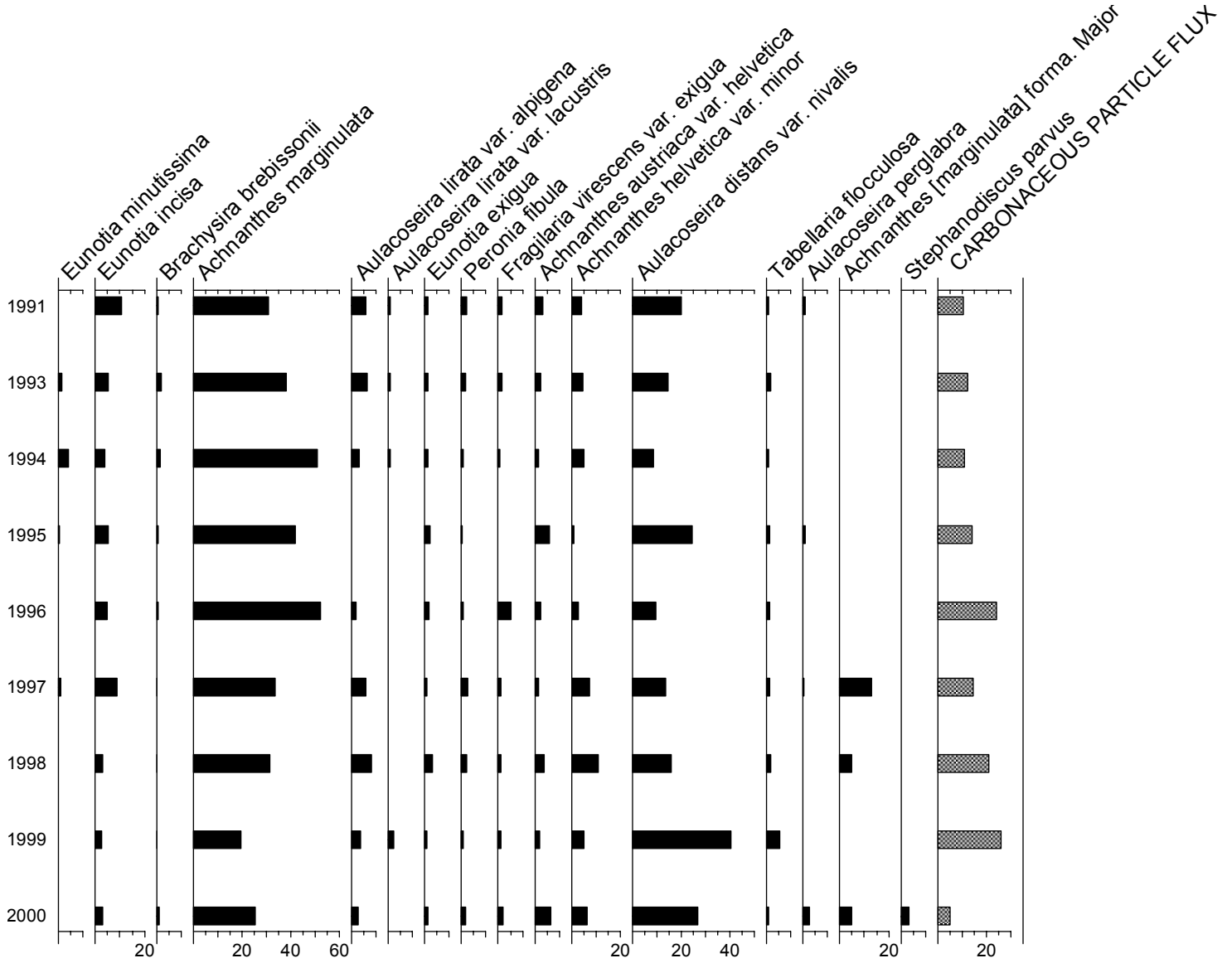


4.5. Aquatic macrophyte data, Lochnagar



4.6. Sediment trap data, Lochnagar

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



5. Loch Chon

Grid Ref: NN 421051

Lake altitude:	100 m	Lake area:	100 ha
Maximum depth:	25.0 m	Catchment area:	1470 ha
Mean depth:	7.6 m	Catchment:lake ratio:	15.7
Volume:	7.34 x 10^6 m^3	Net relief:	500 m

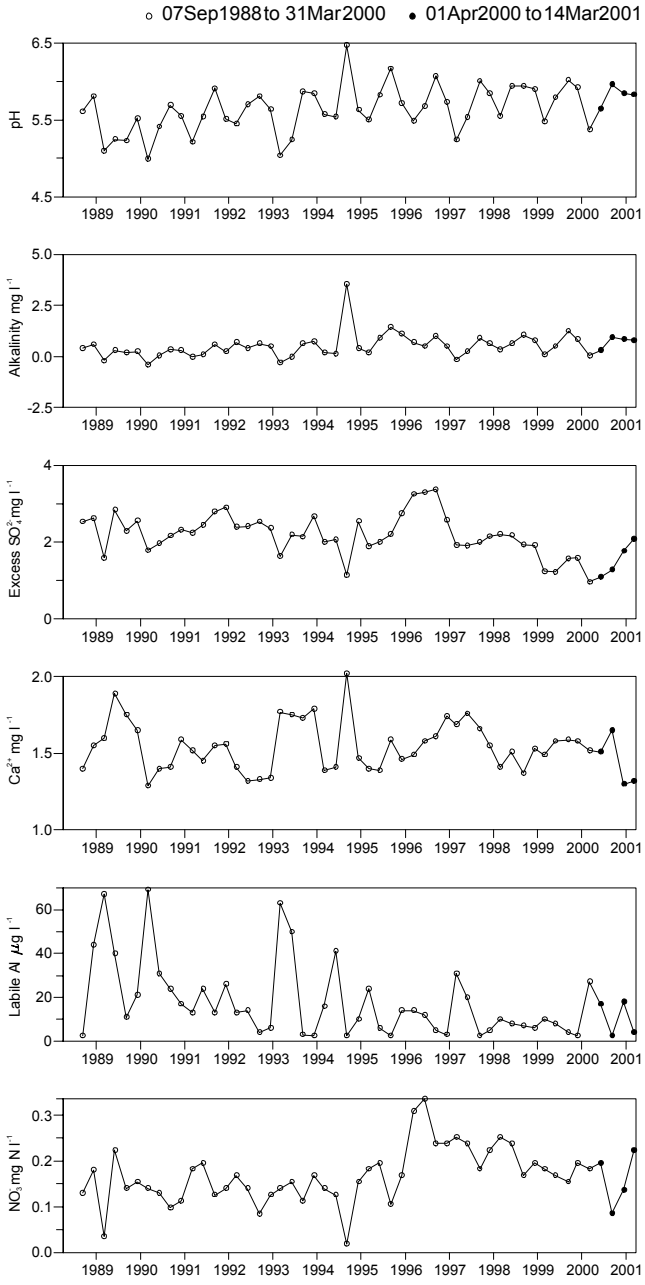
Soils: Peaty gley, Peaty podsol, Humic iron podsol

Geology: Mica schists, Grits

Vegetation: 29 % Moorland, 71 % Conifers

5.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.82	5.96	5.65	0.13	100.0
Alk($CaCO_3$)	0.73	0.95	0.30	0.29	100.0
Cond	39.2	44.0	32.0	5.5	100.0
Ca	1.45	1.65	1.30	0.17	100.0
Mg	0.77	1.50	0.50	0.49	100.0
Na	4.47	5.30	3.70	0.79	100.0
K	0.24	0.26	0.22	0.02	100.0
Ba	0.01	0.01	0.01	0.00	100.0
Sr	0.01	0.01	0.01	0.00	100.0
Fe	0.13	0.27	0.06	0.10	100.0
Mn	0.06	0.08	0.04	0.02	100.0
Sol.Al	44.2	59.0	23.0	15.3	100.0
Sol.lab.Al	10.4	18.0	2.5	8.3	100.0
Cl	8.23	10.60	5.80	2.43	100.0
SO_4	2.72	2.90	2.60	0.13	100.0
XSO_4	1.56	2.08	1.10	0.45	100.0
NO_3	0.16	0.22	0.09	0.06	100.0
PO_4	All recorded data below detection limit.				100.0
Br	0.05	0.12	0.01	0.06	75.0
F	0.02	0.02	0.01	0.00	100.0
Si	0.47	0.70	0.20	0.26	100.0
DOC	4.22	5.50	2.50	1.26	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

Past record statistics

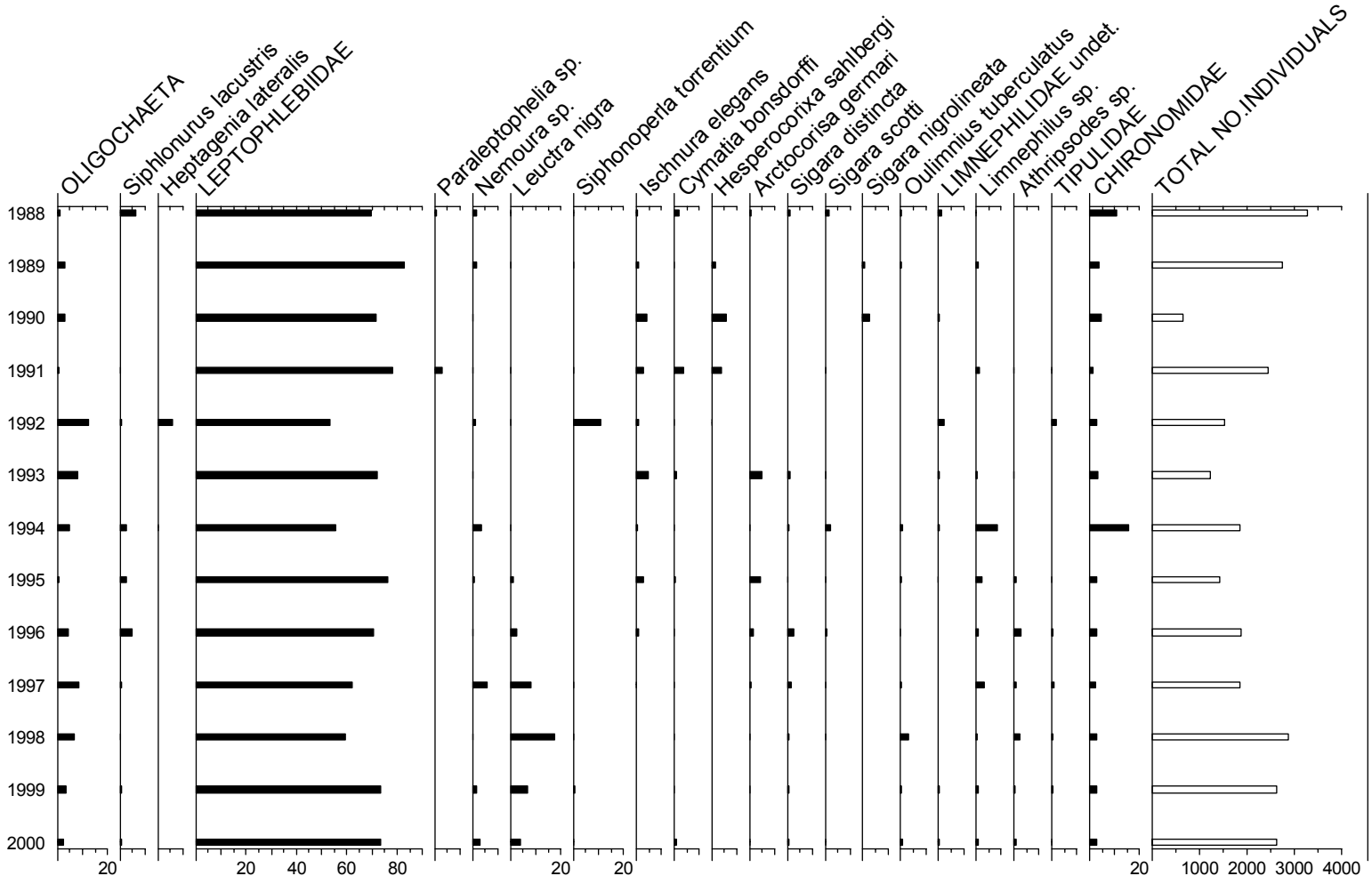
Chemistry statistics for period Sept 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.64	6.47	4.99	0.31	100.0
Alk($CaCO_3$)	0.51	3.55	-0.40	0.60	100.0
Cond	39.2	61.0	23.0	6.6	100.0
Ca	1.55	2.02	1.29	0.16	100.0
Mg	0.61	0.90	0.50	0.09	100.0
Na	4.38	7.00	2.70	0.80	100.0
K	0.36	0.47	0.20	0.04	100.0
Ba	0.01	0.12	0.00	0.02	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.12	0.22	0.05	0.05	100.0
Mn	0.07	0.14	0.02	0.02	100.0
Sol.Al	58.7	126.0	14.0	21.3	100.0
Sol.lab.Al	18.1	69.0	2.5	17.5	100.0
Cl	7.95	14.60	4.00	2.00	100.0
SO_4	3.33	4.40	1.90	0.50	100.0
XSO_4	2.20	3.38	0.97	0.54	100.0
NO_3	0.17	0.34	0.02	0.06	100.0
PO_4	0.00	0.02	0.00	0.00	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.02	0.03	0.00	0.00	100.0
Si	0.44	0.70	0.10	0.11	100.0
DOC	3.44	6.60	1.70	1.20	100.0

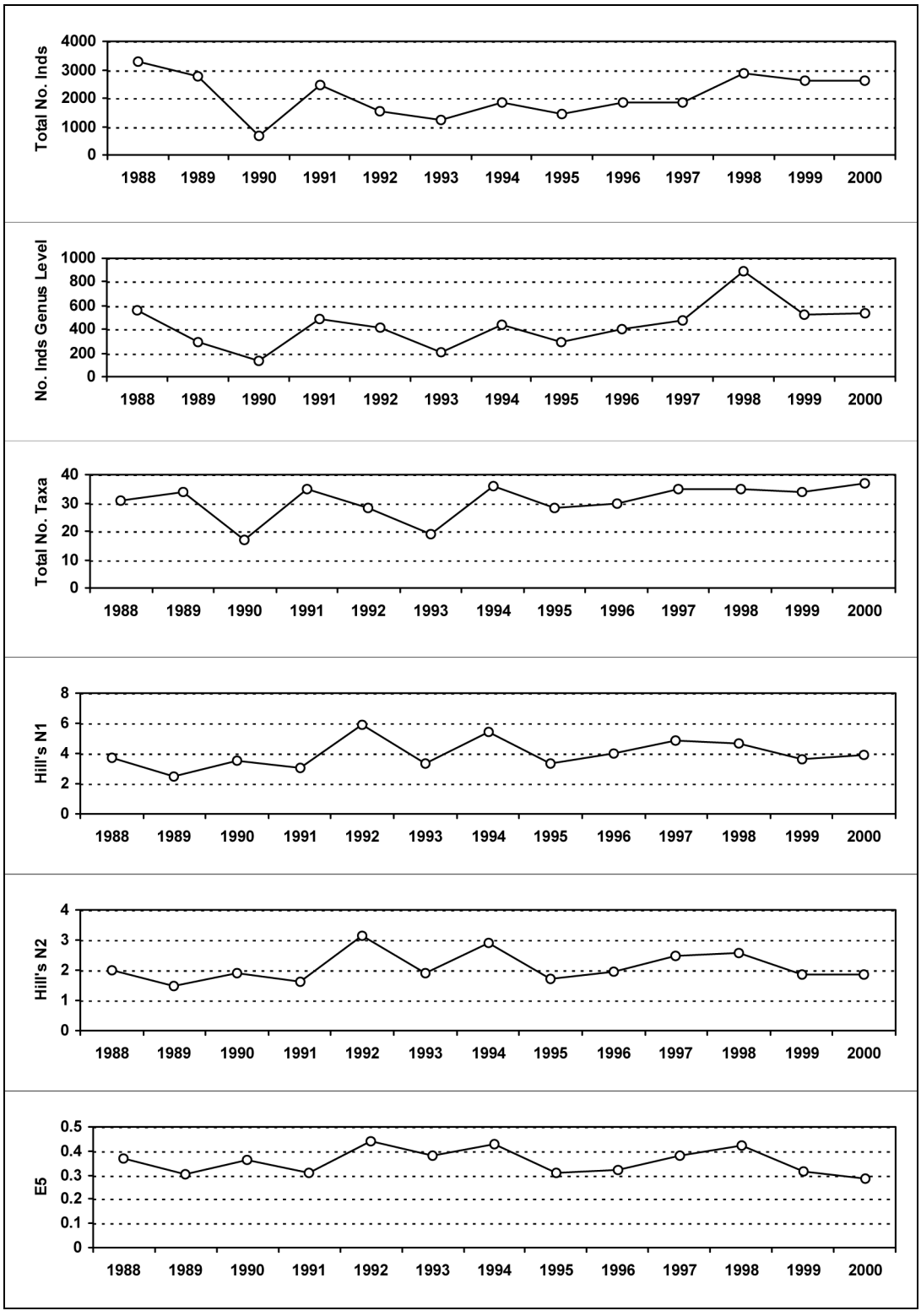
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

5.2. Macroinvertebrate data

5.2.1. Percentage abundance summary, Loch Chon

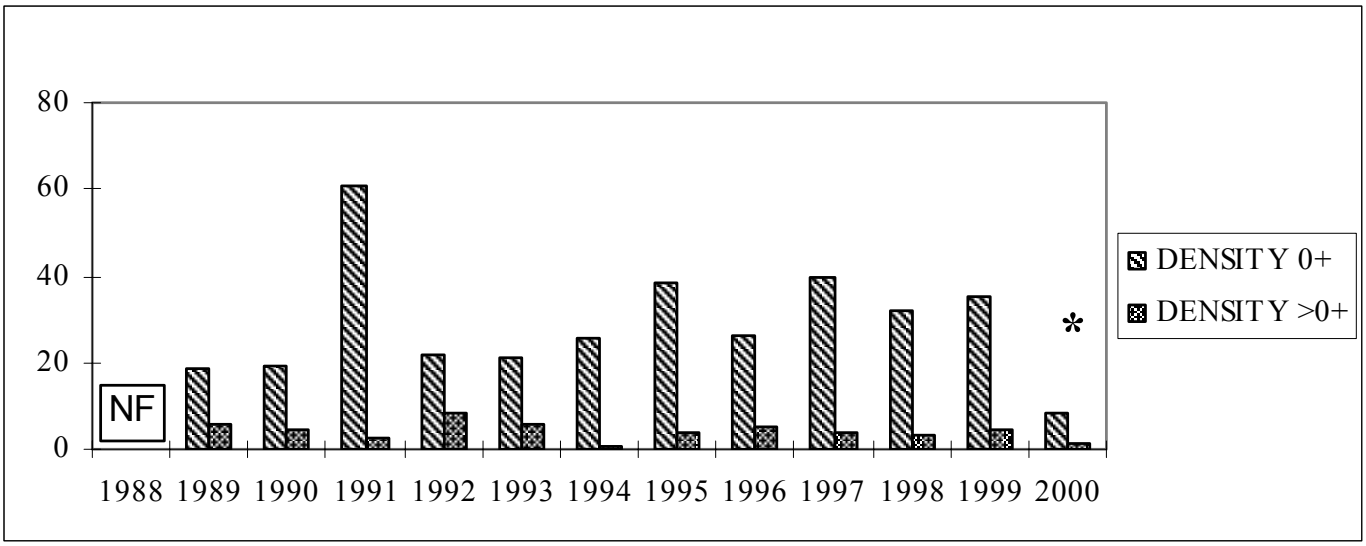


5.2.2. Summary statistics, Loch Chon



5.3. Fish data (for outflow stream)

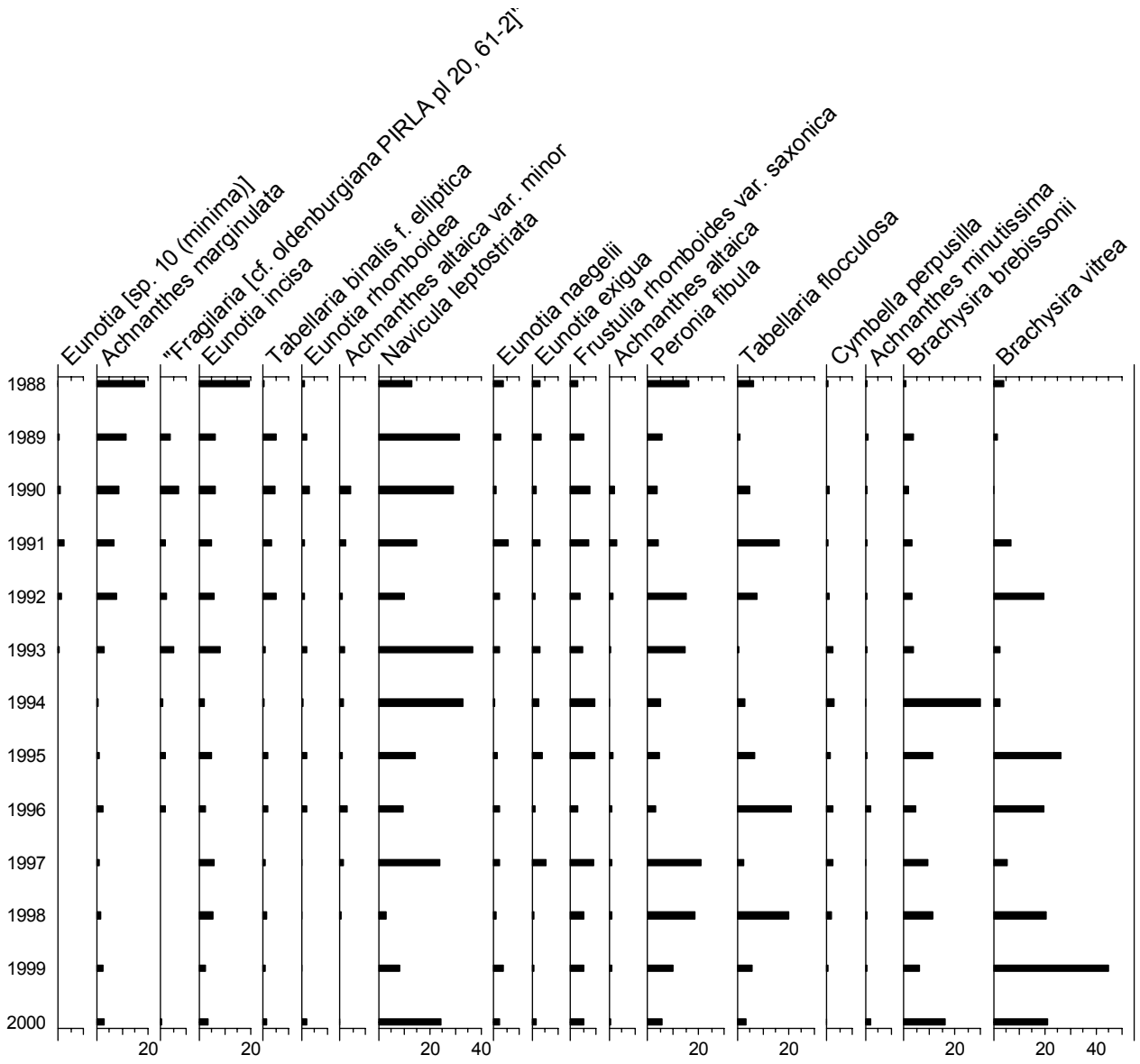
5.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Loch Chon



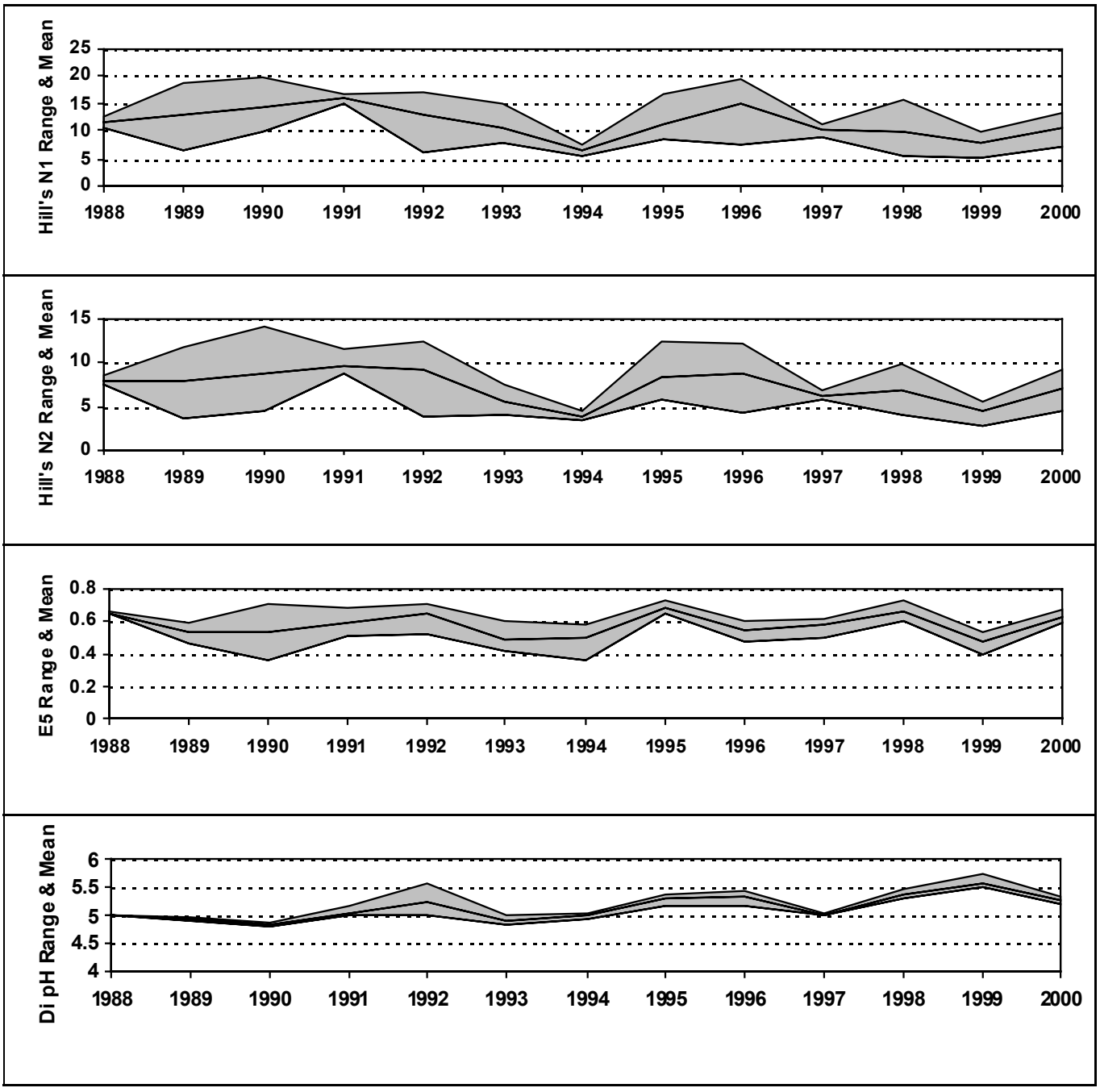
NF = Not fished
* Not all 3 reaches fished

5.4. Epilithic diatom data

5.4.1. Percentage abundance summary, Loch Chon

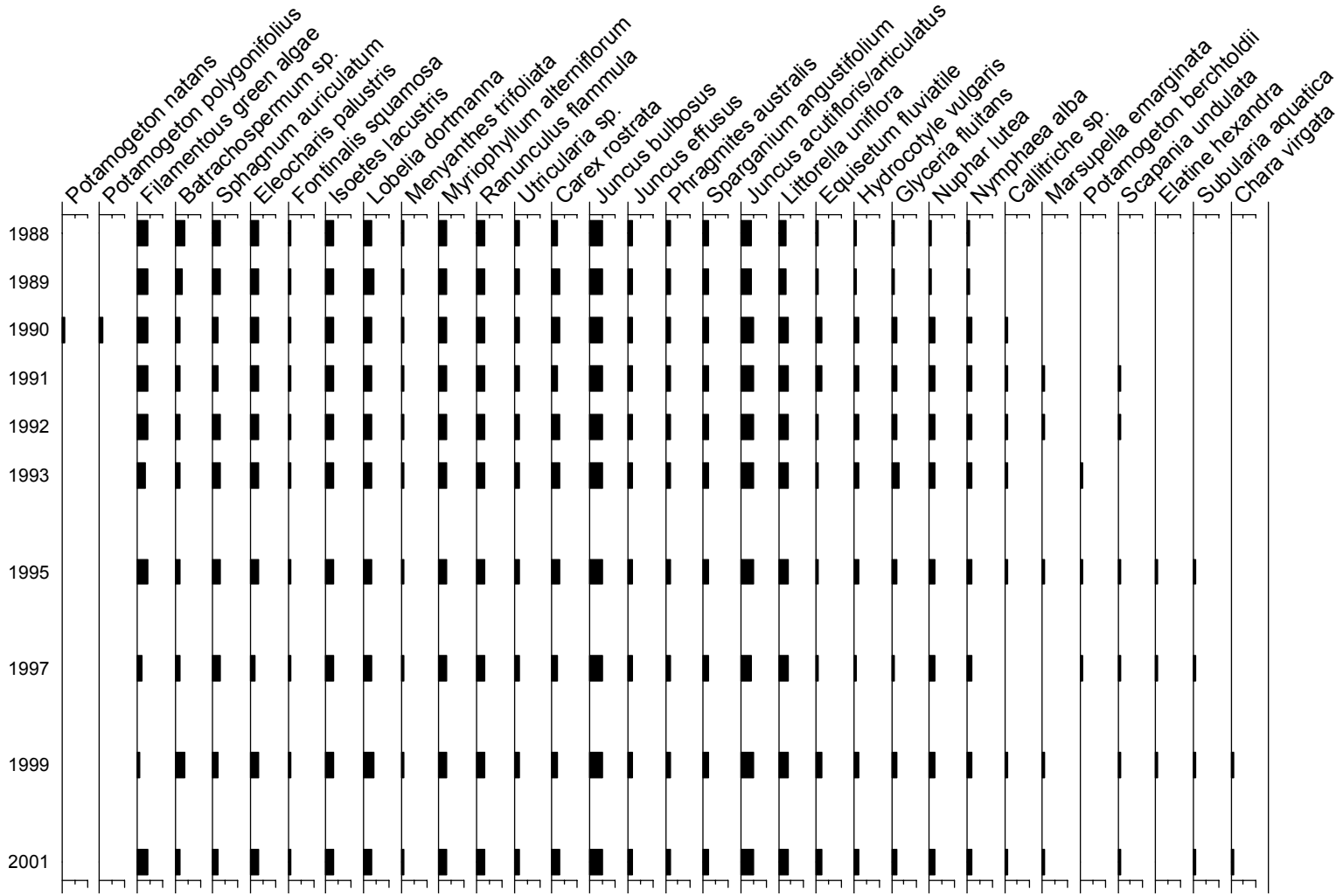


5.4.2. Summary statistics, Loch Chon



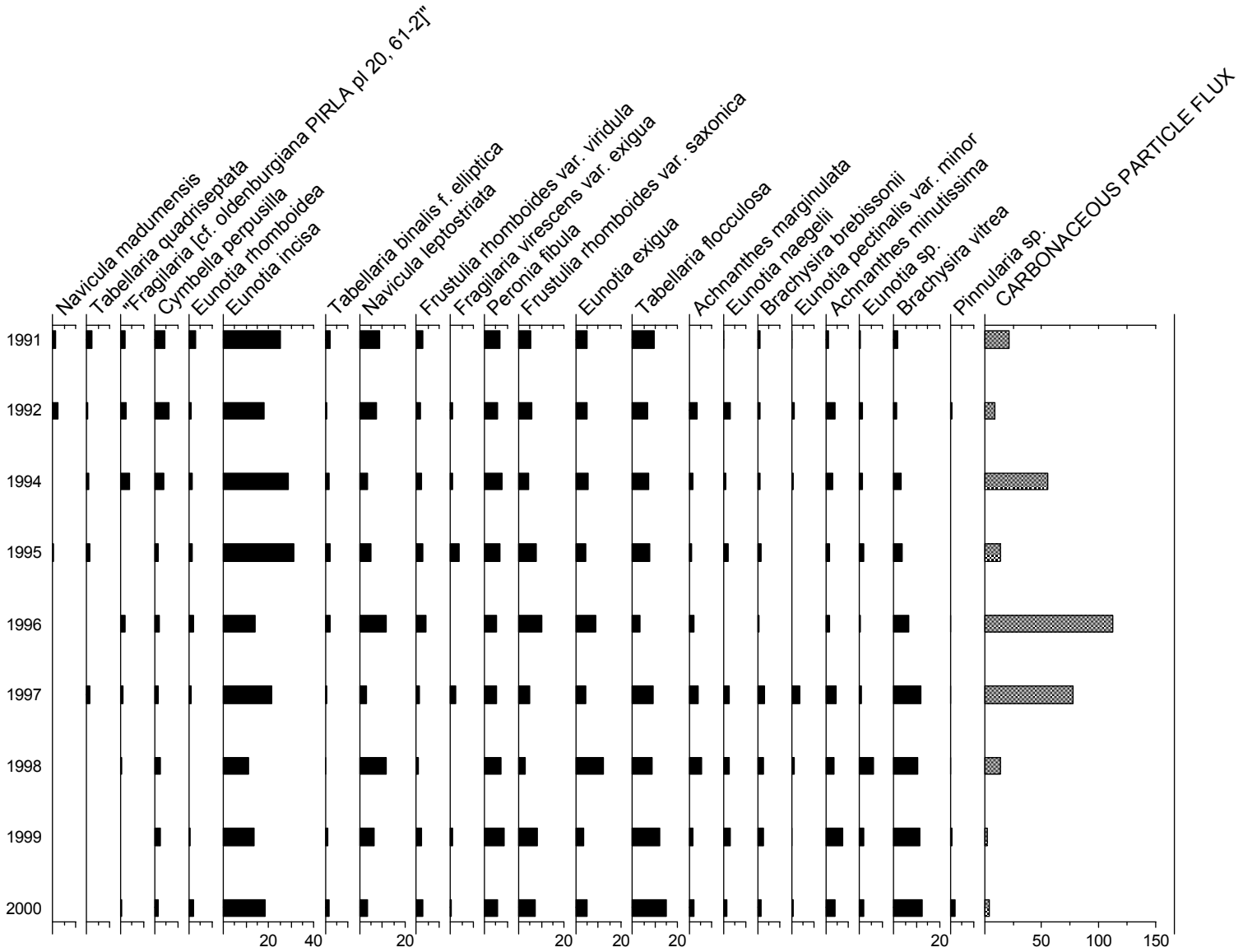
5.5. Aquatic macrophyte data, Loch Chon

Species Scores (1-5)



5.6. Sediment trap data, Loch Chon

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



6. Loch Tinker


Back to main map

Lake altitude:	420 m	Lake area:	11 ha
Maximum depth:	9.8 m	Catchment area:	112 ha
Mean depth:	3.5 m	Catchment:lake ratio:	9.9
Volume:	0.40 x 10^6 m^3	Net relief:	280 m

Grid Ref: NN 445068

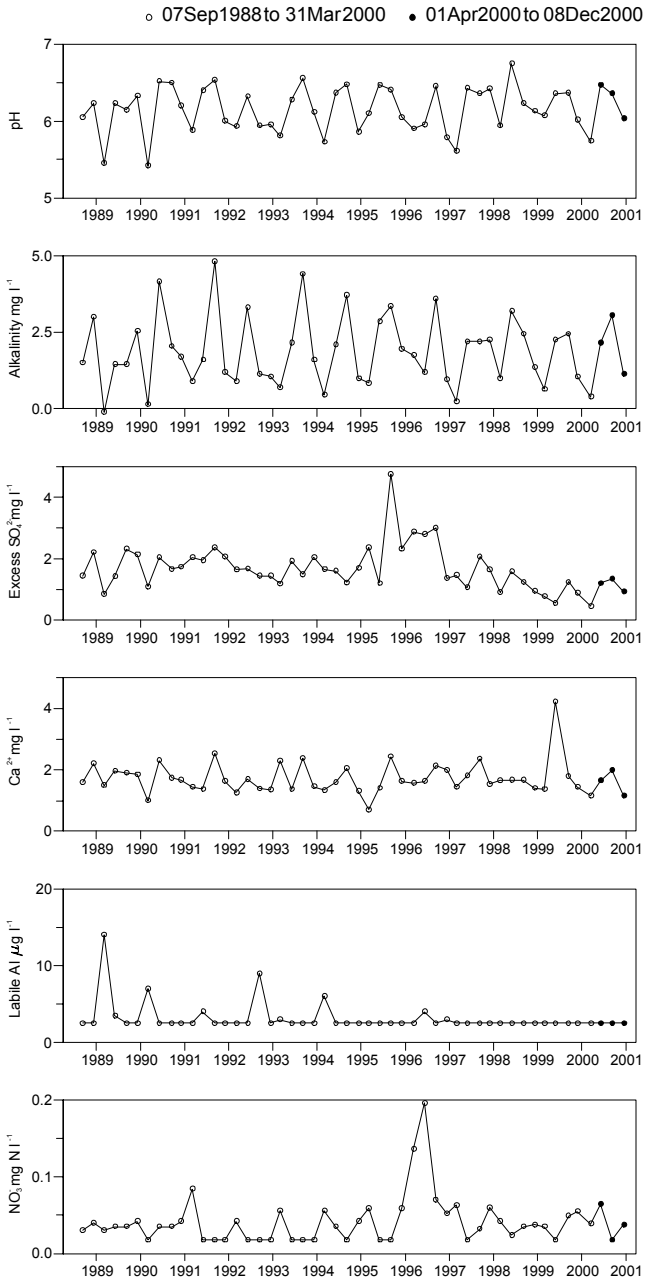
Soils: Blanket peat

Geology: Mica schists
Grits

Vegetation: 100 % Moorland

6.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.29	6.47	6.03	0.23	75.0
Alk($CaCO_3$)	2.12	3.05	1.15	0.95	75.0
Cond	29.0	34.0	21.0	7.0	75.0
Ca	1.60	1.99	1.16	0.42	75.0
Mg	0.90	1.70	0.40	0.70	75.0
Na	3.03	3.50	2.20	0.72	75.0
K	0.25	0.28	0.21	0.04	75.0
Ba	0.00	0.01	0.00	0.00	75.0
Sr	0.01	0.01	0.01	0.00	75.0
Fe	0.15	0.23	0.04	0.10	75.0
Mn	0.02	0.04	0.00	0.02	75.0
Sol.Al	17.7	27.0	11.0	8.3	75.0
Sol.lab.Al	All recorded data below detection limit.				75.0
Cl	5.20	6.30	3.30	1.65	75.0
SO_4	1.90	2.20	1.40	0.44	75.0
XSO_4	1.16	1.35	0.93	0.21	75.0
NO_3	0.04	0.06	0.02	0.02	75.0
PO_4	All recorded data below detection limit.				75.0
Br	No recorded data.				
F	All recorded data below detection limit.				50.0
Si	0.23	0.40	0.10	0.15	75.0
DOC	6.00	7.20	4.10	1.66	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

Past record statistics

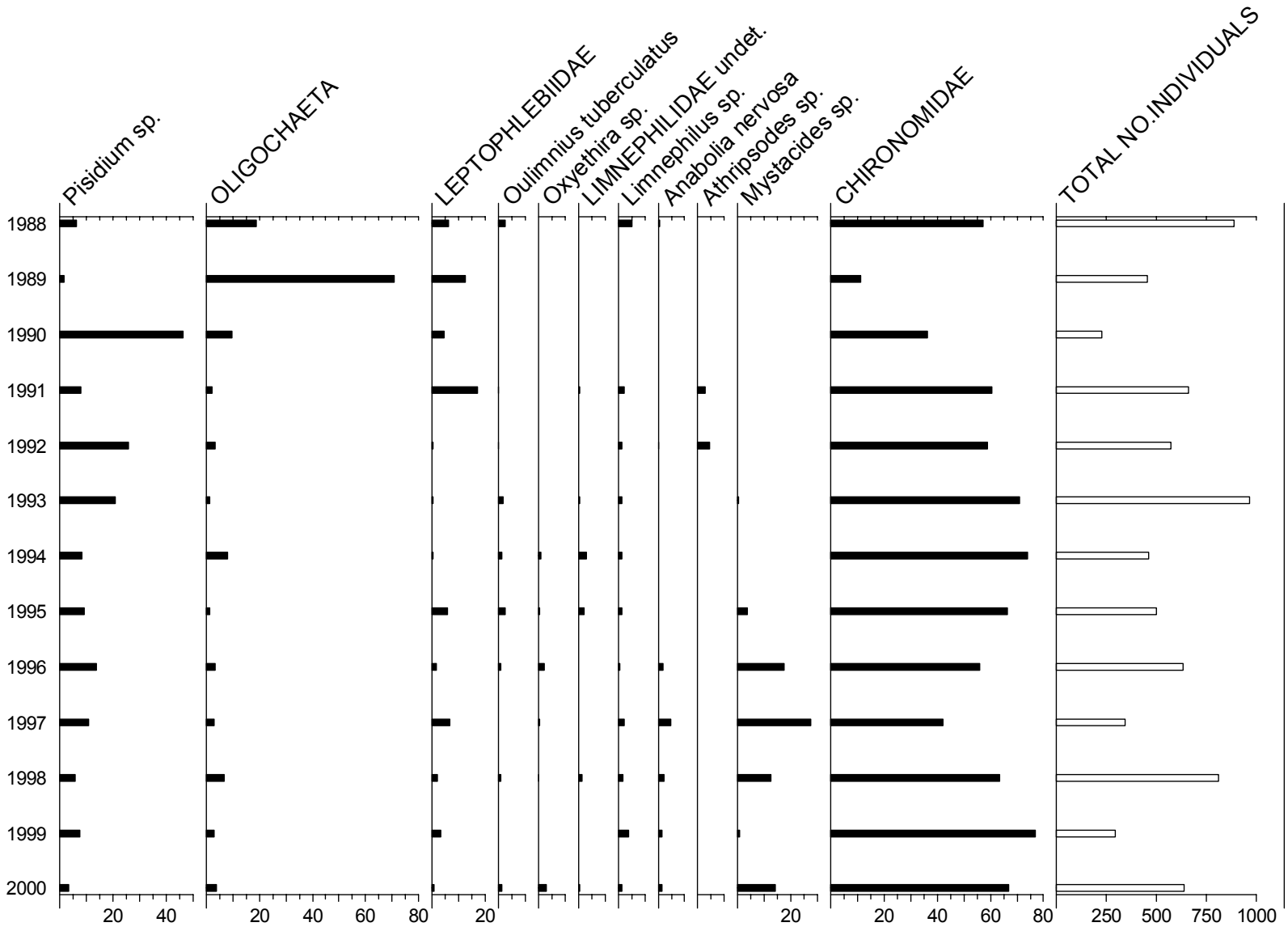
Chemistry statistics for period Sept 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.15	6.75	5.42	0.30	100.0
Alk($CaCO_3$)	1.85	4.80	-0.10	1.16	100.0
Cond	30.7	62.0	21.0	7.3	100.0
Ca	1.73	4.21	0.70	0.54	100.0
Mg	0.60	2.00	0.40	0.25	100.0
Na	3.29	7.40	1.80	1.10	100.0
K	0.39	0.70	0.16	0.08	100.0
Ba	0.01	0.01	0.00	0.00	93.8
Sr	0.01	0.02	0.00	0.00	100.0
Fe	0.17	1.47	0.02	0.21	100.0
Mn	0.03	0.14	0.01	0.03	100.0
Sol.Al	20.5	45.0	5.0	9.3	100.0
Sol.lab.Al	3.2	14.0	2.5	2.0	100.0
Cl	5.81	15.60	2.50	2.59	100.0
SO_4	2.53	5.30	1.60	0.68	100.0
XSO_4	1.70	4.76	0.46	0.74	100.0
NO_3	0.04	0.20	0.02	0.03	100.0
PO_4	0.00	0.01	0.00	0.00	100.0
Br	0.01	0.04	0.00	0.01	100.0
F	0.02	0.12	0.00	0.02	100.0
Si	0.38	1.60	0.10	0.26	100.0
DOC	4.90	9.90	1.90	1.85	100.0

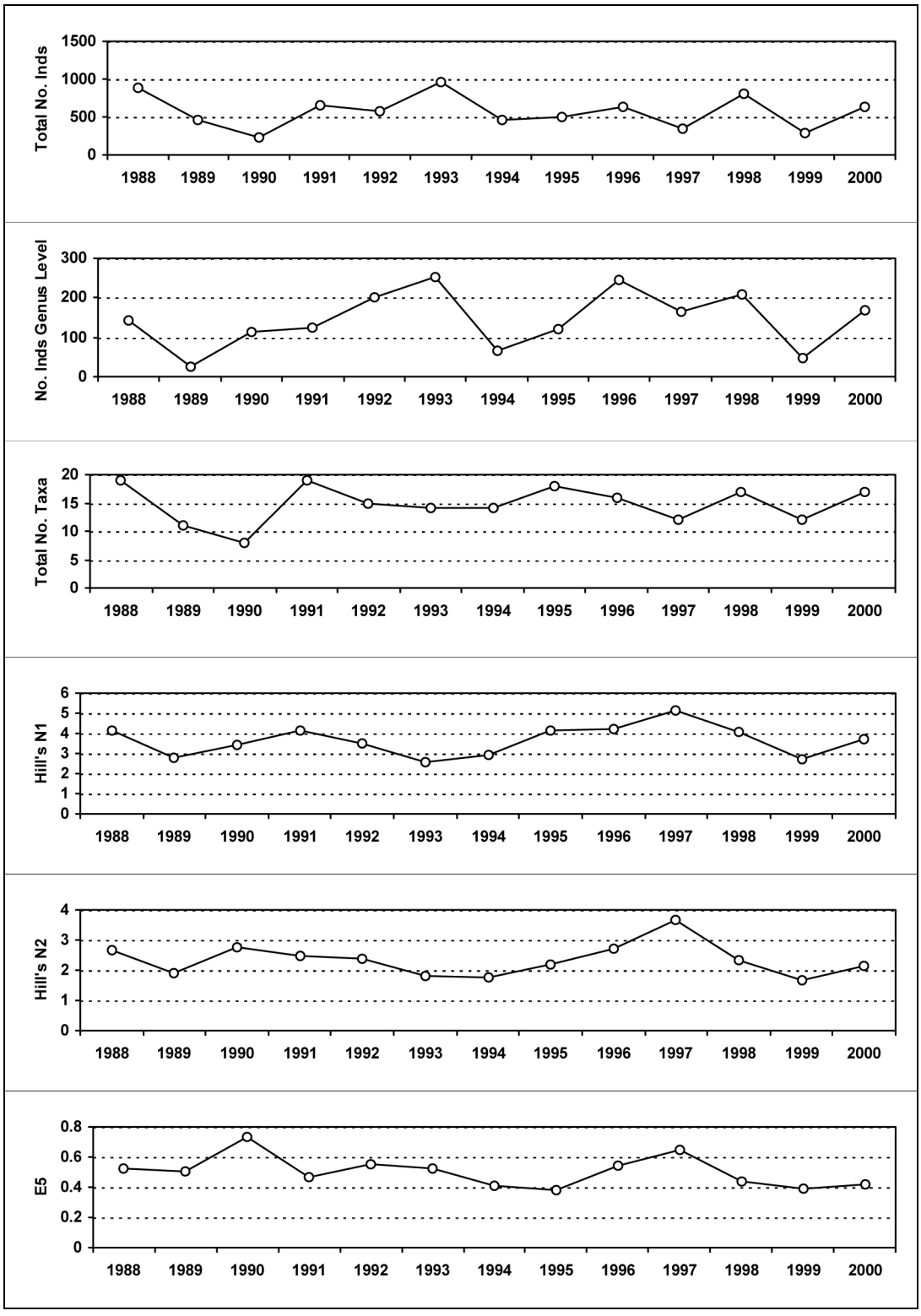
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

6.2. Macroinvertebrate data

6.2.1. Percentage abundance summary, Loch Tinker

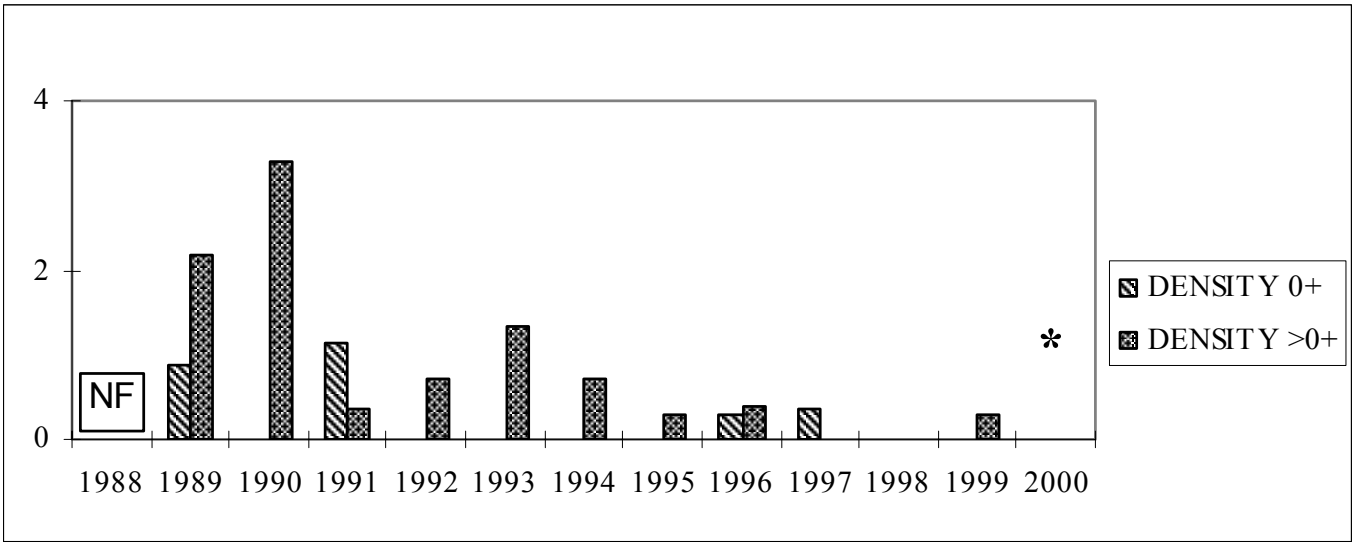


6.2.2. Summary statistics, Loch Tinker



6.3. Fish data (for outflow stream)

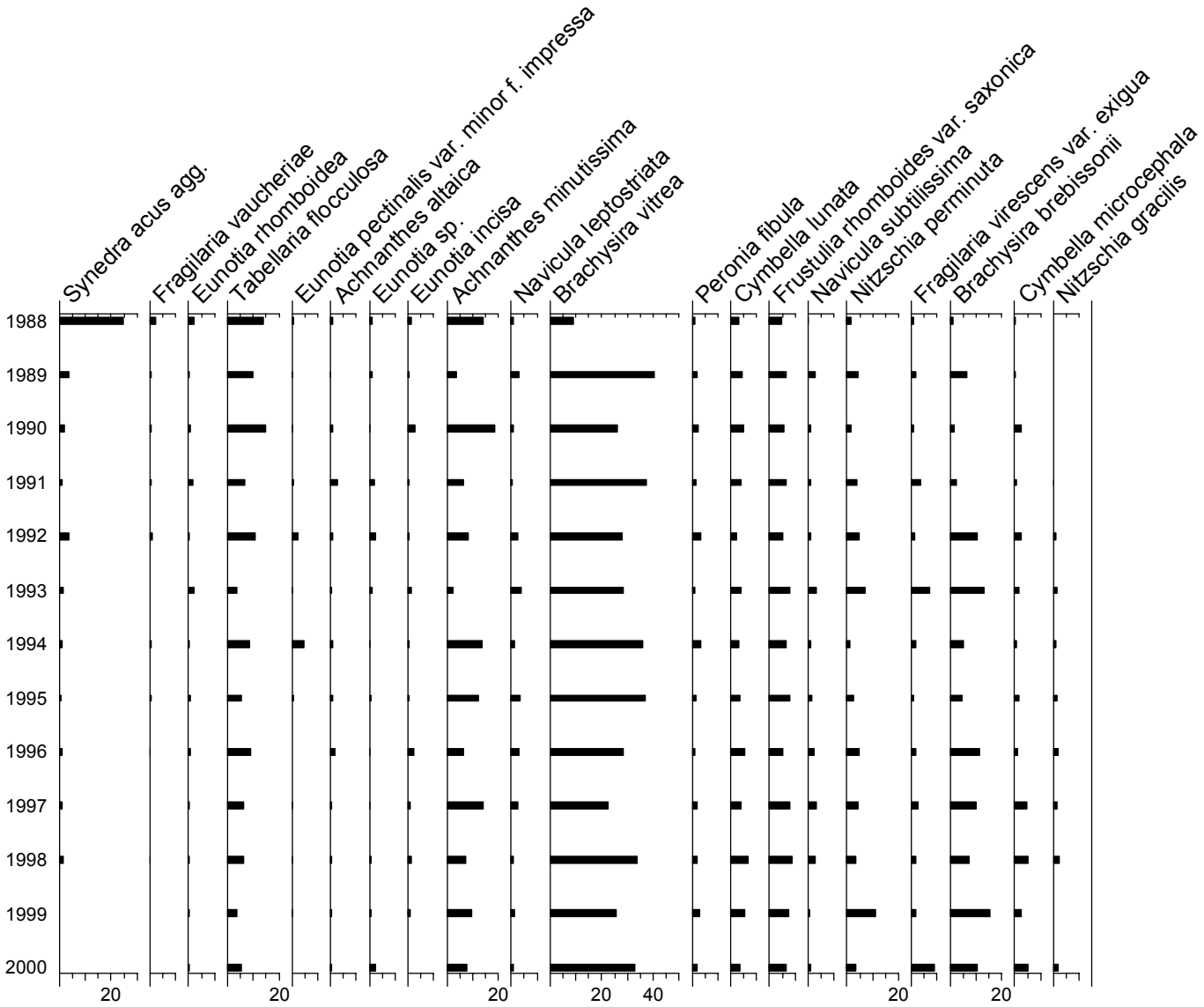
6.3.1. Summary of mean Trout density (numbers 100m^{-2}), Loch Tinker



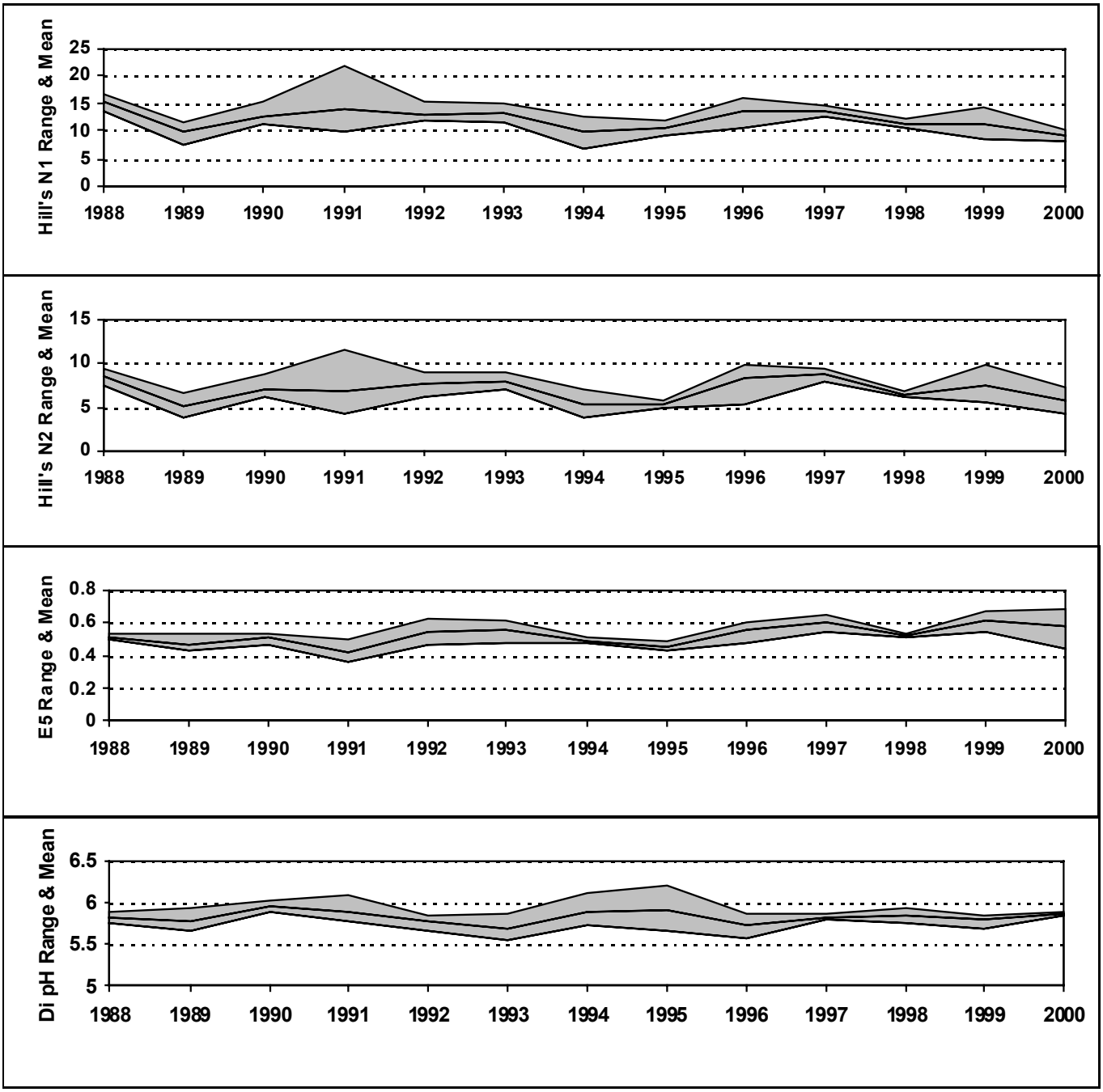
NF = Not fished
* Not all 3 reaches fished

6.4. Epilithic diatom data

6.4.1. Percentage abundance summary, Loch Tinker

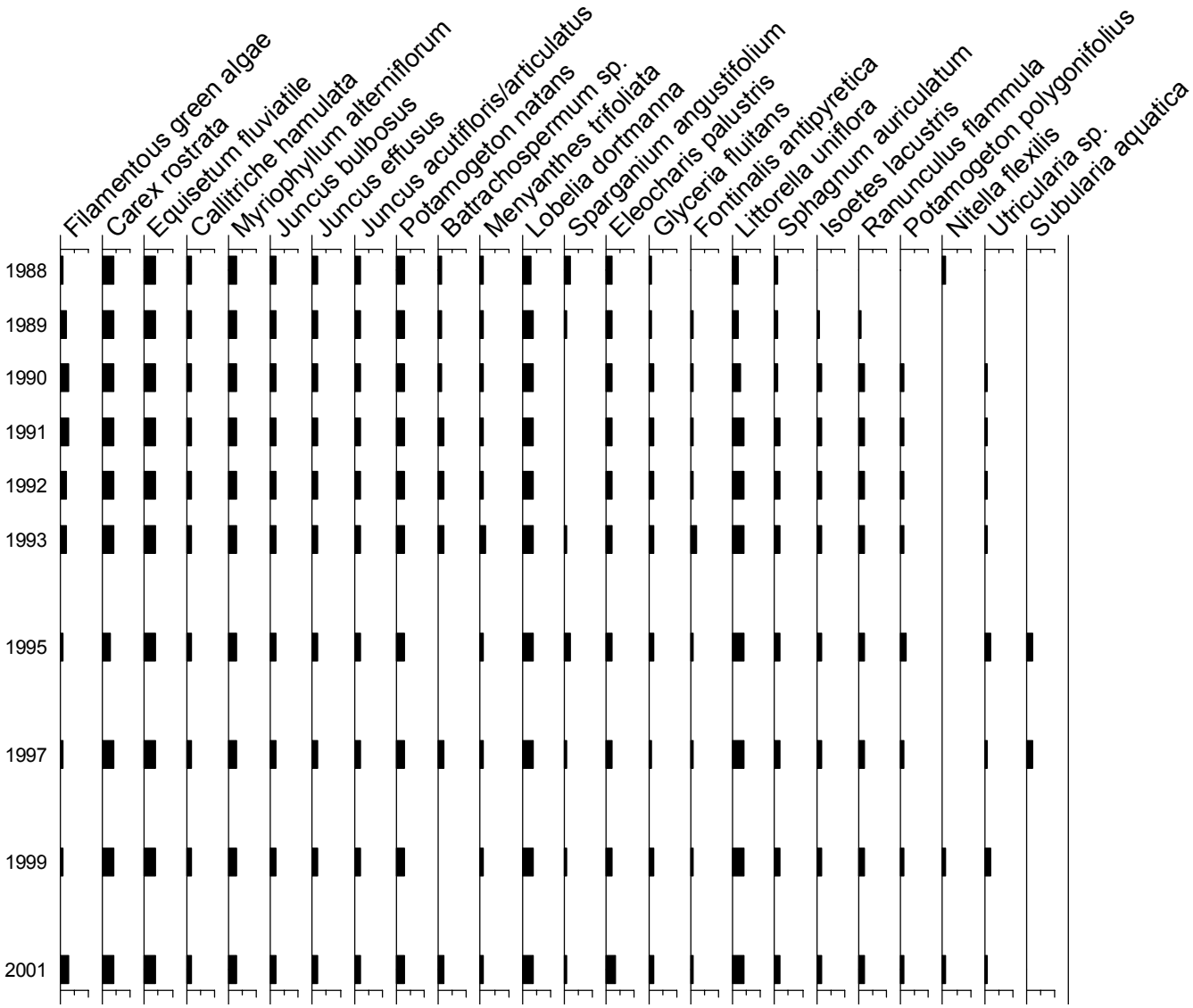


6.4.2. Summary statistics, Loch Tinker



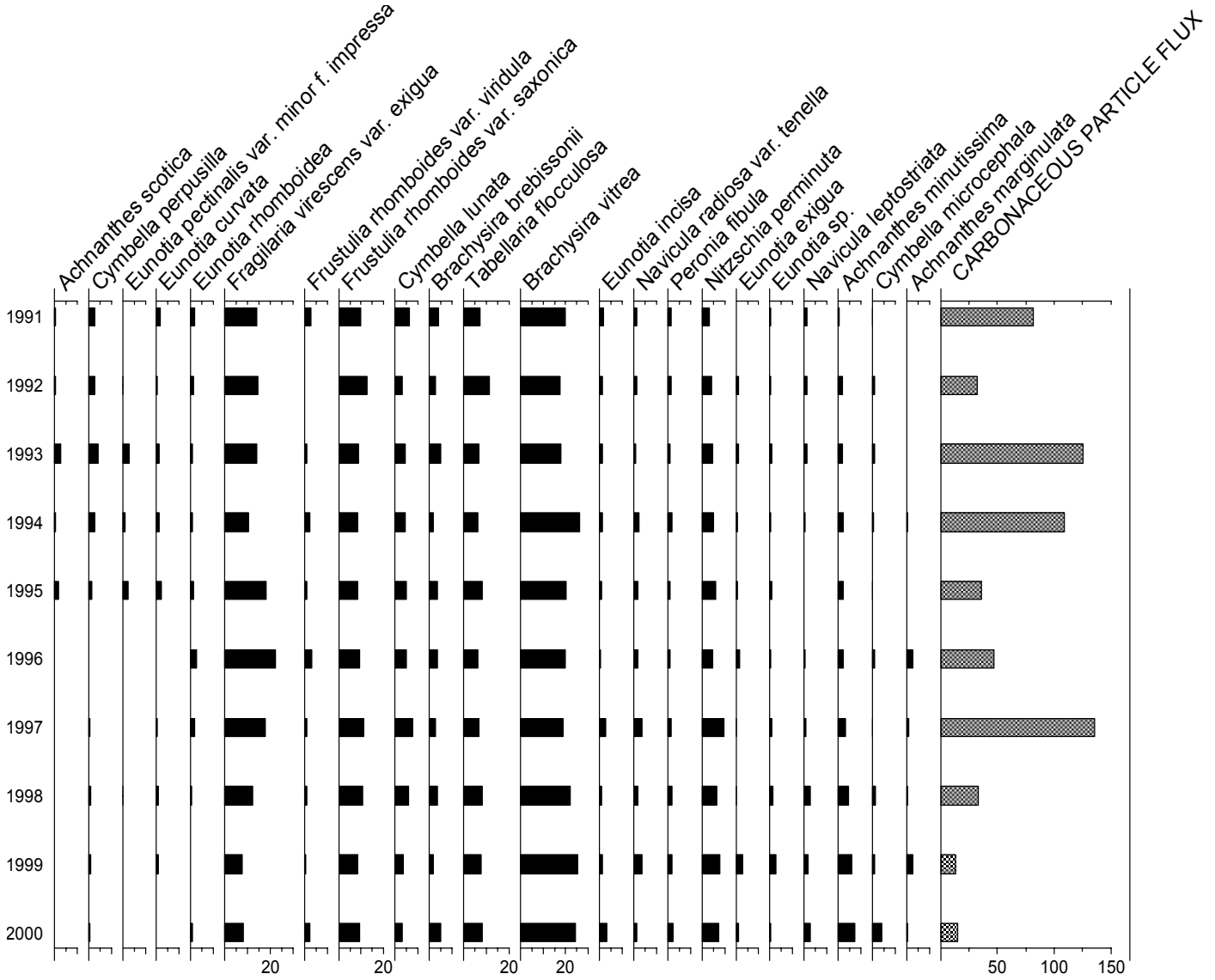
6.5. Aquatic macrophyte data, Loch Tinker

Species Scores (1-5)



6.6. Sediment trap data, Loch Tinker

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



7. Round Loch of Glenhead

Grid Ref: NX 450804

Lake altitude:	295 m	Lake area:	12 ha
Maximum depth:	13.5 m	Catchment area:	95 ha
Mean depth:	4.3 m	Catchment:lake ratio:	7.5
Volume:	0.53 x 10^6 m^3	Net relief:	236 m

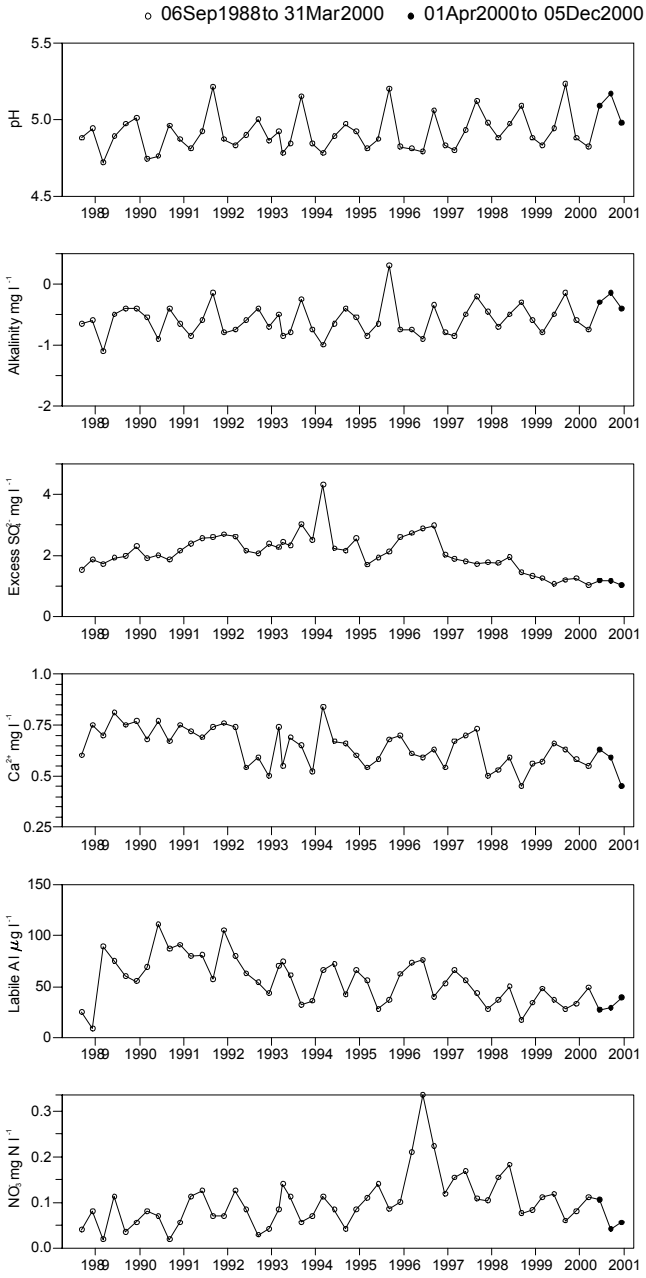
Soils: Peat, Peaty podsol

Geology: Tonalite, Tonalite granite

Vegetation: 100 % Moorland

7.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.08	5.17	4.98	0.10	75.0
Alk($CaCO_3$)	-0.28	-0.15	-0.40	0.13	75.0
Cond	30.3	35.0	26.0	4.5	75.0
Ca	0.56	0.63	0.45	0.09	75.0
Mg	0.50	0.60	0.40	0.10	75.0
Na	3.70	4.40	2.90	0.75	75.0
K	0.25	0.31	0.19	0.06	75.0
Ba	All recorded data below detection limit.				75.0
Sr	0.00	0.01	0.00	0.00	75.0
Fe	0.04	0.06	0.01	0.02	75.0
Mn	0.01	0.02	0.01	0.00	75.0
Sol.Al	70.3	71.0	70.0	0.6	75.0
Sol.lab.Al	31.7	39.0	27.0	6.4	75.0
Cl	6.63	7.90	5.40	1.25	75.0
SO_4	2.07	2.30	1.80	0.25	75.0
XSO_4	1.12	1.18	1.03	0.08	75.0
NO_3	0.07	0.11	0.04	0.03	75.0
PO_4	All recorded data below detection limit.				75.0
Br	All recorded data below detection limit.				25.0
F	All recorded data below detection limit.				25.0
Si	0.23	0.40	0.10	0.15	75.0
DOC	4.17	4.70	3.40	0.68	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

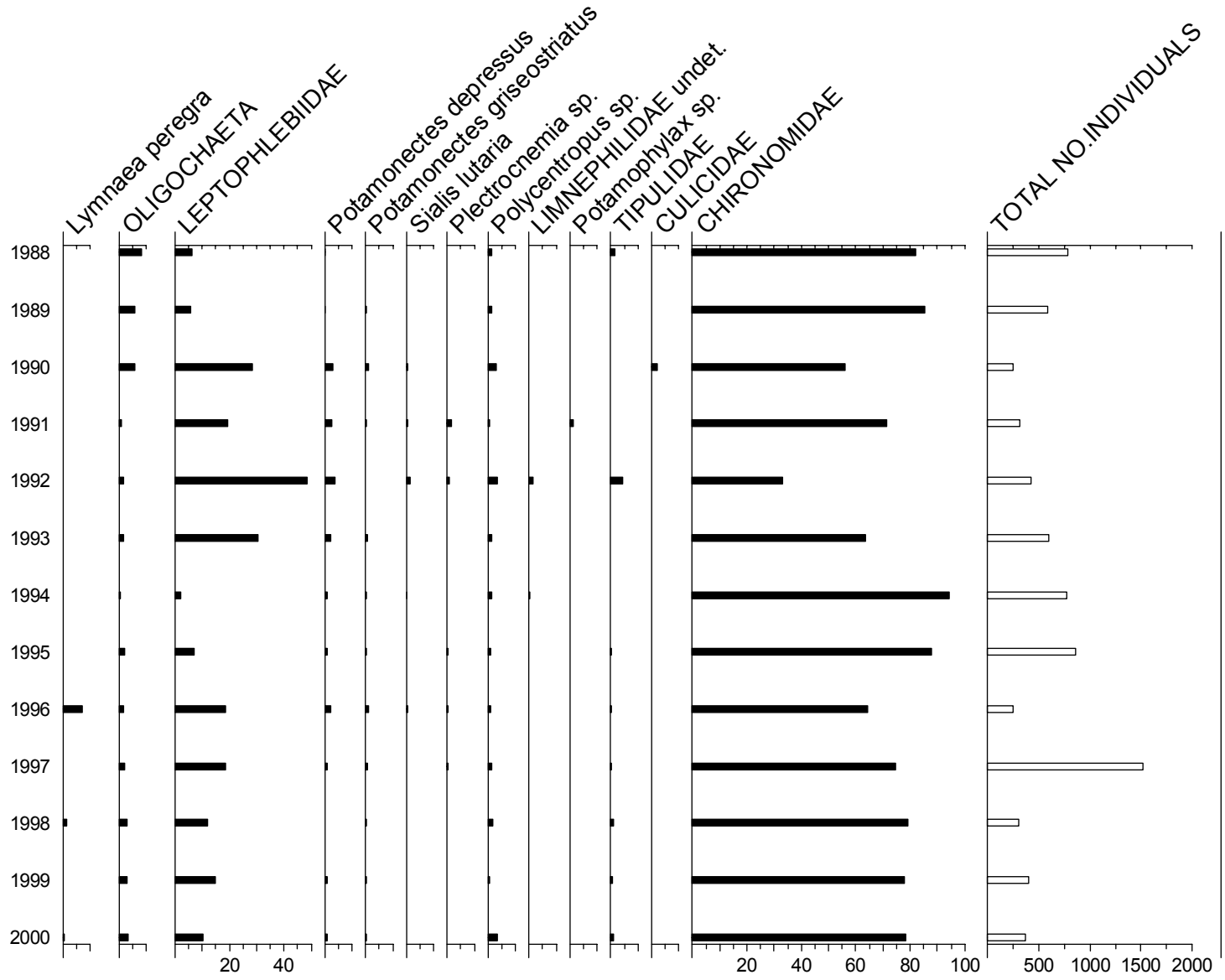
Chemistry statistics for period Sept 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.91	5.23	4.72	0.12	100.0
Alk($CaCO_3$)	-0.59	0.30	-1.10	0.26	100.0
Cond	36.1	49.0	23.0	6.2	100.0
Ca	0.65	0.84	0.45	0.09	100.0
Mg	0.54	0.80	0.30	0.10	100.0
Na	3.95	5.70	2.40	0.78	100.0
K	0.37	0.50	0.18	0.05	100.0
Ba	0.00	0.00	0.00	0.00	93.8
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.04	0.08	0.01	0.01	100.0
Mn	0.02	0.17	0.01	0.02	100.0
Sol.Al	92.6	146.0	55.0	19.1	100.0
Sol.lab.Al	56.3	111.0	9.0	22.6	100.0
Cl	6.88	10.60	3.90	1.72	100.0
SO_4	3.08	5.50	2.00	0.63	100.0
XSO_4	2.10	4.31	1.04	0.59	100.0
NO_3	0.10	0.34	0.02	0.06	100.0
PO_4	0.00	0.01	0.00	0.00	100.0
Br	0.01	0.04	0.00	0.01	93.8
F	0.01	0.05	0.00	0.01	100.0
Si	0.37	1.00	0.04	0.16	100.0
DOC	3.12	5.10	1.60	0.79	100.0

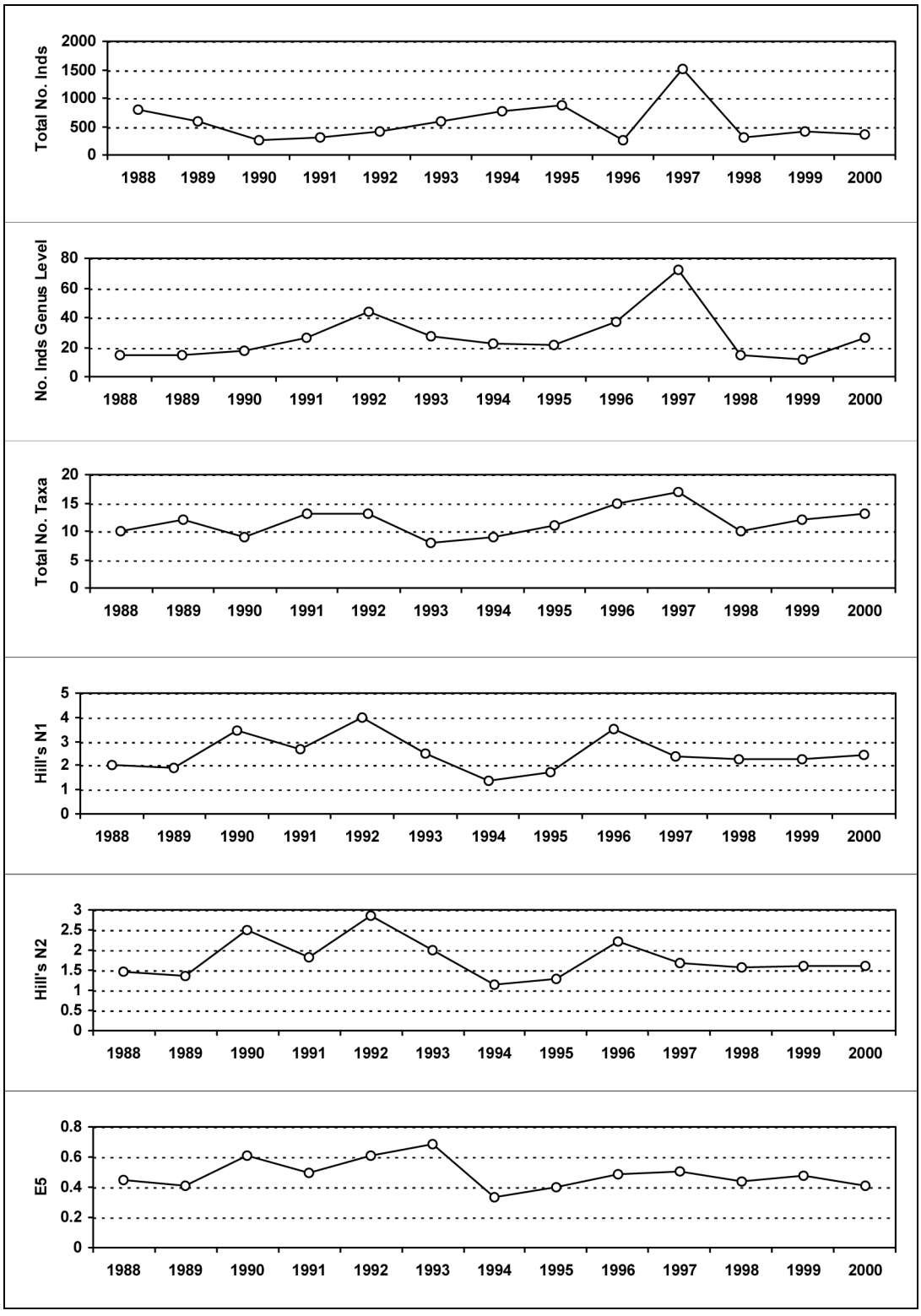
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

7.2. Macroinvertebrate data

7.2.1. Percentage abundance summary, Round Loch of Glenhead

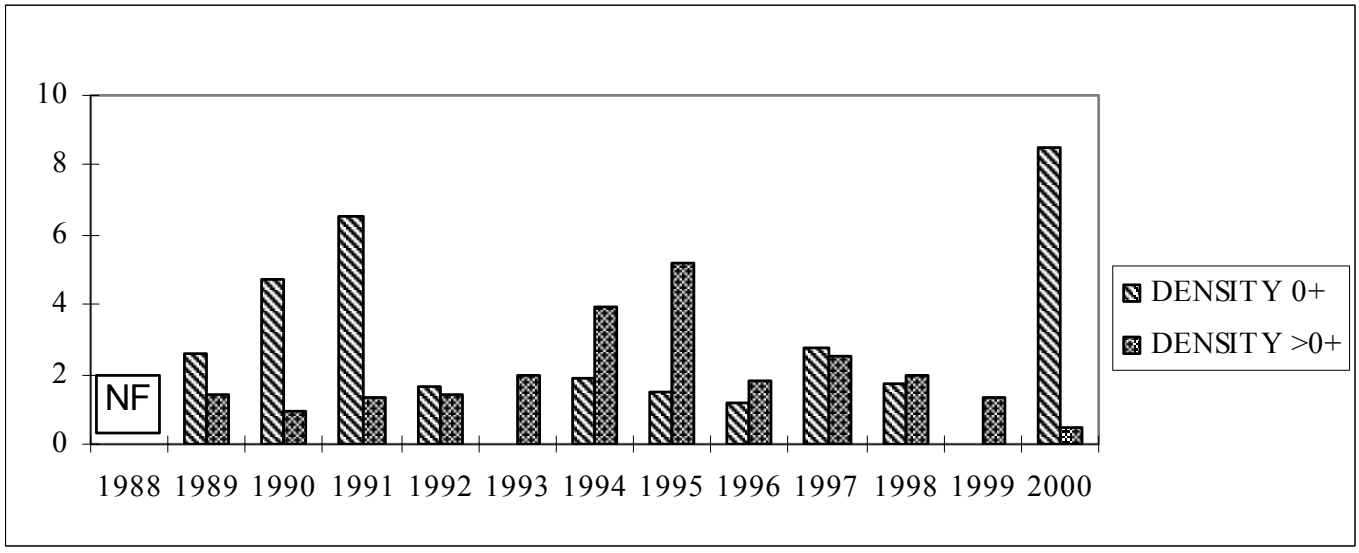


7.2.2. Summary statistics, Round Loch of Glenhead



7.3. Fish data (for outflow stream)

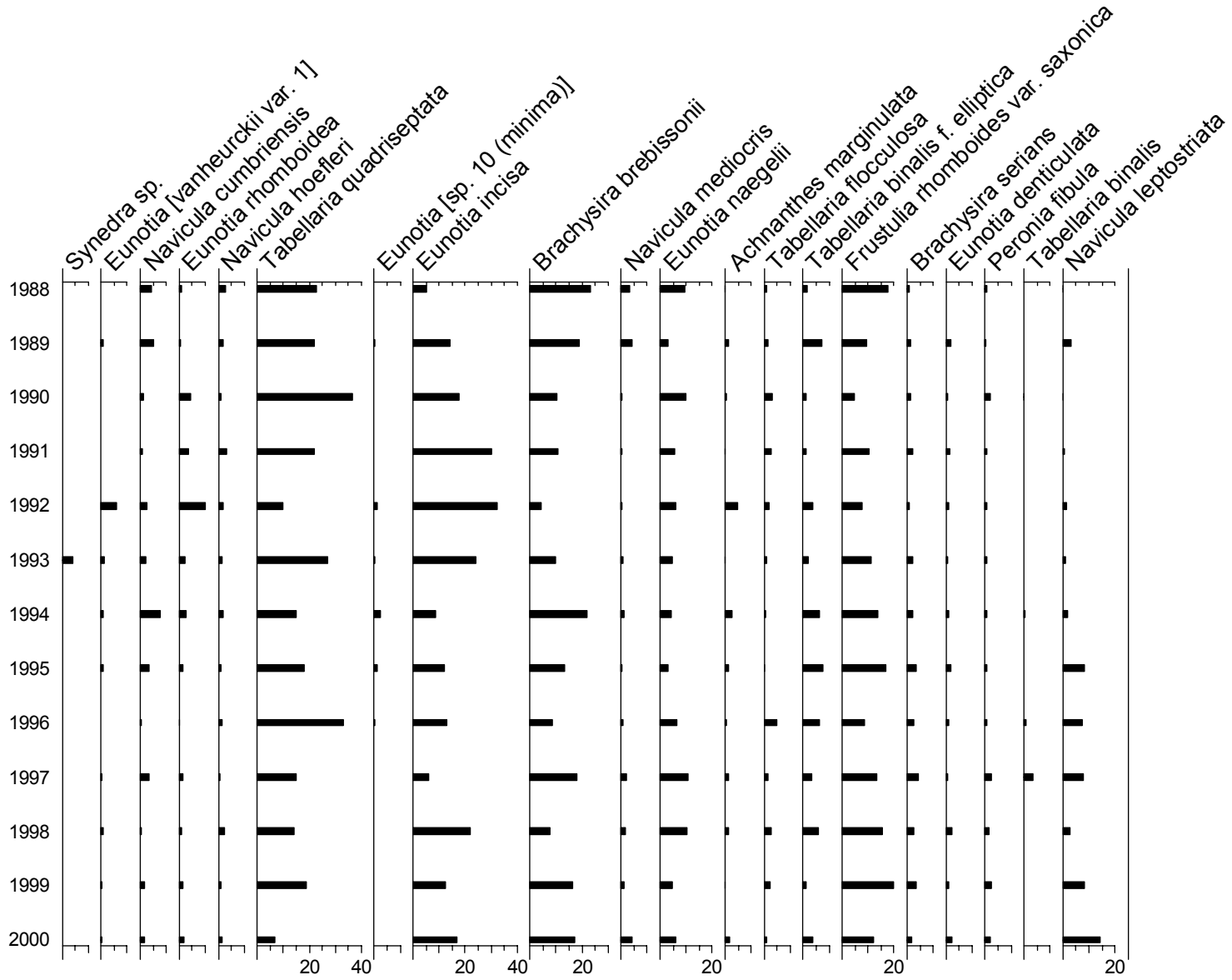
7.3.1. Summary of mean Trout density (numbers 100m^{-2}), Round Loch of Glenhead



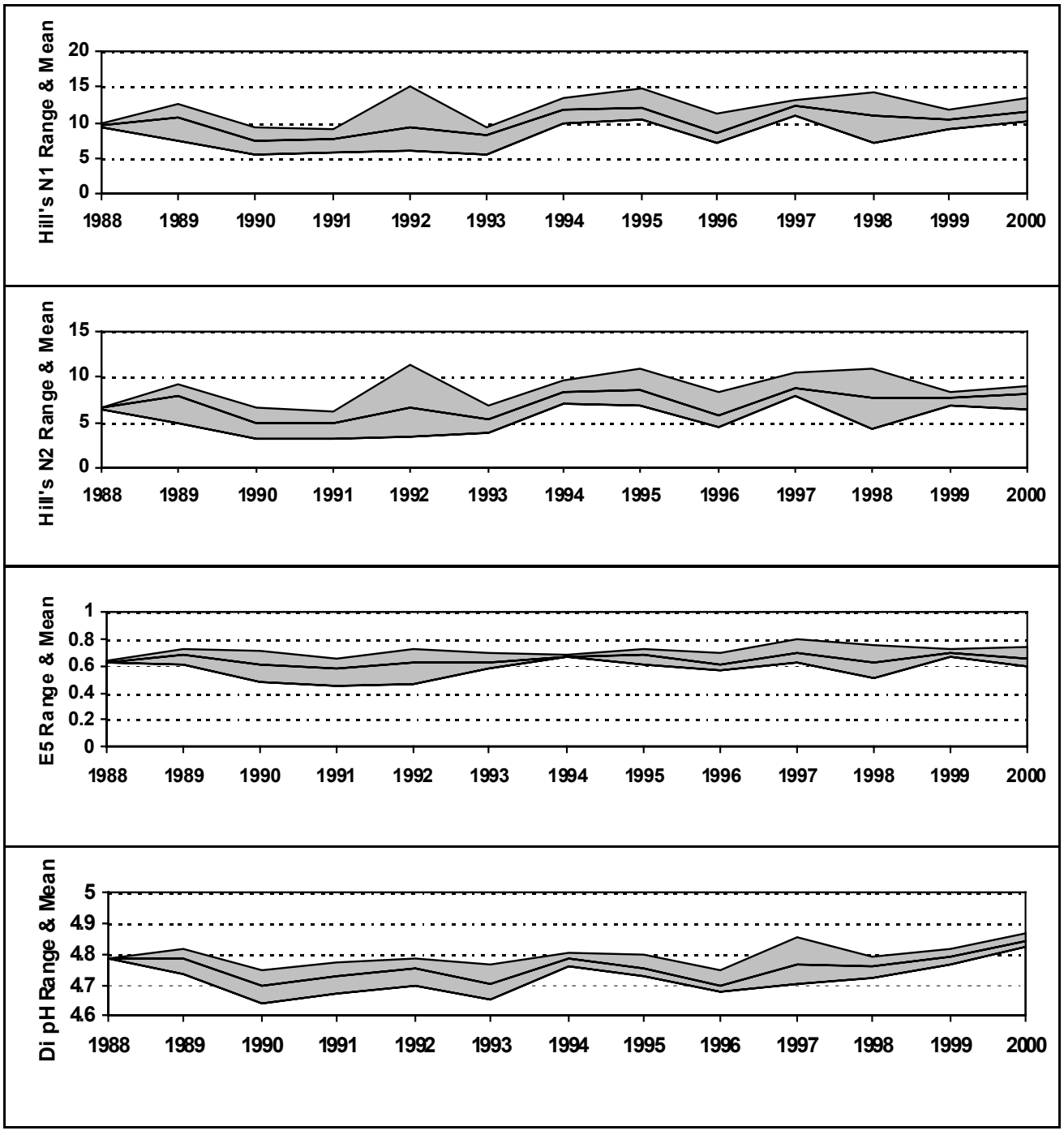
NF = Not fished

7.4. Epilithic diatom data

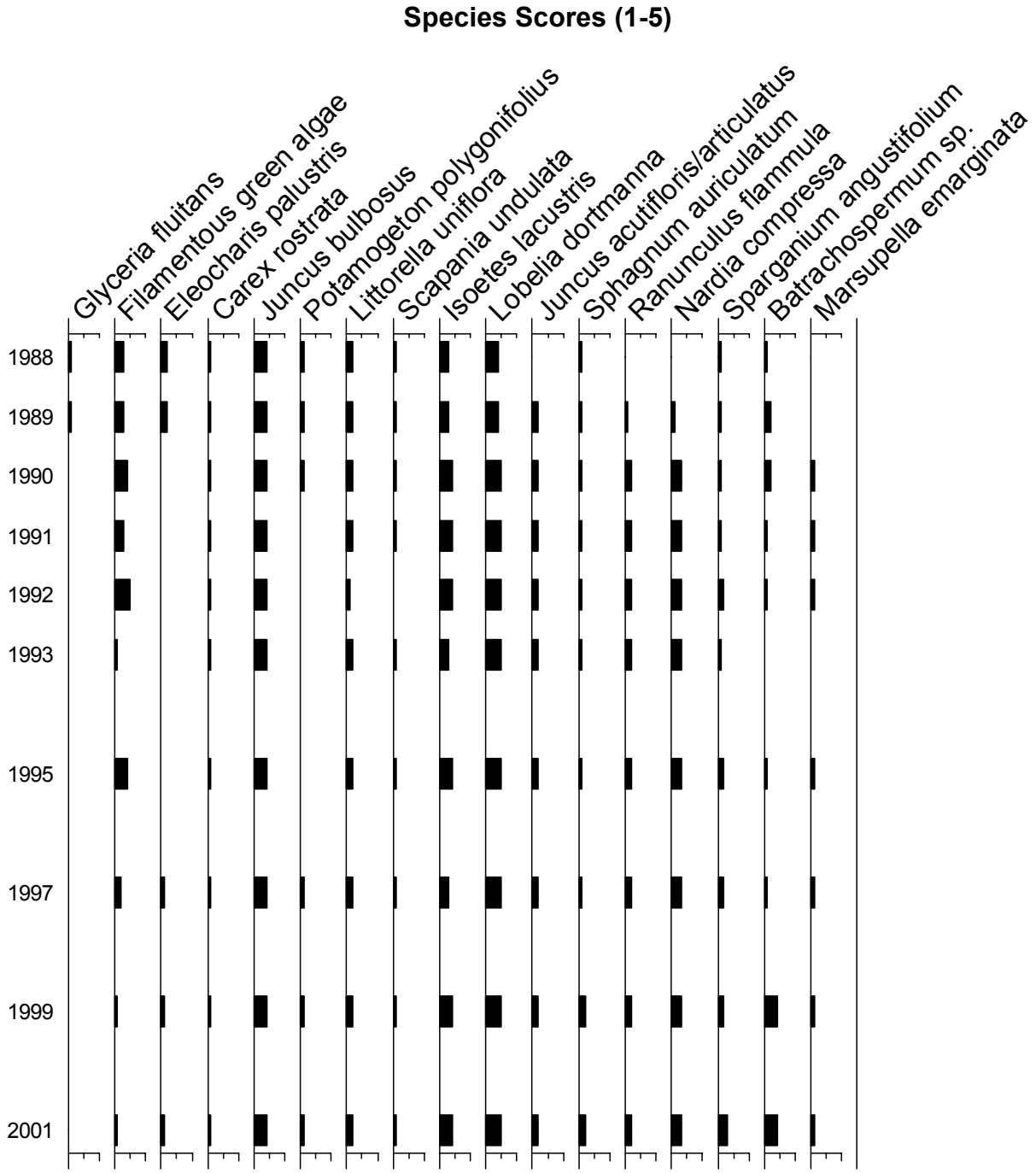
7.4.1. Percentage abundance summary, Round Loch of Glenhead



7.4.2. Summary statistics, Round Loch of Glenhead

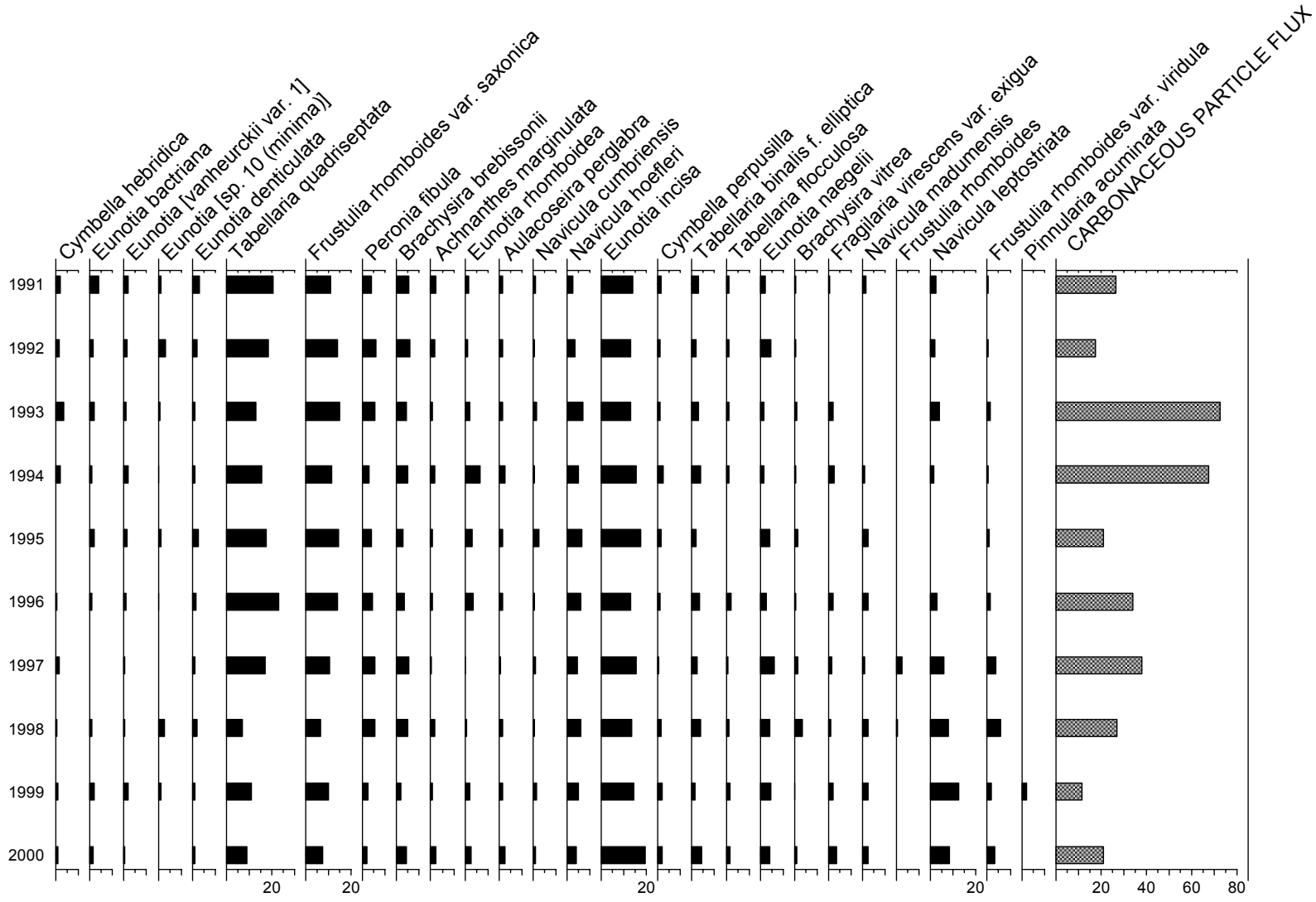


7.5. Aquatic macrophyte data, Round Loch of Glenhead



7.6. Sediment trap data, Round Loch of Glenhead

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



8. Loch Grannoch

Grid Ref: NX 542700

Lake altitude:	210 m	Lake area:	114 ha		
Maximum depth:	20.5 m	Catchment area:	1287 ha		
Mean depth:	6.4 m	Catchment:lake ratio:	11.3		
Volume:	7.40 x 10^6 m^3	Net relief:	391 m		

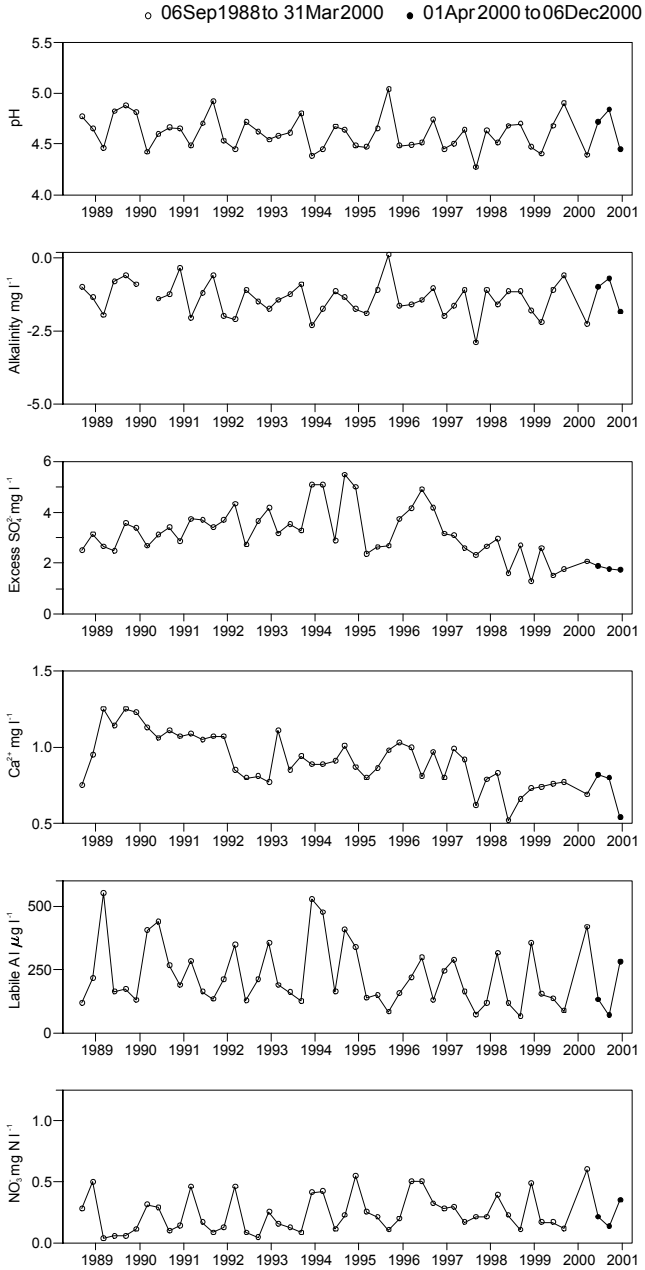
Soils: Peat, Peaty podsol, Peaty gley, Skeletal soils

Geology: Granite

Vegetation: 38 % Moorland, 62 % Conifers

8.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.67	4.84	4.45	0.20	75.0
Alk($CaCO_3$)	-1.18	-0.70	-1.85	0.60	75.0
Cond	48.3	53.0	44.0	4.5	75.0
Ca	0.72	0.82	0.54	0.16	75.0
Mg	0.63	0.80	0.50	0.15	75.0
Na	5.23	5.60	4.90	0.35	75.0
K	All recorded data below detection limit.				75.0
Ba	0.00	0.00	0.00	0.00	75.0
Sr	All recorded data below detection limit.				75.0
Fe	0.14	0.19	0.08	0.06	75.0
Mn	0.19	0.20	0.18	0.01	75.0
Sol.Al	262.0	405.0	171.0	125.4	75.0
Sol.lab.Al	160.3	280.0	69.0	108.3	75.0
Cl	9.67	10.00	9.40	0.31	75.0
SO_4	3.17	3.30	3.10	0.12	75.0
XSO_4	1.79	1.88	1.74	0.08	75.0
NO_3	0.23	0.35	0.13	0.11	75.0
PO_4	All recorded data below detection limit.				75.0
Br	All recorded data below detection limit.				50.0
F	0.03	0.03	0.03	0.00	75.0
Si	0.60	1.20	0.20	0.53	75.0
DOC	5.50	6.40	4.60	0.90	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

Past record statistics

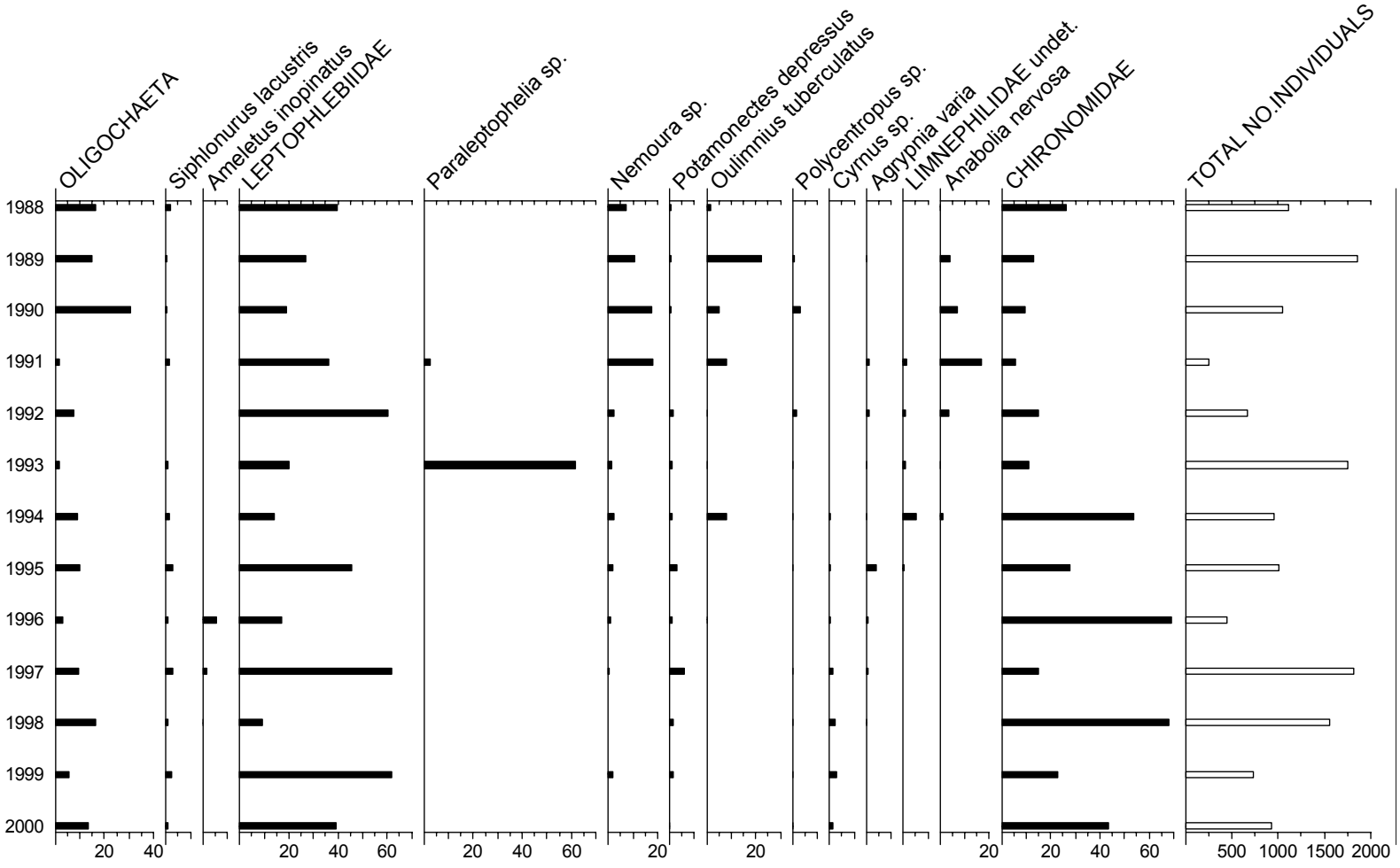
Chemistry statistics for period Sept 1988 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.61	5.04	4.27	0.16	100.0
Alk($CaCO_3$)	-1.40	0.10	-2.90	0.57	93.8
Cond	51.8	78.0	31.0	10.0	100.0
Ca	0.92	1.25	0.52	0.17	100.0
Mg	0.63	0.90	0.30	0.13	100.0
Na	5.08	7.20	3.00	0.91	100.0
K	0.36	0.40	0.16	0.05	100.0
Ba	0.00	0.01	0.00	0.00	93.8
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.10	0.22	0.05	0.03	100.0
Mn	0.19	0.32	0.13	0.04	100.0
Sol.Al	309.0	715.0	106.0	147.8	100.0
Sol.lab.Al	230.1	552.0	66.0	126.1	100.0
Cl	9.12	15.10	5.60	2.16	100.0
SO_4	4.50	6.90	2.50	0.96	100.0
XSO_4	3.21	5.48	1.27	0.97	100.0
NO_3	0.24	0.60	0.04	0.16	100.0
PO_4	0.01	0.09	0.00	0.01	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.04	0.15	0.00	0.02	100.0
Si	0.81	1.90	0.10	0.39	100.0
DOC	4.45	12.80	2.70	1.72	100.0

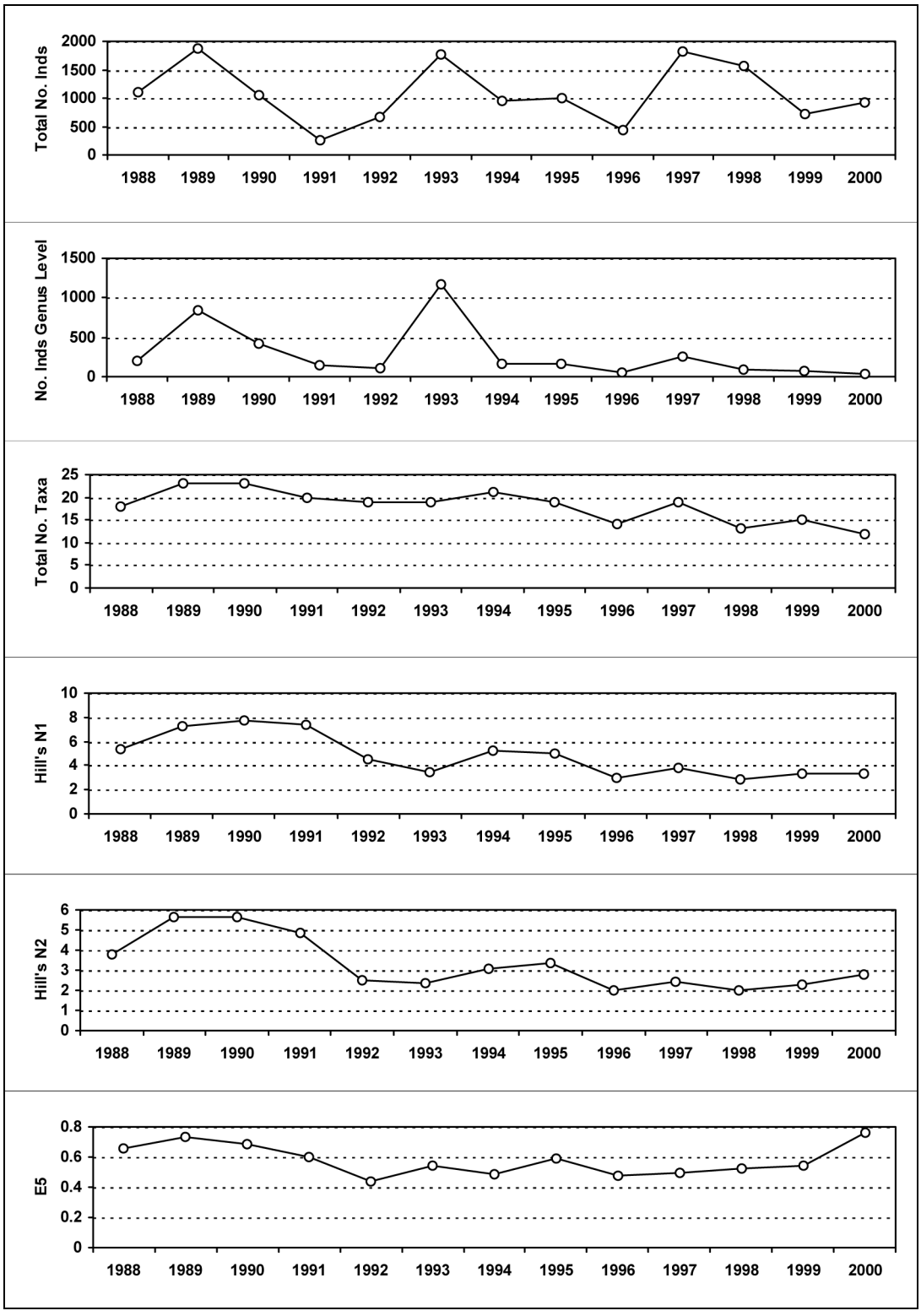
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg $l.^{-1}$

8.2. Macroinvertebrate data

8.2.1. Percentage abundance summary, Loch Grannoch

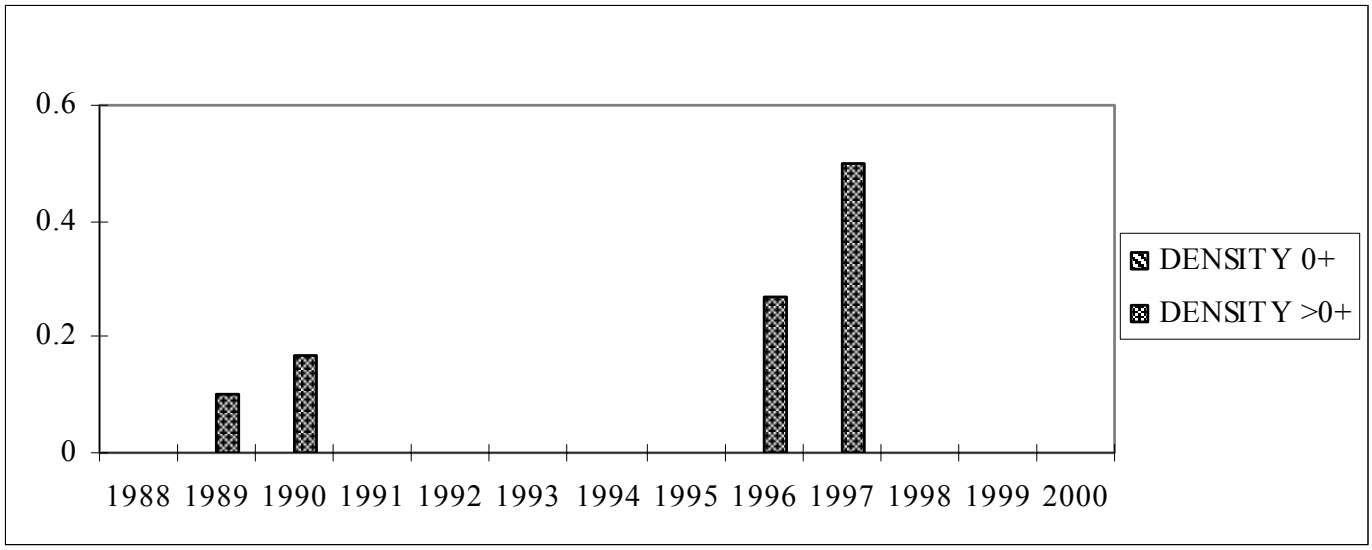


8.2.2. Summary statistics, Loch Grannoch



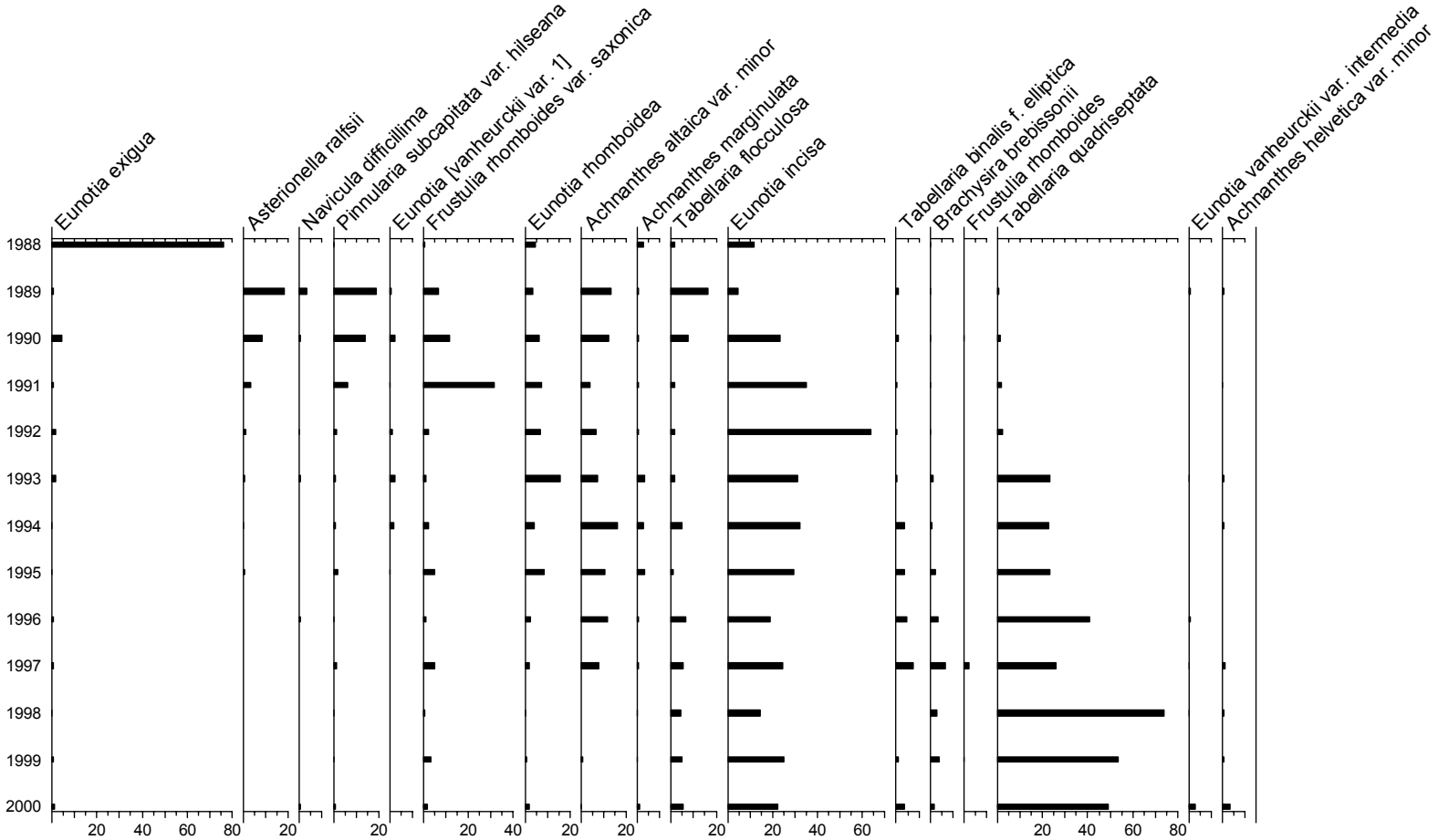
8.3. Fish data (for outflow stream)

8.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Loch Grannoch

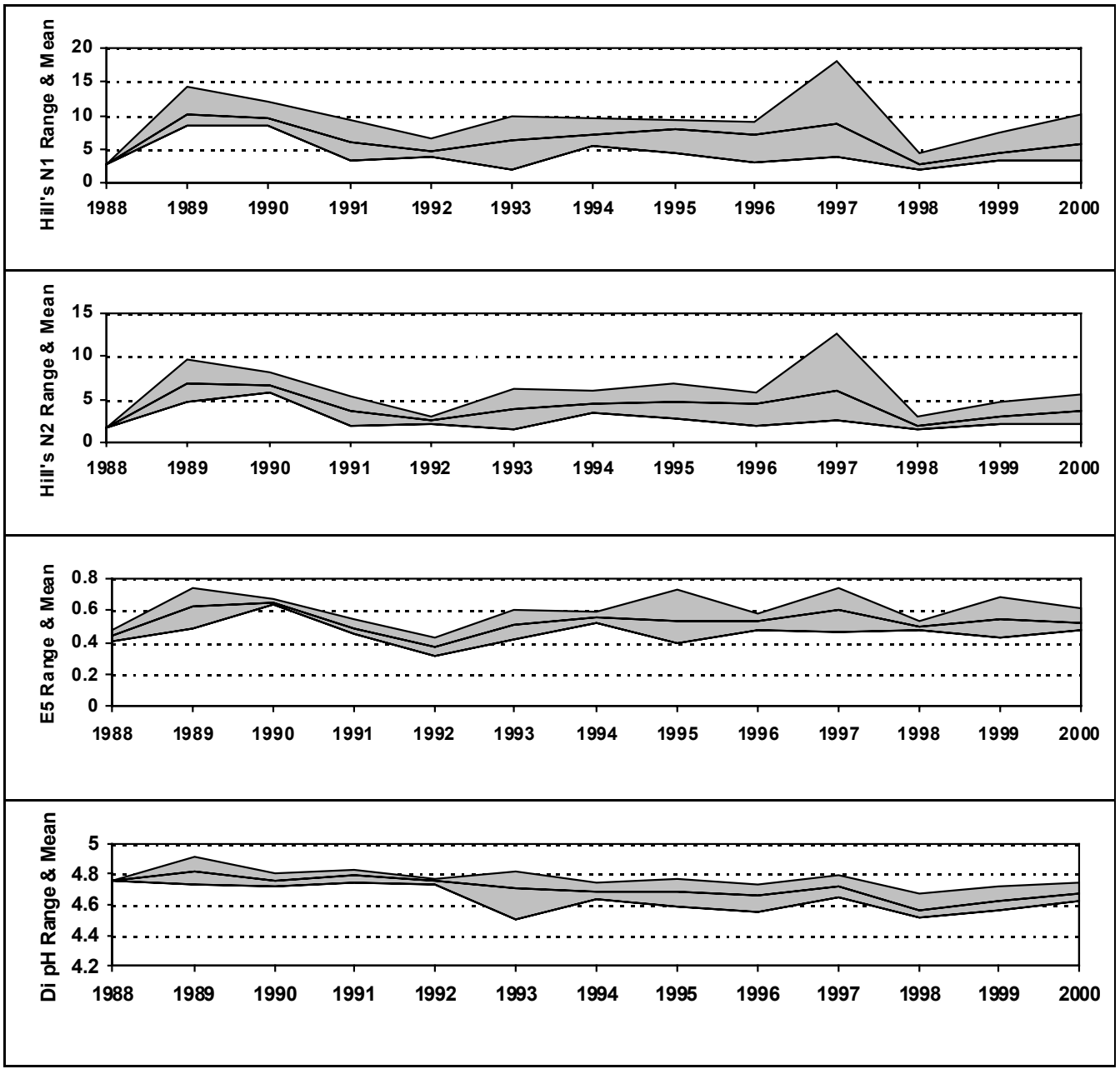


8.4. Epilithic diatom data

8.4.1. Percentage abundance summary, Loch Grannoch

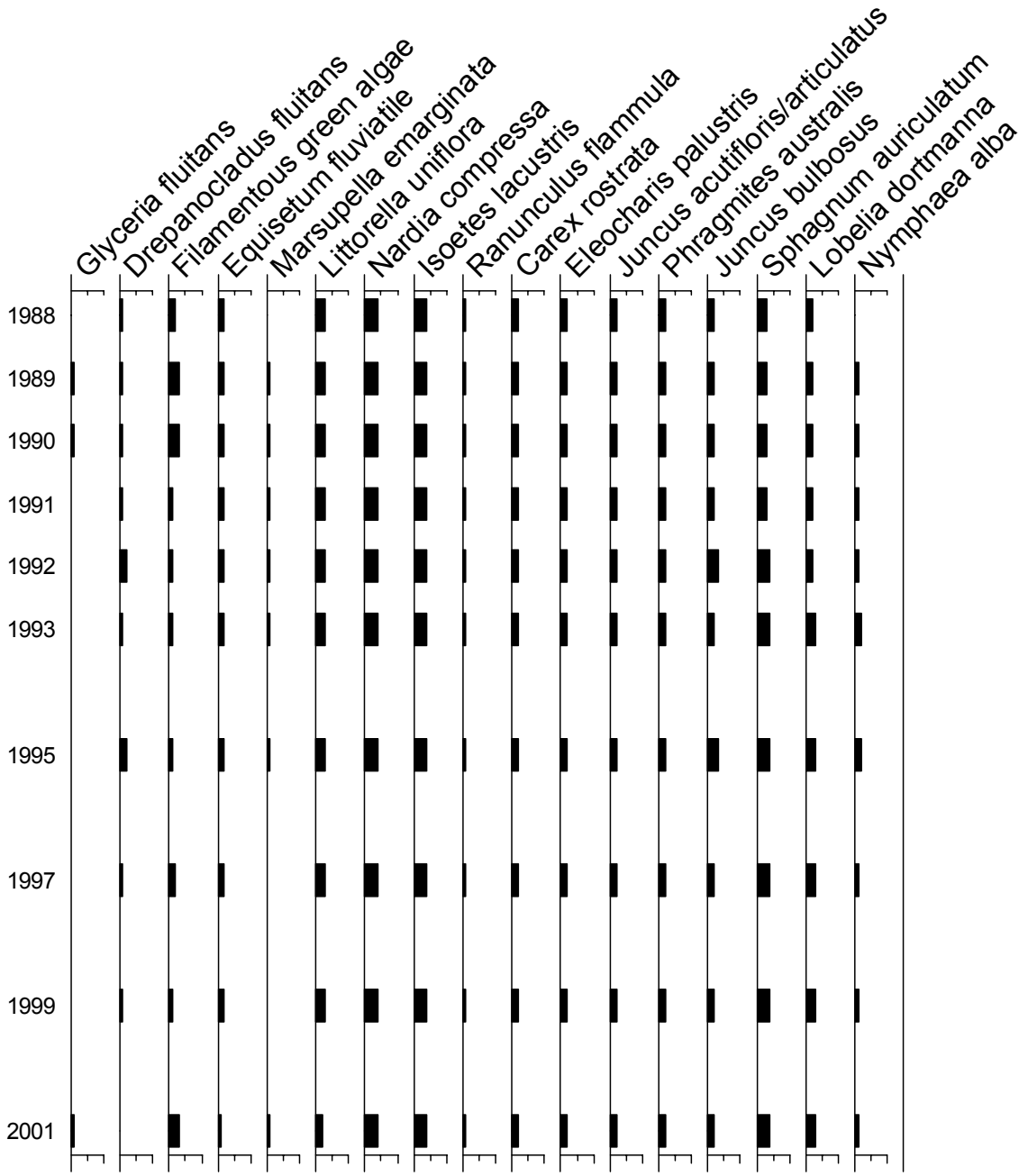


8.4.2. Summary statistics, Loch Grannoch



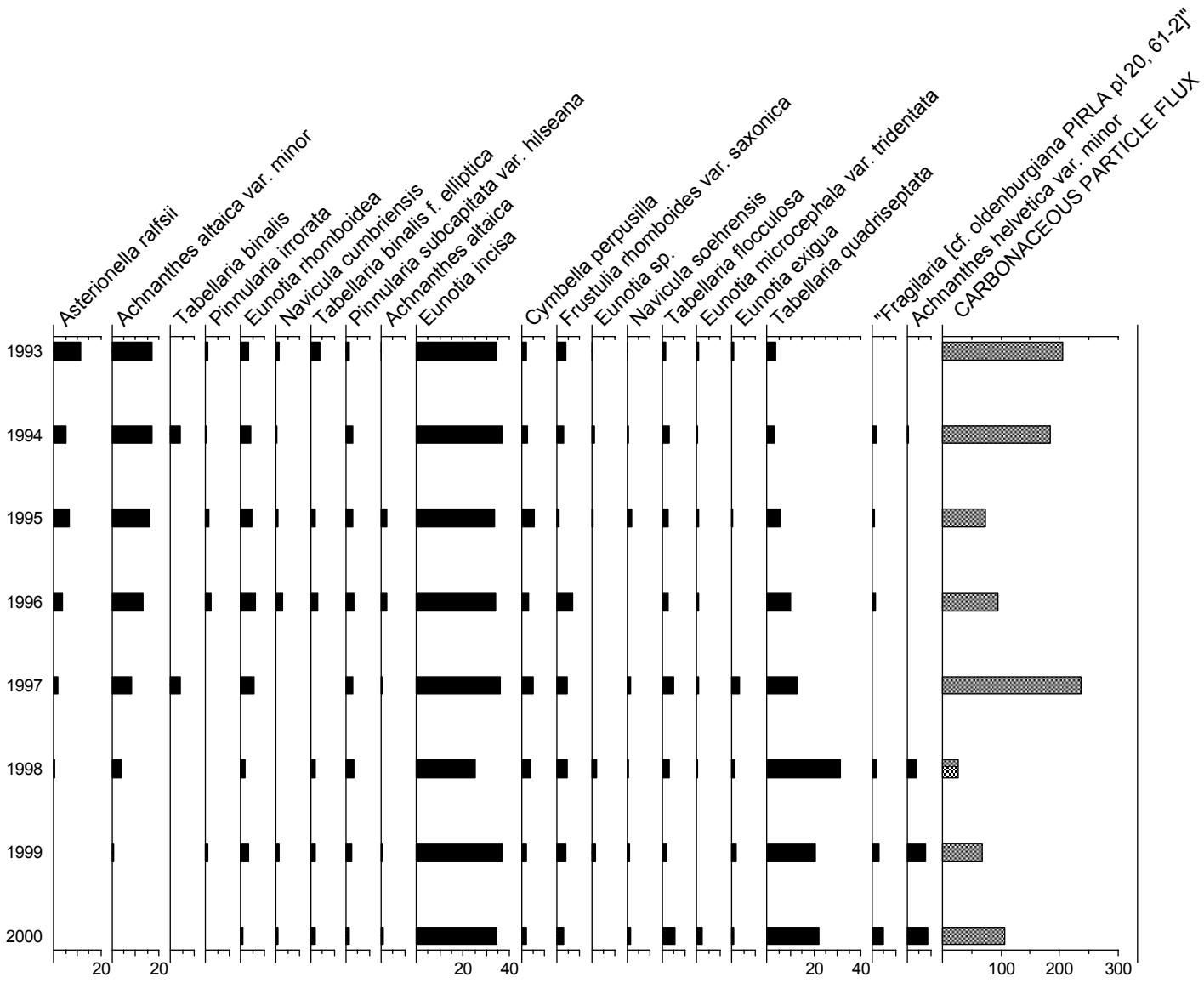
8.5. Aquatic macrophyte data, Loch Grannoch

Species Scores (1-5)

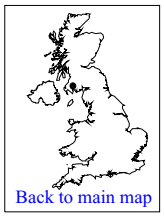


8.6. Sediment trap data, Loch Grannoch

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



9. Dargall Lane



Catchment area: 210 ha
Minimum catchment altitude: 260 m
Maximum catchment altitude: 716 m

Grid Ref: NX 449786

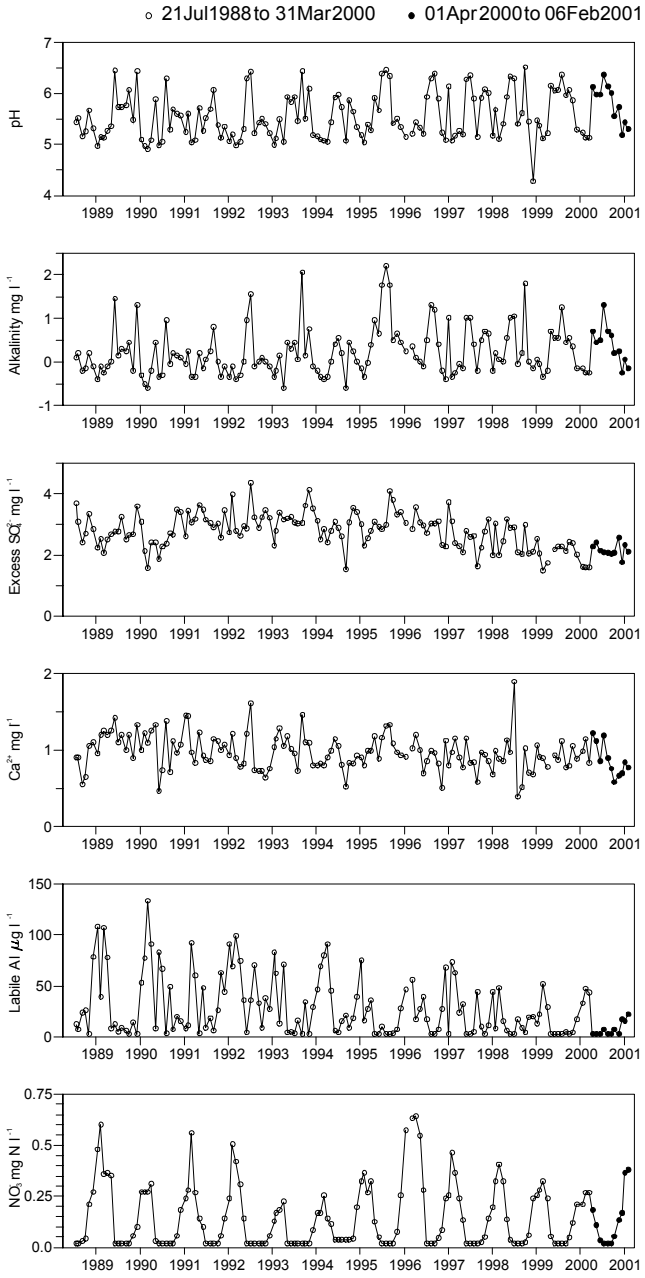
Soils: Podsols, Peaty gley, Blanket peat

Geology: Granite, Gneiss

Vegetation: 100 % Moorland

9.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.80	6.36	5.18	0.38	91.7
Alk($CaCO_3$)	0.40	1.30	-0.25	0.44	91.7
Cond	30.3	39.0	22.0	5.2	91.7
Ca	0.87	1.22	0.58	0.22	91.7
Mg	0.65	1.20	0.40	0.28	91.7
Na	3.50	4.30	2.90	0.44	91.7
K	0.32	0.45	0.14	0.12	91.7
Ba	0.01	0.01	0.00	0.00	91.7
Sr	0.01	0.01	0.00	0.00	91.7
Fe	0.02	0.04	0.01	0.01	75.0
Mn	0.01	0.02	0.00	0.01	91.7
Sol.Al	22.4	48.0	7.0	13.6	91.7
Sol.lab.Al	7.5	22.0	2.5	7.1	91.7
Cl	6.12	8.40	4.50	1.34	91.7
SO_4	3.03	3.60	2.70	0.29	91.7
XSO_4	2.16	2.56	1.75	0.22	91.7
NO_3	0.13	0.38	0.02	0.13	91.7
PO_4	All recorded data below detection limit.				91.7
Br	0.14	0.22	0.01	0.12	25.0
F	0.01	0.01	0.01	0.00	58.3
Si	0.82	1.40	0.30	0.36	91.7
DOC	1.95	3.40	1.20	0.65	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

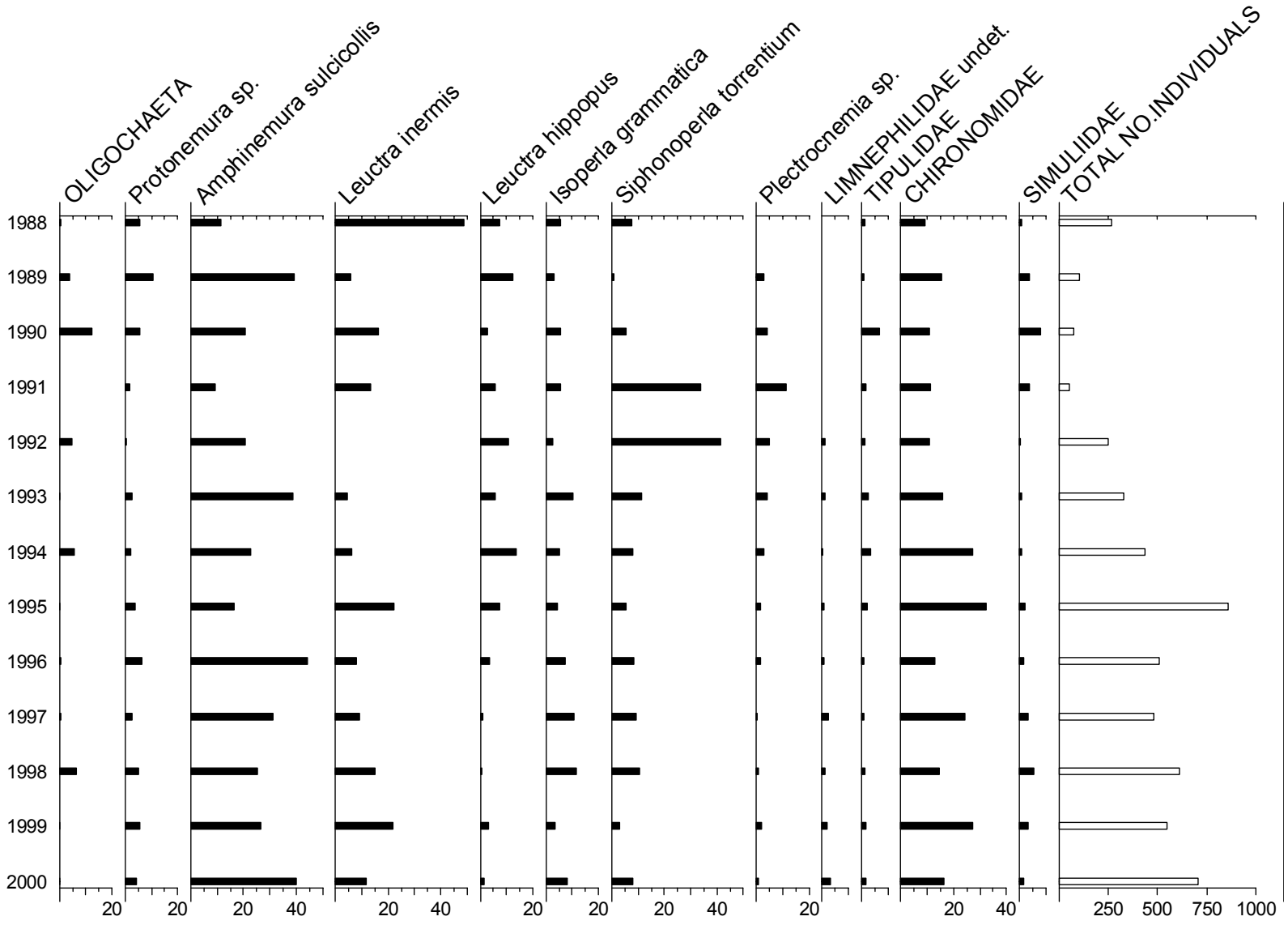
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.54	6.51	4.28	0.45	100.0
Alk($CaCO_3$)	0.22	2.20	-0.60	0.56	100.0
Cond	34.7	59.0	16.0	7.3	100.0
Ca	0.98	1.89	0.39	0.23	100.0
Mg	0.63	1.00	0.30	0.15	100.0
Na	3.84	6.50	1.70	0.81	100.0
K	0.39	0.70	0.10	0.07	100.0
Ba	0.01	0.02	0.00	0.00	100.0
Sr	0.01	0.06	0.00	0.00	100.0
Fe	0.02	0.12	0.01	0.01	100.0
Mn	0.01	0.03	0.00	0.01	100.0
Sol.Al	46.8	143.0	3.0	34.6	100.0
Sol.lab.Al	29.7	133.0	2.5	29.5	100.0
Cl	6.56	13.00	2.20	1.98	100.0
SO_4	3.71	5.30	2.00	0.58	100.0
XSO_4	2.78	4.35	1.49	0.57	100.0
NO_3	0.15	0.64	0.02	0.16	100.0
PO_4	0.00	0.09	0.00	0.01	100.0
Br	0.01	0.06	0.00	0.01	91.7
F	0.01	0.08	0.00	0.01	100.0
Si	0.94	1.90	0.40	0.28	100.0
DOC	1.73	5.90	0.30	0.90	100.0

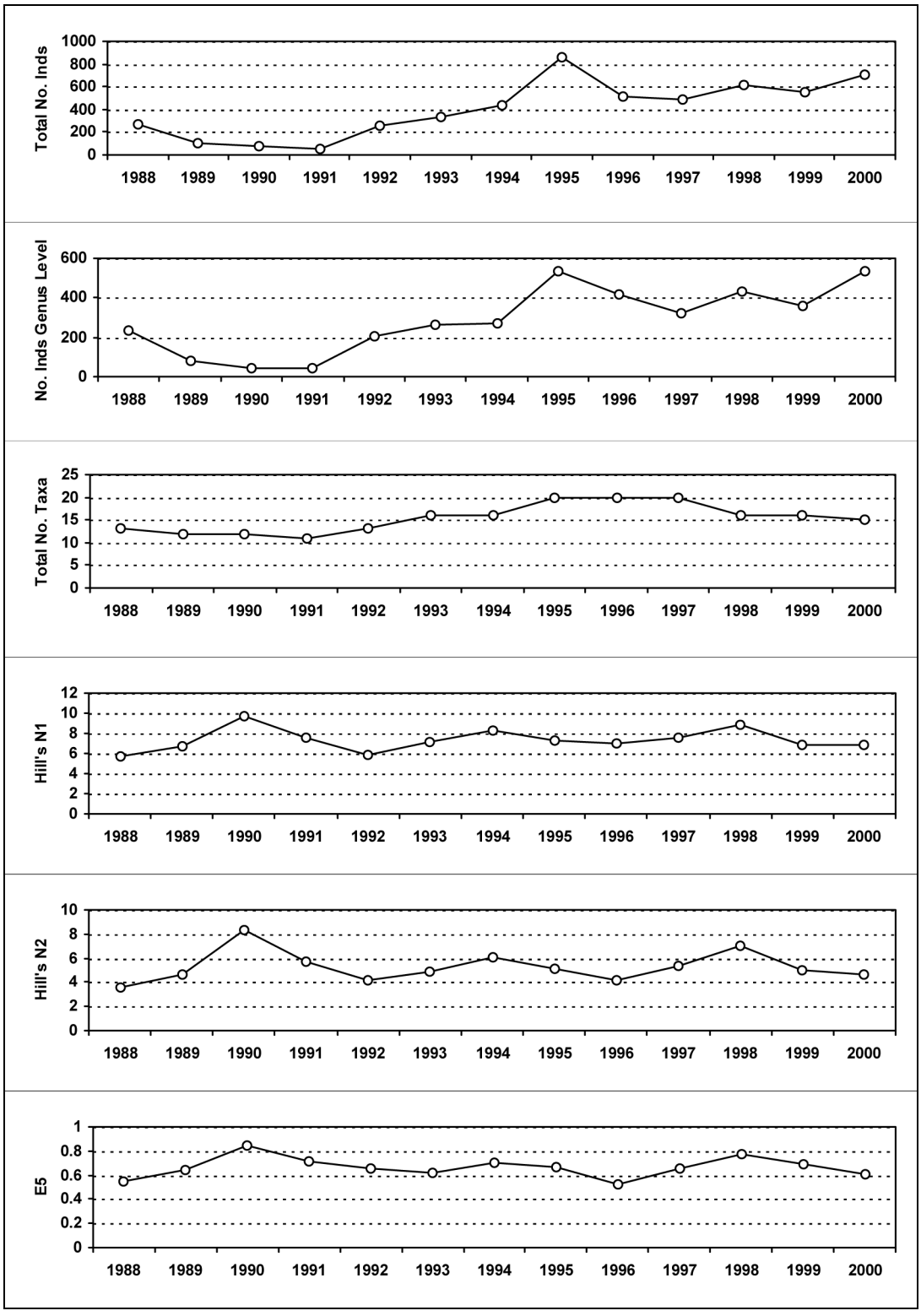
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

9.2. Macroinvertebrate data

9.2.1. Percentage abundance summary, Dargall Lane

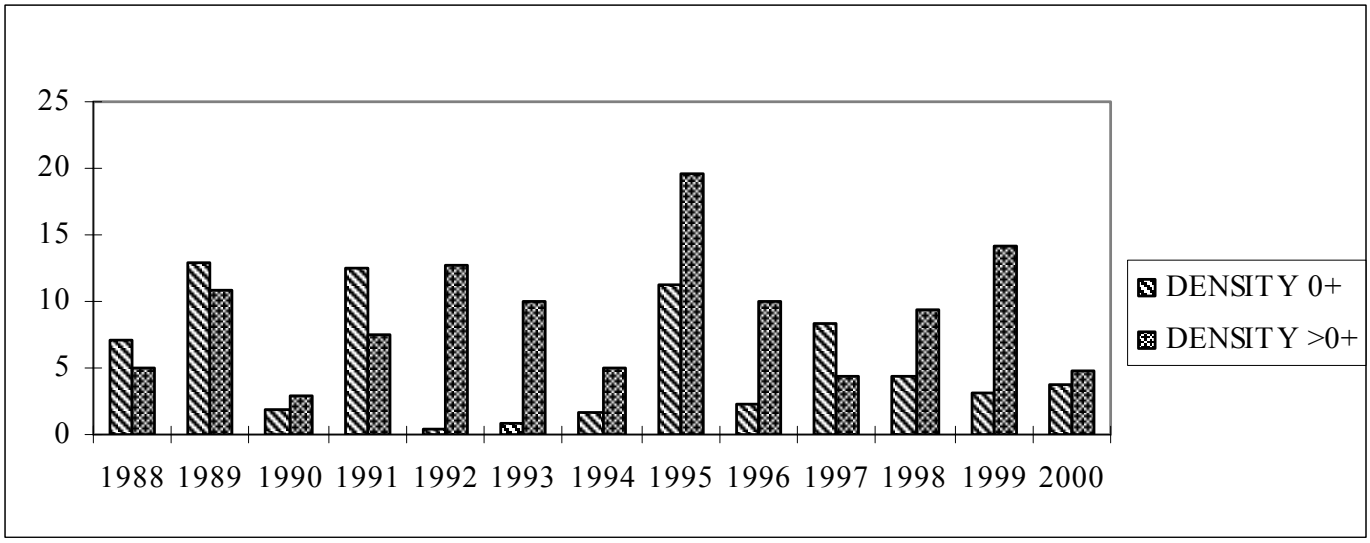


9.2.2. Summary statistics, Dargall Lane



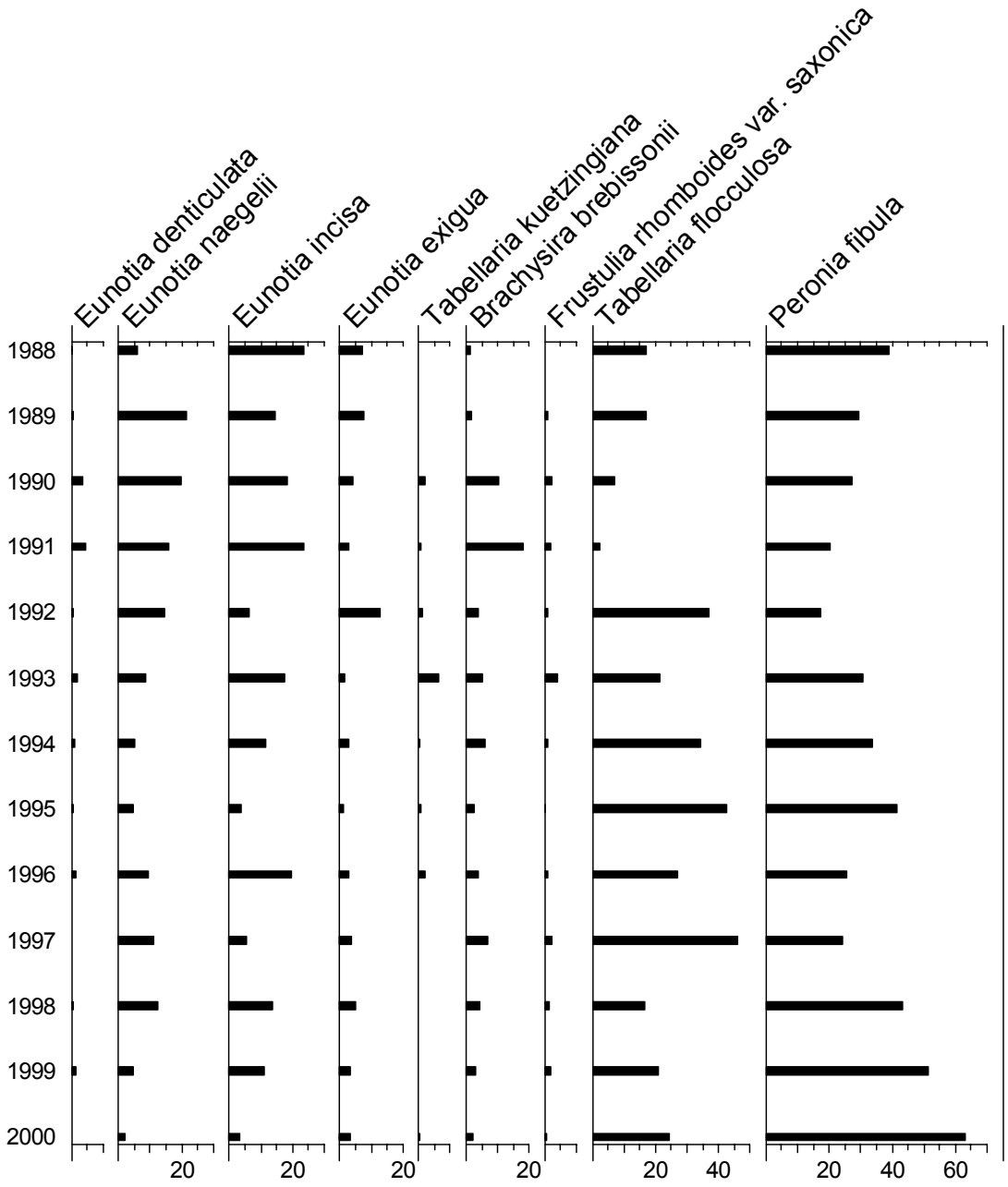
9.3. Fish data

9.3.1. Summary of mean Trout density (numbers 100m^{-2}), Dargall Lane

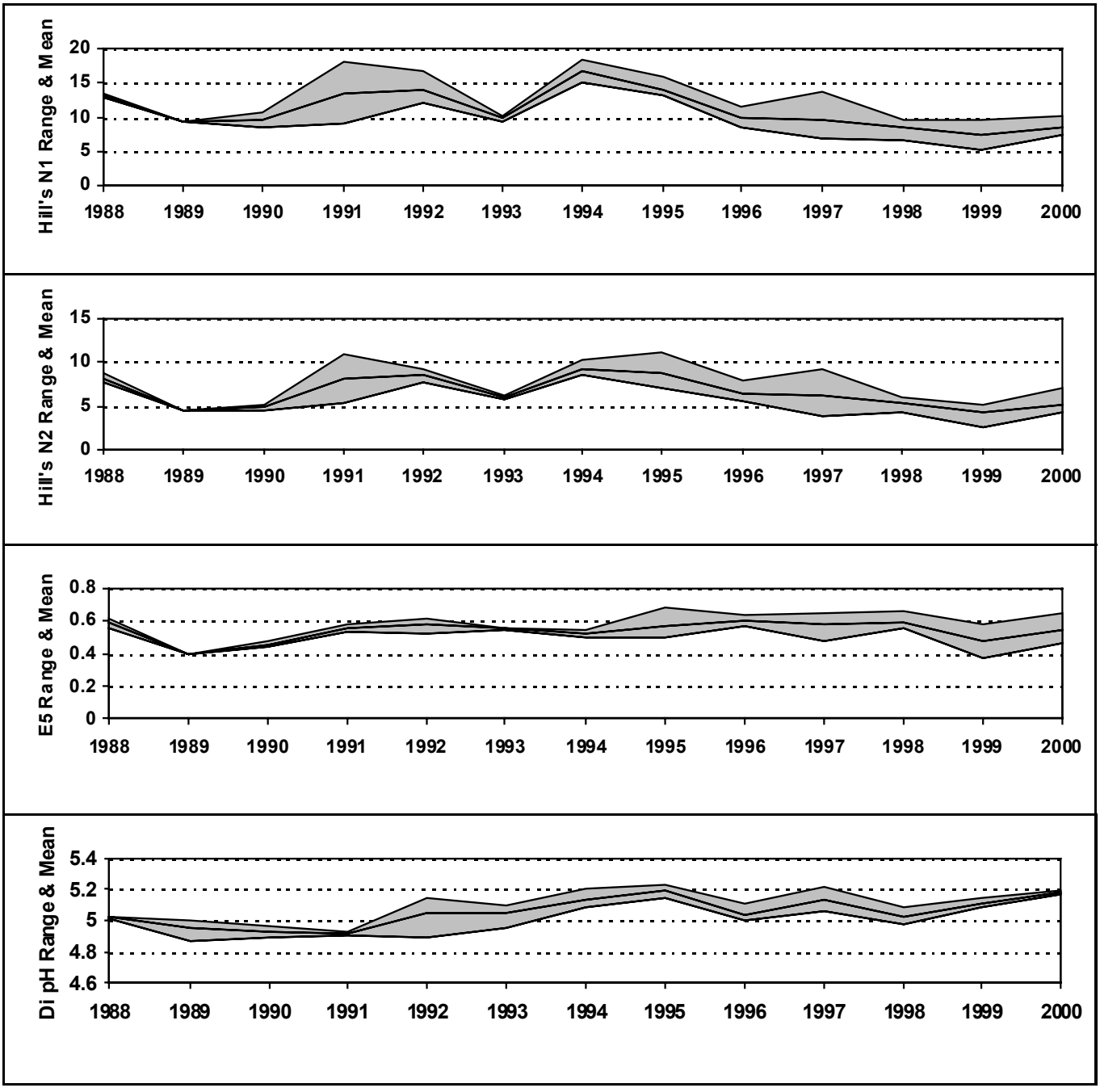


9.4. Epilithic diatom data

9.4.1. Percentage abundance summary, Dargall Lane

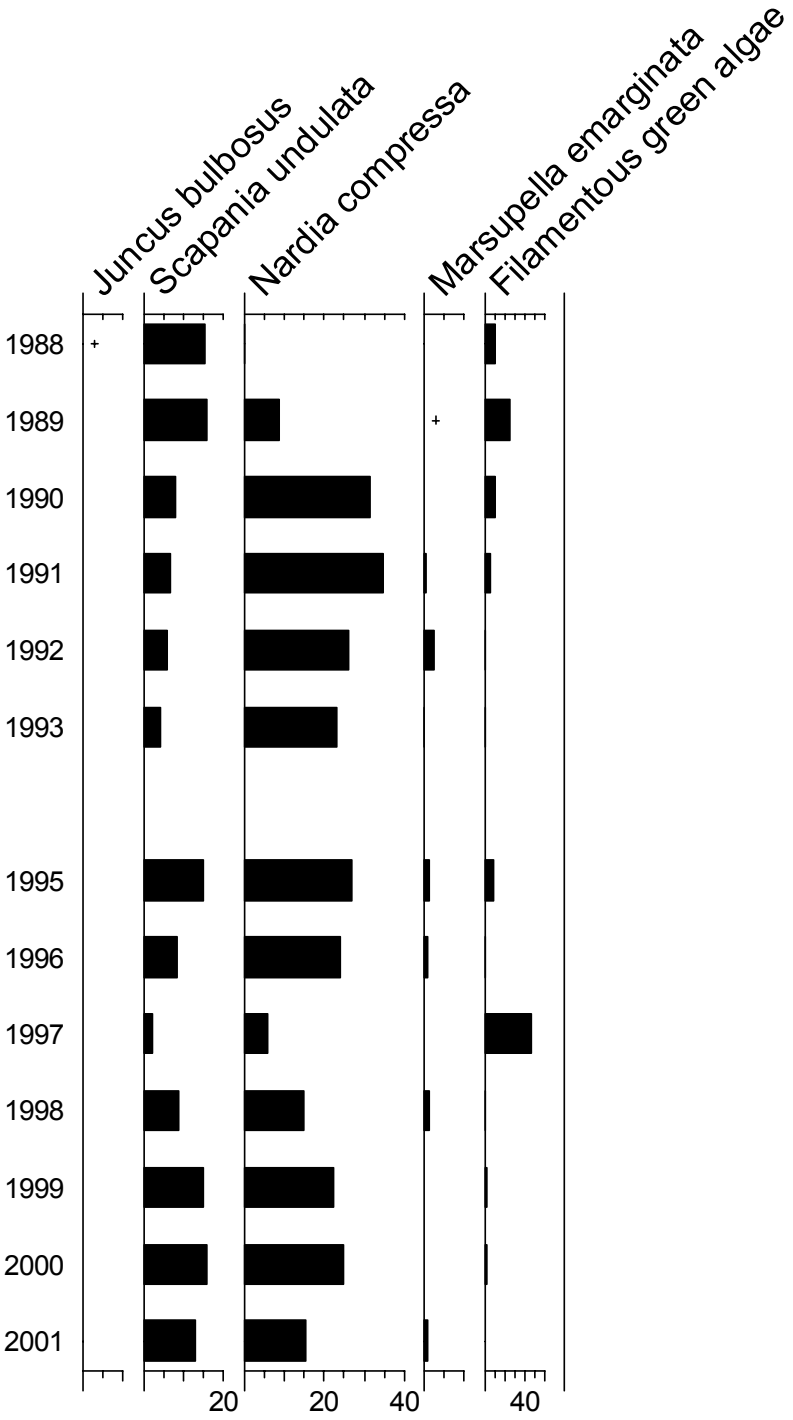


9.4.2. Summary statistics, Dargall Lane



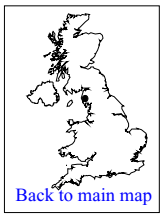
9.5. Aquatic macrophyte data, Dargall Lane

Percentage Species Cover



+ Represents <0.1% abundance

10. Scoat Tarn



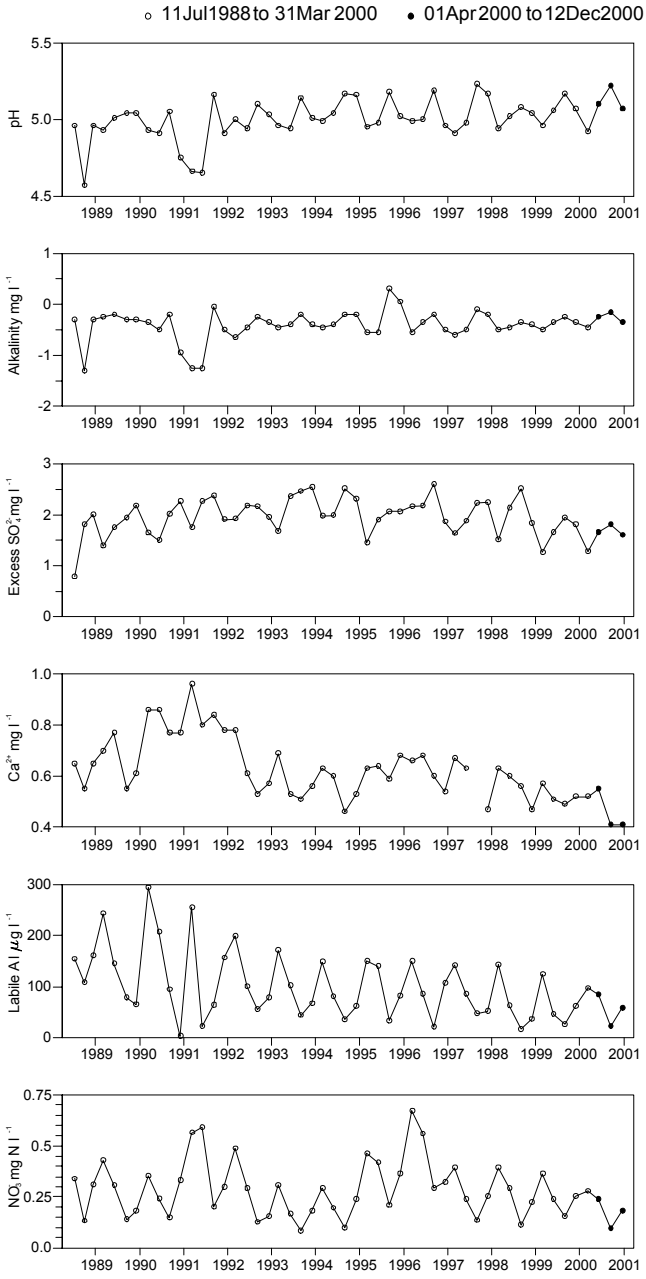
Lake altitude:	602 m	Lake area:	5 ha
Maximum depth:	20.0 m	Catchment area:	95 ha
Mean depth:	10.0 m	Catchment:lake ratio:	18.2
Volume:	0.42 x 10^6 m^3	Net relief:	239 m

Grid Ref: NY 159104

Soils: Shallow peat rankers Geology: Ordovician volcanics Vegetation: 100 % Moorland

10.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.13	5.22	5.07	0.08	75.0
Alk($CaCO_3$)	-0.25	-0.15	-0.35	0.10	75.0
Cond	27.3	31.0	24.0	3.5	75.0
Ca	0.46	0.55	0.41	0.08	75.0
Mg	0.47	0.60	0.40	0.12	75.0
Na	2.93	3.40	2.60	0.42	75.0
K	0.21	0.24	0.17	0.04	75.0
Ba	0.01	0.01	0.00	0.00	75.0
Sr	0.00	0.00	0.00	0.00	75.0
Fe	0.01	0.01	0.00	0.01	75.0
Mn	0.01	0.02	0.01	0.00	75.0
Sol.Al	68.0	103.0	35.0	34.0	75.0
Sol.lab.Al	54.7	84.0	22.0	31.1	75.0
Cl	5.00	5.90	4.20	0.85	75.0
SO_4	2.40	2.50	2.30	0.10	75.0
XSO_4	1.69	1.80	1.60	0.10	75.0
NO_3	0.17	0.24	0.09	0.07	75.0
PO_4	All recorded data below detection limit.				75.0
Br	0.02	0.02	0.01	0.00	50.0
F	0.01	0.01	0.01	0.00	50.0
Si	0.50	0.60	0.40	0.10	75.0
DOC	1.37	1.90	1.10	0.46	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

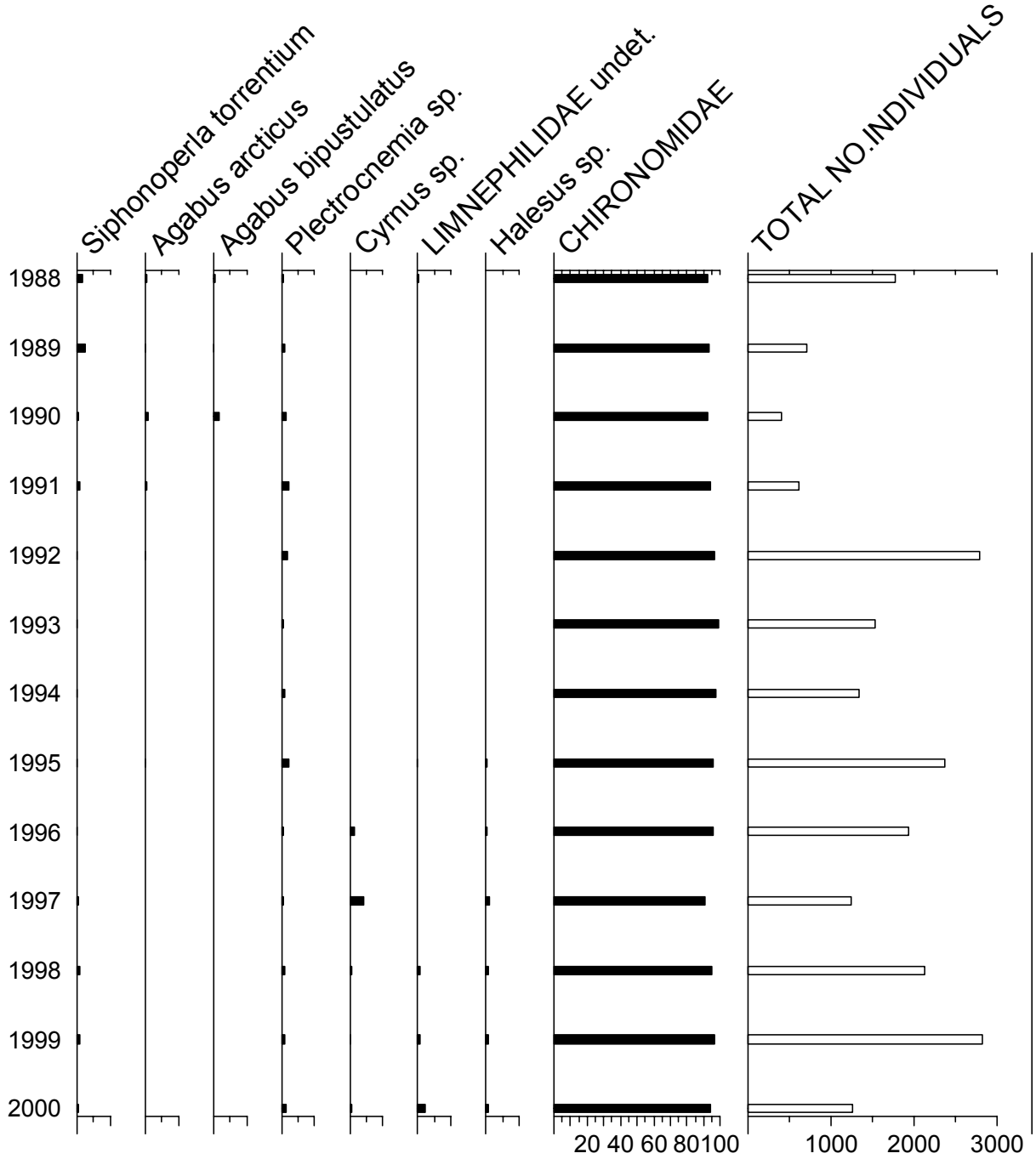
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.00	5.23	4.57	0.14	100.0
Alk($CaCO_3$)	-0.41	0.30	-1.30	0.30	100.0
Cond	34.3	49.0	24.0	6.1	100.0
Ca	0.63	0.96	0.46	0.12	100.0
Mg	0.56	0.90	0.30	0.12	100.0
Na	3.70	6.10	2.60	0.75	100.0
K	0.37	0.60	0.16	0.06	100.0
Ba	0.01	0.02	0.00	0.00	100.0
Sr	0.00	0.01	0.00	0.00	100.0
Fe	0.02	0.19	0.01	0.03	91.7
Mn	0.02	0.07	0.01	0.01	100.0
Sol.Al	112.8	300.0	12.2	65.9	100.0
Sol.lab.Al	102.0	293.8	2.5	65.8	100.0
Cl	6.47	11.60	4.10	1.69	100.0
SO_4	2.88	3.50	1.70	0.31	100.0
XSO_4	1.96	2.60	0.79	0.37	100.0
NO_3	0.29	0.67	0.08	0.14	100.0
PO_4	0.00	0.01	0.00	0.00	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.02	0.03	0.00	0.00	100.0
Si	0.57	0.90	0.20	0.15	100.0
DOC	0.95	2.70	0.10	0.56	100.0

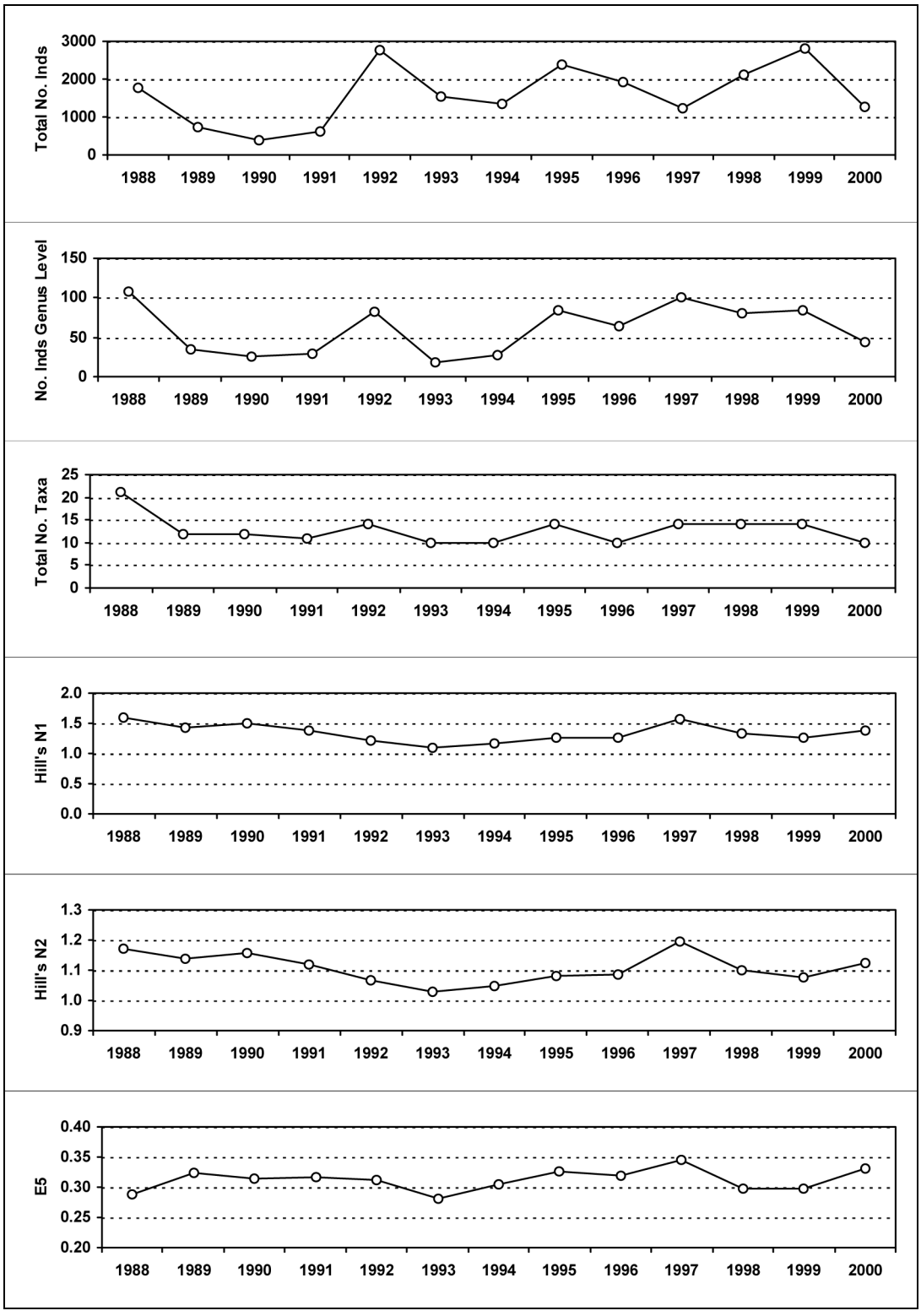
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

10.2. Macroinvertebrate data

10.2.1. Percentage abundance summary, Scoat Tarn

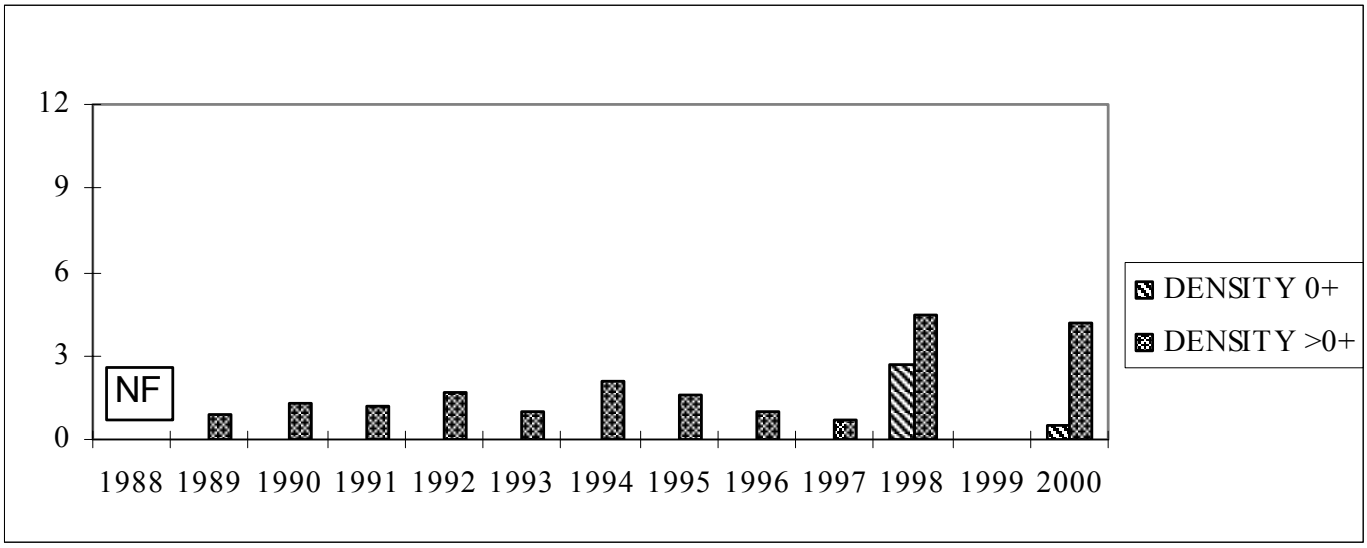


10.2.2. Summary statistics, Scoat Tarn



10.3. Fish data (for outflow stream)

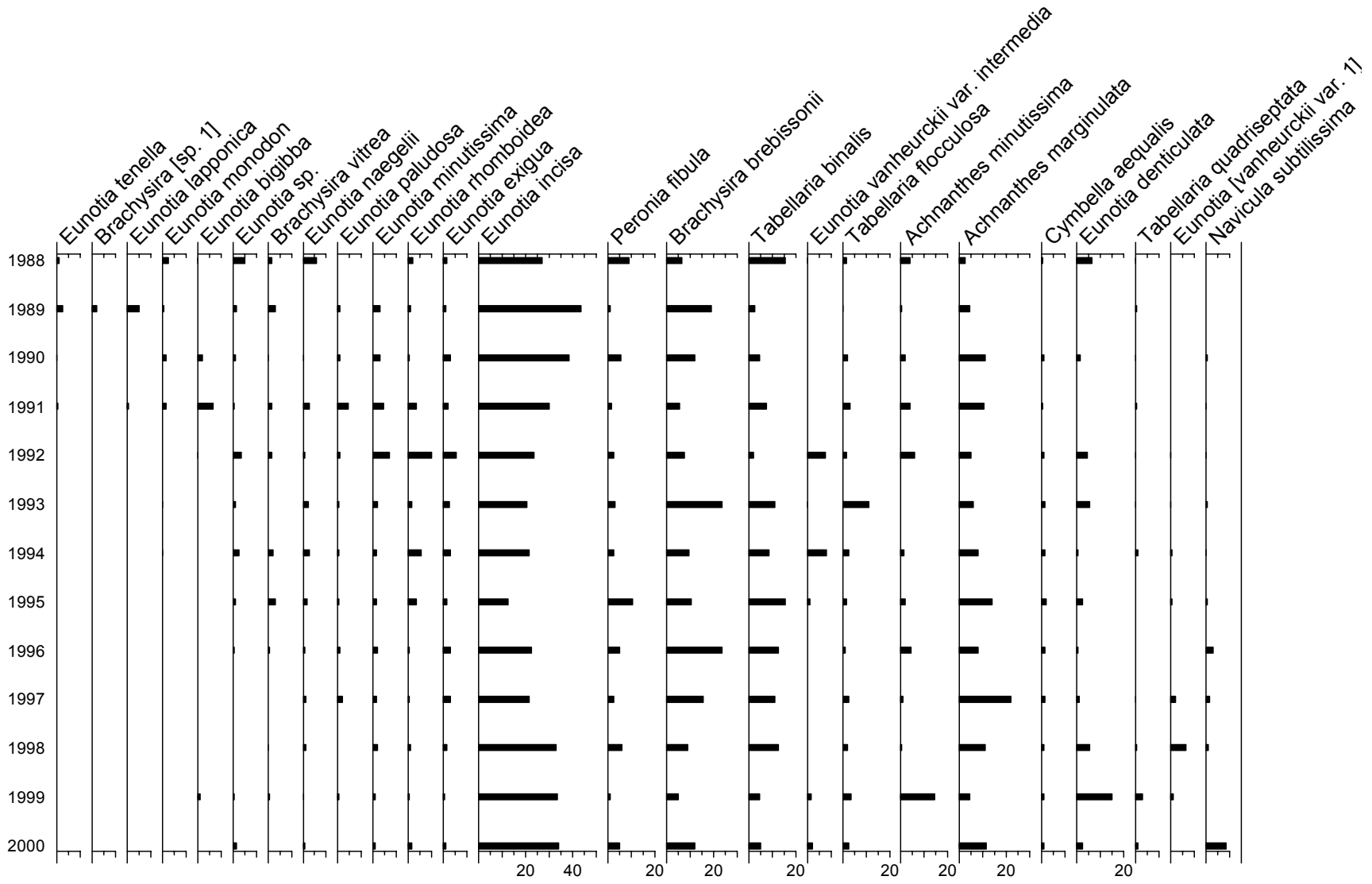
10.3.1. Summary of mean Trout density (numbers 100m^{-2}), Scoat Tarn



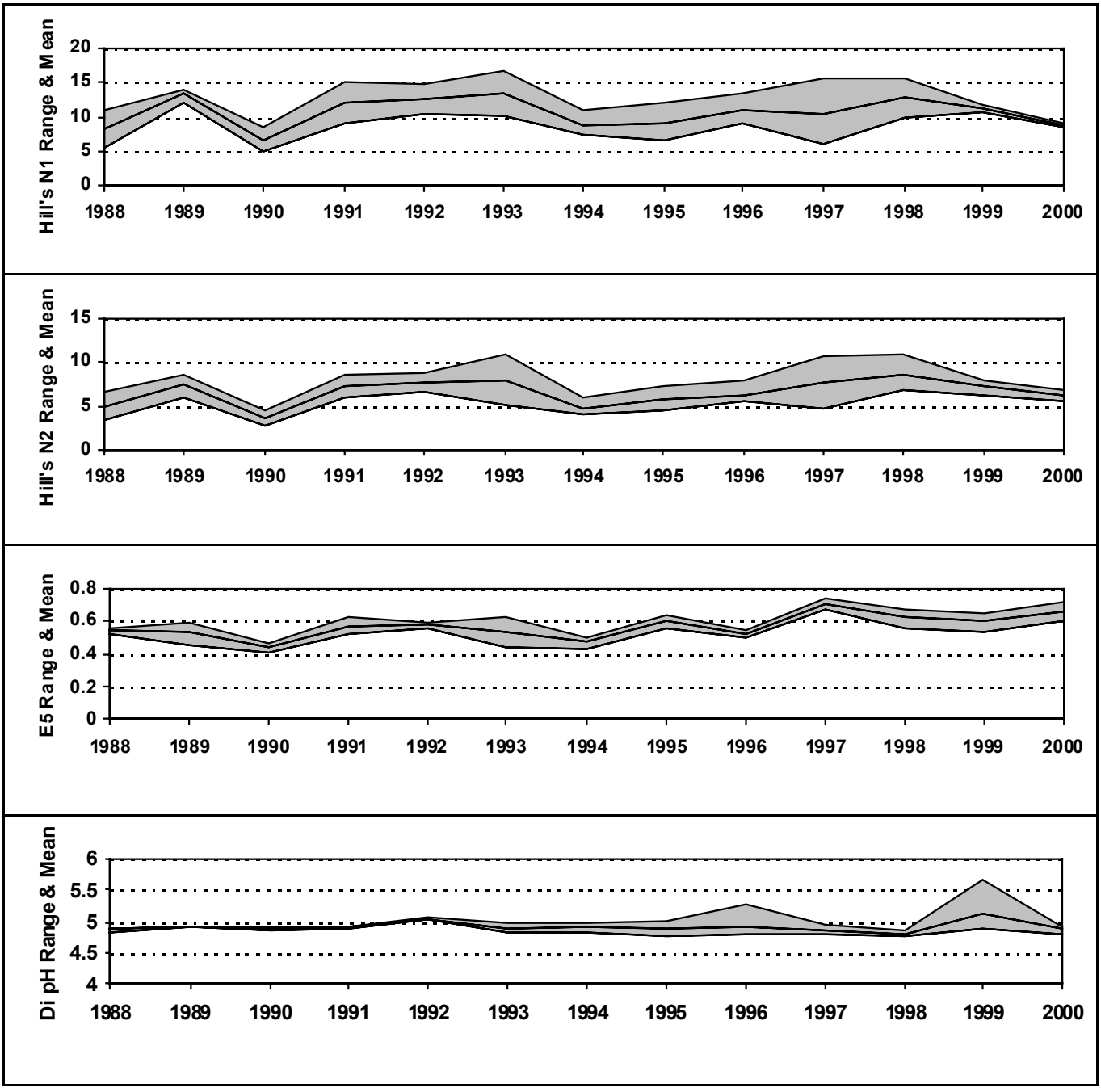
NF = Not fished

10.4. Epilithic diatom data

10.4.1. Percentage abundance summary, Scoat Tarn

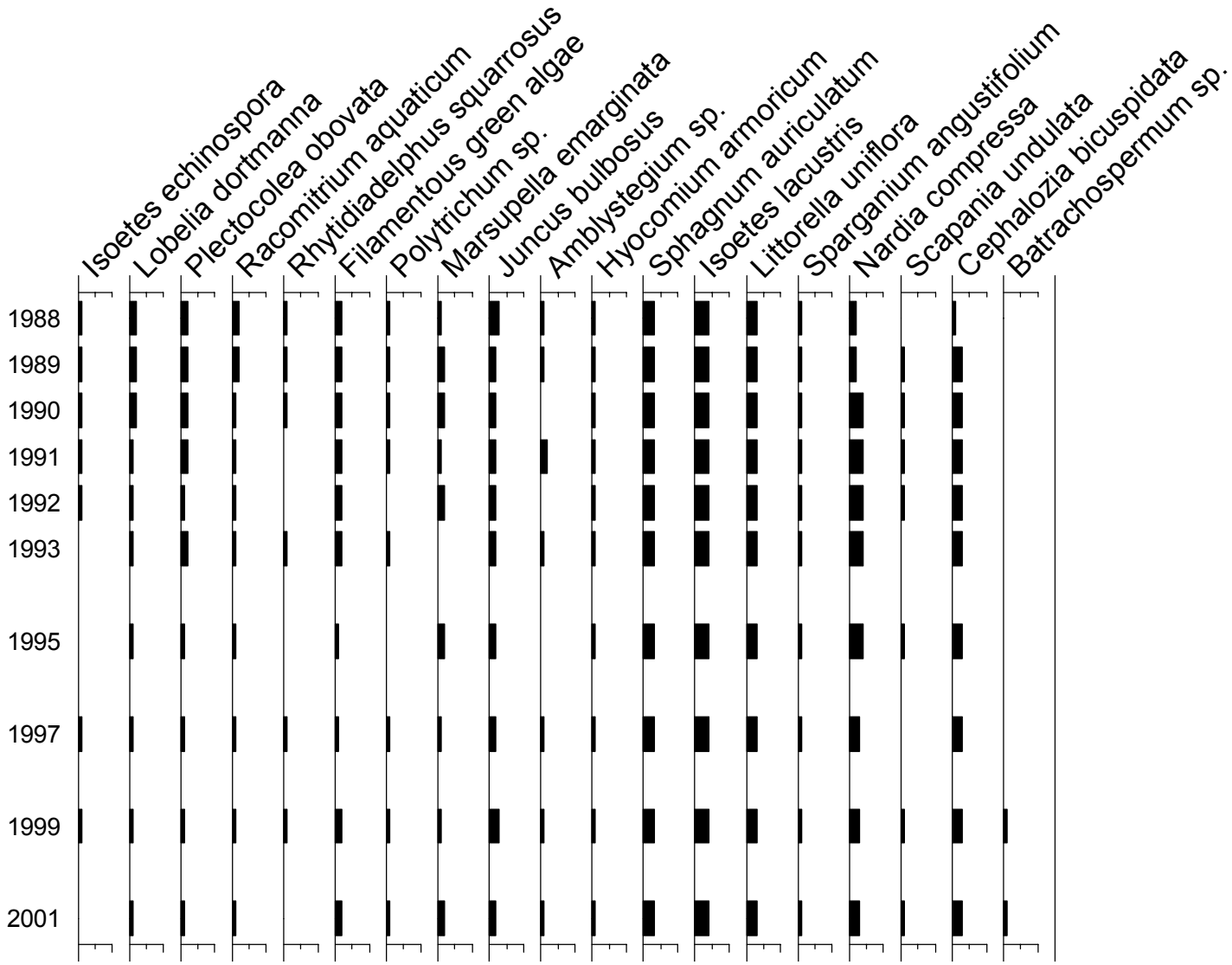


10.4.2. Summary statistics, Scoat Tarn



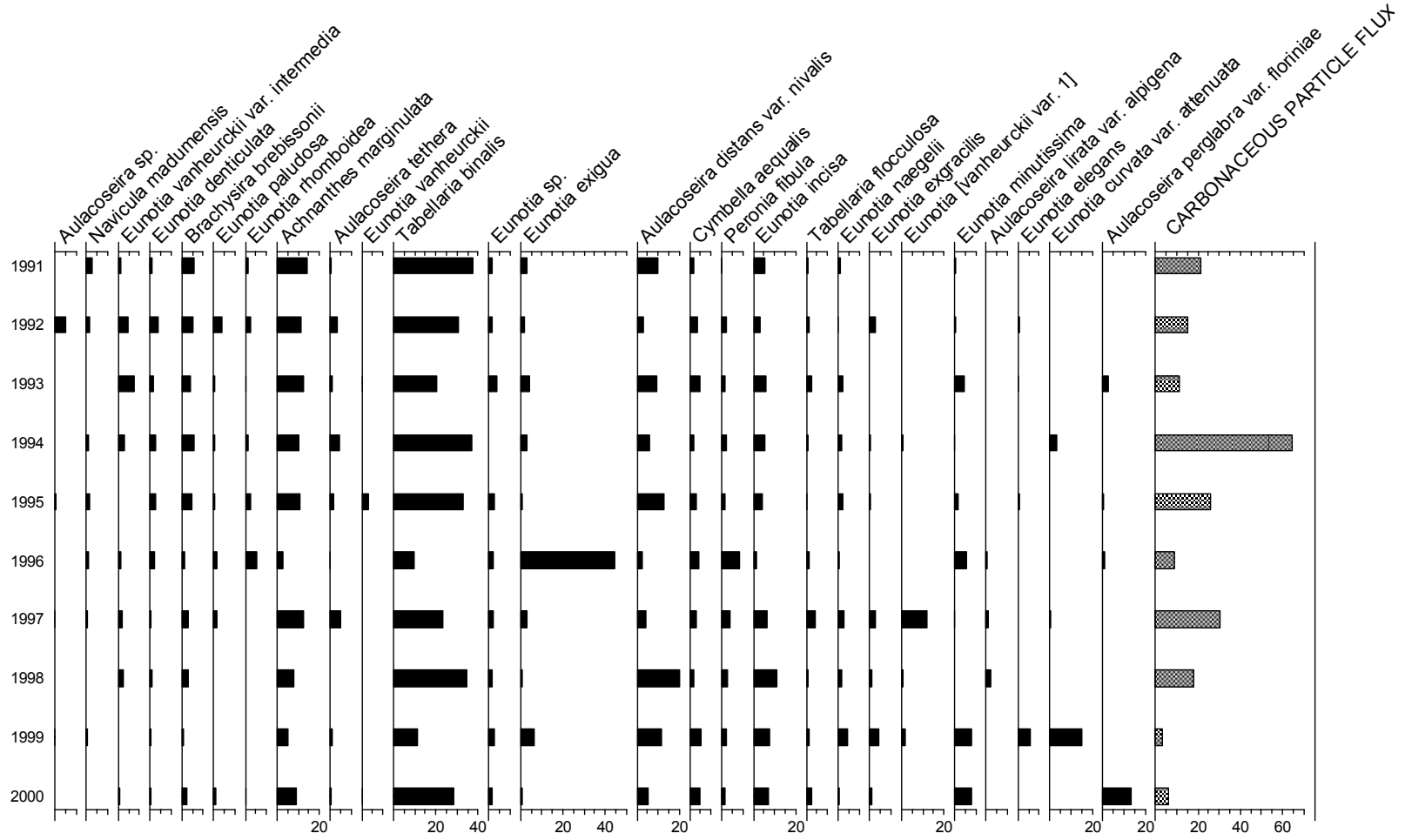
10.5. Aquatic macrophyte data, Scoat Tarn

Species Scores (1-5)



10.6. Sediment trap data, Scoat Tarn

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



11. Burnmoor Tarn

Lake altitude:	252 m	Lake area:	24 ha
Maximum depth:	13.0 m	Catchment area:	226 ha
Mean depth:	5.1 m	Catchment:lake ratio:	9.4
Volume:	0.89 x 10^6 m^3	Net relief:	350 m

Grid Ref: NY 184043

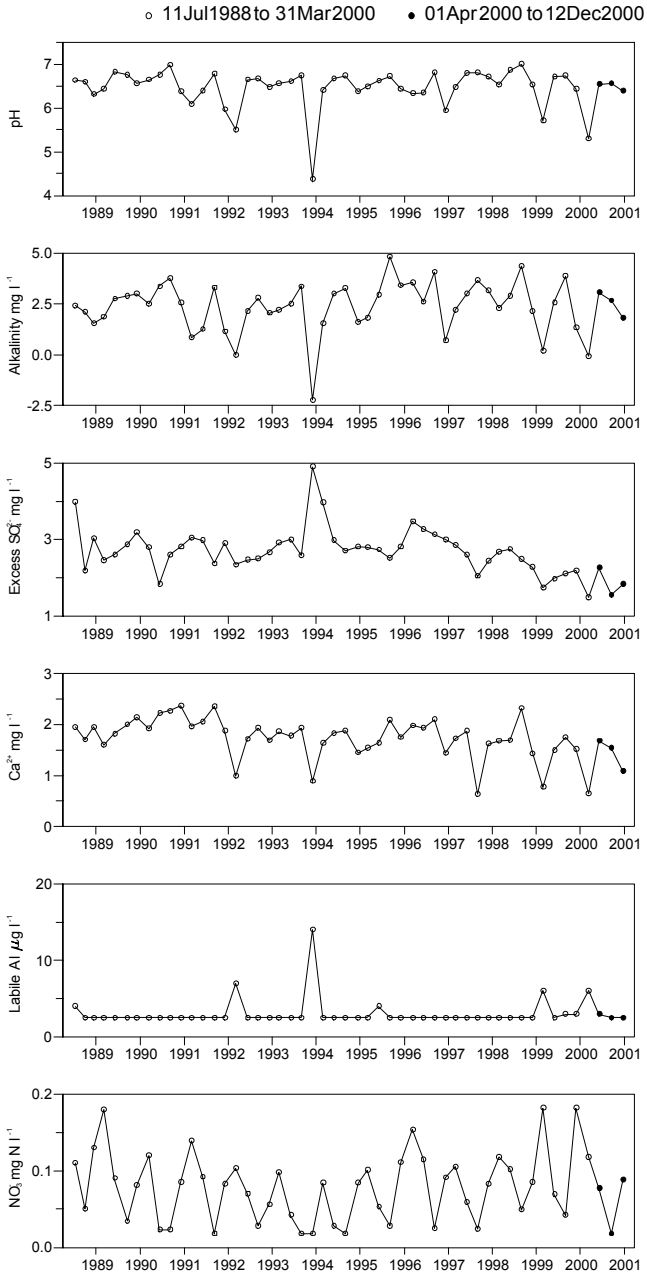
Soils: Shallow peat rankers

Geology: Ordovician andestic lava
Granite

Vegetation: 100 % Moorland

11.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.50	6.56	6.39	0.09	75.0
Alk($CaCO_3$)	2.50	3.05	1.80	0.64	75.0
Cond	32.7	38.0	30.0	4.6	75.0
Ca	1.43	1.68	1.08	0.31	75.0
Mg	0.97	1.70	0.50	0.64	75.0
Na	3.60	4.20	3.20	0.53	75.0
K	0.26	0.30	0.23	0.04	75.0
Ba	All recorded data below detection limit.				75.0
Sr	0.01	0.01	0.01	0.00	75.0
Fe	0.01	0.01	0.01	0.00	50.0
Mn	0.00	0.00	0.00	0.00	75.0
Sol.Al	7.3	10.0	5.0	2.5	75.0
Sol.lab.Al	2.7	3.0	2.5	0.3	75.0
Cl	6.23	7.30	5.40	0.97	75.0
SO_4	2.77	3.30	2.40	0.47	75.0
XSO_4	1.88	2.26	1.55	0.36	75.0
NO_3	0.06	0.09	0.02	0.04	75.0
PO_4	All recorded data below detection limit.				75.0
Br	No recorded data.				
F	0.02	0.02	0.01	0.00	75.0
Si	0.60	1.00	0.40	0.35	75.0
DOC	3.07	4.60	2.20	1.33	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

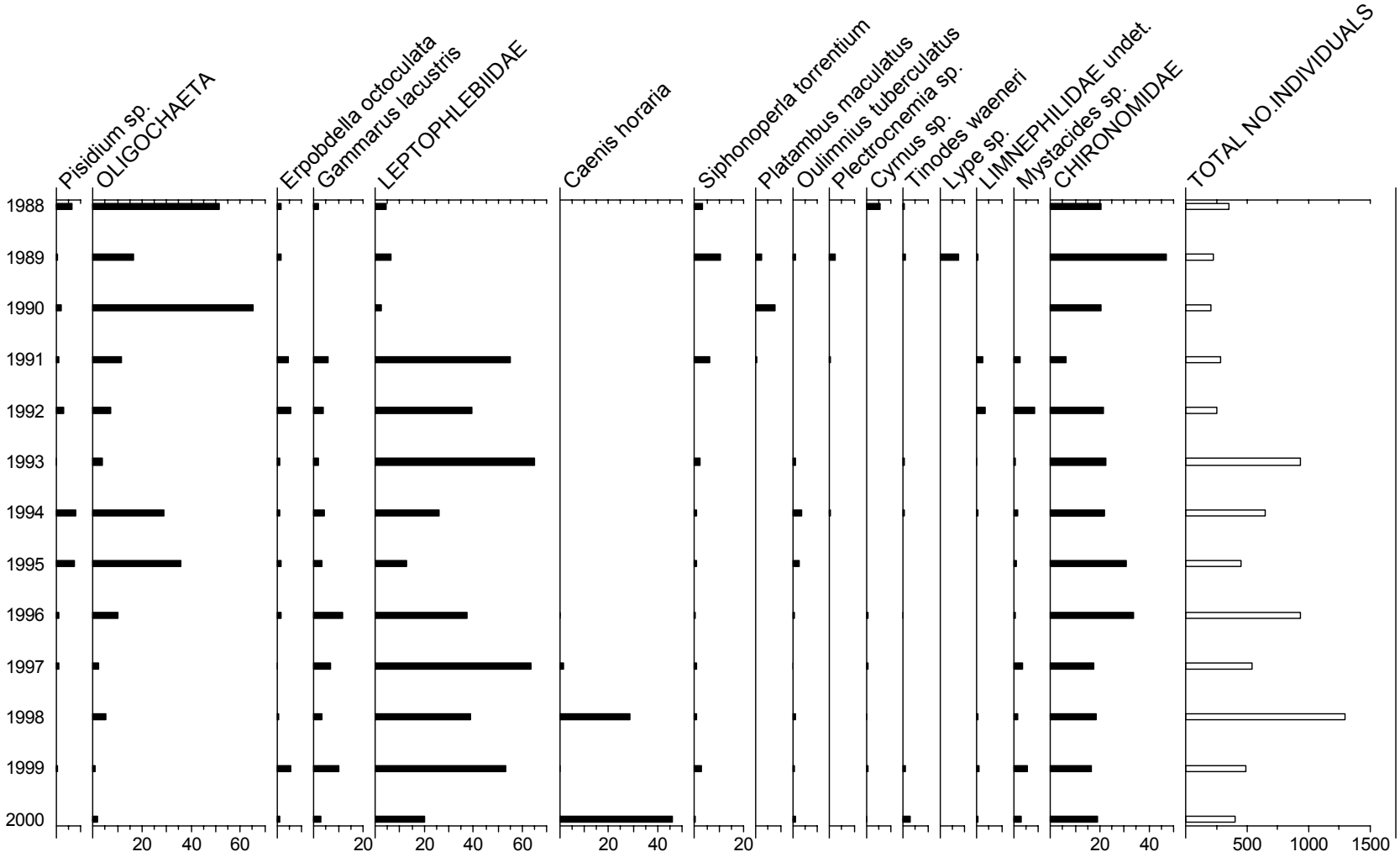
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.47	7.01	4.38	0.46	100.0
Alk($CaCO_3$)	2.35	4.80	-2.20	1.27	100.0
Cond	40.6	53.9	23.0	6.0	100.0
Ca	1.74	2.37	0.64	0.41	100.0
Mg	0.76	1.00	0.40	0.12	100.0
Na	4.34	5.60	2.90	0.58	100.0
K	0.37	0.60	0.19	0.05	100.0
Ba	0.01	0.05	0.00	0.01	100.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.03	0.23	0.01	0.04	100.0
Mn	0.01	0.05	0.00	0.01	100.0
Sol.Al	8.8	42.0	2.5	8.1	100.0
Sol.lab.Al	3.1	14.0	2.5	1.9	100.0
Cl	7.32	10.20	4.60	1.27	100.0
SO_4	3.77	5.70	2.40	0.60	100.0
XSO_4	2.73	4.91	1.49	0.58	100.0
NO_3	0.08	0.18	0.02	0.05	100.0
PO_4	All recorded data below detection limit.				100.0
Br	0.01	0.03	0.00	0.01	93.8
F	0.03	0.25	0.00	0.03	100.0
Si	0.72	1.40	0.10	0.35	100.0
DOC	2.14	4.70	0.94	0.88	100.0

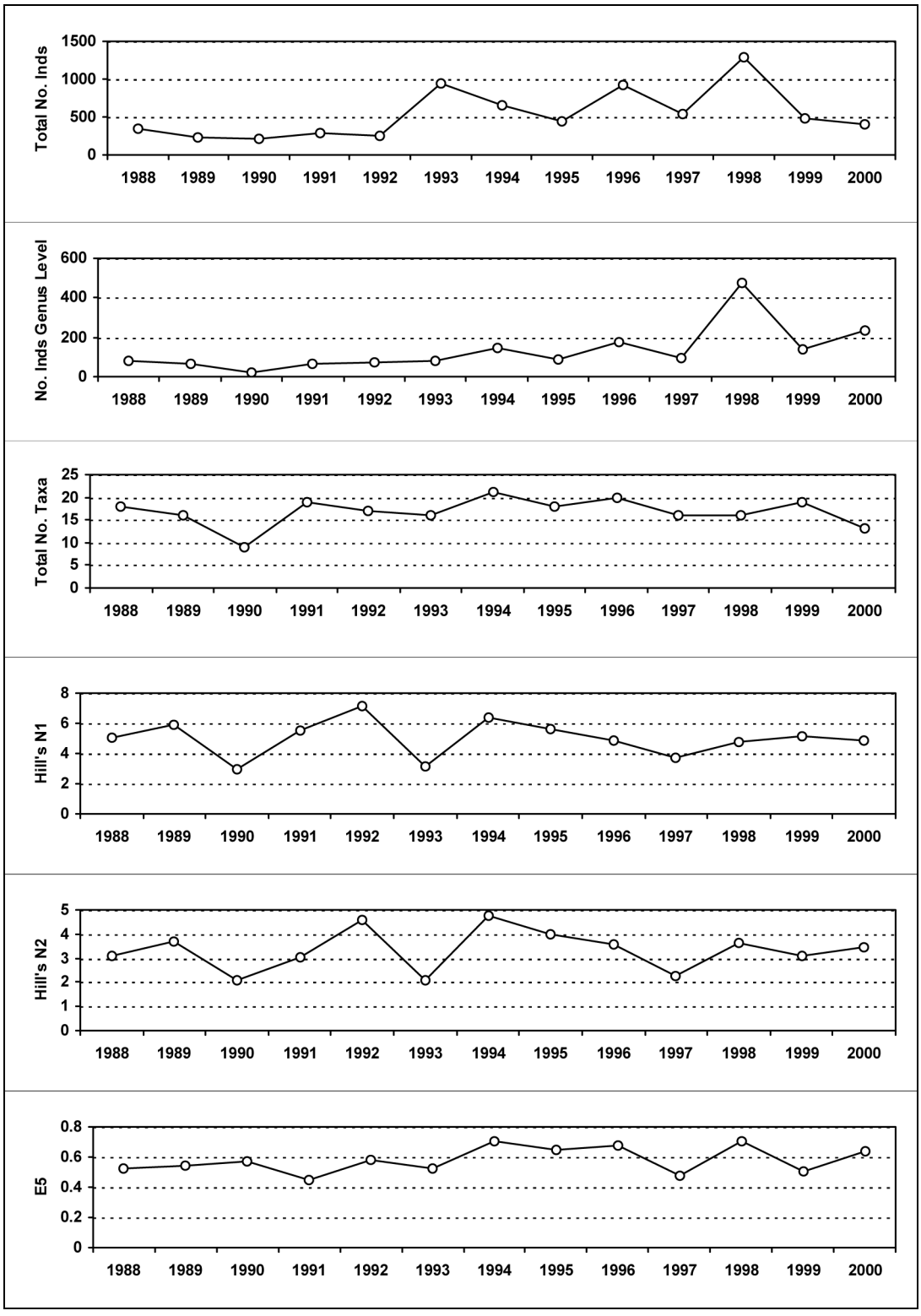
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

11.2. Macroinvertebrate data

11.2.1. Percentage abundance summary, Burnmoor Tarn

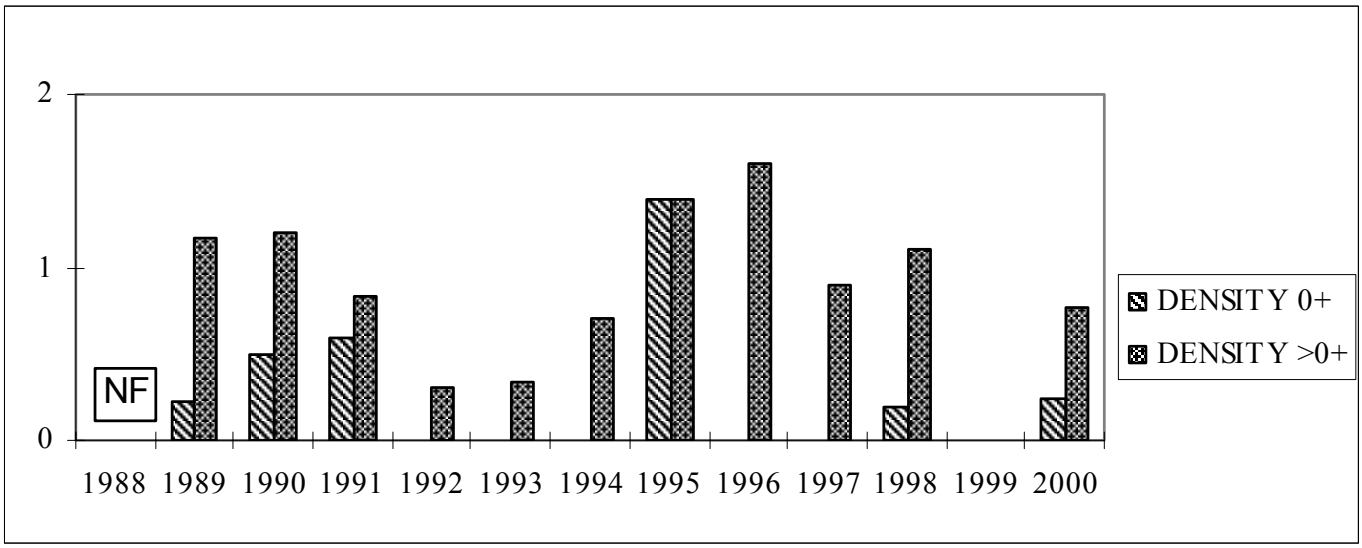


11.2.2. Summary statistics, Burnmoor Tarn



11.3. Fish data (for outflow stream)

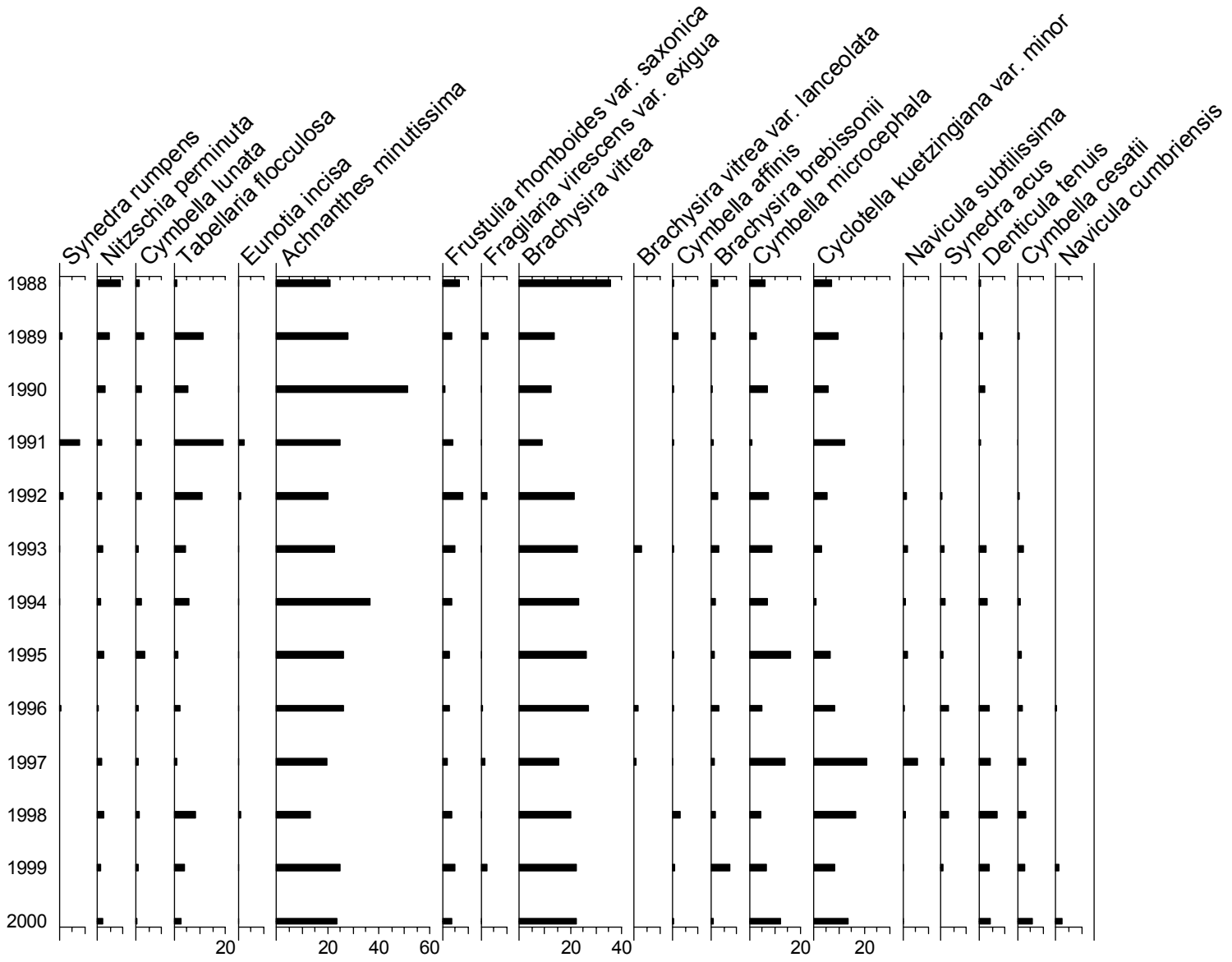
11.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Burnmoor Tarn



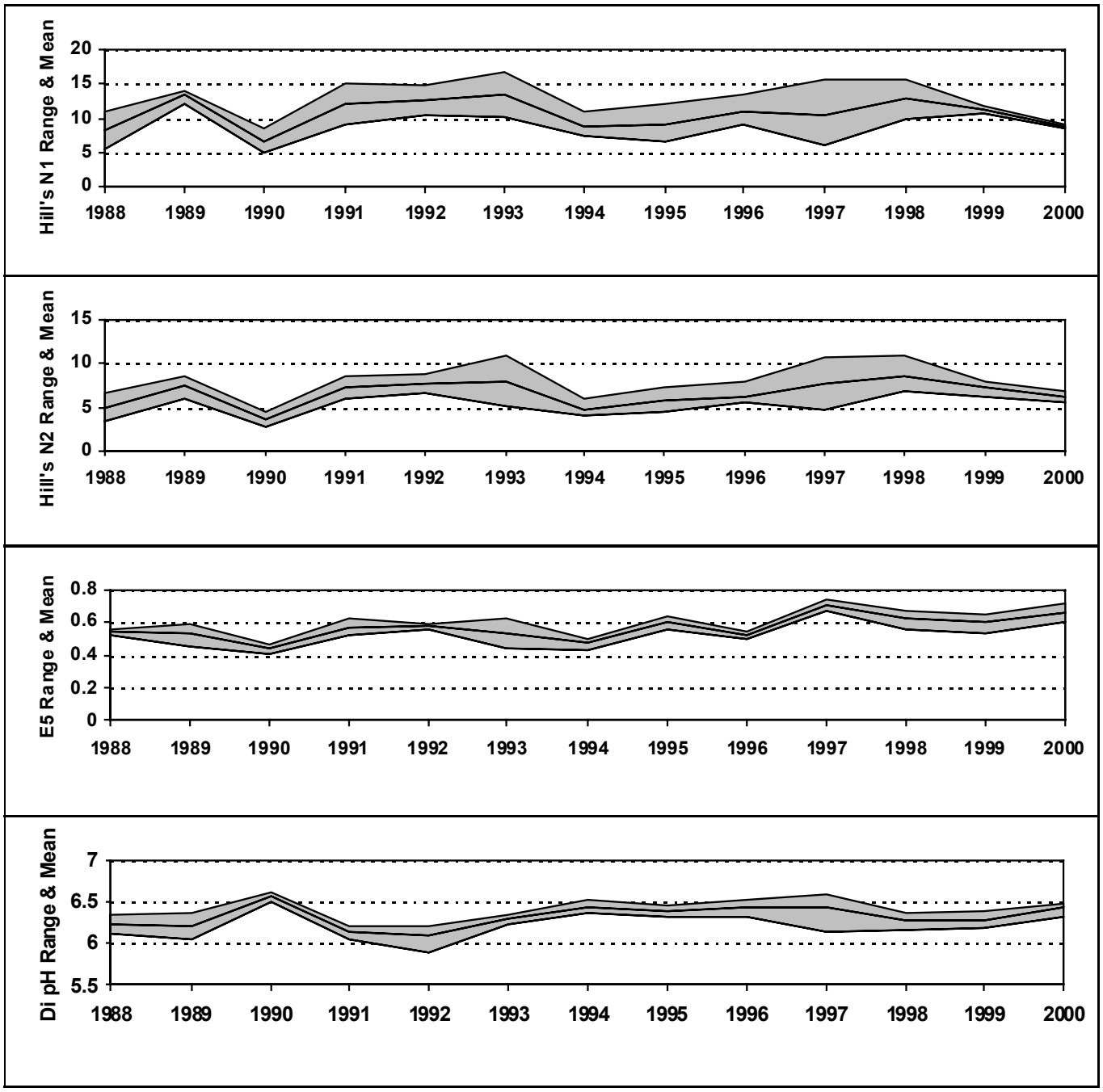
NF = Not fished

11.4. Epilithic diatom data

11.4.1. Percentage abundance summary, Burnmoor Tarn

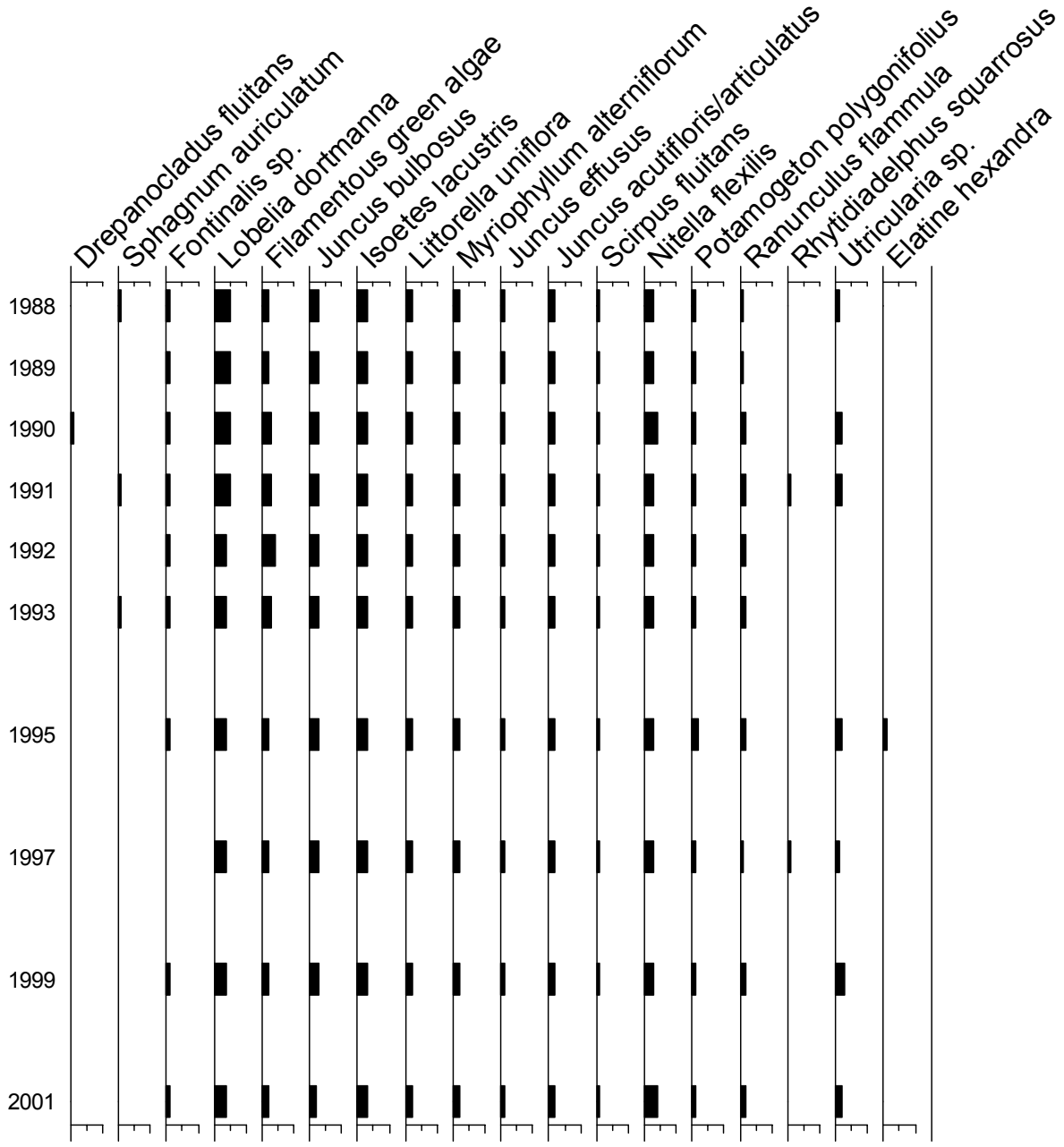


11.4.2. Summary statistics, Burnmoor Tarn



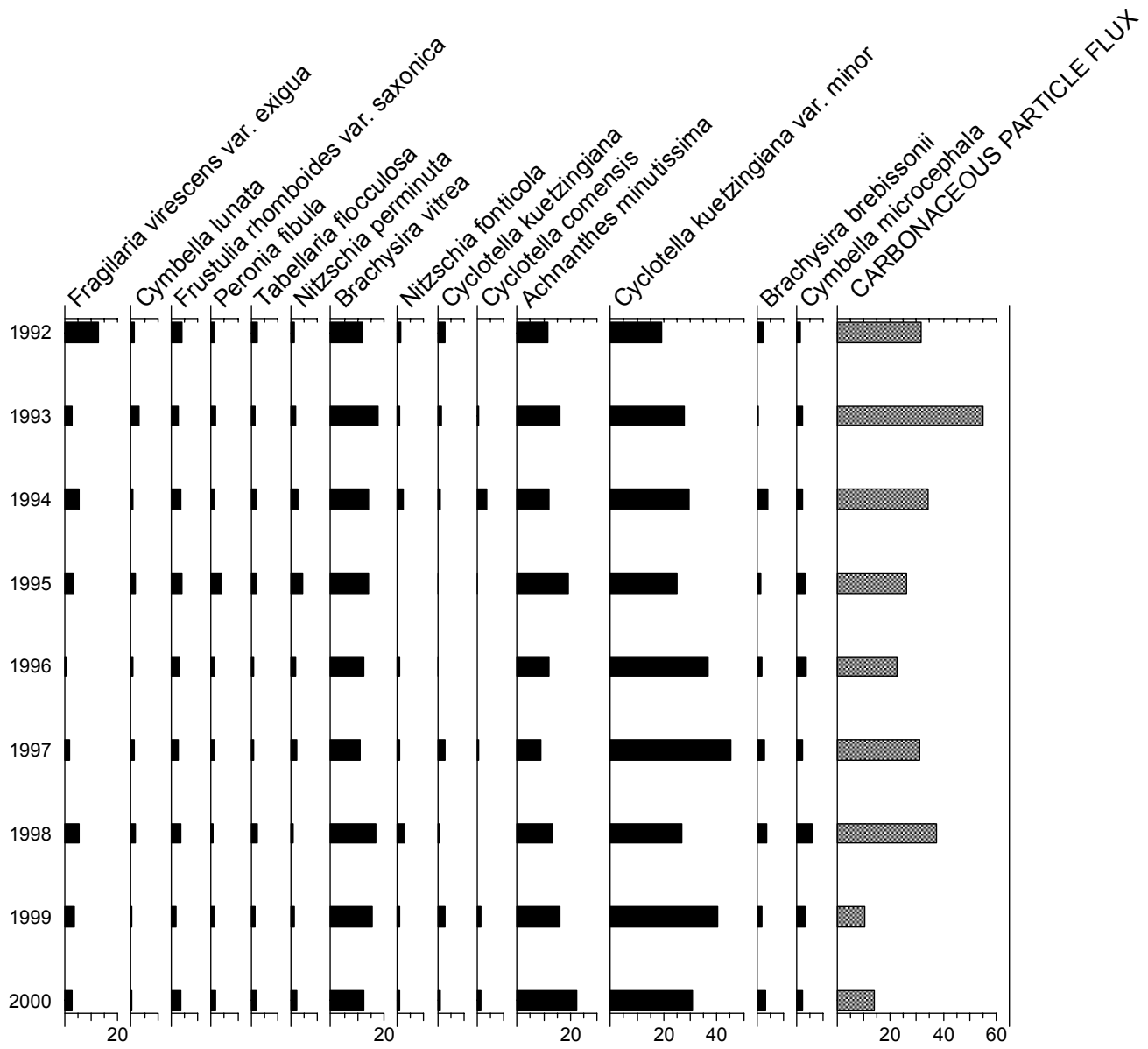
11.5. Aquatic macrophyte data, Burnmoor Tarn

Species Scores (1-5)



11.6. Sediment trap data, Burnmoor Tarn

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



12. River Etherow

Catchment area: 1300 ha
Minimum catchment altitude: 280 m
Maximum catchment altitude: 633 m

Grid Ref: SK 116996

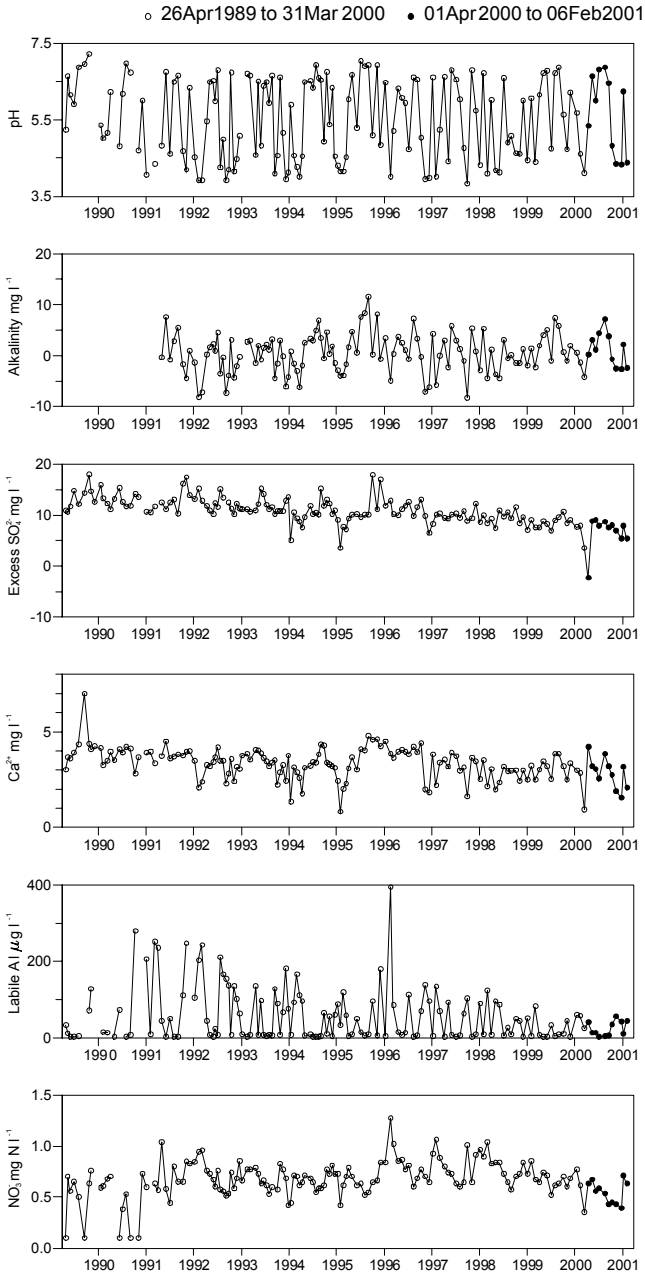
Soils: Peaty podsol
Unclassified inc. peats

Geology: Millstone grit

Vegetation: 100 % Moorland

12.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.65	6.86	4.33	1.04	91.7
Alk($CaCO_3$)	1.20	7.05	-2.70	3.19	91.7
Cond	90.5	294.0	59.0	67.9	91.7
Ca	2.86	4.21	1.56	0.81	91.7
Mg	2.03	4.20	0.90	1.06	91.7
Na	10.36	49.70	4.50	13.11	91.7
K	0.66	0.97	0.45	0.18	91.7
Ba	0.02	0.03	0.01	0.00	91.7
Sr	0.02	0.02	0.01	0.00	91.7
Fe	0.40	0.94	0.04	0.26	91.7
Mn	0.04	0.07	0.00	0.02	91.7
Sol.Al	110.6	188.0	27.0	61.1	91.7
Sol.lab.Al	24.0	55.0	2.5	19.3	91.7
Cl	17.23	91.00	7.10	24.57	91.7
SO_4	9.09	10.80	6.40	1.45	91.7
XSO_4	6.64	8.98	-2.32	3.22	91.7
NO_3	0.55	0.71	0.39	0.11	91.7
PO_4	0.00	0.01	0.00	0.00	91.7
Br	0.16	1.34	0.01	0.42	83.3
F	0.05	0.05	0.04	0.01	83.3
Si	2.68	4.10	1.70	0.80	91.7
DOC	10.07	21.00	3.00	6.41	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

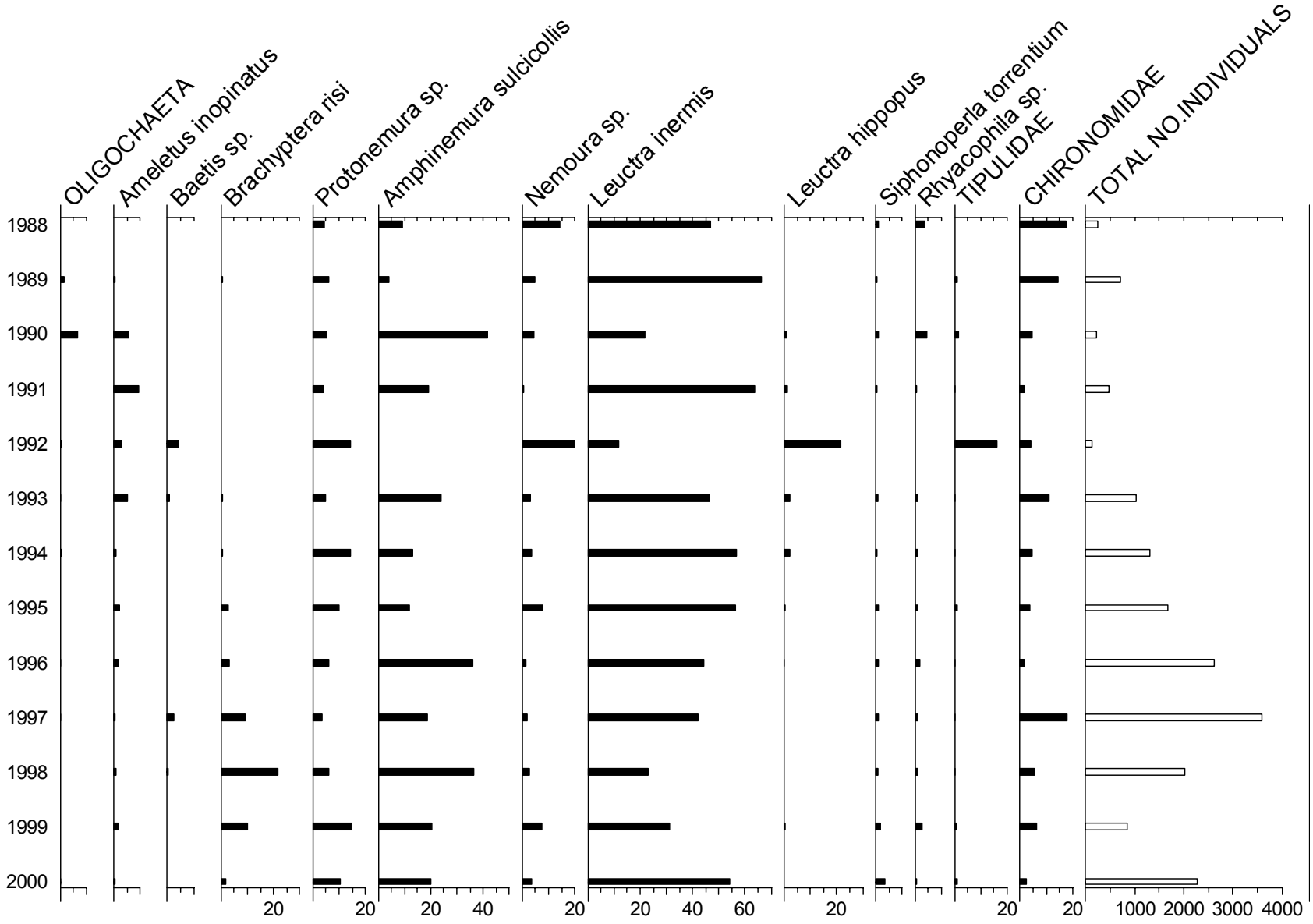
Chemistry statistics for period April 1989 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.51	7.22	3.83	1.05	100.0
Alk($CaCO_3$)	0.37	11.55	-8.25	3.88	90.2
Cond	83.4	161.0	32.8	16.5	100.0
Ca	3.35	7.00	0.80	0.81	100.0
Mg	1.95	3.50	0.30	0.46	100.0
Na	6.88	14.90	2.30	1.59	100.0
K	0.74	2.52	0.32	0.25	100.0
Ba	0.02	0.23	0.00	0.02	100.0
Sr	0.02	0.03	0.00	0.00	100.0
Fe	0.24	1.00	0.01	0.20	100.0
Mn	0.06	0.16	0.00	0.03	100.0
Sol.Al	140.6	565.0	2.5	114.5	100.0
Sol.lab.Al	58.0	394.0	2.5	71.5	100.0
Cl	10.90	25.00	4.00	2.66	100.0
SO_4	12.51	19.60	4.10	2.59	100.0
XSO_4	10.96	17.90	3.53	2.49	100.0
NO_3	0.68	1.27	0.10	0.18	100.0
PO_4	0.03	4.00	0.00	0.34	100.0
Br	0.04	0.38	0.00	0.03	100.0
F	0.05	0.09	0.00	0.02	100.0
Si	3.17	4.60	0.04	0.94	100.0
DOC	6.15	34.00	0.30	5.05	100.0

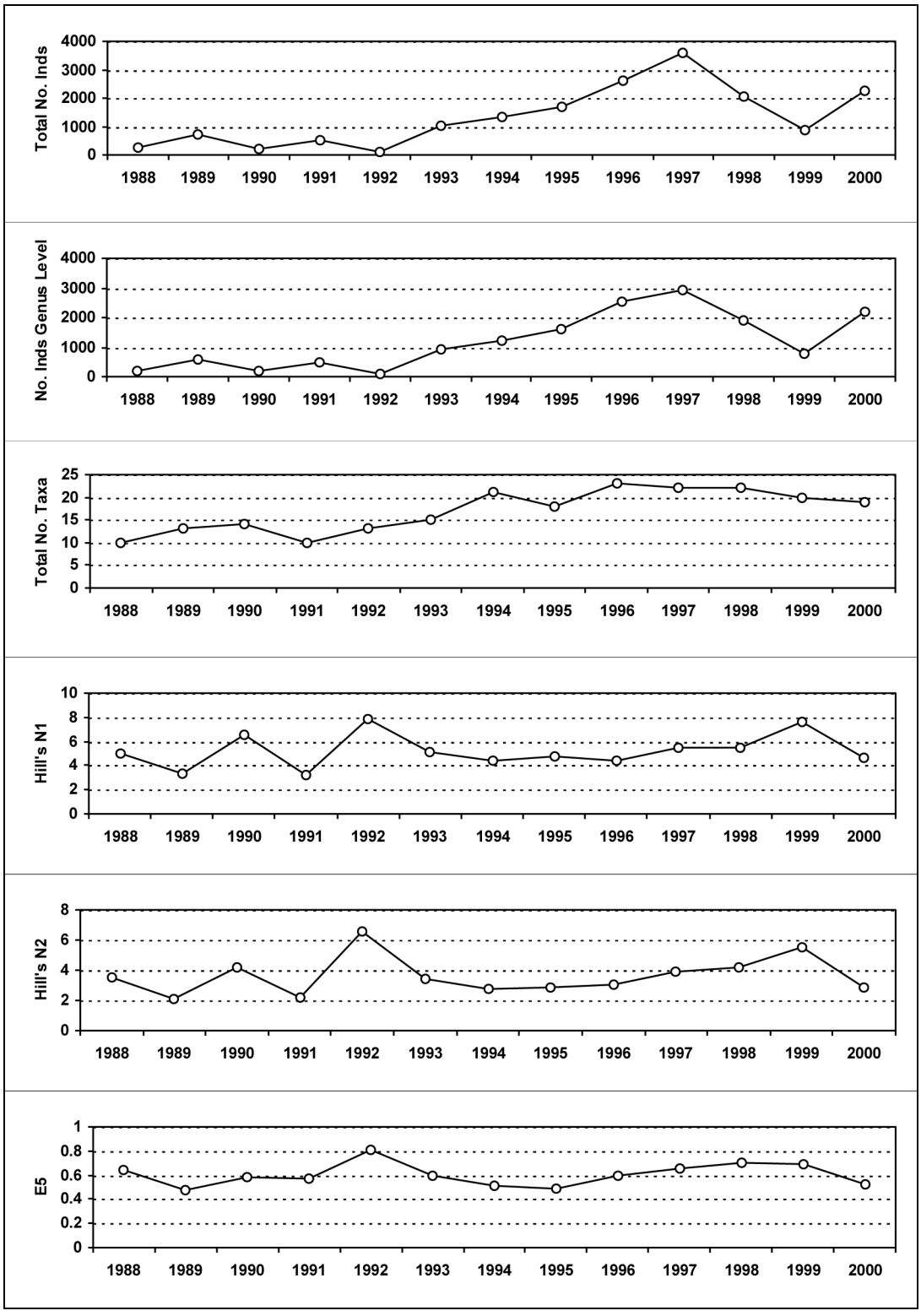
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

12.2. Macroinvertebrate data

12.2.1. Percentage abundance summary, River Etherow



12.2.2. Summary statistics, River Etherow

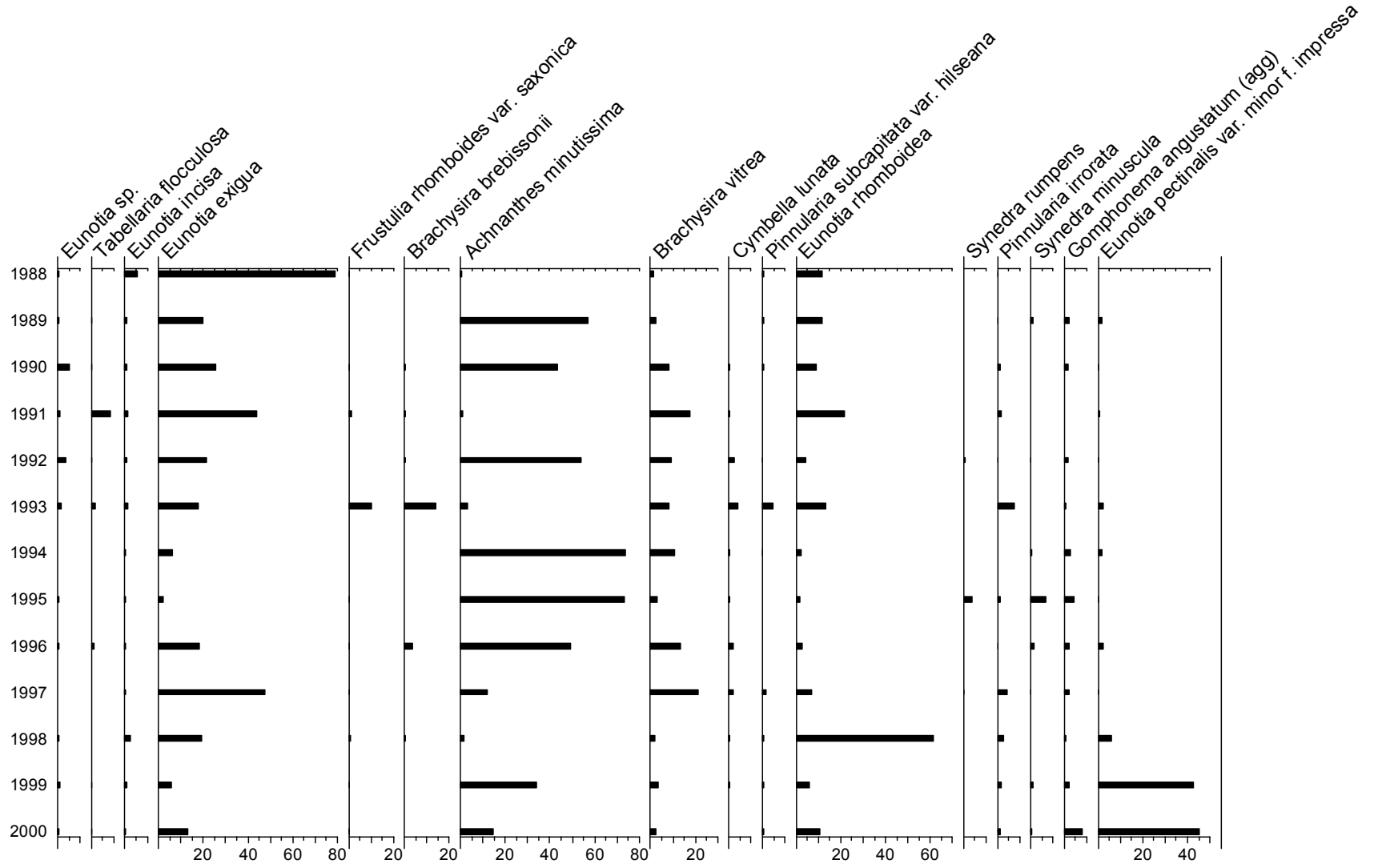


12.3. Fish data

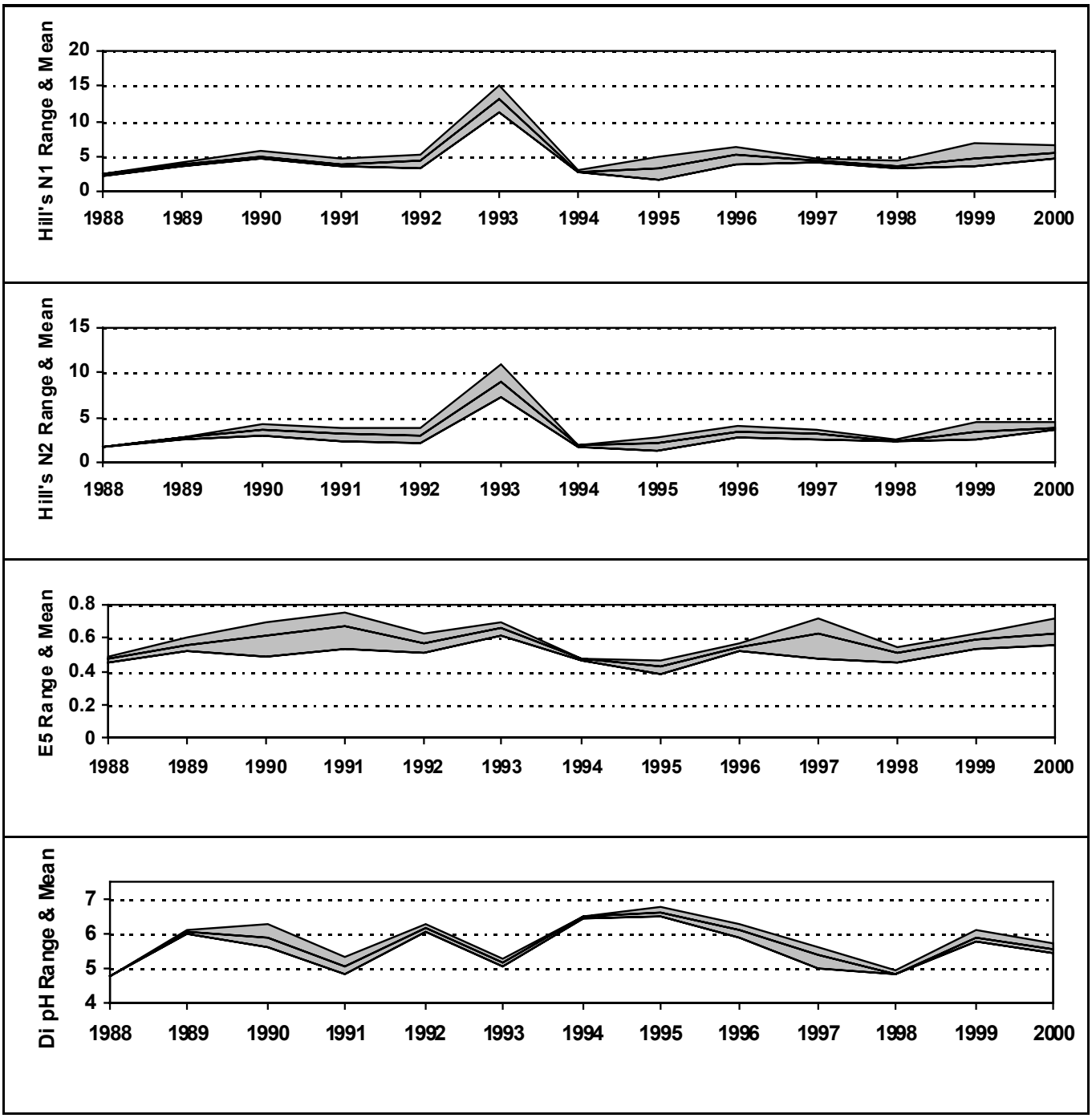
No fish are present in this reach of the river.

12.4. Epilithic diatom data

12.4.1. Percentage abundance summary, River Etherow

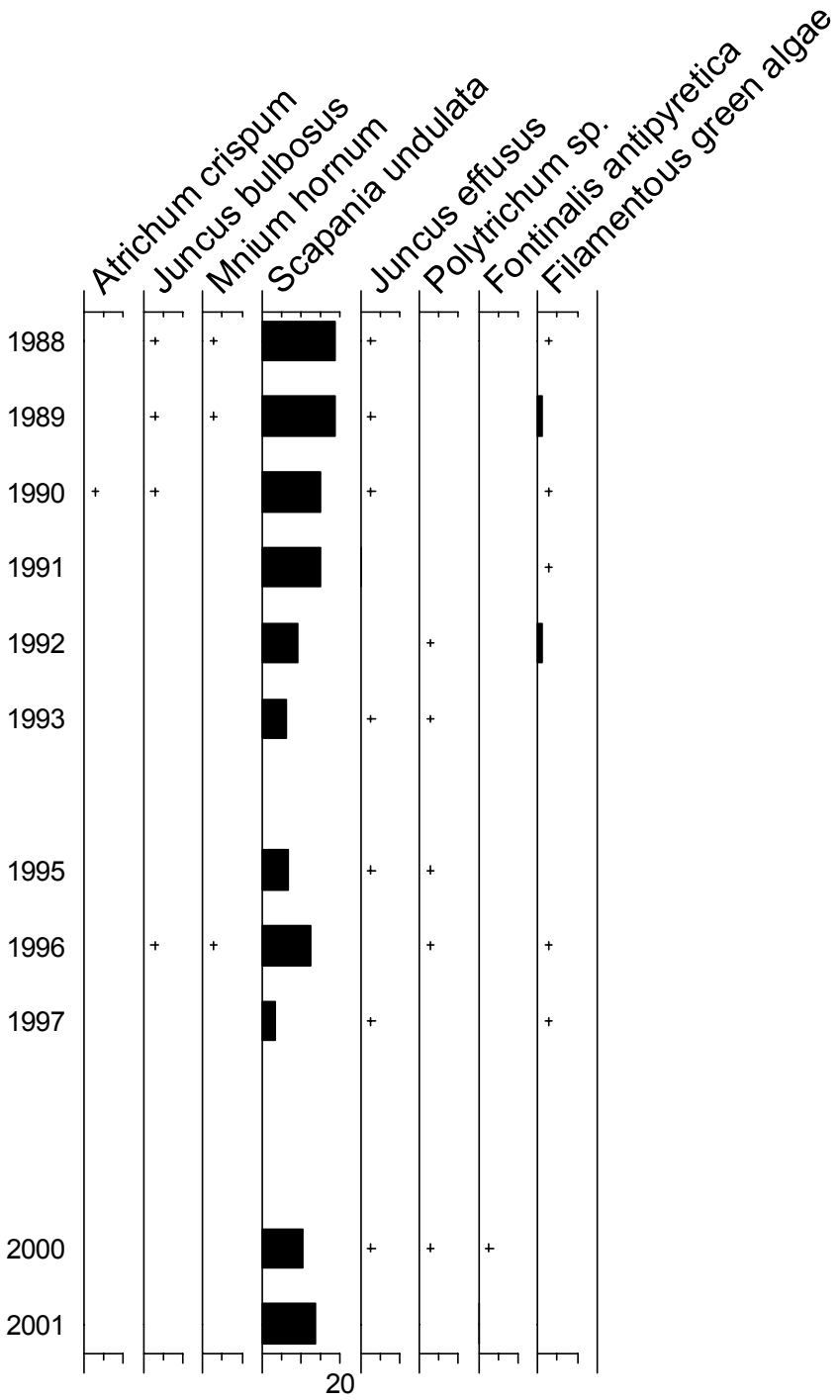


12.4.2. Summary statistics, River Etherow



12.5. Aquatic macrophyte data, River Etherow

Percentage Species Cover



+ Represents <0.1% abundance

13. Old Lodge

Catchment area: 240 ha
Minimum catchment altitude: 94 m
Maximum catchment altitude: 198 m

Grid Ref: TQ 456294

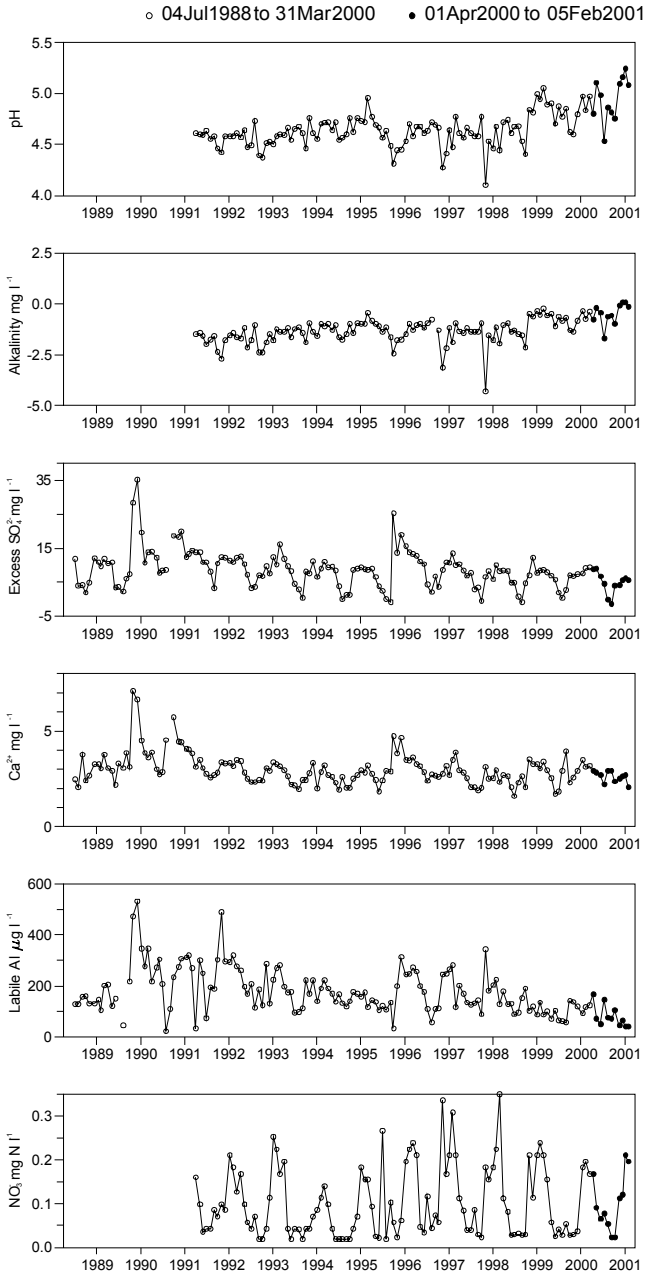
Soils: Podsols

Geology Ashdown sands

Vegetation: 80 % Heathland
15 % Deciduous woodland
5 % Conifers

13.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.95	5.24	4.53	0.21	91.7
Alk($CaCO_3$)	-0.50	0.05	-1.70	0.53	91.7
Cond	79.9	111.0	62.0	15.4	91.7
Ca	2.59	2.89	2.04	0.29	91.7
Mg	1.65	2.90	0.80	0.80	91.7
Na	8.90	13.20	6.00	2.17	91.7
K	0.80	1.32	0.34	0.30	91.7
Ba	0.02	0.02	0.01	0.00	91.7
Sr	0.01	0.02	0.01	0.00	91.7
Fe	0.68	1.51	0.16	0.43	91.7
Mn	0.22	0.39	0.14	0.07	91.7
Sol.Al	196.7	304.0	138.0	46.7	91.7
Sol.lab.Al	78.7	165.0	40.0	42.3	91.7
Cl	17.09	31.60	9.80	6.40	91.7
SO_4	7.17	11.40	3.00	2.66	91.7
XSO_4	4.75	8.93	-1.49	3.24	91.7
NO_3	0.10	0.21	0.02	0.07	91.7
PO_4	0.00	0.01	0.00	0.00	91.7
Br	0.12	0.44	0.03	0.14	91.7
F	0.04	0.05	0.03	0.01	91.7
Si	1.38	2.20	0.60	0.51	91.7
DOC	9.95	15.30	5.80	3.50	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

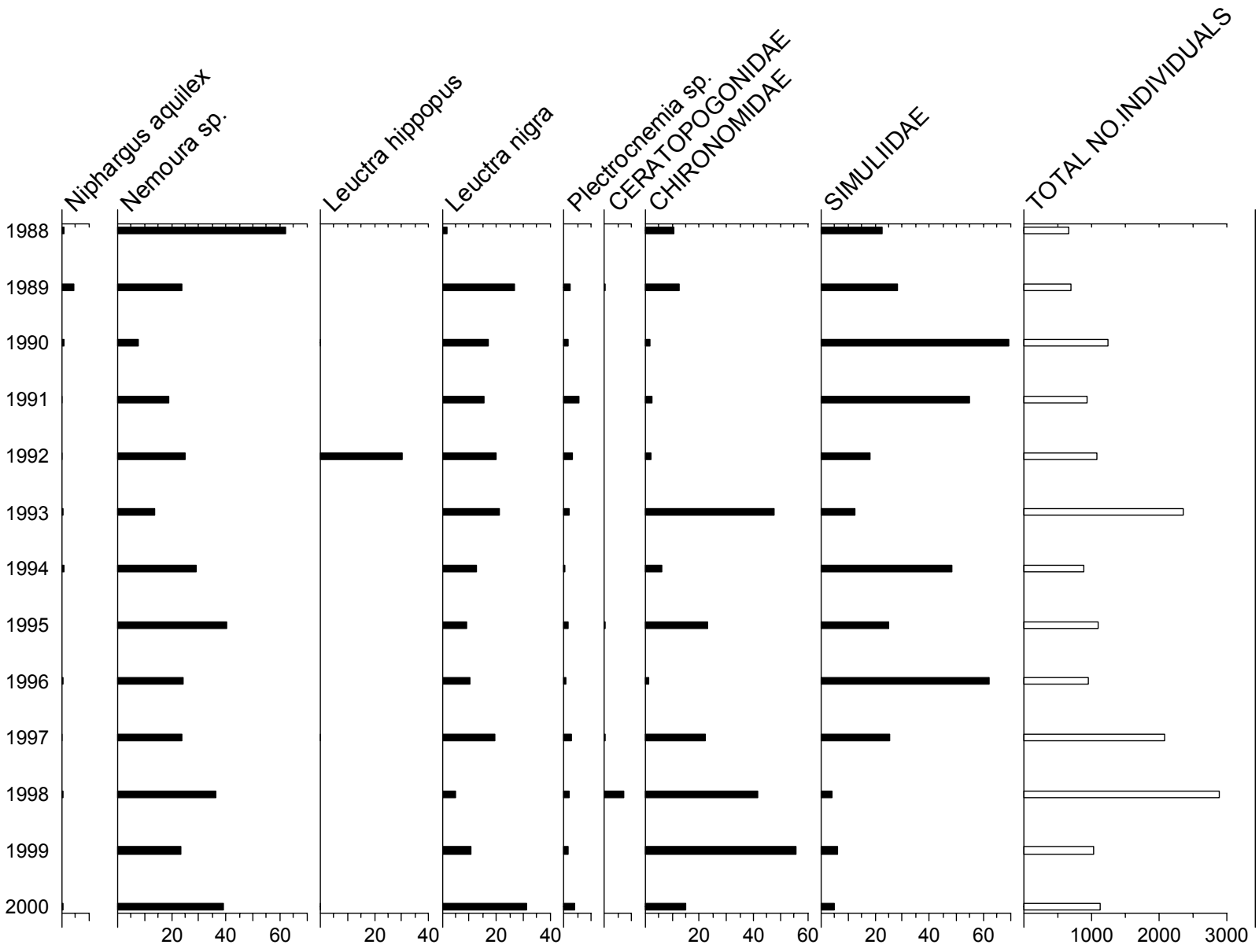
Chemistry statistics for period July 1988 to march 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.63	5.05	4.10	0.16	75.0
Alk($CaCO_3$)	-1.37	-0.25	-4.30	0.59	74.3
Cond	103.3	201.6	63.0	20.9	100.0
Ca	2.99	7.09	1.59	0.82	100.0
Mg	1.69	4.30	0.80	0.48	100.0
Na	10.51	18.70	6.20	1.93	100.0
K	0.76	4.30	0.17	0.47	100.0
Ba	0.02	0.06	0.00	0.01	100.0
Sr	0.02	0.17	0.00	0.01	100.0
Fe	0.36	373	0.03	0.40	100.0
Mn	0.31	0.91	0.06	0.13	100.0
Sol.Al	228.4	533.0	36.2	85.1	100.0
Sol.lab.Al	180.3	530.5	22.4	88.6	100.0
Cl	19.95	36.80	10.80	4.37	100.0
SO_4	11.55	39.30	310	5.44	100.0
XSO_4	8.71	35.11	-0.99	5.37	100.0
NO_3	0.10	0.35	0.02	0.08	75.0
PO_4	0.00	0.02	0.00	0.00	100.0
Br	0.08	1.20	0.00	0.11	100.0
F	0.05	0.11	0.00	0.02	100.0
Si	1.83	3.20	0.80	0.51	100.0
DOC	4.81	26.00	0.20	3.08	100.0

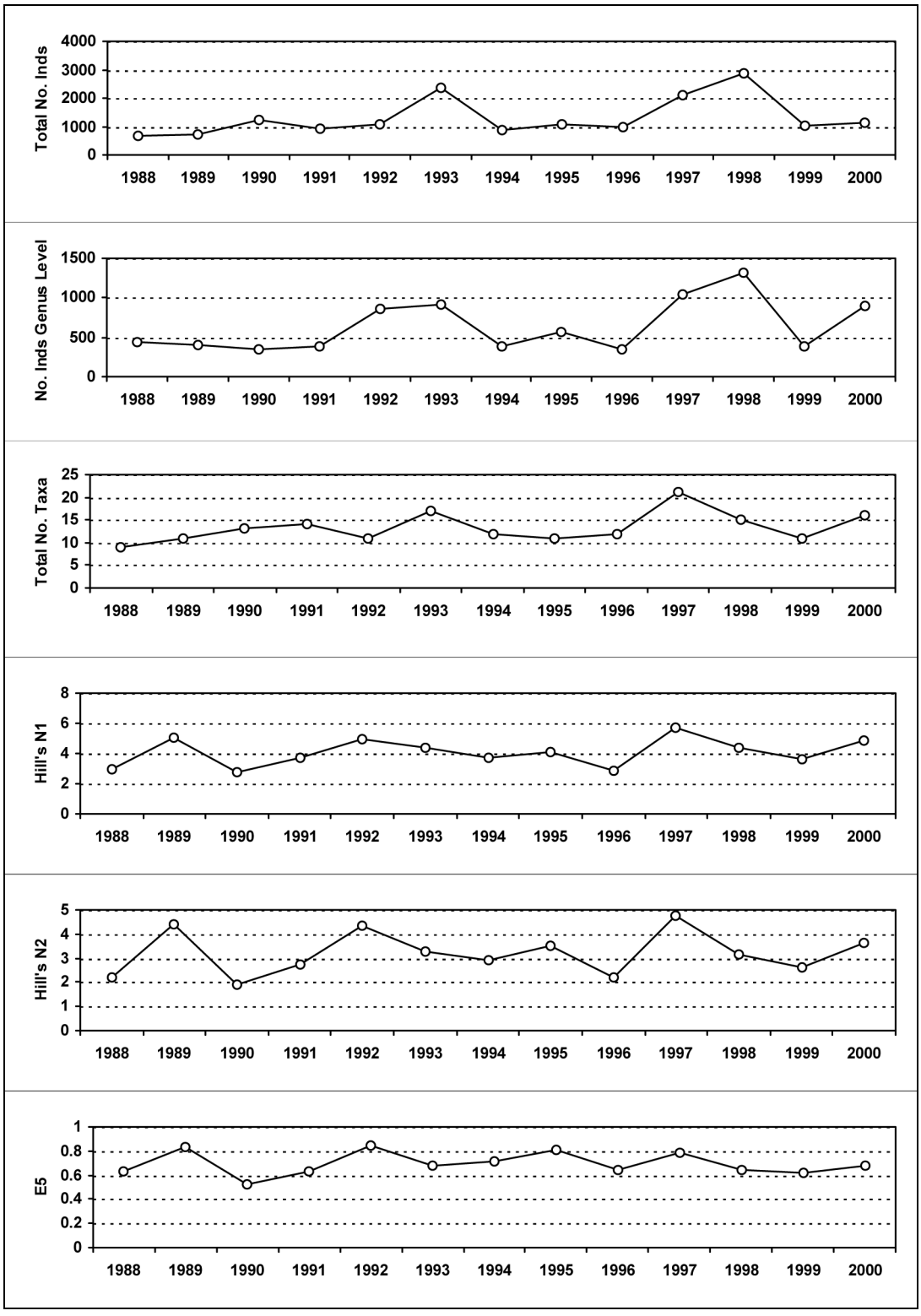
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

13.2. Macroinvertebrate data

13.2.1. Percentage abundance summary, Old Lodge

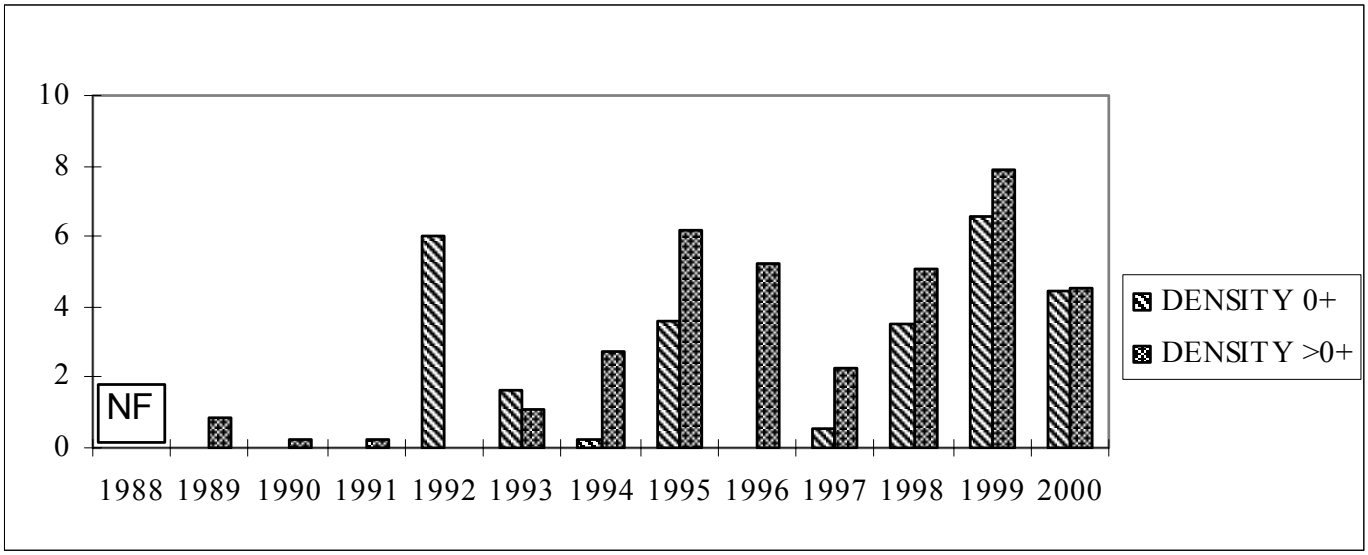


13.2.2. Summary statistics, Old Lodge



13.3. Fish data

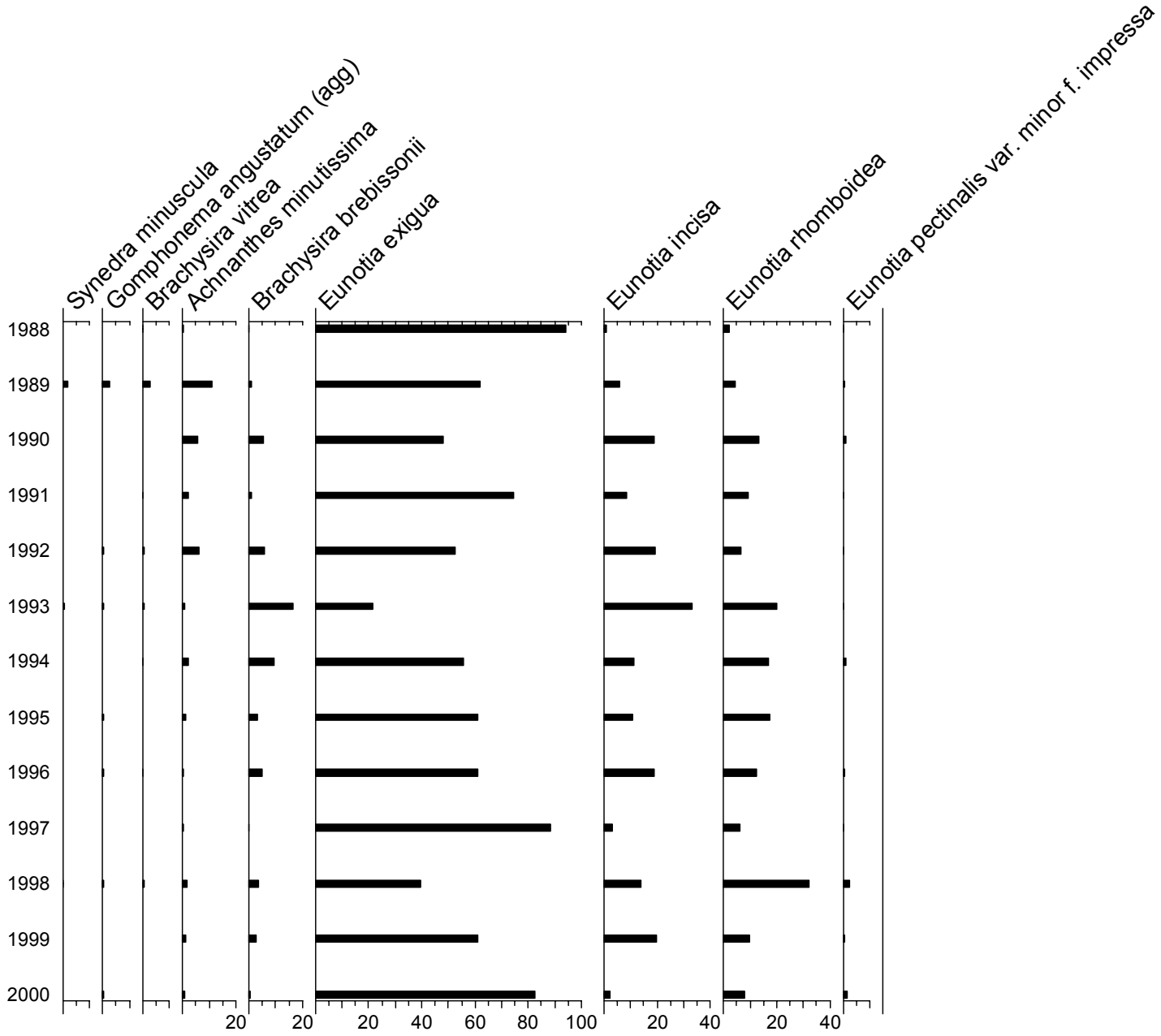
13.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Old Lodge



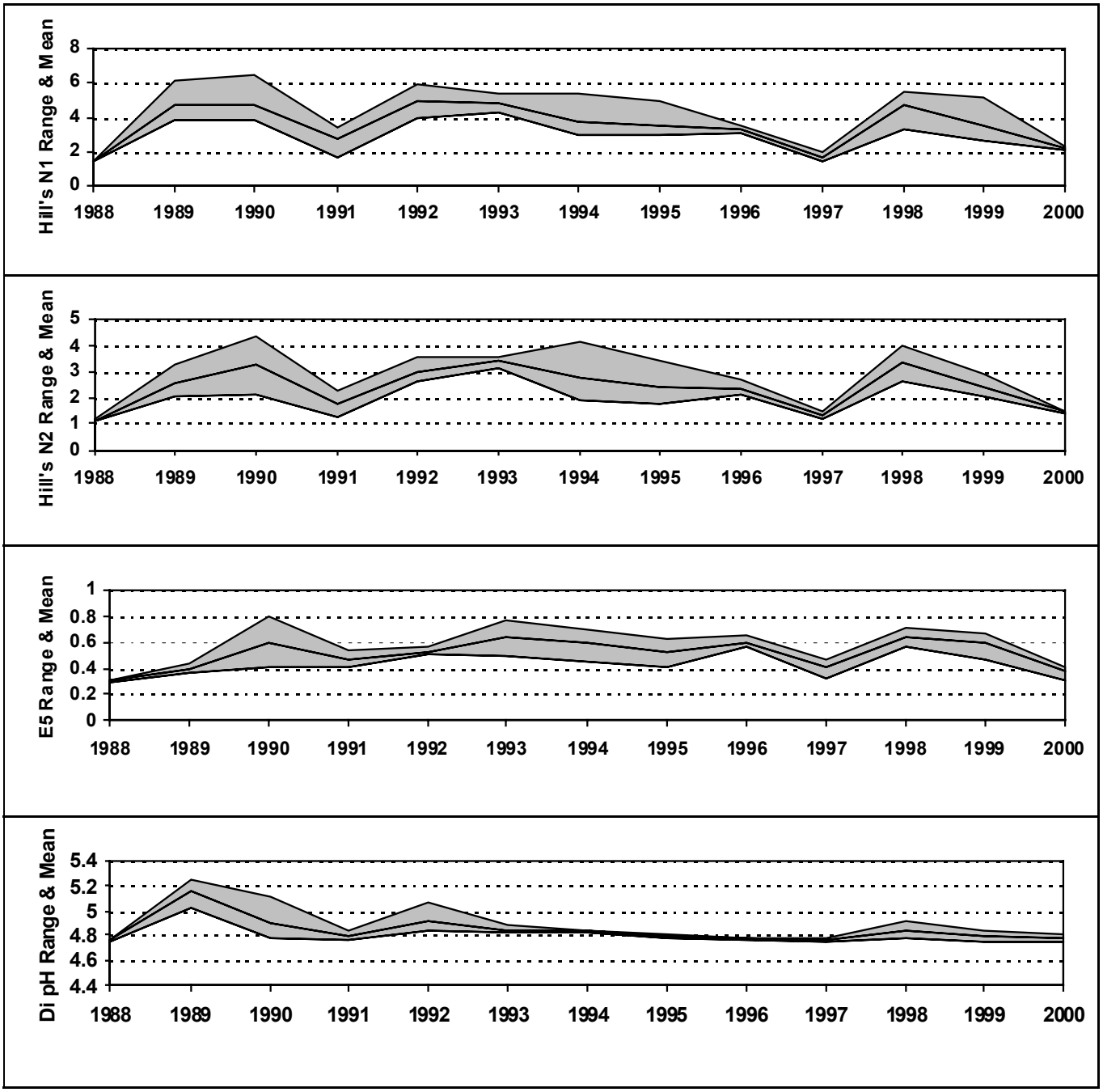
NF = Not fished

13.4. Epilithic diatom data

13.4.1. Percentage abundance summary, Old Lodge

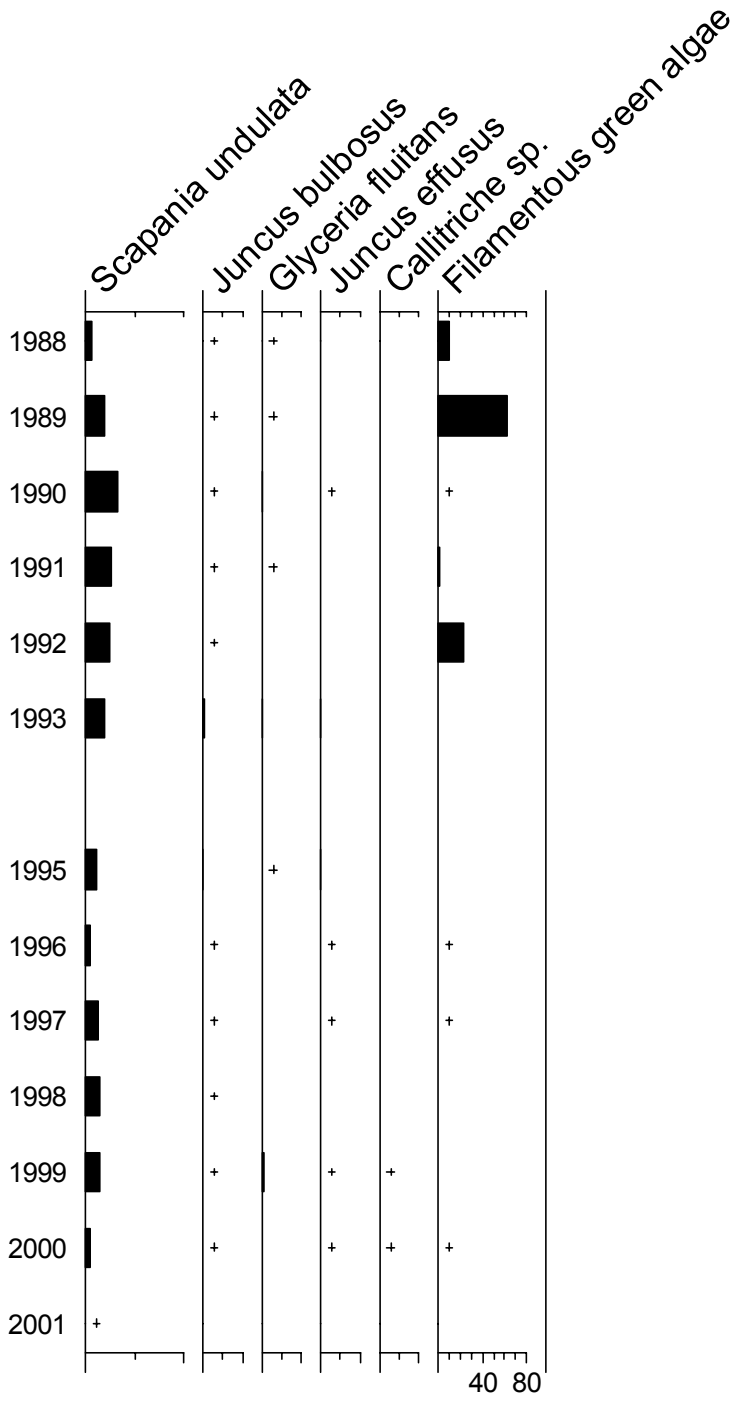


13.4.2. Summary statistics, Old Lodge



13.5. Aquatic macrophyte data, Old Lodge

Percentage Species Cover



+ Represents <0.1% abundance

14. Narrator Brook

Catchment area: 240 ha
Minimum catchment altitude: 255 m
Maximum catchment altitude: 456 m

Grid Ref: SX 568692

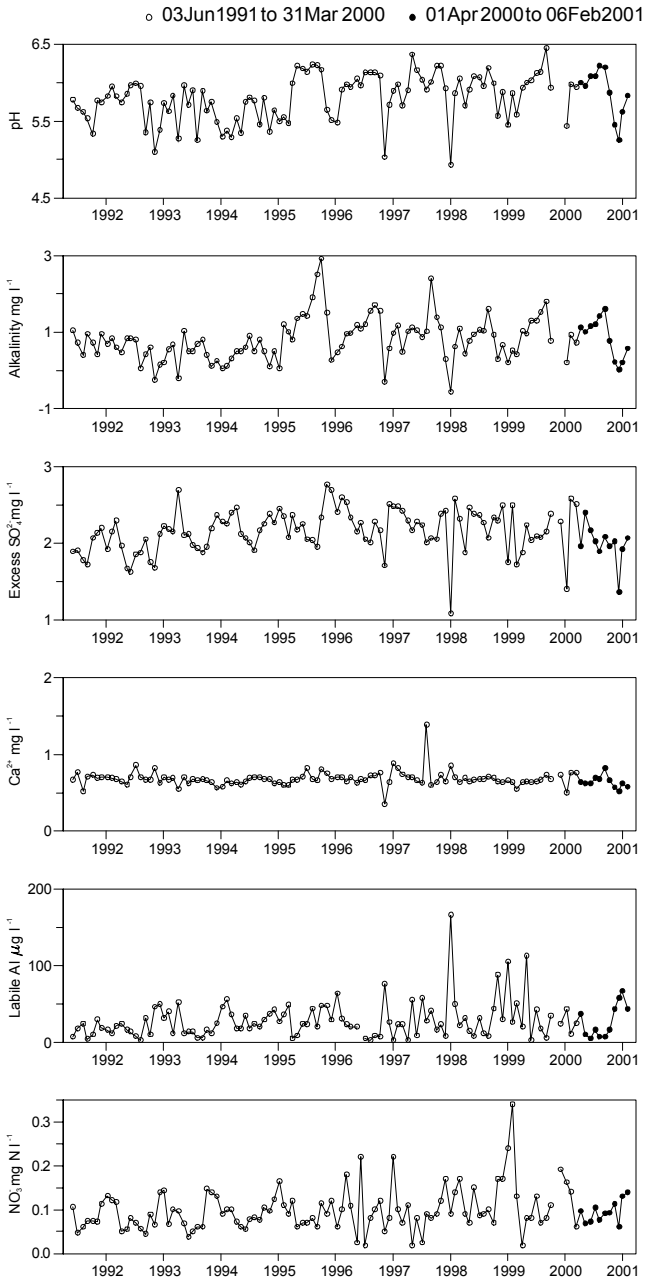
Soils: Iron pan stagno podsol

Geology: Granite

Vegetation: 80 % Moorland
15 % Acid grassland
5 % Deciduous woodland

14.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.87	6.22	5.25	0.31	91.7
Alk($CaCO_3$)	0.85	1.60	0.03	0.53	91.7
Cond	32.8	38.2	29.0	36	91.7
Ca	0.64	0.82	0.52	0.08	91.7
Mg	0.72	0.90	0.60	0.10	91.7
Na	5.35	6.00	4.50	0.46	91.7
K	0.75	0.83	0.69	0.05	91.7
Ba	0.00	0.00	0.00	0.00	83.3
Sr	0.01	0.01	0.00	0.00	91.7
Fe	0.03	0.05	0.01	0.01	83.3
Mn	0.01	0.01	0.00	0.00	91.7
Sol.Al	87.4	202.0	25.0	58.4	91.7
Sol.lab.Al	28.1	67.0	4.9	22.3	91.7
Cl	9.12	10.00	8.00	0.60	91.7
SO_4	3.28	3.70	2.60	0.28	91.7
XSO_4	1.99	2.39	1.37	0.25	91.7
NO_3	0.09	0.14	0.06	0.03	91.7
PO_4	0.00	0.00	0.00	0.00	91.7
Br	0.02	0.03	0.01	0.00	66.7
F	0.05	0.05	0.04	0.01	91.7
Si	1.99	2.90	1.50	0.41	91.7
DOC	1.93	3.26	0.94	0.69	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

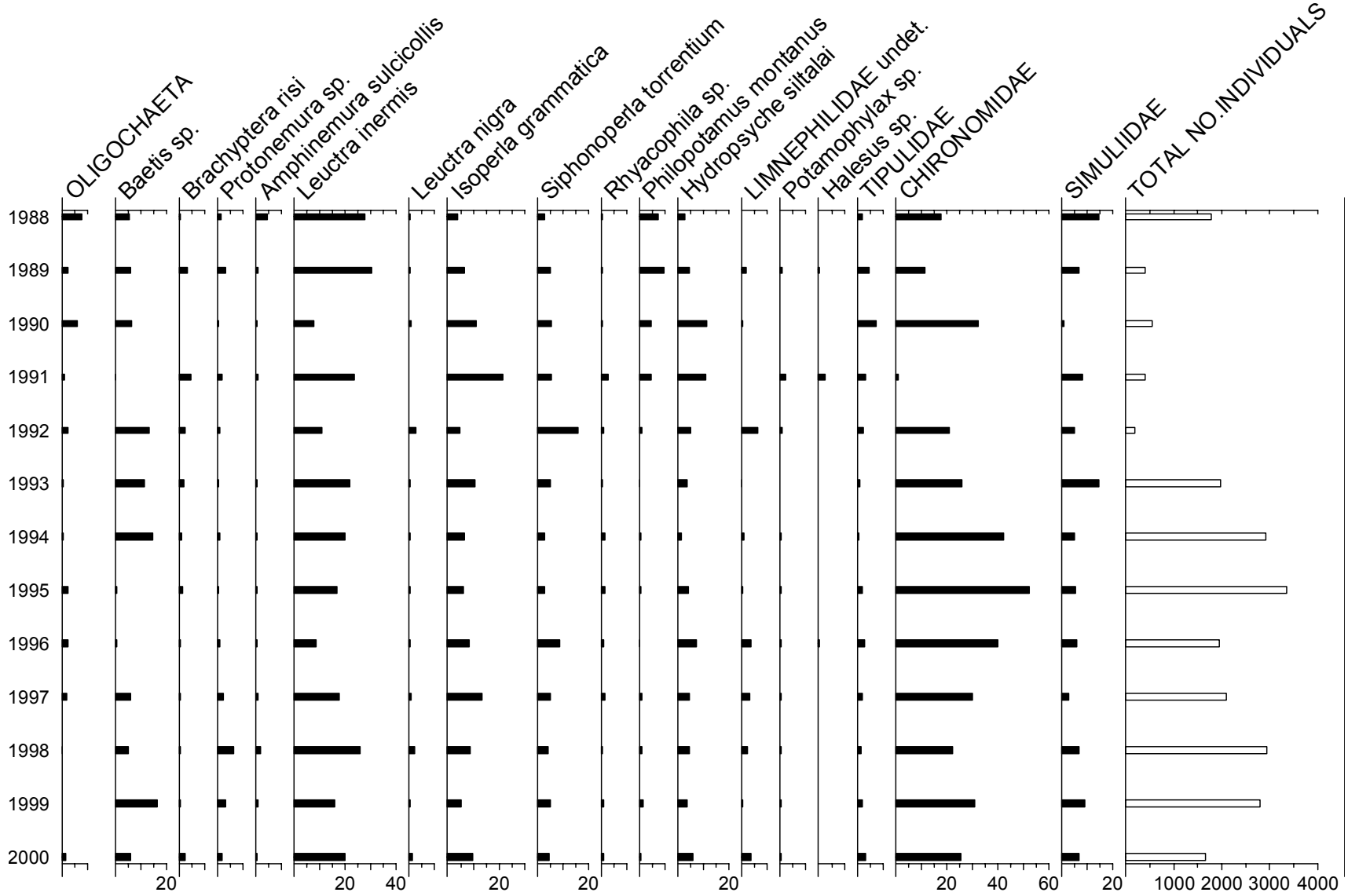
Chemistry statistics for period June 1991 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.80	6.45	4.93	0.30	100.0
Alk($CaCO_3$)	0.80	2.92	-0.55	0.56	100.0
Cond	40.8	58.0	27.0	7.7	100.0
Ca	0.68	1.39	0.35	0.10	100.0
Mg	0.78	1.20	0.60	0.07	100.0
Na	5.78	7.70	4.60	0.34	100.0
K	0.77	1.10	0.60	0.08	100.0
Ba	0.01	0.12	0.00	0.01	88.9
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.03	0.75	0.01	0.07	100.0
Mn	0.01	0.04	0.00	0.00	100.0
Sol.Al	64.0	236.0	11.0	45.5	100.0
Sol.lab.Al	28.3	166.0	2.5	24.6	100.0
Cl	9.63	17.00	7.70	0.96	100.0
SO_4	3.53	4.10	2.50	0.24	100.0
XSO_4	2.16	2.77	1.09	0.28	100.0
NO_3	0.10	0.34	0.02	0.05	100.0
PO_4	0.00	0.04	0.00	0.00	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.05	0.07	0.00	0.01	100.0
Si	2.13	2.60	1.10	0.30	100.0
DOC	1.54	5.80	0.30	1.11	100.0

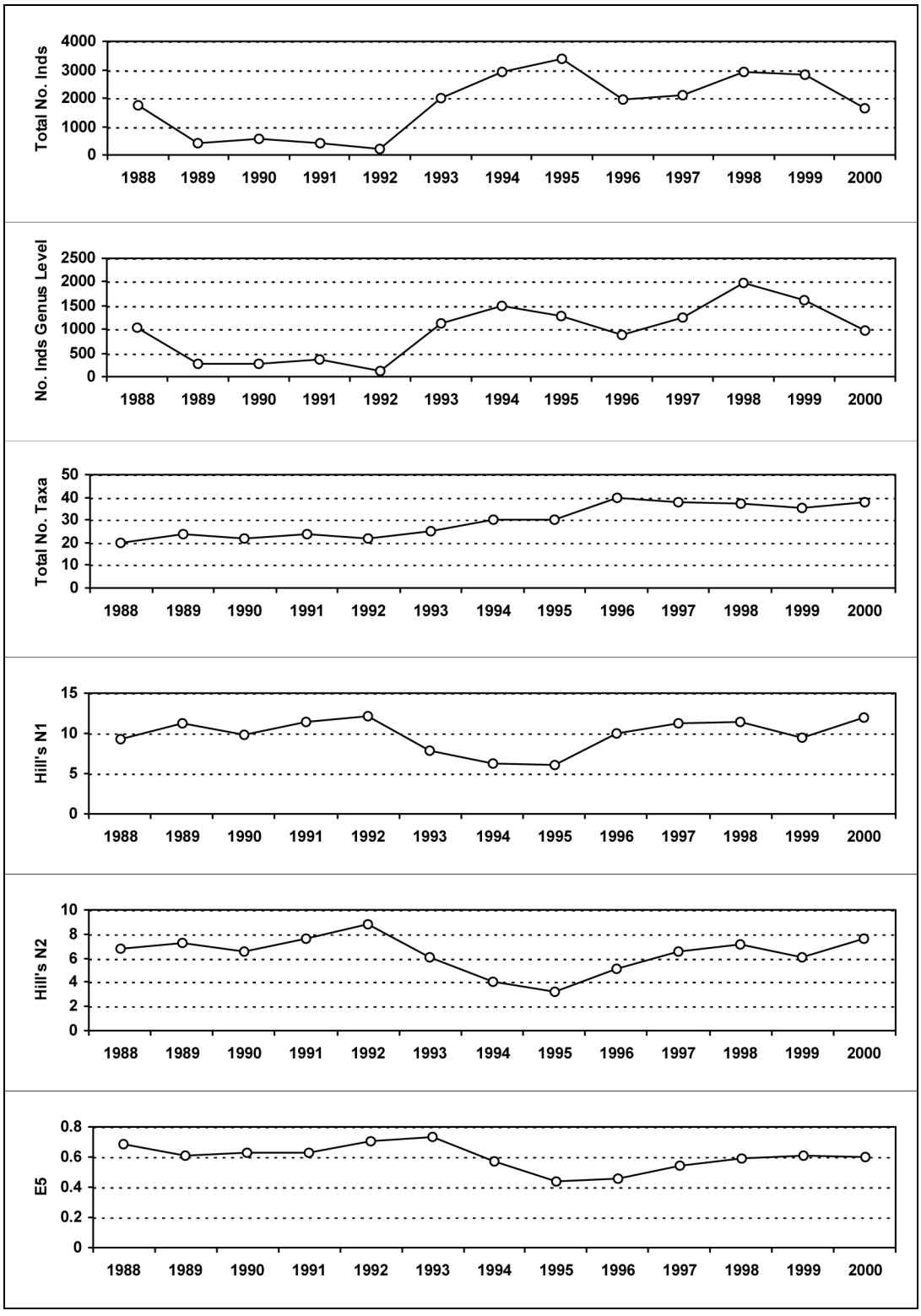
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

14.2. Macroinvertebrate data

14.2.1. Percentage abundance summary, Narrator Brook

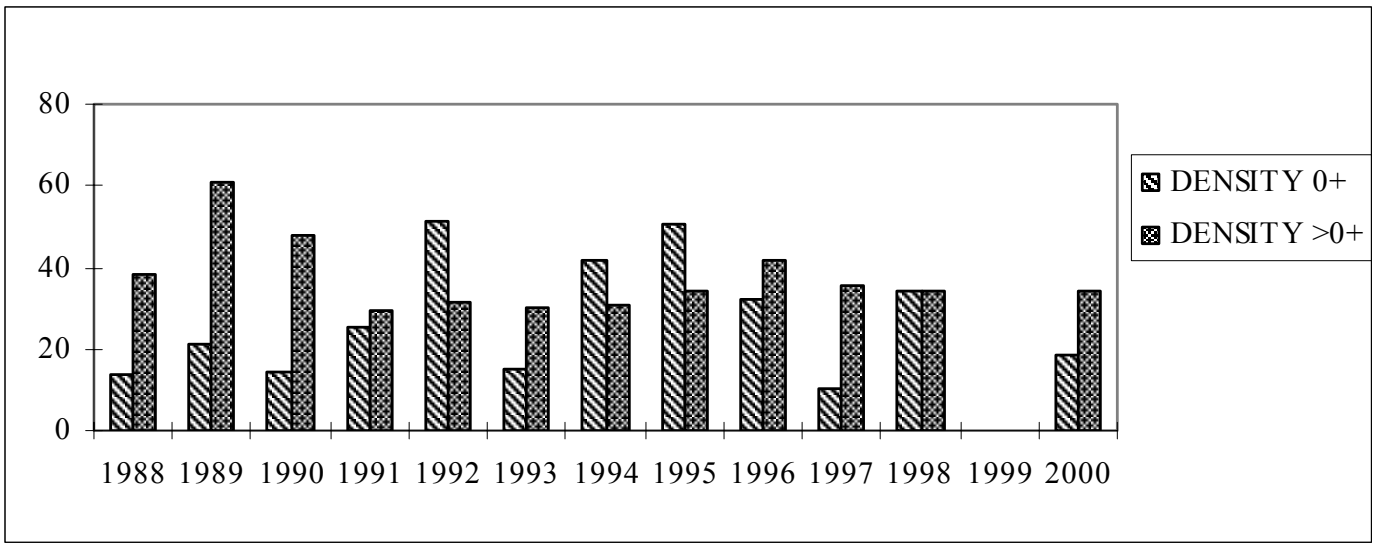


14.2.2. Summary statistics, Narrator Brook



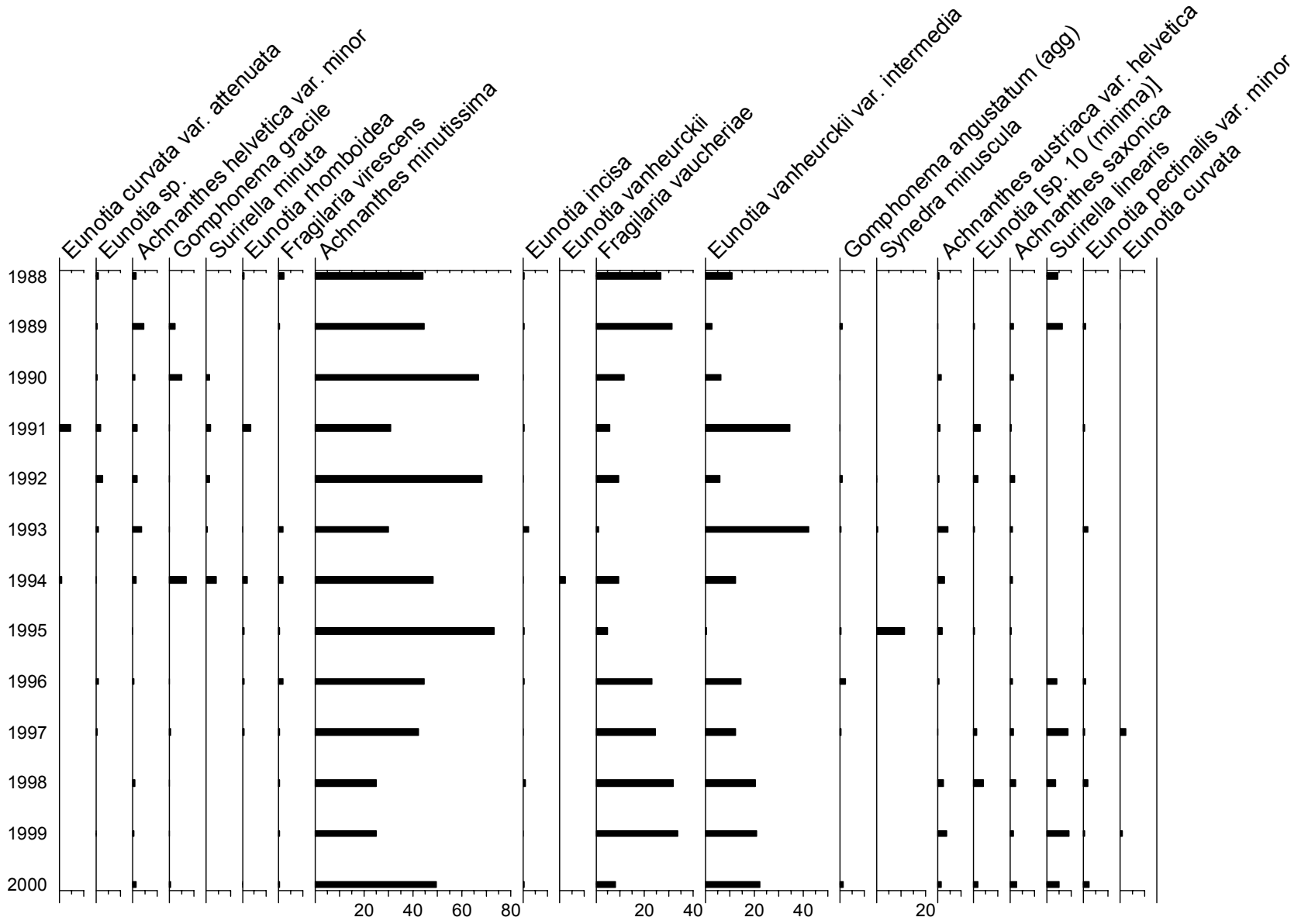
14.3. Fish data

14.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Narrator Brook

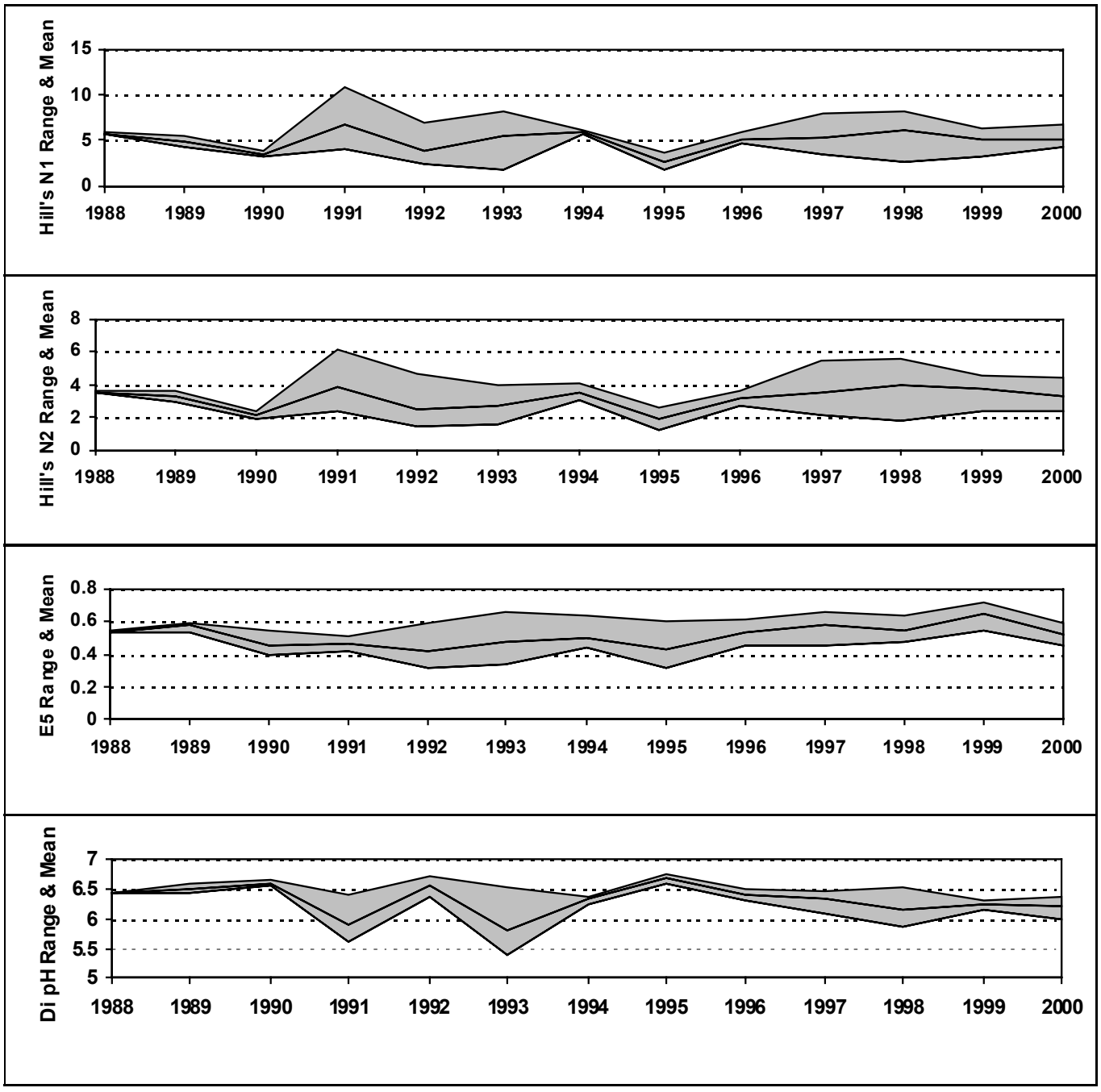


14.4. Epilithic diatom data

14.4.1. Percentage abundance summary, Narrator Brook

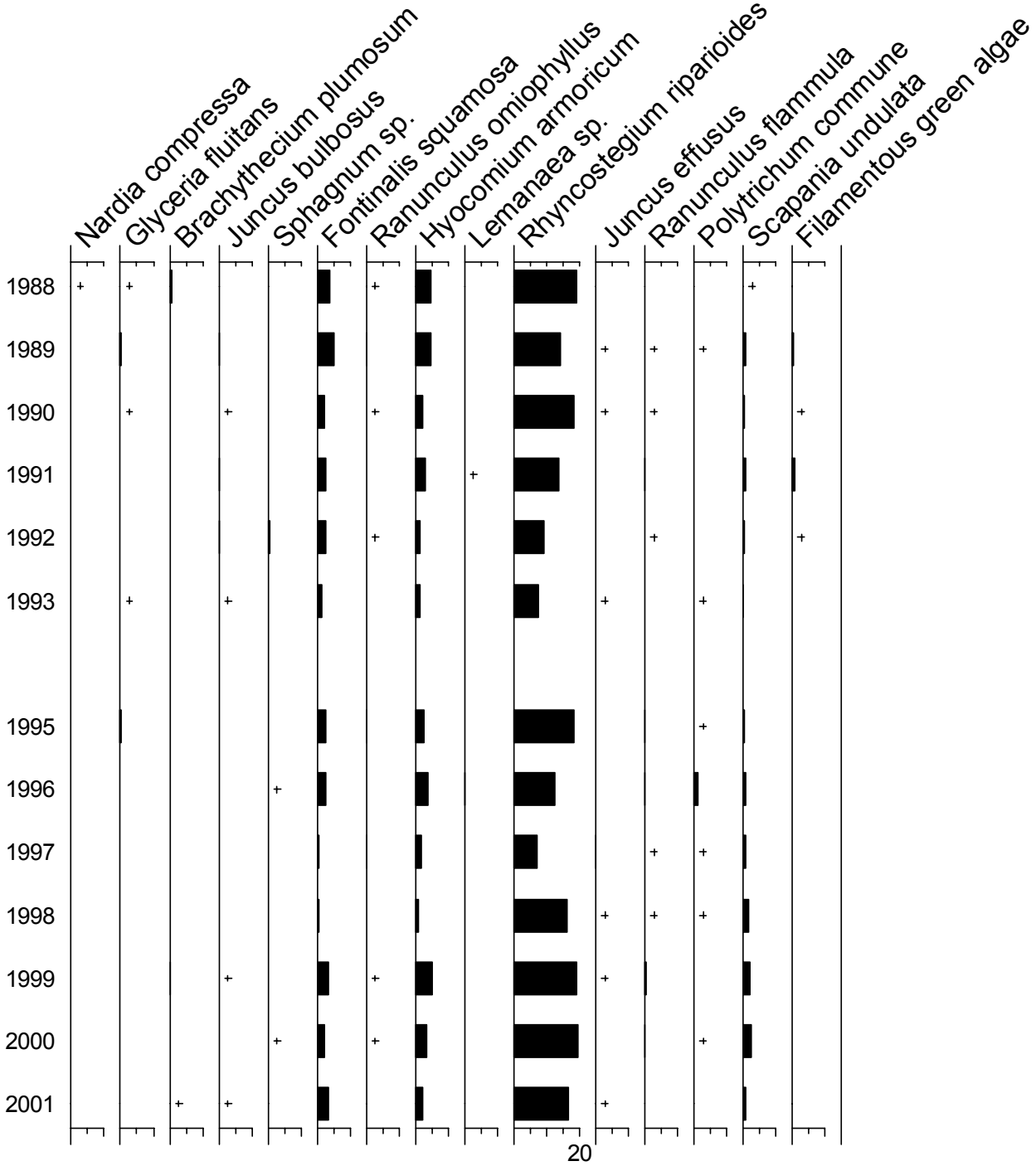


14.4.2. Summary statistics, Narrator Brook



14.5. Aquatic macrophyte data, Narrator Brook

Percentage Species Cover



\+ Represents <0.1% abundance

15. Llyn Llagi

Lake altitude:	380 m	Lake area:	6 ha
Maximum depth:	16.5 m	Catchment area:	157 ha
Mean depth:	5.8 m	Catchment:lake ratio:	27.7
Volume:	0.33 x 10^6 m^3	Net relief:	298 m

Grid Ref: SH 649483

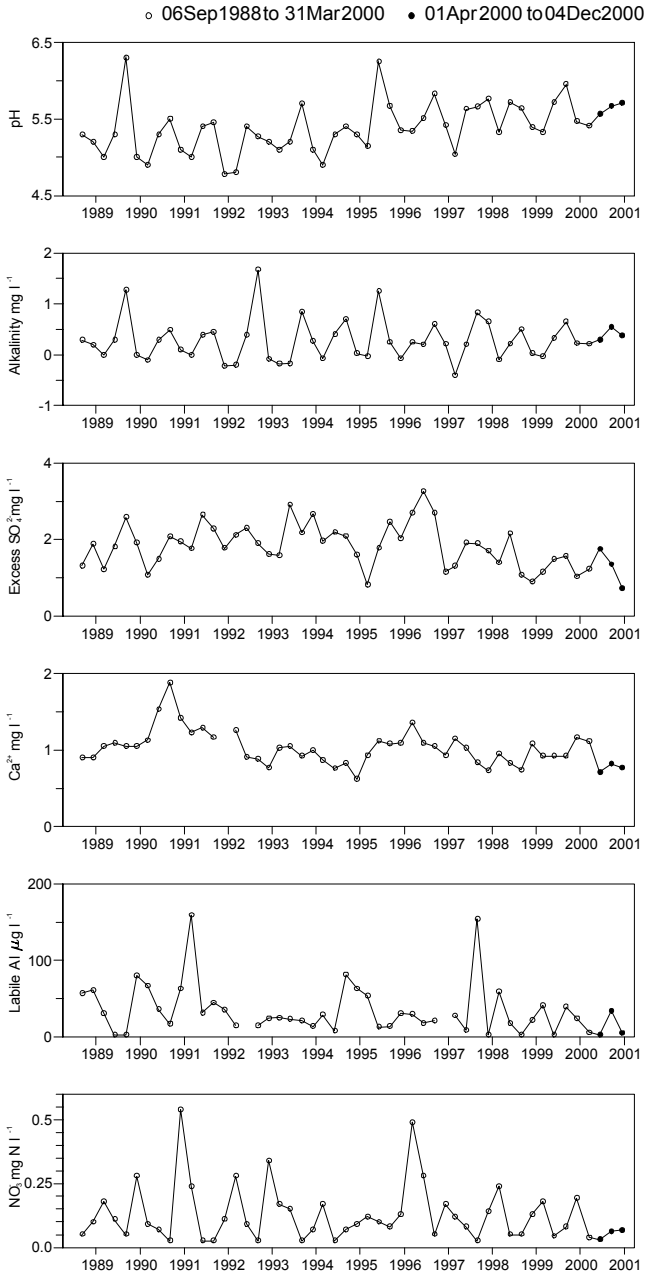
Soils: Stagno podsol, Stagno humic gley, Blanket peat

Geology: Ordovician slates, Ordovician shales, Intrusions, Doleritic and volcanic

Vegetation: 100 % Moorland

15.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.65	5.71	5.56	0.08	75.0
Alk($CaCO_3$)	0.41	0.55	0.30	0.13	75.0
Cond	25.7	34.4	11.1	12.7	75.0
Ca	0.77	0.82	0.71	0.06	75.0
Mg	0.53	0.70	0.40	0.15	75.0
Na	2.87	3.50	2.40	0.57	75.0
K	0.11	0.20	0.06	0.08	75.0
Ba	All recorded data below detection limit.				75.0
Sr	0.00	0.00	0.00	0.00	75.0
Fe	0.10	0.20	0.02	0.10	75.0
Mn	0.03	0.06	0.02	0.02	75.0
Sol.Al	78.6	116.0	47.0	34.9	75.0
Sol.lab.Al	13.8	34.0	2.5	17.5	75.0
Cl	4.80	6.80	3.80	1.73	75.0
SO_4	1.97	2.30	1.70	0.31	75.0
XSO_4	1.28	1.76	0.73	0.52	75.0
NO_3	0.05	0.07	0.03	0.02	75.0
PO_4	0.00	0.01	0.00	0.00	75.0
Br	No recorded data.				
F	All recorded data below detection limit.				50.0
Si	0.27	0.40	0.20	0.12	75.0
DOC	3.63	4.90	2.98	1.10	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

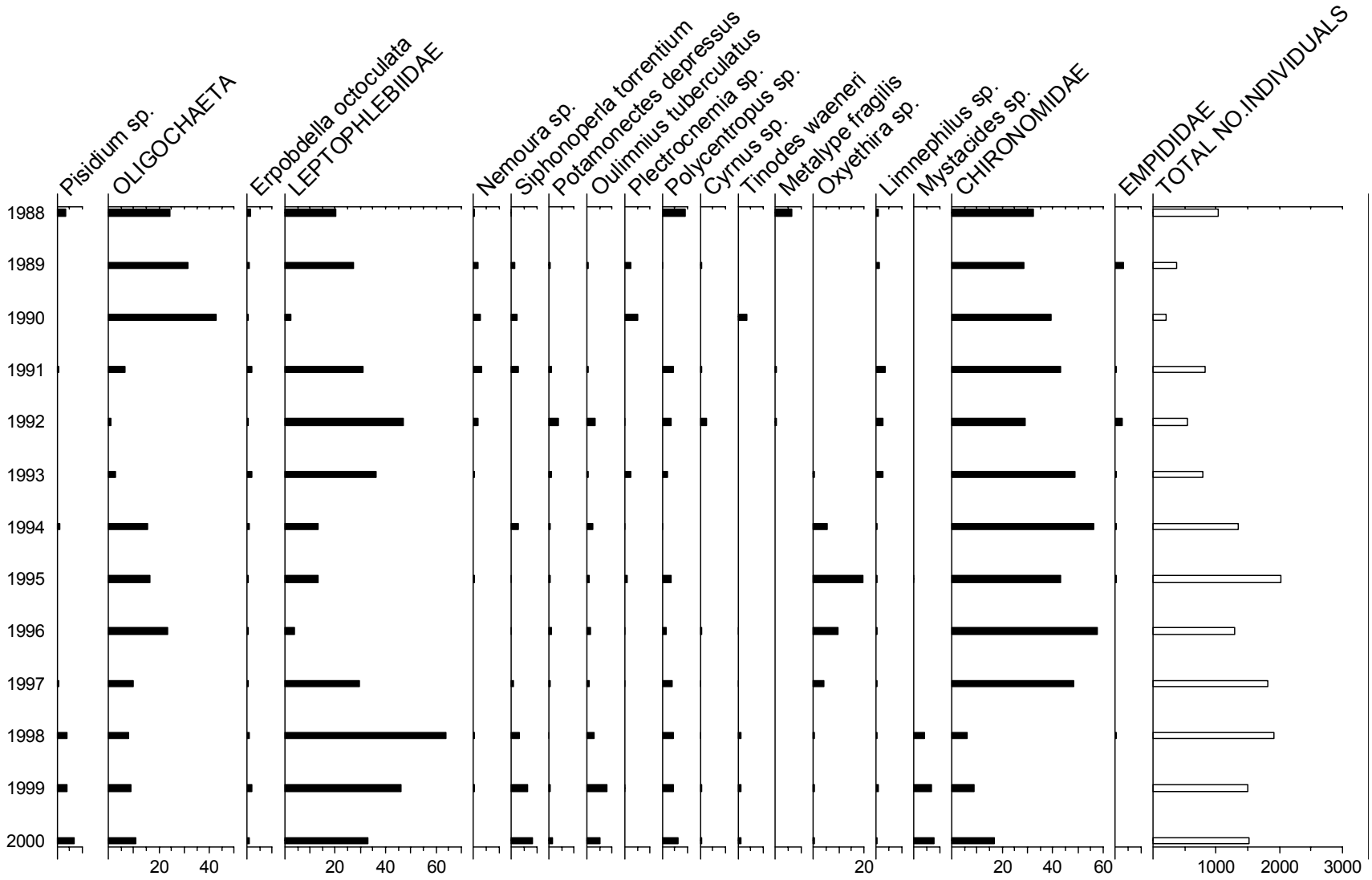
Chemistry statistics for period Sep 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.38	6.30	4.78	0.33	100.0
Alk($CaCO_3$)	0.28	1.67	-0.40	0.41	100.0
Cond	30.2	58.0	11.0	9.3	100.0
Ca	1.04	1.88	0.62	0.22	100.0
Mg	0.56	0.90	0.30	0.13	100.0
Na	3.87	6.70	2.30	1.00	100.0
K	0.36	0.75	0.10	0.09	100.0
Ba	0.00	0.01	0.00	0.00	89.6
Sr	0.00	0.01	0.00	0.00	100.0
Fe	0.08	0.25	0.01	0.05	100.0
Mn	0.05	0.25	0.02	0.05	100.0
Sol.Al	73.1	193.0	5.0	32.2	100.0
Sol.lab.Al	35.4	159.0	2.5	33.8	93.8
Cl	6.87	13.40	3.50	2.34	100.0
SO_4	2.82	3.90	1.70	0.53	100.0
XSO_4	1.85	3.26	0.82	0.56	100.0
NO_3	0.13	0.54	0.03	0.11	100.0
PO_4	0.02	0.05	0.00	0.02	100.0
Br	0.02	0.05	0.00	0.01	100.0
F	0.01	0.02	0.00	0.00	100.0
Si	0.37	4.10	0.04	0.61	87.5
DOC	2.47	5.50	0.10	1.04	100.0

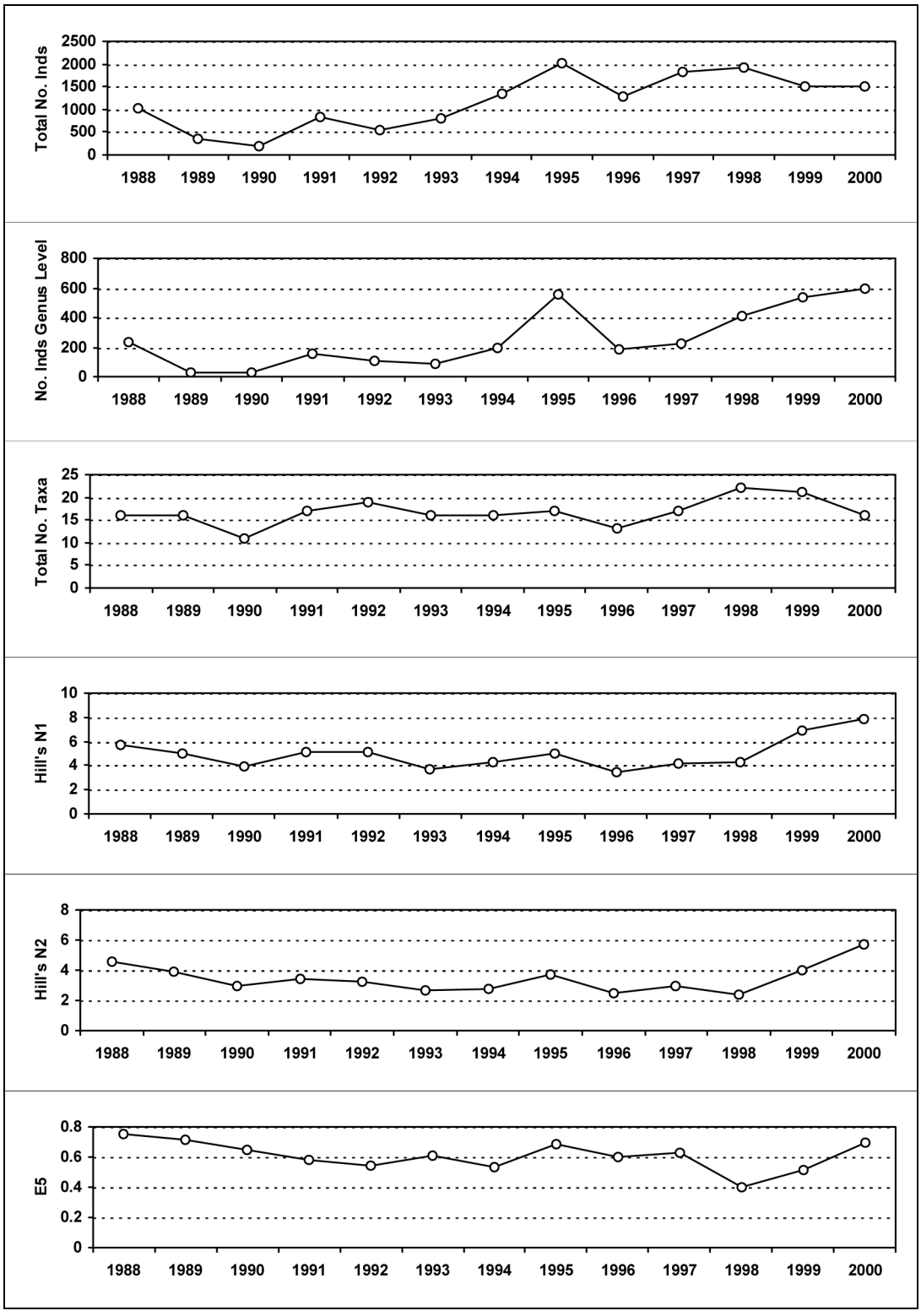
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

15.2. Macroinvertebrate data

15.2.1. Percentage abundance summary, Llyn Llagi

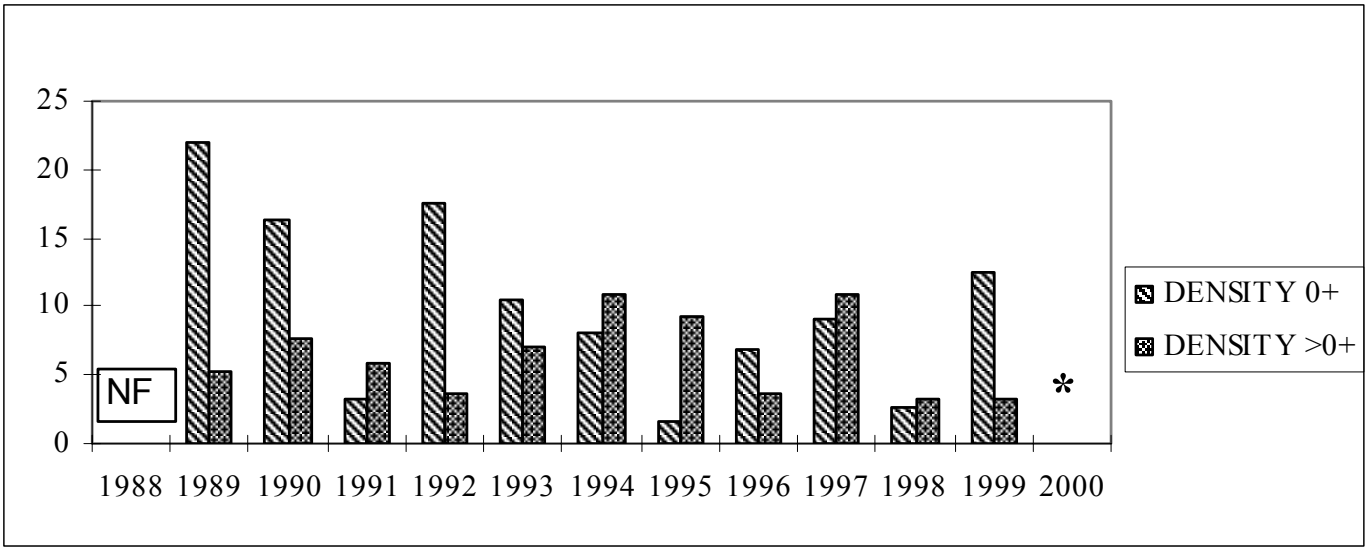


15.2.2. Summary statistics, Llyn Llagi



15.3. Fish data (for outflow stream)

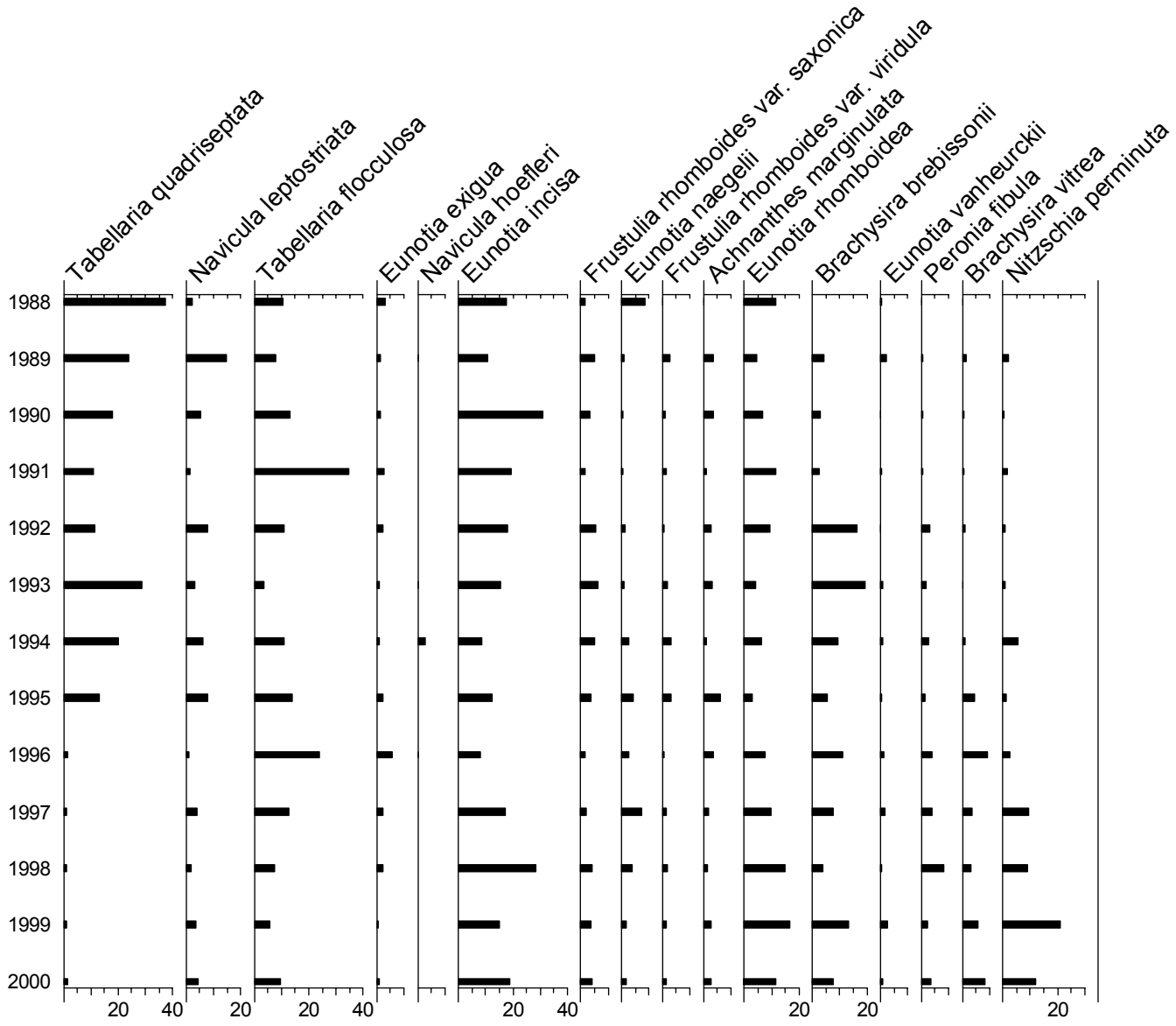
15.3.1. Summary of mean Trout density (numbers 100m^{-2}), Llyn Llagi



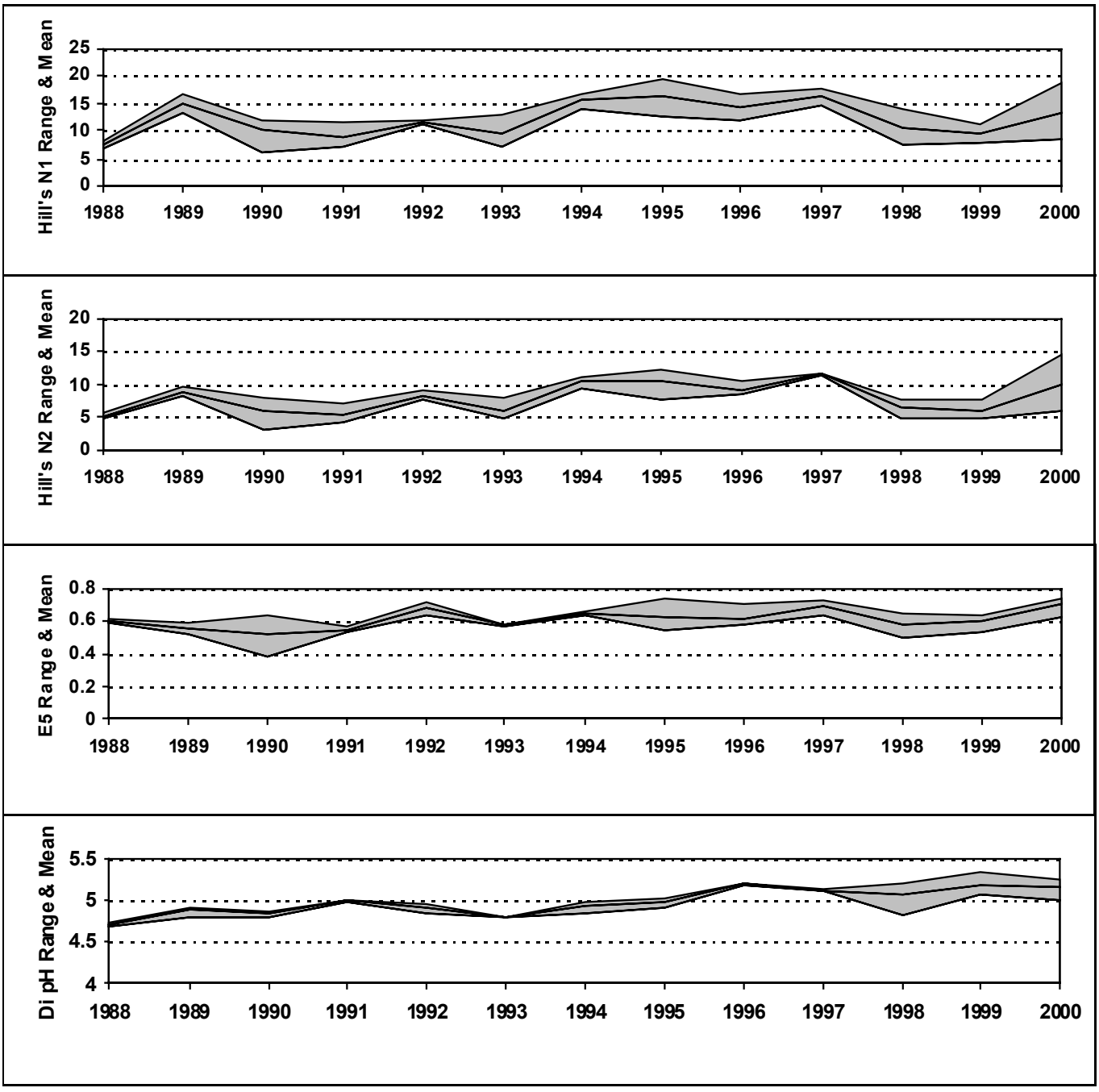
NF = Not fished
* Not all 3 reaches fished

15.4. Epilithic diatom data

15.4.1. Percentage abundance summary, Llyn Llagi

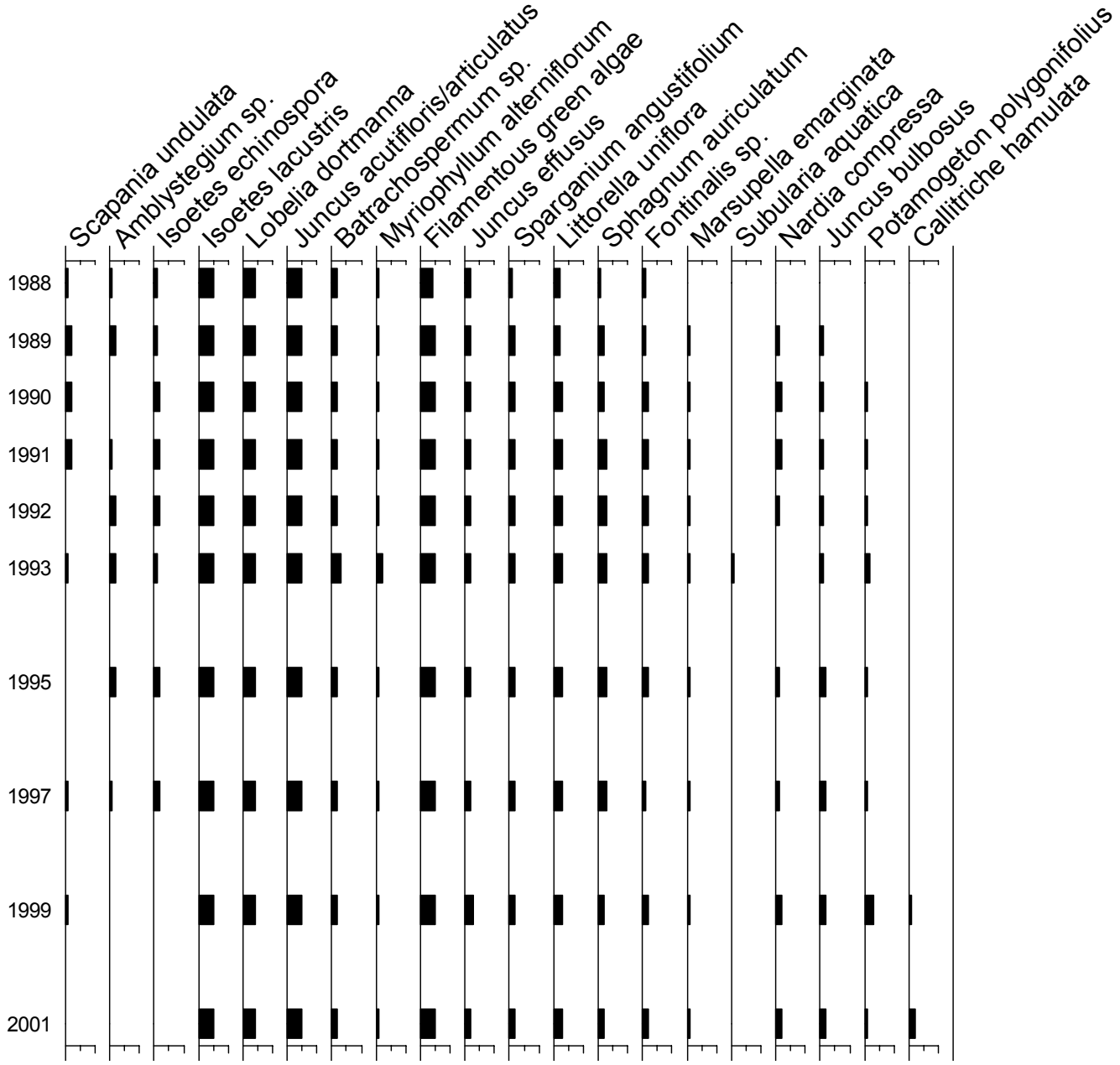


15.4.2. Summary statistics, Llyn Llagi



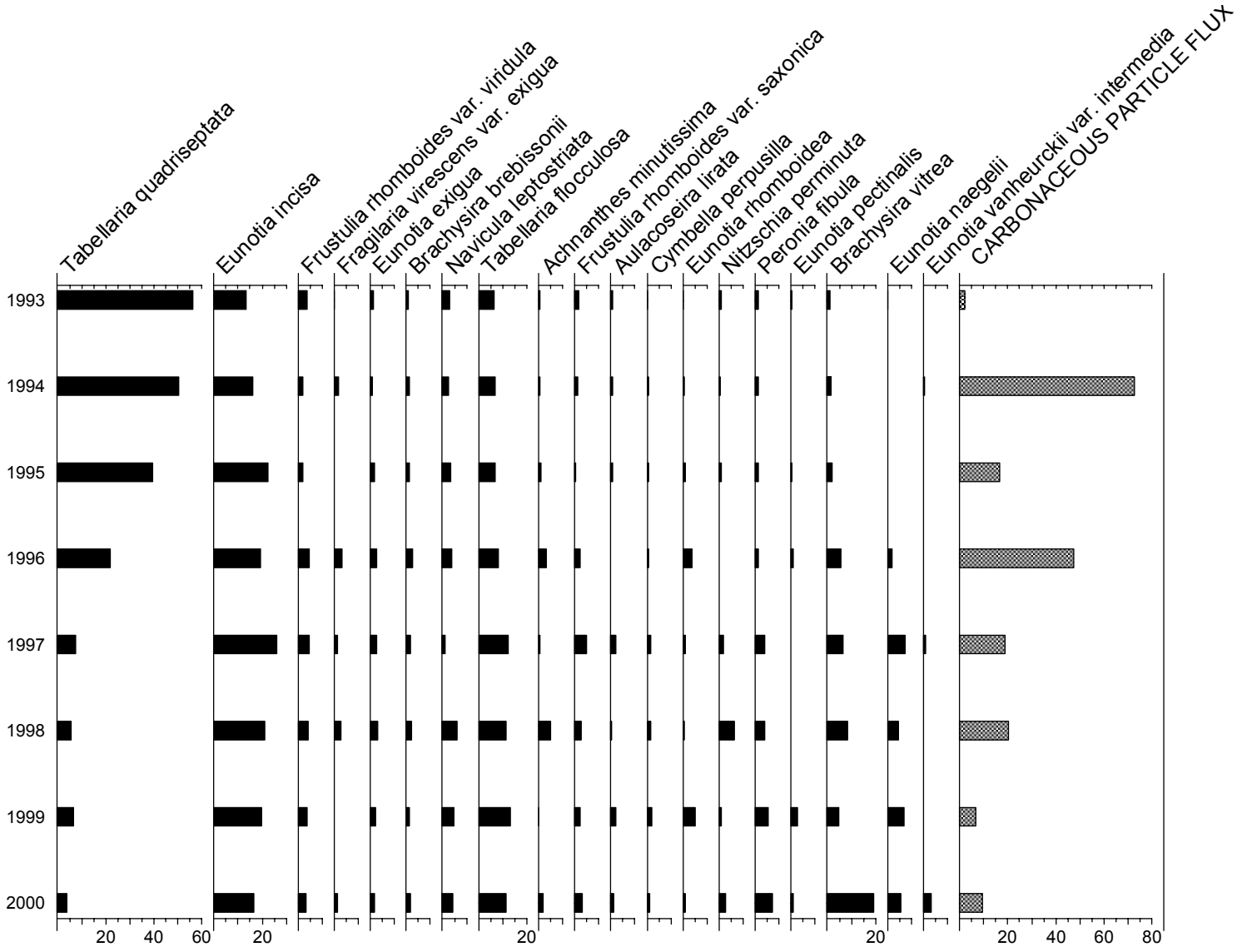
15.5. Aquatic macrophyte data, Llyn Llagi

Species Scores (1-5)



15.6. Sediment trap data, Llyn Llagi

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



16. Llyn Cwm Mynach


Back to main map

Lake altitude:	285 m	Lake area:	6 ha
Maximum depth:	11.0 m	Catchment area:	152 ha
Mean depth:	0.9 m	Catchment:lake ratio:	25.9
Volume:	0.05 x 10^6 m^3	Net relief:	395 m

Grid Ref: SH 678238

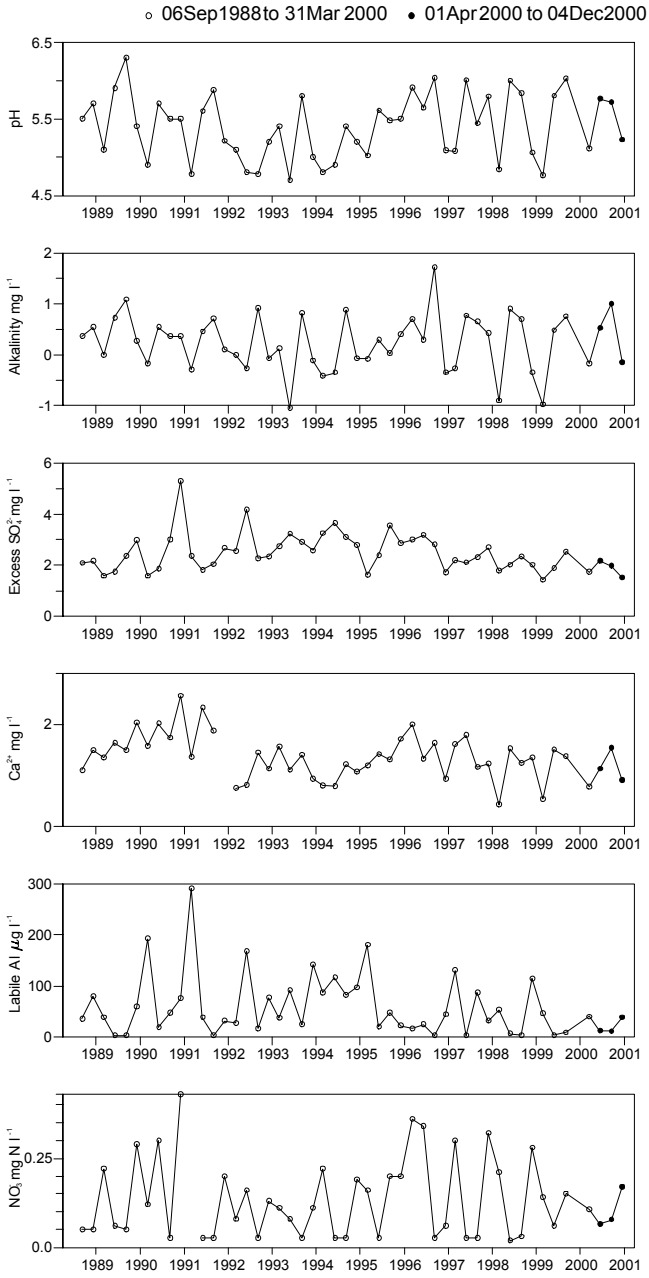
Soils: Blanket peat, Acid rankers

Geology: Cambrian sediments

Vegetation: 22 % Moorland, 78 % Conifers

16.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.57	5.76	5.23	0.30	75.0
Alk($CaCO_3$)	0.46	1.00	-0.15	0.58	75.0
Cond	37.1	38.5	35.6	1.5	75.0
Ca	1.19	1.54	0.91	0.32	75.0
Mg	0.80	1.10	0.60	0.26	75.0
Na	5.20	5.60	4.50	0.61	75.0
K	0.15	0.23	0.11	0.07	75.0
Ba	0.00	0.00	0.00	0.00	75.0
Sr	0.00	0.00	0.00	0.00	75.0
Fe	0.06	0.13	0.02	0.06	75.0
Mn	0.03	0.03	0.03	0.00	75.0
Sol.Al	104.0	115.0	84.9	16.6	75.0
Sol.lab.Al	20.3	38.0	11.0	15.3	75.0
Cl	9.03	9.40	8.40	0.55	75.0
SO_4	3.17	3.50	2.70	0.42	75.0
XSO_4	1.88	2.18	1.51	0.34	75.0
NO_3	0.10	0.17	0.06	0.06	75.0
PO_4	0.00	0.00	0.00	0.00	75.0
Br	0.02	0.02	0.01	0.00	50.0
F	0.02	0.02	0.01	0.00	75.0
Si	0.43	0.60	0.30	0.15	75.0
DOC	3.72	5.90	2.37	1.90	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

Past record statistics

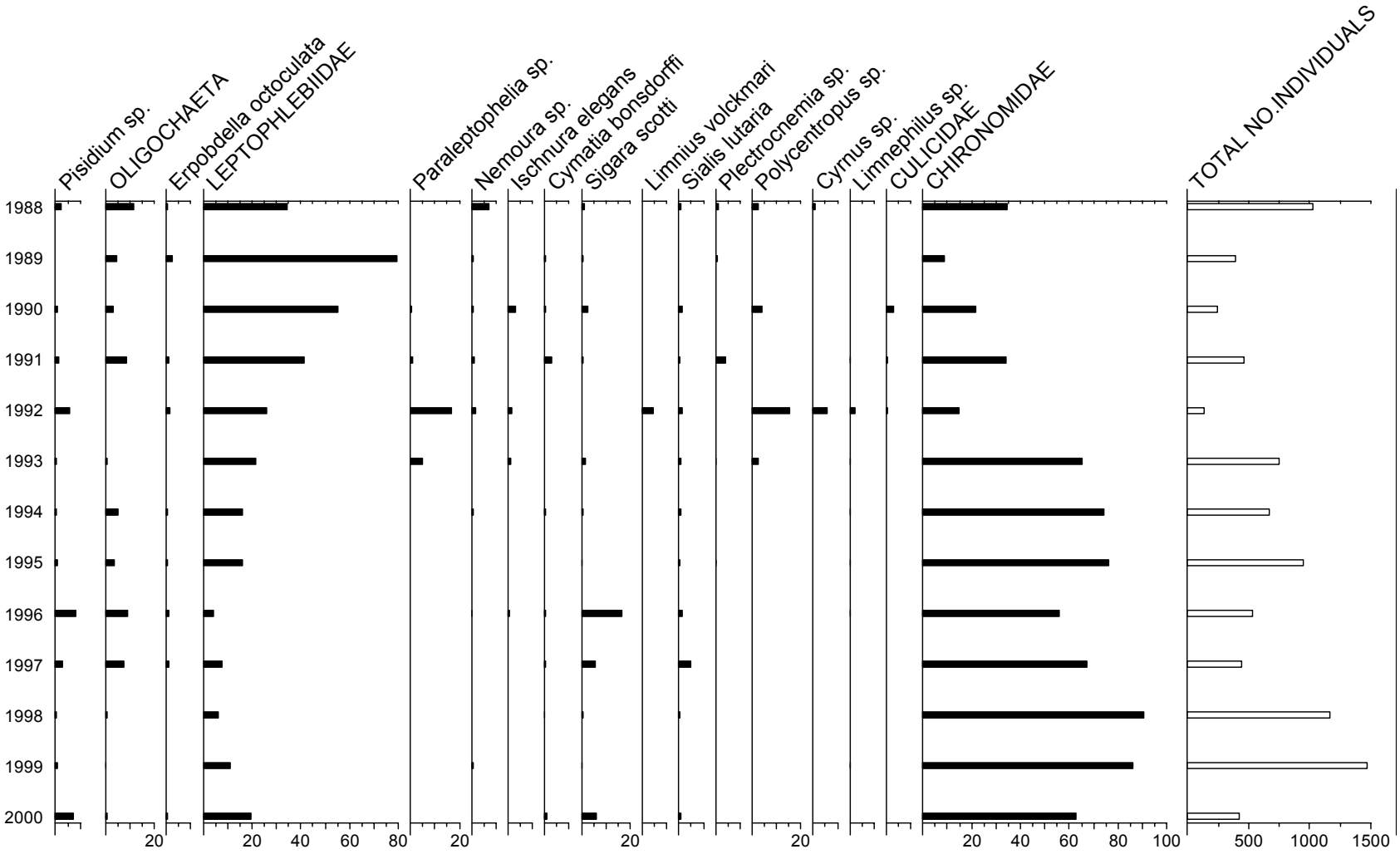
Chemistry statistics for period Sept 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.39	6.30	4.70	0.43	100.0
Alk($CaCO_3$)	0.23	1.72	-1.05	0.56	100.0
Cond	45.0	72.0	24.0	11.6	100.0
Ca	1.37	2.56	0.43	0.45	93.8
Mg	0.75	1.20	0.40	0.19	100.0
Na	6.12	9.30	4.00	1.37	100.0
K	0.36	0.38	0.16	0.05	91.7
Ba	0.00	0.01	0.00	0.00	87.5
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.04	0.16	0.01	0.03	100.0
Mn	0.04	0.14	0.01	0.02	100.0
Sol.Al	114.4	378.0	5.0	74.2	100.0
Sol.lab.Al	60.1	291.0	2.5	60.7	100.0
Cl	10.73	18.40	5.10	3.06	100.0
SO_4	4.03	7.40	2.60	0.74	100.0
XSO_4	2.50	5.30	1.42	0.74	100.0
NO_3	0.13	0.43	0.02	0.11	93.8
PO_4	0.02	0.07	0.00	0.02	100.0
Br	0.02	0.04	0.00	0.01	100.0
F	0.02	0.03	0.00	0.01	100.0
Si	0.67	4.60	0.04	0.69	89.6
DOC	2.54	10.70	0.10	1.55	100.0

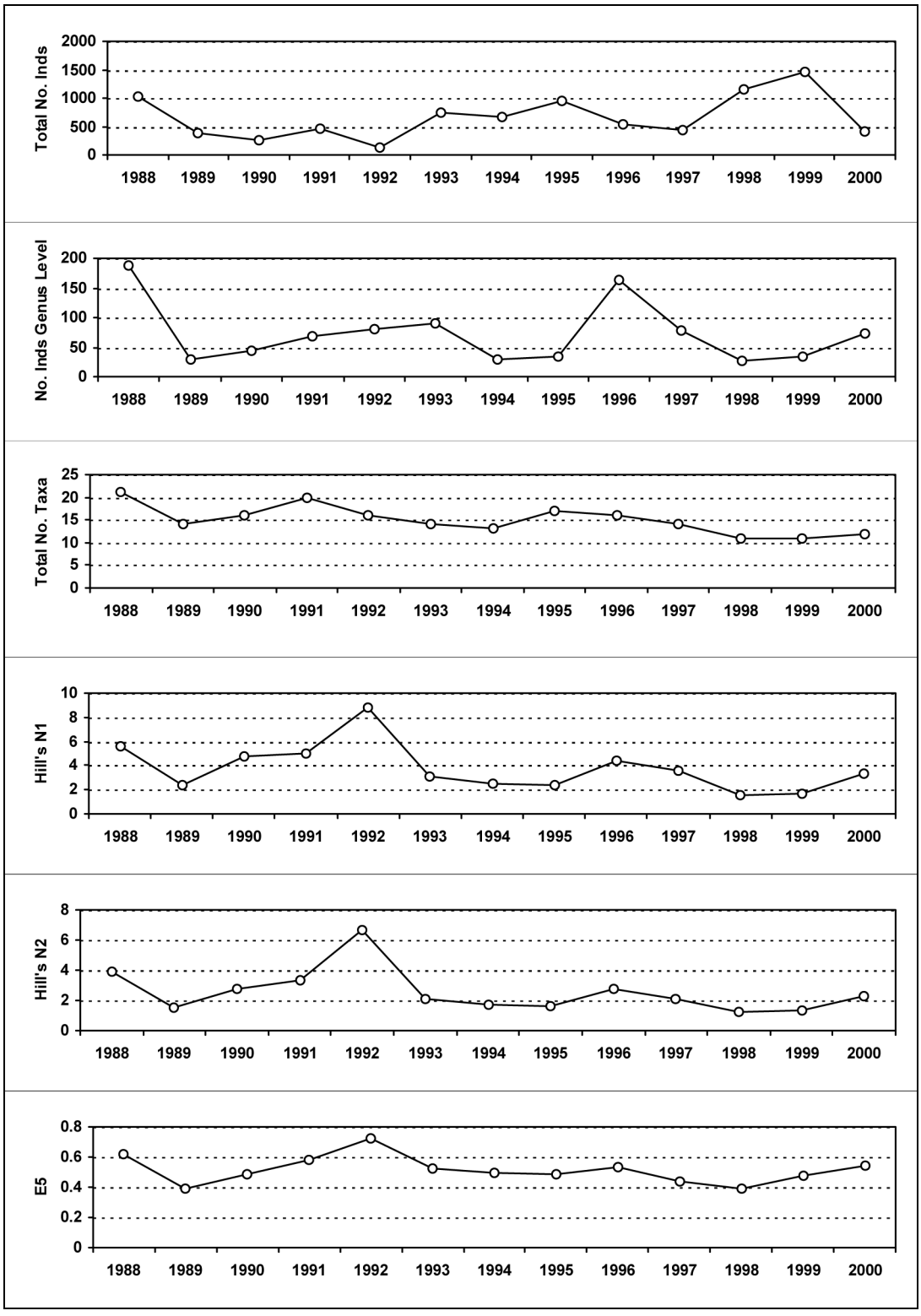
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in mg l^{-1}

16.2. Macroinvertebrate data

16.2.1. Percentage abundance summary, Llyn Cwm Mynach

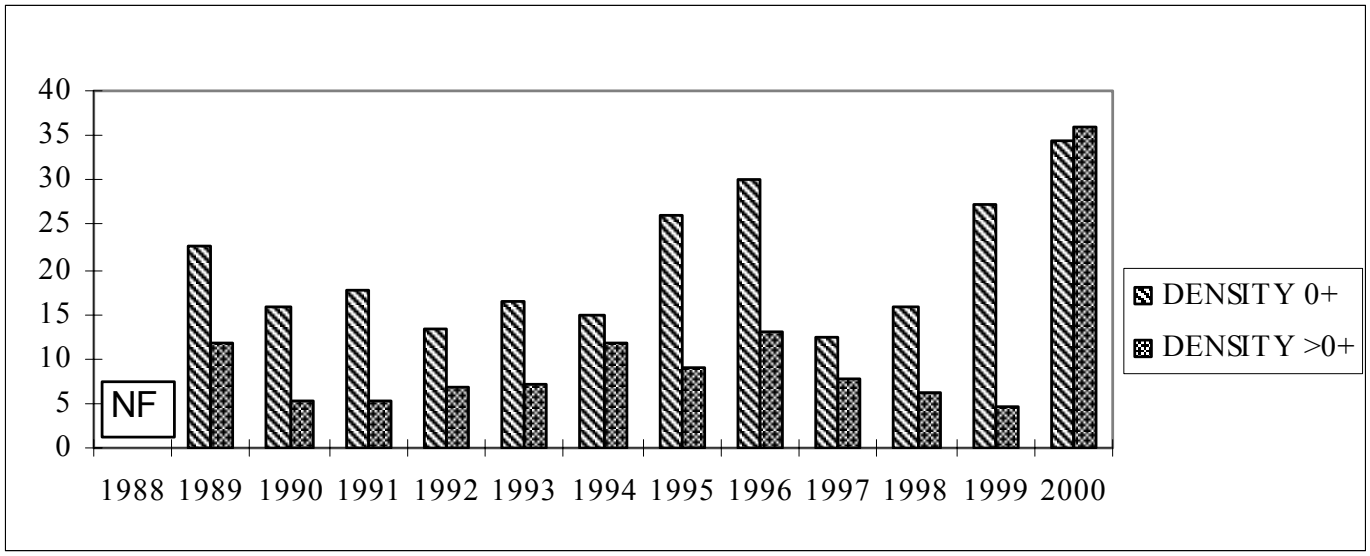


16.2.2. Summary statistics, Llyn Cwm Mynach



16.3. Fish data (for outflow stream)

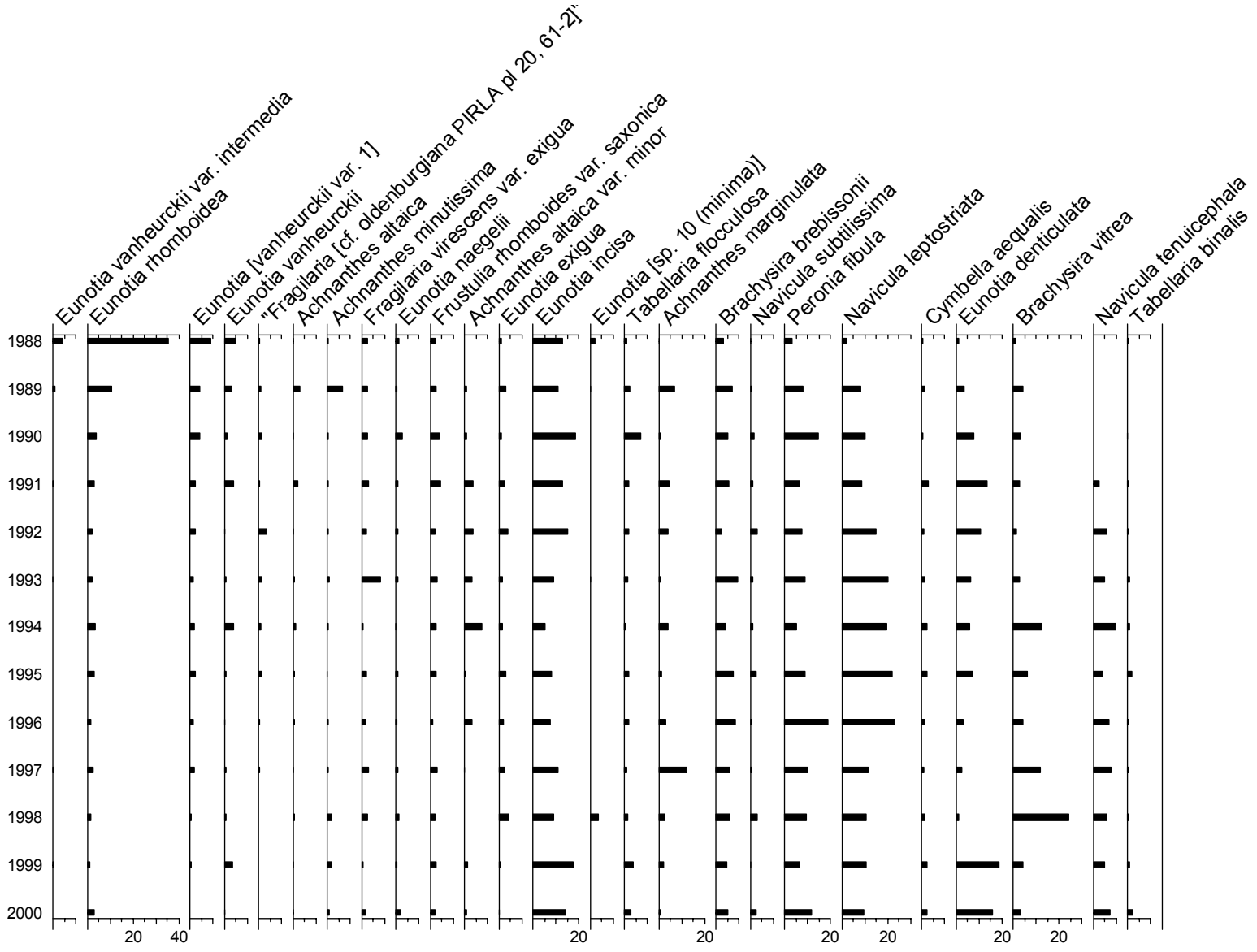
16.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Llyn Cwm Mynach



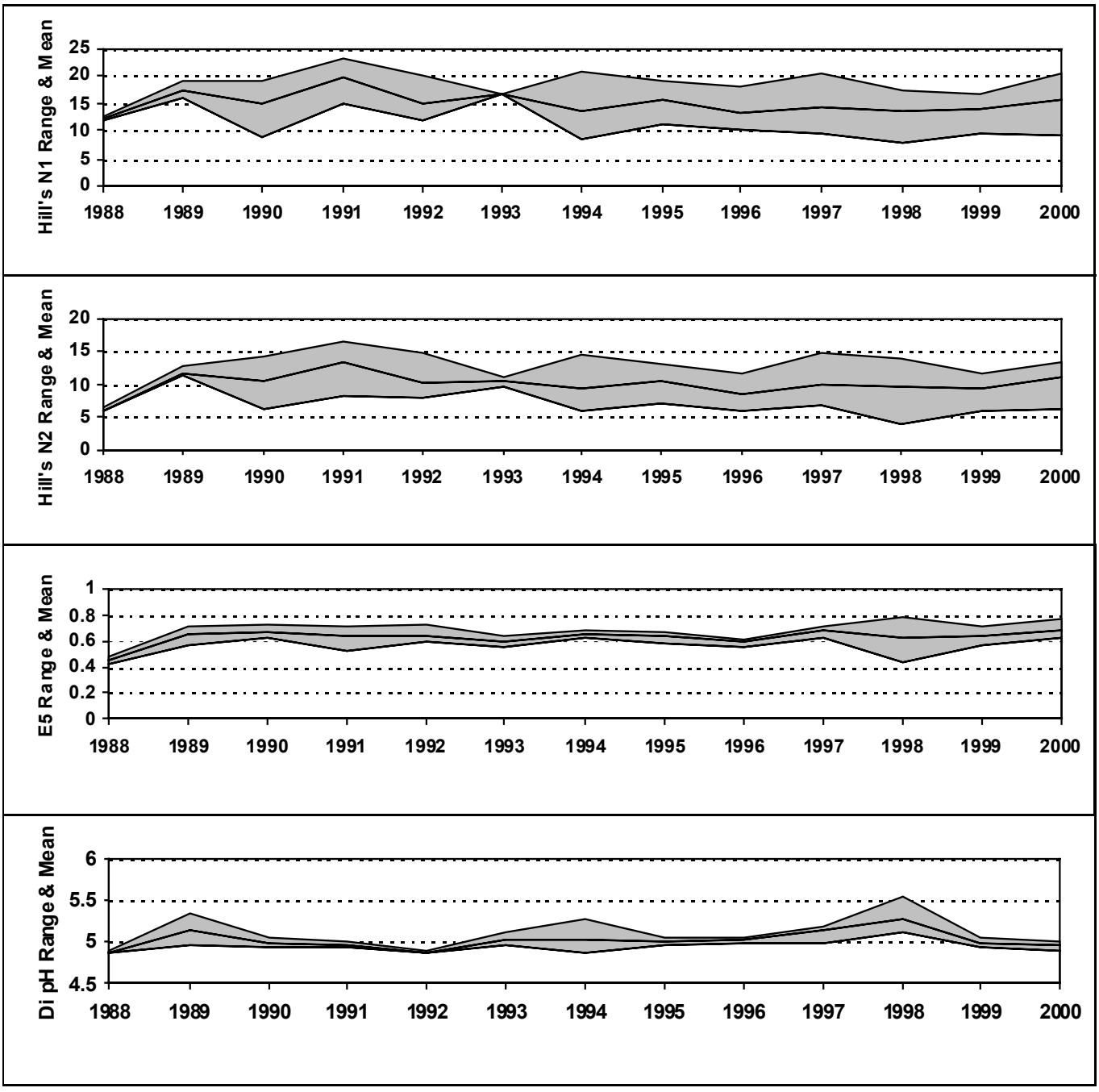
NF = Not fished

16.4. Epilithic diatom data

16.4.1. Percentage abundance summary, Llyn Cwm Mynach

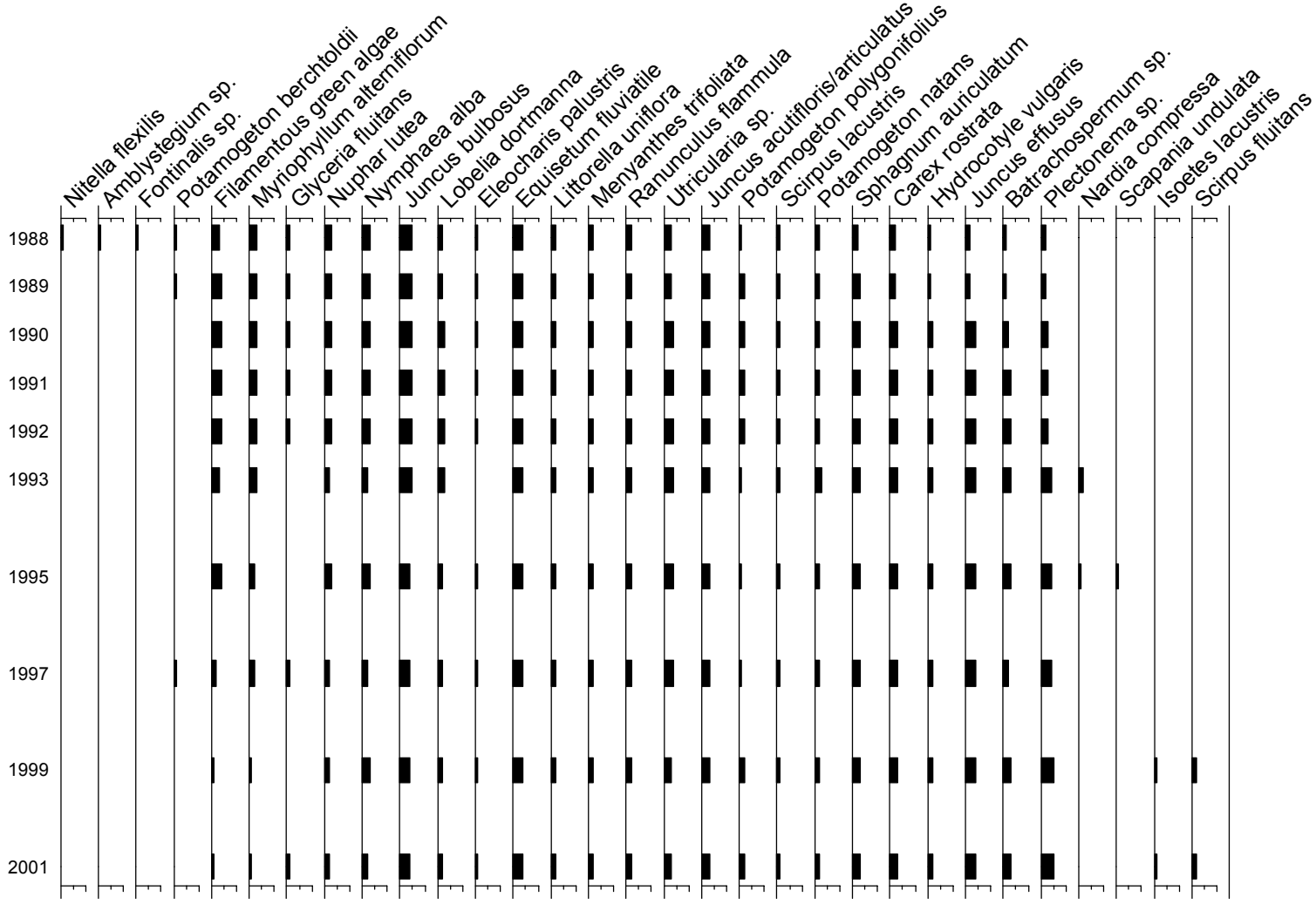


16.4.2. Summary statistics, Llyn Cwm Mynach



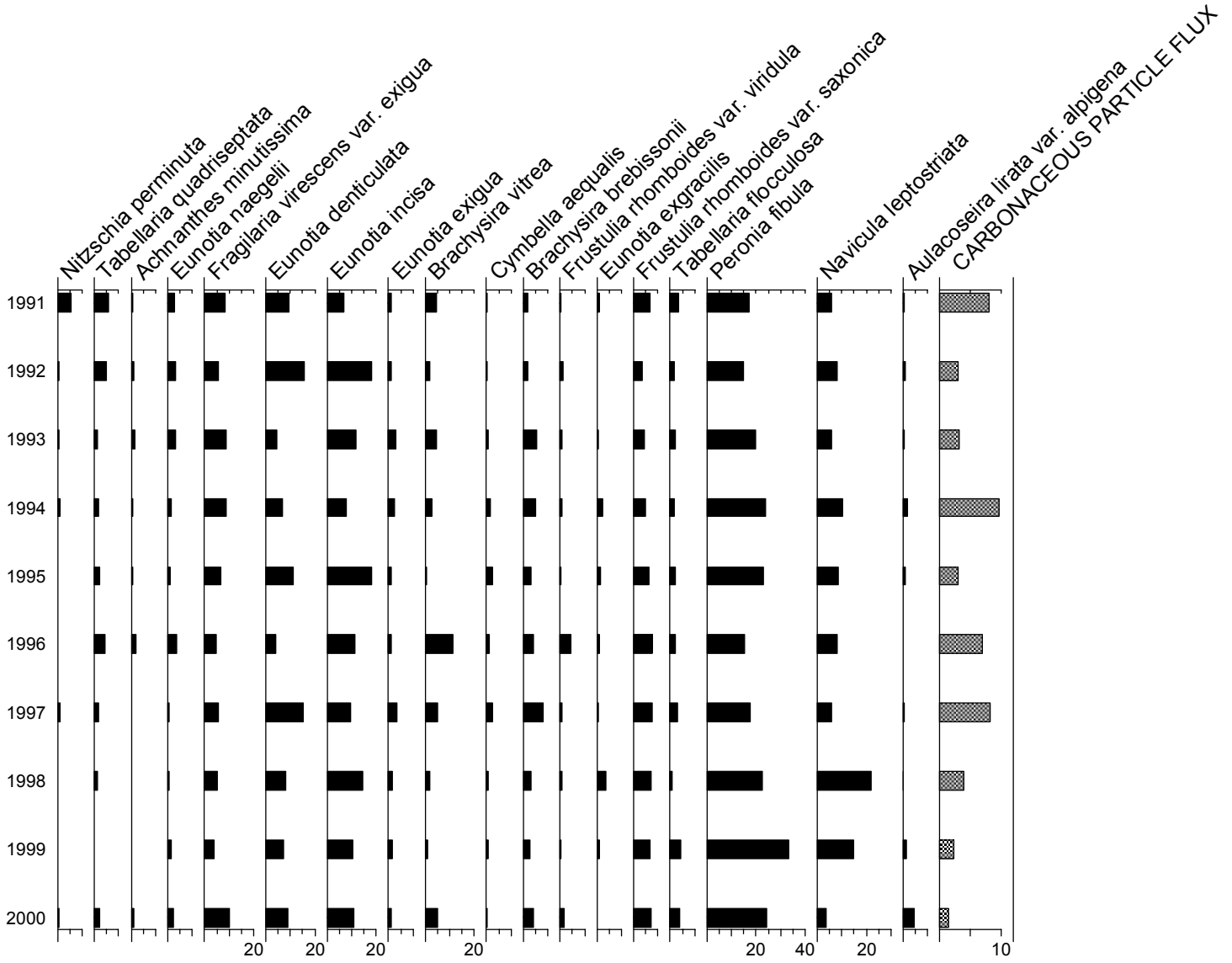
16.5. Aquatic macrophyte data, Llyn Cwm Mynach

Species Scores (1-5)



16.6. Sediment trap data, Llyn Cwm Mynach

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



17. Afon Hafren

Catchment area: 358 ha
Minimum catchment altitude: 355 m
Maximum catchment altitude: 690 m

Grid Ref: SN 844876

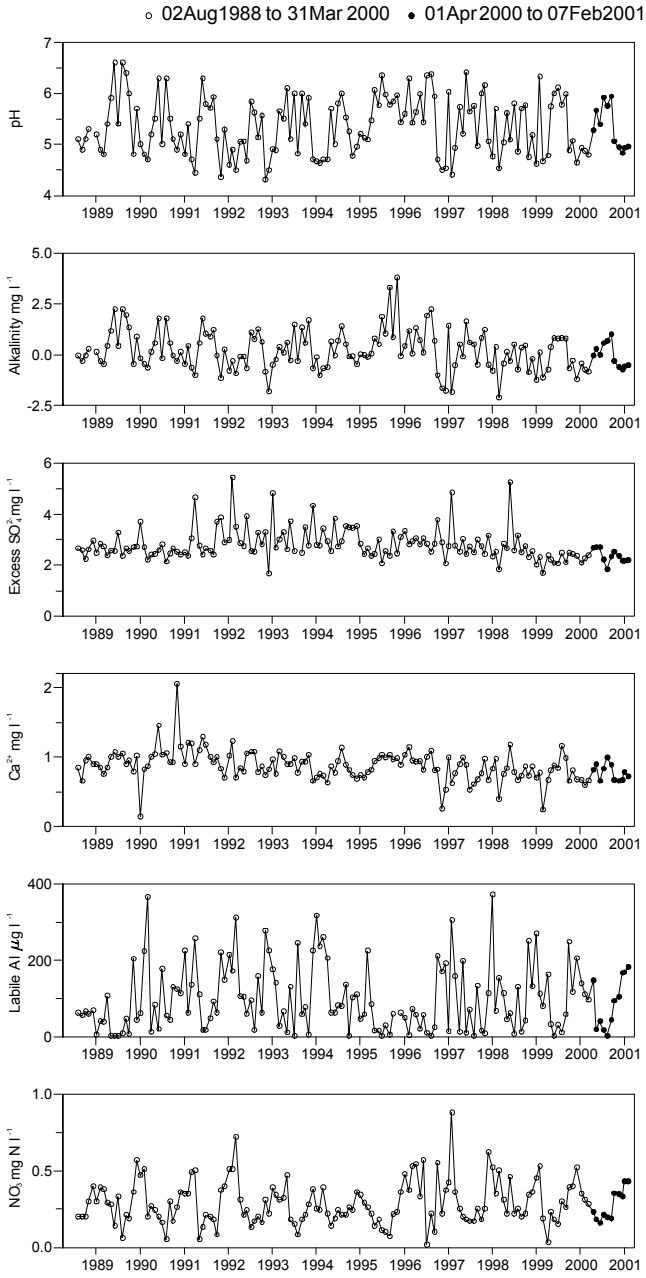
Soils: Podsols, Organic peats

Geology: Ordovician sediments, Silurian sediments

Vegetation: 43 % Moorland, 57 % Conifers

17.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.33	5.94	4.83	0.43	91.7
Alk($CaCO_3$)	-0.02	1.00	-0.72	0.59	91.7
Cond	27.6	36.8	20.0	5.1	91.7
Ca	0.78	0.99	0.65	0.12	91.7
Mg	0.75	0.90	0.70	0.07	91.7
Na	4.06	4.50	3.70	0.26	91.7
K	0.18	0.29	0.09	0.07	91.7
Ba	0.00	0.00	0.00	0.00	83.3
Sr	0.00	0.01	0.00	0.00	91.7
Fe	0.12	0.20	0.03	0.05	91.7
Mn	0.04	0.05	0.03	0.01	91.7
Sol.Al	182.6	259.0	89.0	65.7	91.7
Sol.lab.Al	89.8	182.0	2.5	68.4	91.7
Cl	6.63	8.00	5.70	0.78	91.7
SO_4	3.29	3.60	2.80	0.22	91.7
XSO_4	2.35	2.70	1.83	0.27	91.7
NO_3	0.28	0.43	0.16	0.10	91.7
PO_4	0.01	0.03	0.00	0.01	91.7
Br	0.06	0.35	0.01	0.13	58.3
F	0.02	0.03	0.01	0.00	91.7
Si	1.22	1.50	0.90	0.18	91.7
DOC	2.70	4.64	1.09	1.03	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$.

Past record statistics

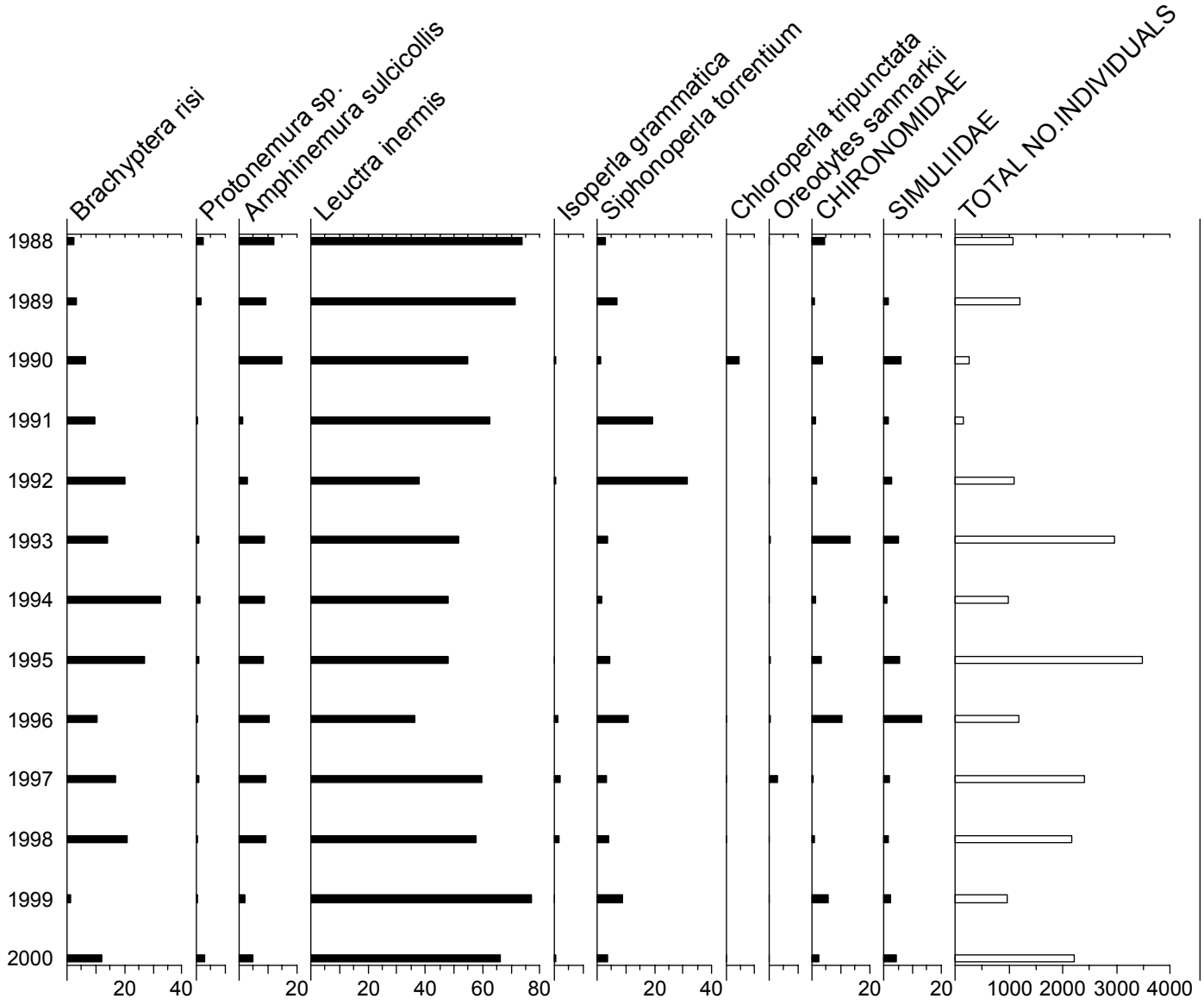
Chemistry statistics for period Aug 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.36	6.60	4.31	0.57	100.0
Alk($CaCO_3$)	0.22	3.78	-2.10	0.98	100.0
Cond	36.4	112.0	20.0	9.8	100.0
Ca	0.88	2.05	0.14	0.22	100.0
Mg	0.79	1.10	0.30	0.11	100.0
Na	4.38	7.00	2.60	0.51	100.0
K	0.36	0.60	0.13	0.06	100.0
Ba	0.00	0.07	0.00	0.01	87.5
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.09	0.45	0.03	0.04	100.0
Mn	0.04	0.10	0.01	0.01	100.0
Sol.Al	177.1	550.0	5.0	114.7	100.0
Sol.lab.Al	99.8	372.0	2.5	87.6	100.0
Cl	7.37	12.40	4.30	1.23	100.0
SO_4	3.86	6.70	2.30	0.63	100.0
XSO_4	2.81	5.44	1.68	0.63	100.0
NO_3	0.29	0.88	0.02	0.14	100.0
PO_4	0.02	0.39	0.00	0.04	100.0
Br	0.02	0.07	0.00	0.01	100.0
F	0.02	0.06	0.00	0.01	100.0
Si	1.50	3.70	0.50	0.36	100.0
DOC	2.01	8.10	0.10	1.34	100.0

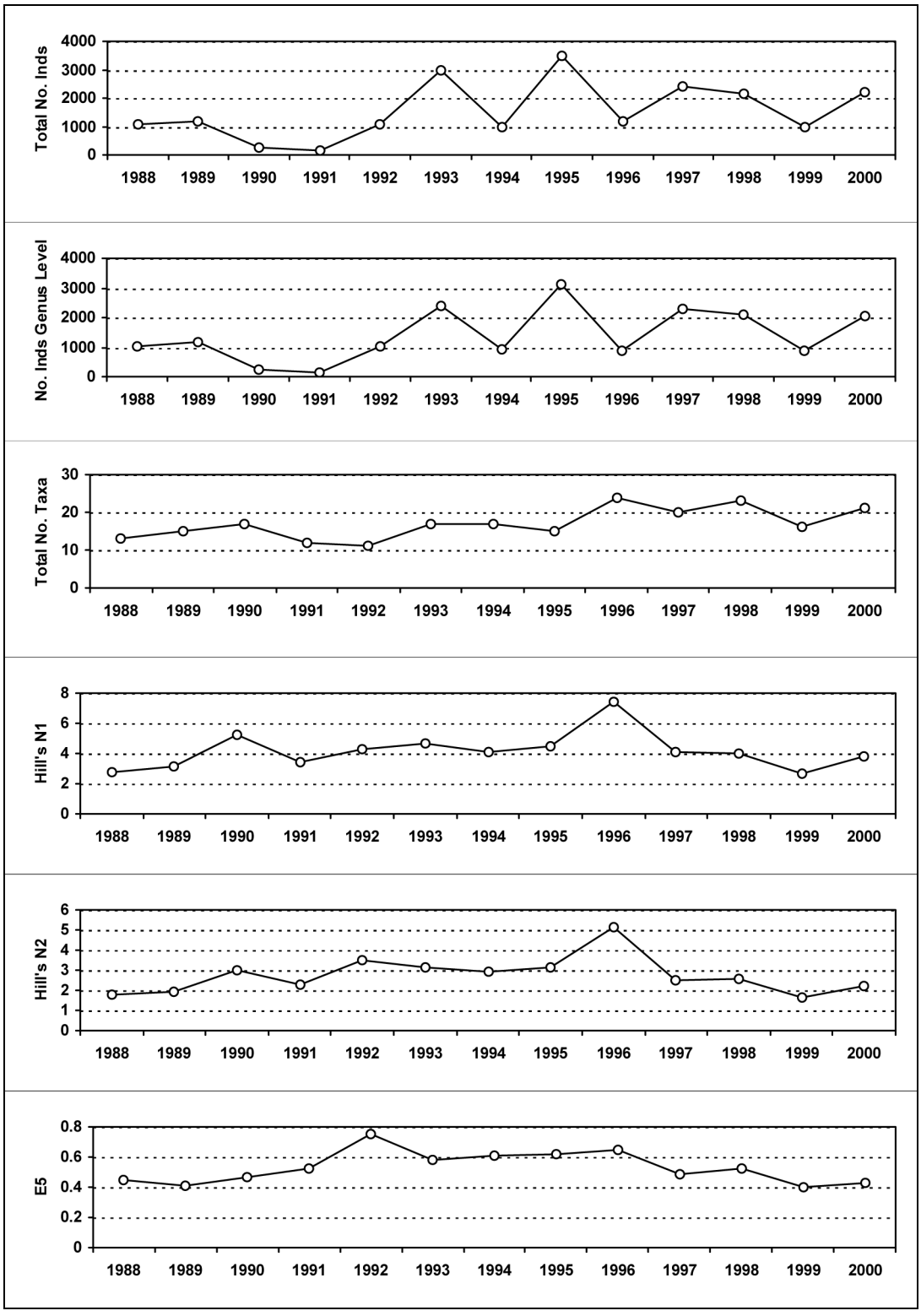
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$.

17.2. Macroinvertebrate data

17.2.1. Percentage abundance summary, Afon Hafren

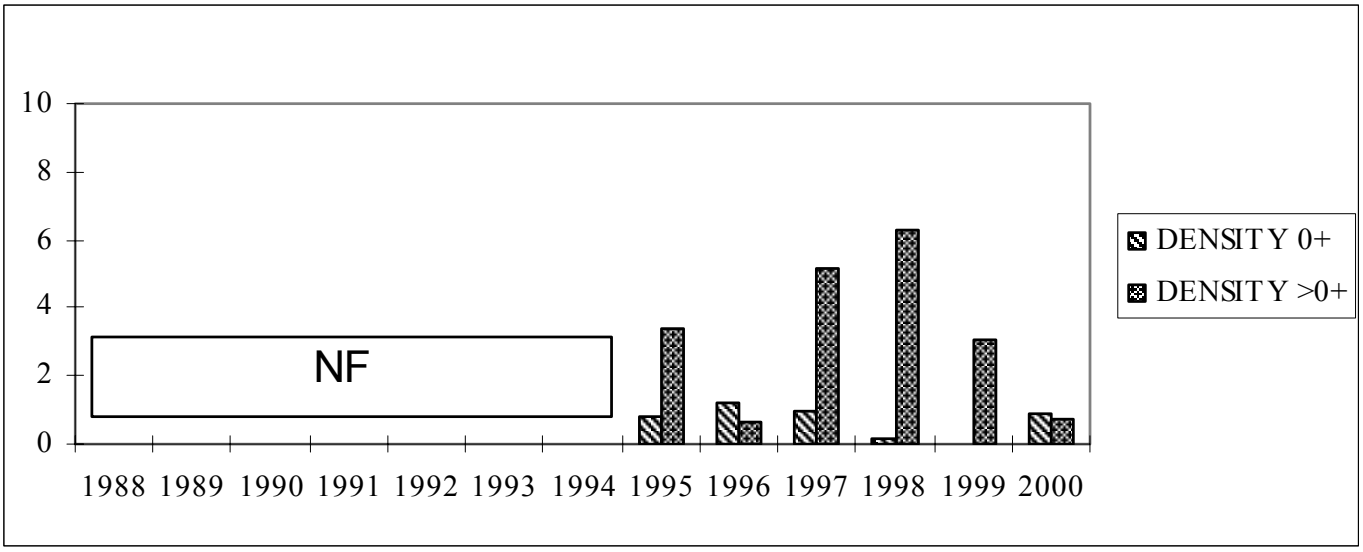


17.2.2. Summary statistics, Afon Hafren



17.3. Fish data

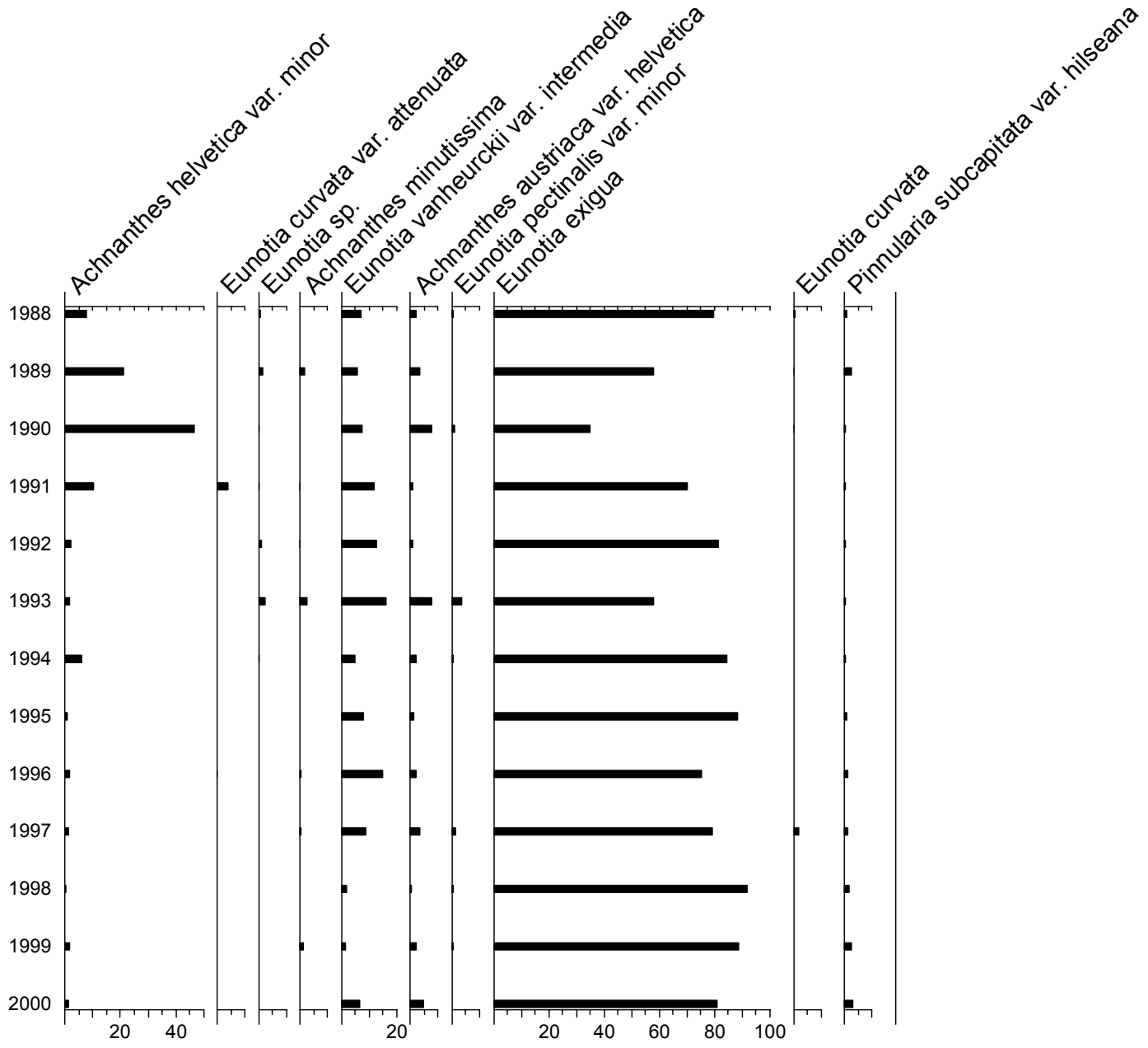
17.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Afon Hafren



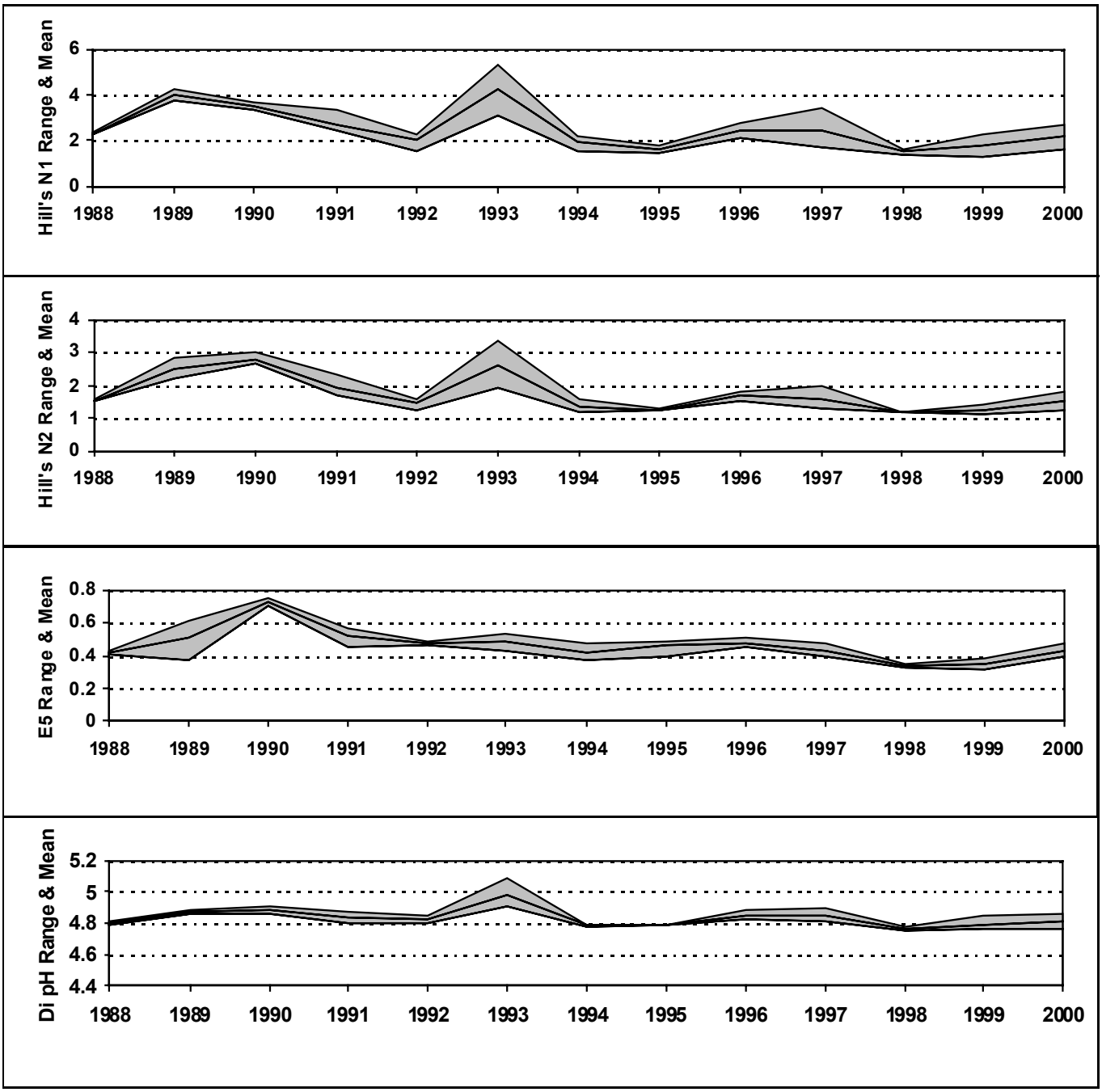
NF = Not fished

17.4. Epilithic diatom data

17.4.1. Percentage abundance summary, Afon Hafren

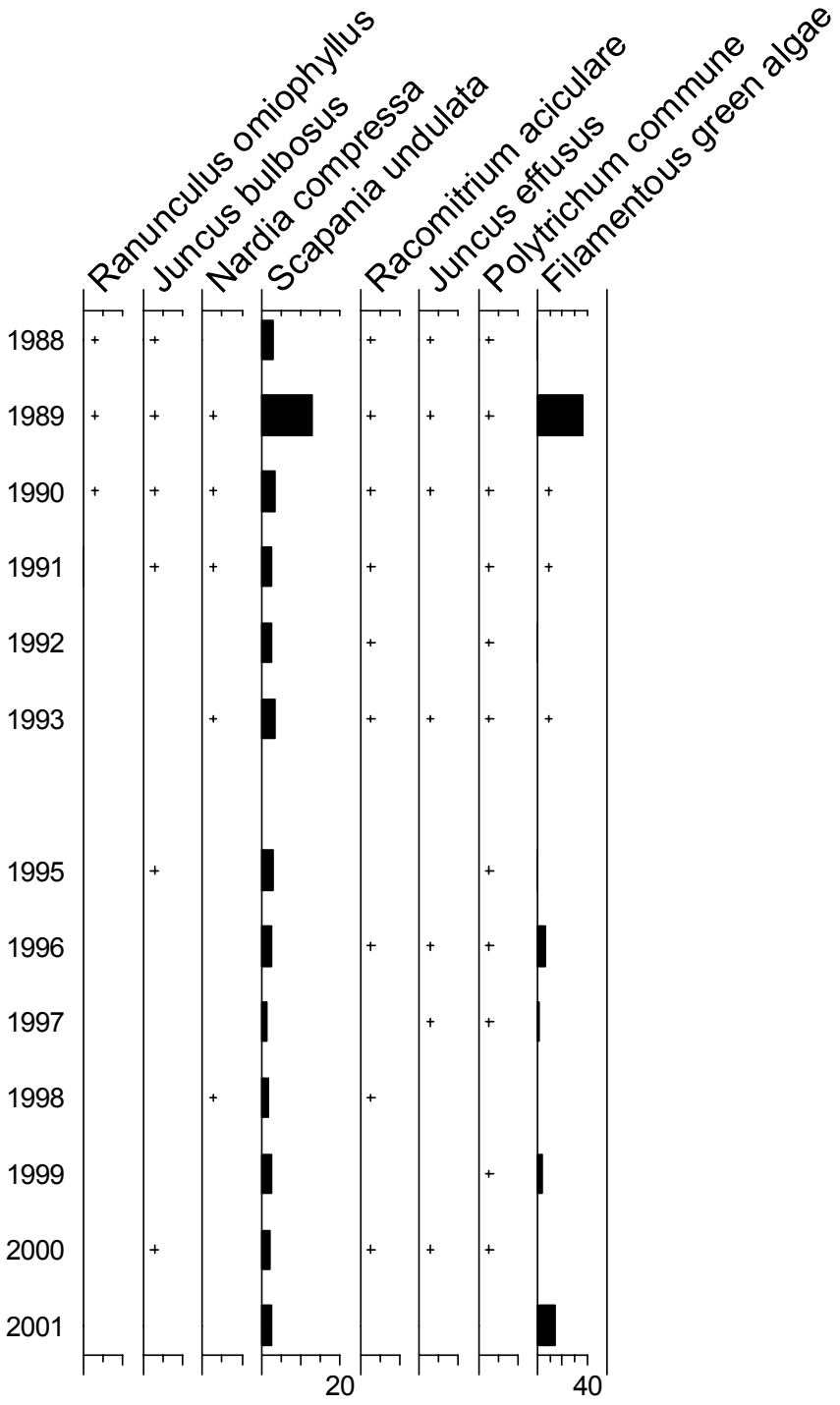


17.4.2. Summary statistics, Afon Hafren



17.5. Aquatic macrophyte data, Afon Hafren

Percentage Species Cover



+ Represents <0.1% abundance

18. Afon Gwy

Catchment area: 210 ha
Minimum catchment altitude: 440 m
Maximum catchment altitude: 730 m

Grid Ref: SN 824854

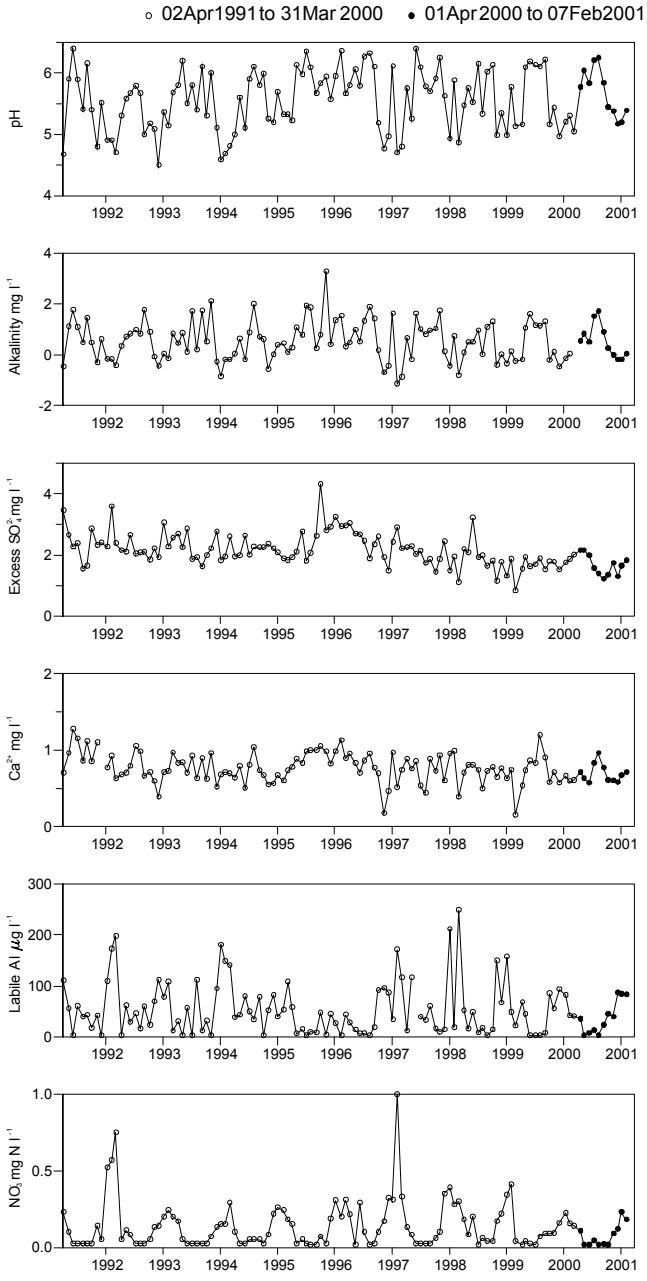
Soils: Peat
Peaty podsol

Geology: Lower Palaeozoic sediments

Vegetation: 100 % Moorland

18.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.68	6.25	5.17	0.39	91.7
Alk($CaCO_3$)	0.54	1.72	-0.18	0.65	91.7
Cond	20.6	28.5	13.3	5.1	91.7
Ca	0.69	0.96	0.57	0.12	91.7
Mg	0.65	0.80	0.60	0.07	91.7
Na	3.18	3.80	2.60	0.38	91.7
K	0.12	0.24	0.05	0.07	75.0
Ba	0.00	0.00	0.00	0.00	83.3
Sr	0.00	0.00	0.00	0.00	91.7
Fe	0.13	0.22	0.01	0.06	91.7
Mn	0.02	0.02	0.01	0.00	91.7
Sol.Al	108.6	157.0	53.0	34.2	91.7
Sol.lab.Al	38.4	87.0	2.5	33.0	91.7
Cl	5.32	6.80	3.70	1.02	91.7
SO_4	2.42	2.80	1.90	0.32	91.7
XSO_4	1.66	2.16	1.22	0.34	91.7
NO_3	0.08	0.23	0.02	0.07	91.7
PO_4	0.00	0.02	0.00	0.00	91.7
Br	0.01	0.02	0.01	0.00	50.0
F	0.02	0.02	0.01	0.00	58.3
Si	0.70	0.90	0.40	0.18	91.7
DOC	2.50	4.60	1.46	0.96	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

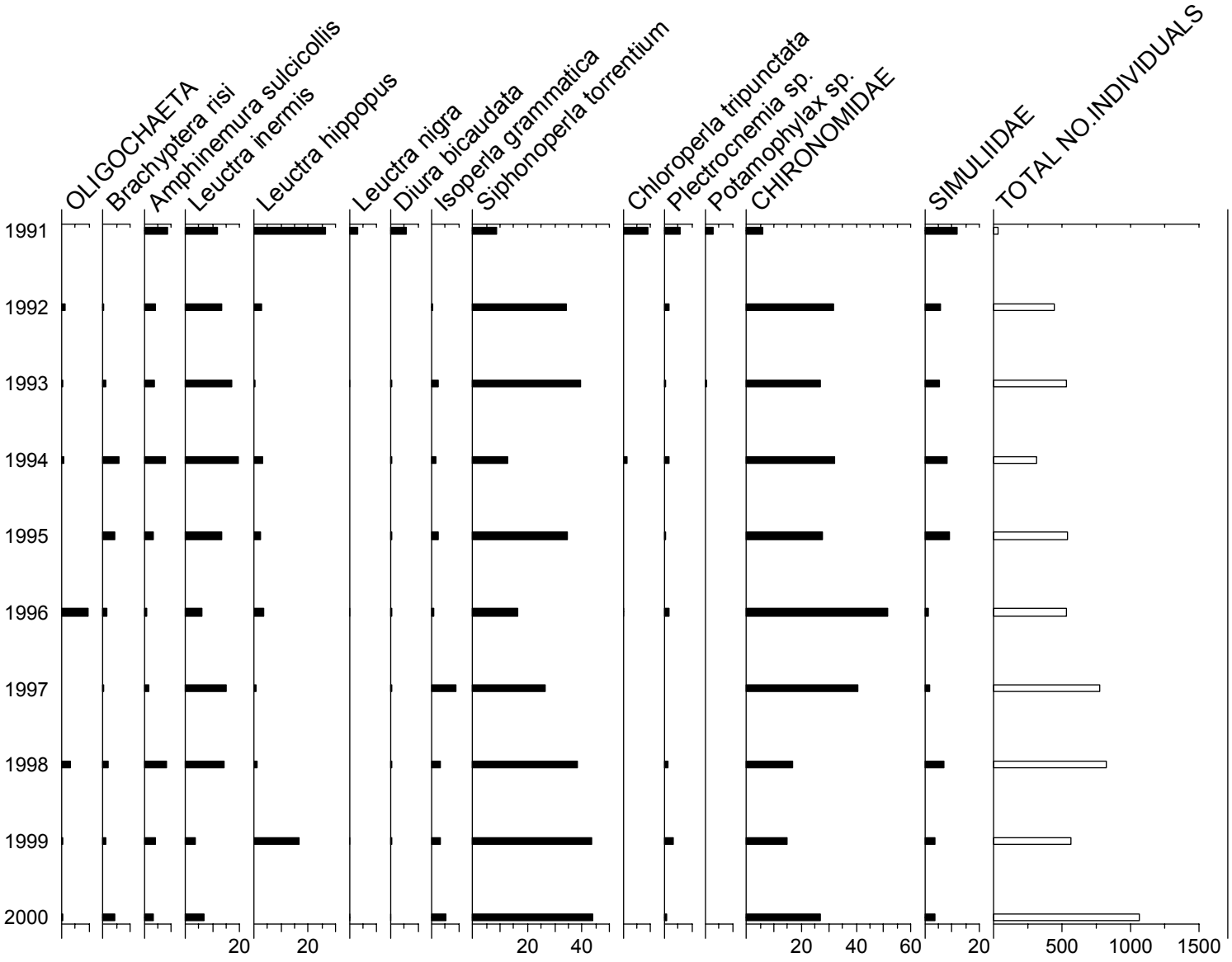
Chemistry statistics for period April 1991 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.55	6.40	4.50	0.50	100.0
Alk($CaCO_3$)	0.55	3.27	-1.13	0.79	100.0
Cond	25.6	44.1	13.0	6.9	100.0
Ca	0.77	1.27	0.15	0.20	100.0
Mg	0.65	1.10	0.20	0.12	100.0
Na	3.33	5.50	1.60	0.48	100.0
K	0.35	0.63	0.10	0.09	93.5
Ba	0.00	0.01	0.00	0.00	88.9
Sr	0.00	0.01	0.00	0.00	100.0
Fe	0.13	0.48	0.05	0.07	100.0
Mn	0.02	0.04	0.01	0.01	100.0
Sol.Al	112.2	366.0	5.0	65.2	100.0
Sol.lab.Al	54.1	249.0	2.5	52.2	100.0
Cl	5.62	12.00	2.50	1.21	100.0
SO_4	2.98	5.10	1.20	0.55	100.0
XSO_4	2.18	4.32	0.85	0.54	100.0
NO_3	0.14	1.00	0.02	0.16	100.0
PO_4	0.01	0.03	0.00	0.01	100.0
Br	0.01	0.04	0.00	0.01	100.0
F	0.02	0.03	0.00	0.00	100.0
Si	0.92	3.30	0.30	0.34	100.0
DOC	2.29	11.00	0.10	1.40	100.0

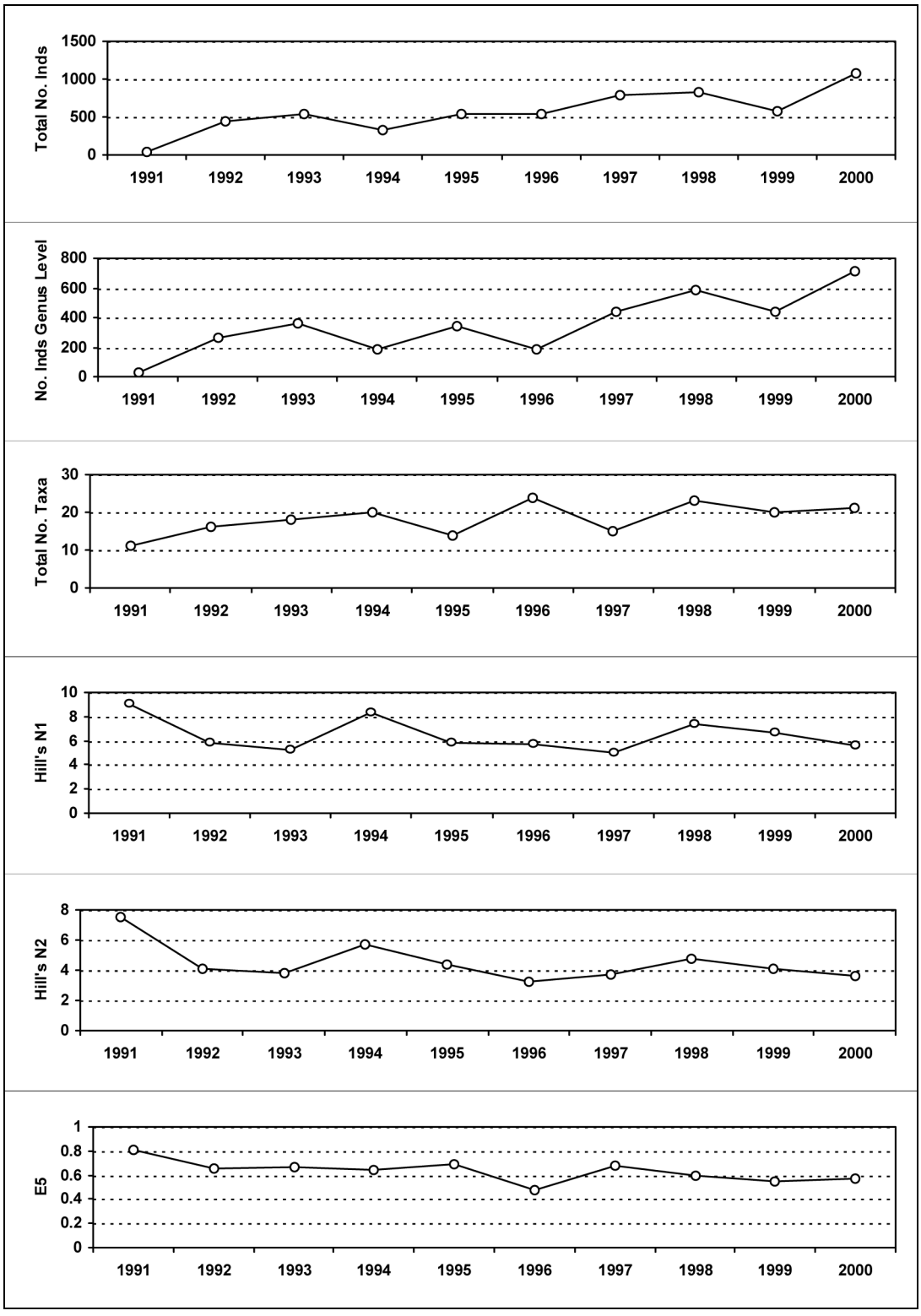
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

18.2. Macroinvertebrate data

18.2.1. Percentage abundance summary, Afon Gwy

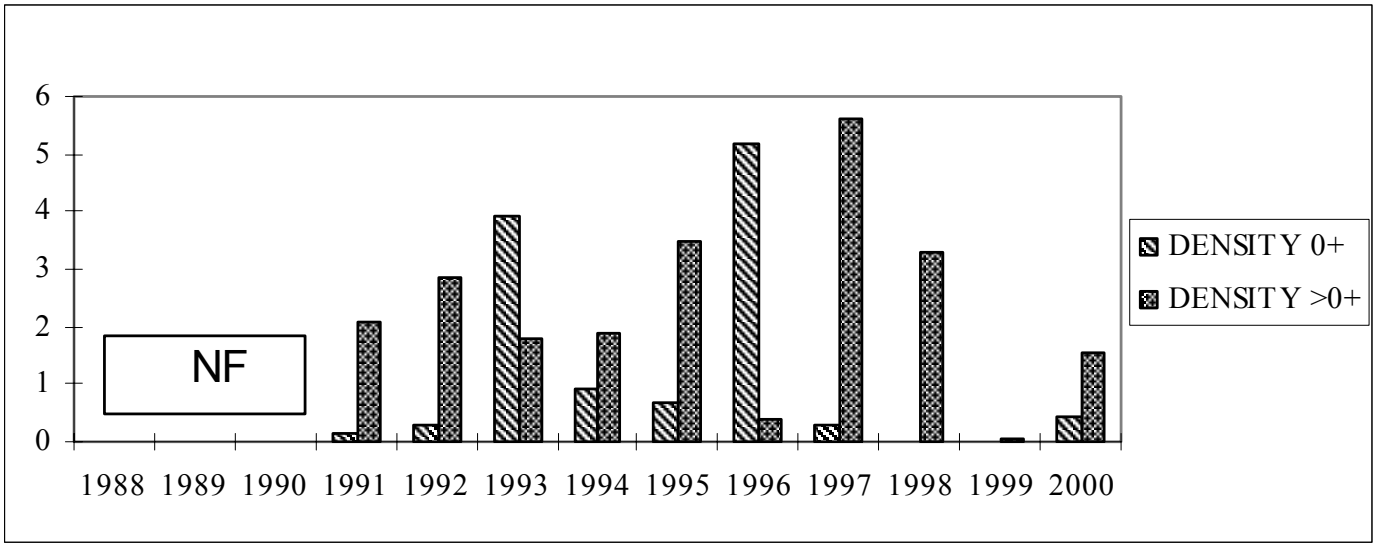


18.2.2. Summary statistics, Afon Gwy



18.3. Fish data

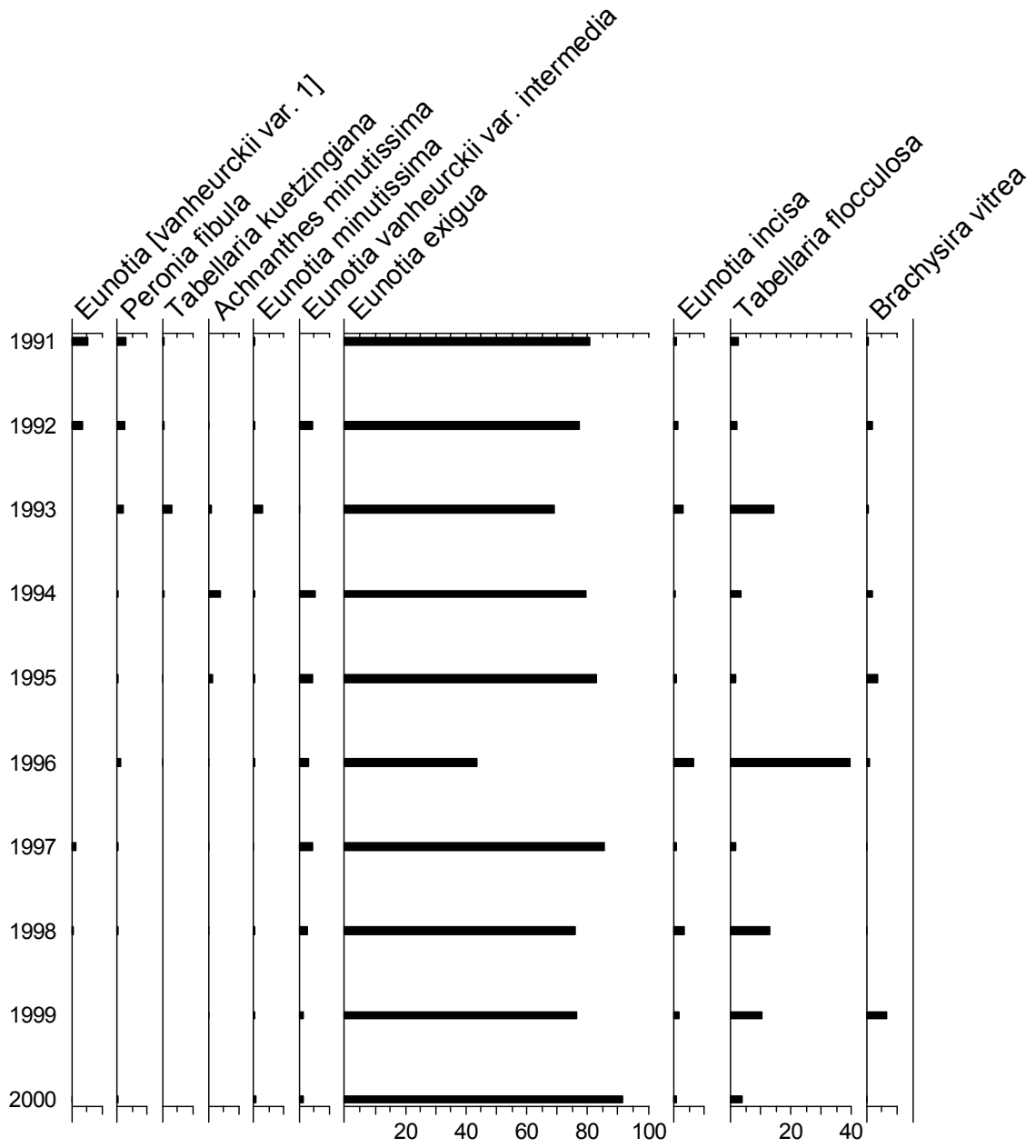
18.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Afon Gwy



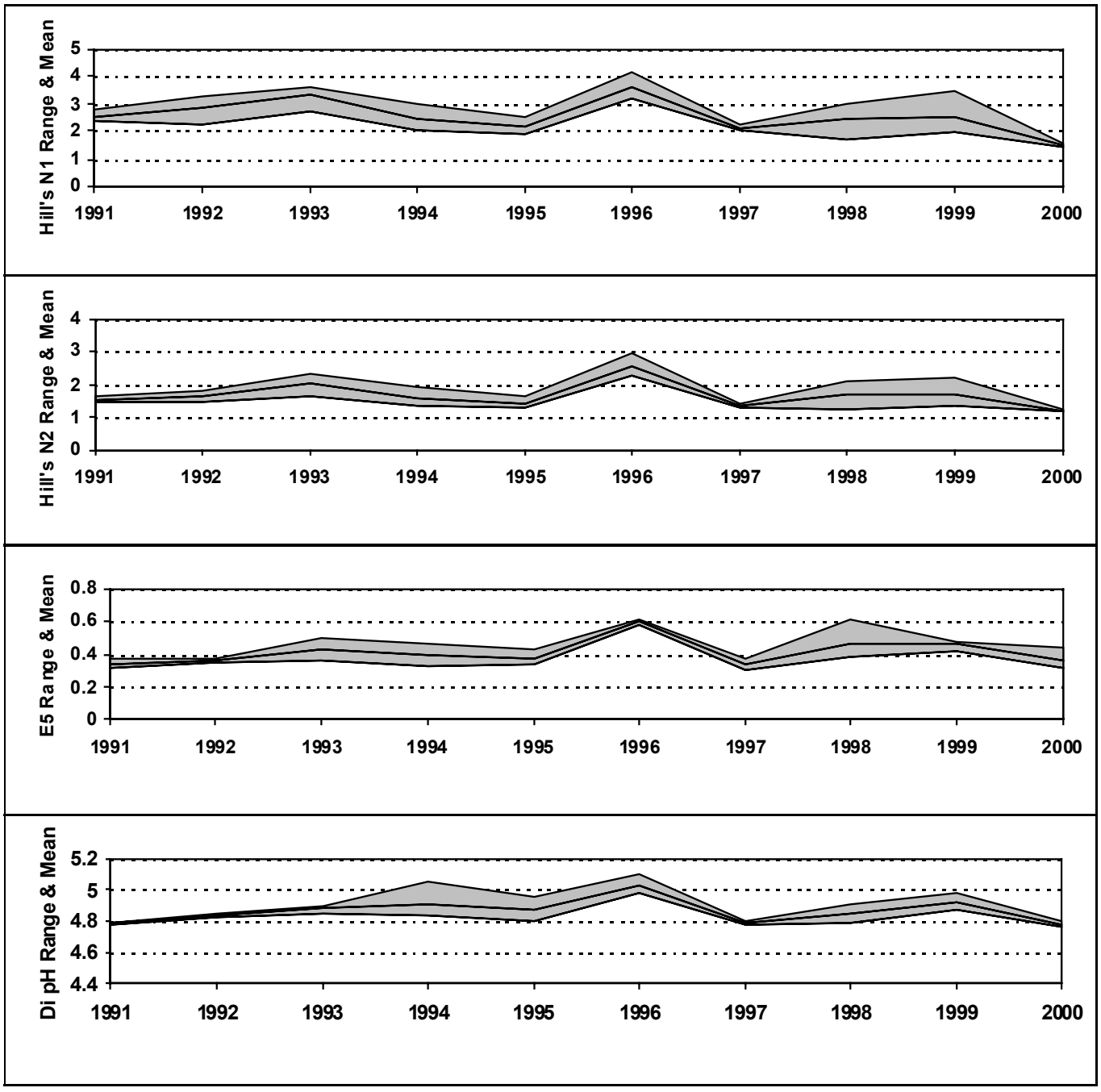
NF = Not fished

18.4. Epilithic diatom data

18.4.1. Percentage abundance summary, Afon Gwy



18.4.2. Summary statistics, Afon Gwy



18.5. Aquatic macrophyte data, Afon Gwy

Percentage Species Cover

+ Represents <0.1% abundance

19. Beaghs Burn

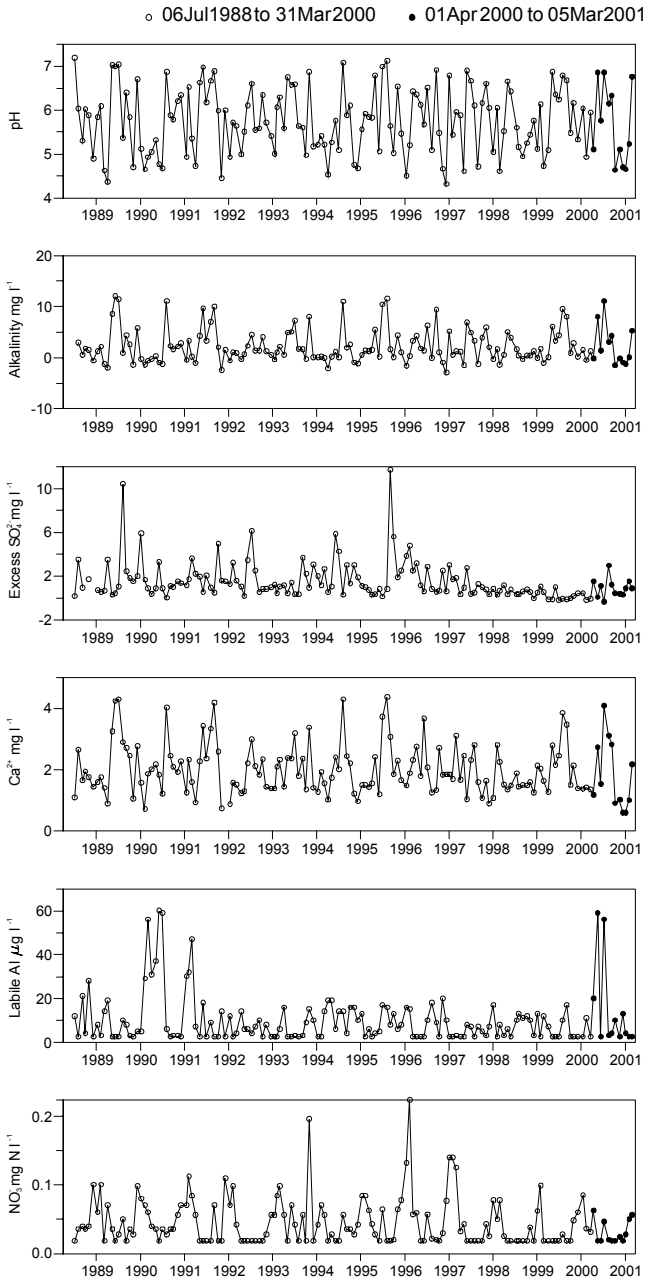
Catchment area: 273 ha
Minimum catchment altitude: 150 m
Maximum catchment altitude: 397 m

Grid Ref: D 173297

Soils: Blanket peat Geology: Schists Vegetation: 100 % Moorland

19.1 Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.67	6.85	4.63	0.88	100.0
Alk($CaCO_3$)	2.42	11.15	-1.50	4.03	100.0
Cond	49.9	65.0	36.0	9.4	100.0
Ca	1.82	4.08	0.61	1.14	100.0
Mg	1.23	2.70	0.50	0.67	100.0
Na	5.90	8.20	4.00	1.24	100.0
K	0.34	0.41	0.13	0.08	100.0
Ba	0.00	0.01	0.00	0.00	91.7
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.96	2.94	0.02	0.75	100.0
Mn	0.02	0.03	0.01	0.01	100.0
Sol.Al	60.5	103.0	27.0	23.1	100.0
Sol.lab.Al	14.9	59.0	2.5	20.6	100.0
Cl	9.93	13.00	7.00	1.72	100.0
SO_4	2.32	4.80	1.30	0.98	100.0
XSO_4	0.91	2.95	-0.35	0.86	100.0
NO_3	0.03	0.06	0.02	0.02	100.0
PO_4	0.01	0.02	0.00	0.01	100.0
Br	0.03	0.04	0.02	0.01	75.0
F	0.02	0.04	0.01	0.01	91.7
Si	0.67	1.50	0.20	0.42	100.0
DOC	14.64	27.00	8.50	6.08	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

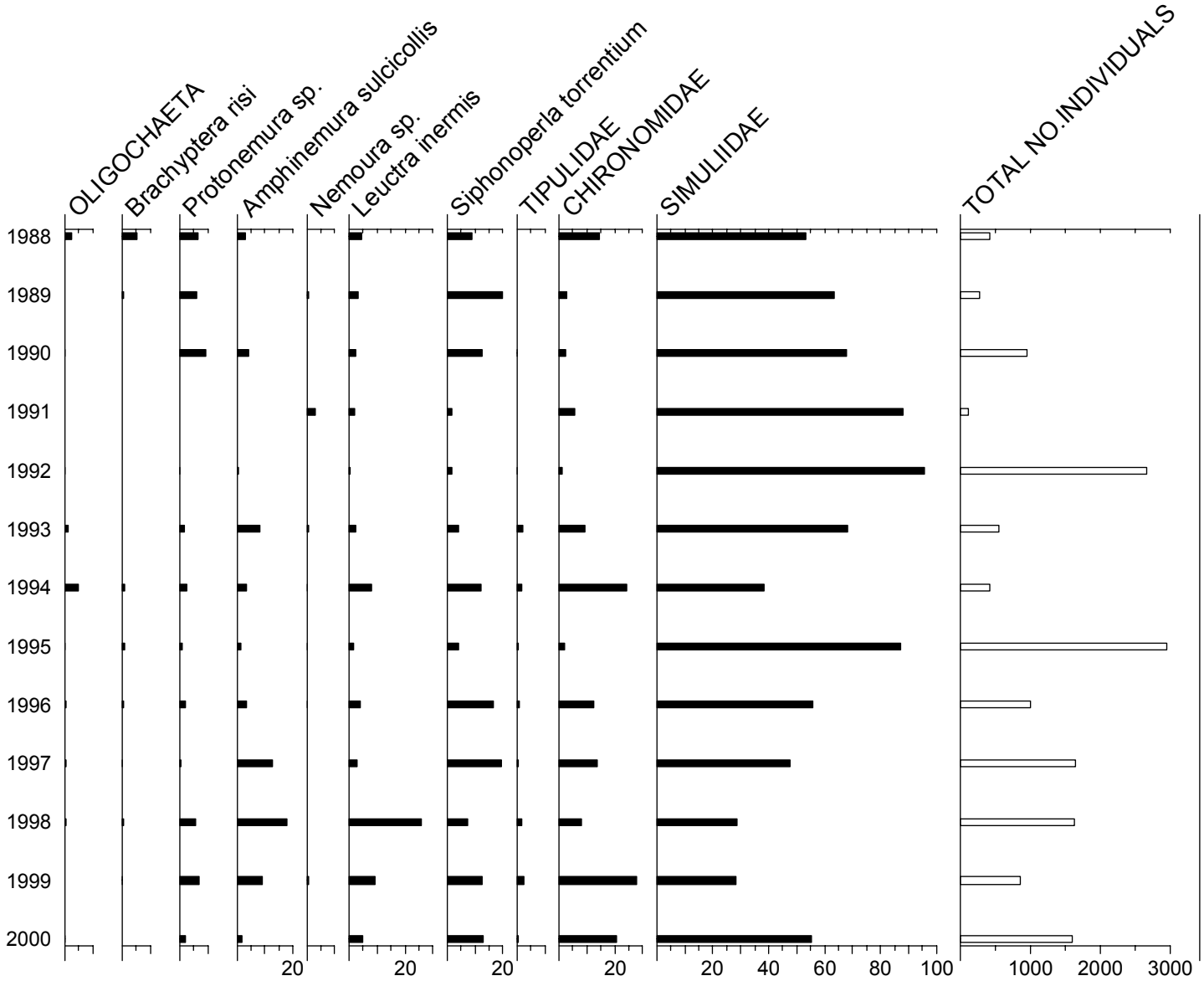
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.76	7.18	4.31	0.75	100.0
Alk($CaCO_3$)	2.21	12.00	-2.90	3.27	100.0
Cond	58.3	96.0	34.0	11.4	100.0
Ca	2.02	4.37	0.71	0.82	100.0
Mg	1.31	2.20	0.60	0.37	100.0
Na	6.85	10.20	4.40	1.12	100.0
K	0.43	0.90	0.17	0.10	100.0
Ba	0.00	0.01	0.00	0.00	93.1
Sr	0.01	0.13	0.00	0.01	100.0
Fe	0.86	3.30	0.04	0.61	100.0
Mn	0.02	0.31	0.00	0.03	100.0
Sol.Al	55.8	117.0	2.5	20.8	100.0
Sol.lab.Al	9.6	60.0	2.5	10.6	100.0
Cl	11.88	22.00	5.90	2.91	100.0
SO_4	3.23	13.20	1.20	1.78	100.0
XSO_4	1.55	11.67	-0.20	1.76	100.0
NO_3	0.05	0.22	0.02	0.04	100.0
PO_4	0.01	0.29	0.00	0.03	100.0
Br	0.04	0.40	0.00	0.03	100.0
F	0.02	0.25	0.00	0.02	100.0
Si	0.89	4.50	0.10	0.53	100.0
DOC	11.71	30.00	3.10	5.53	100.0

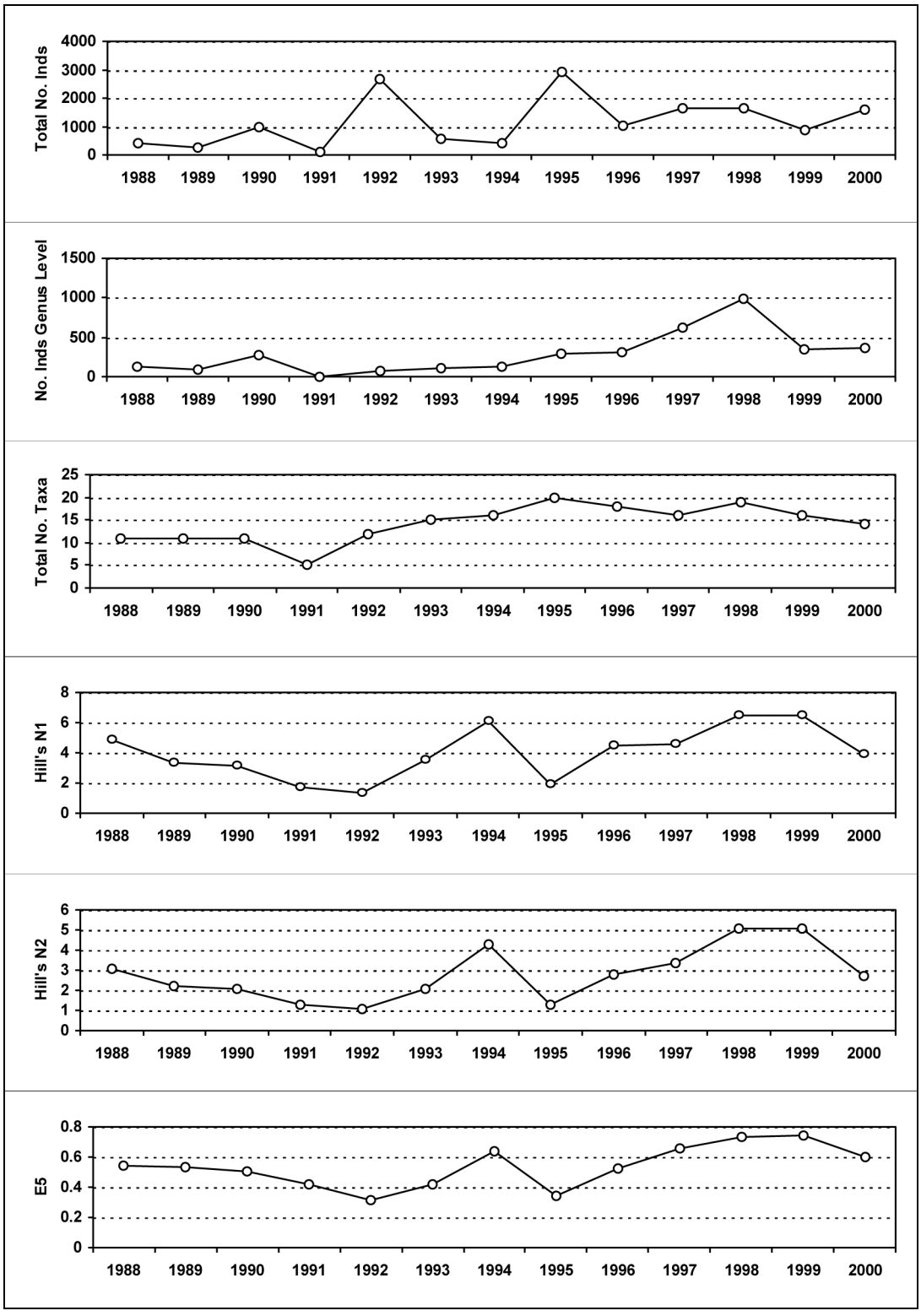
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

19.2. Macroinvertebrate data

19.2.1. Percentage abundance summary, Beaghs Burn

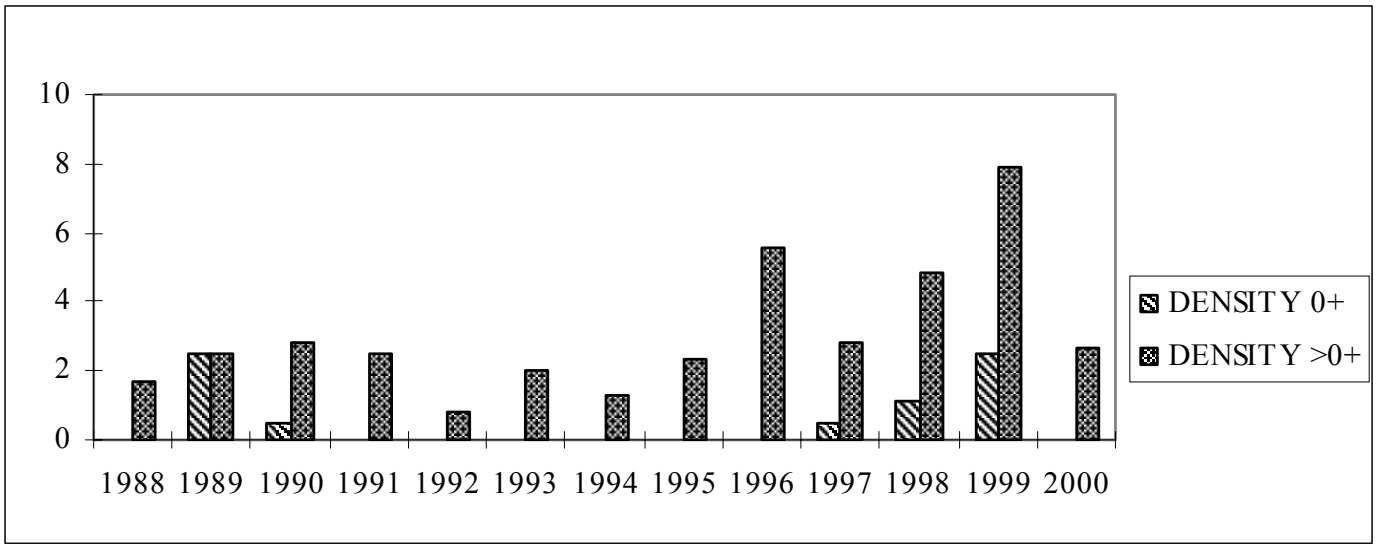


19.2.2. Summary statistics, Beaghs Burn



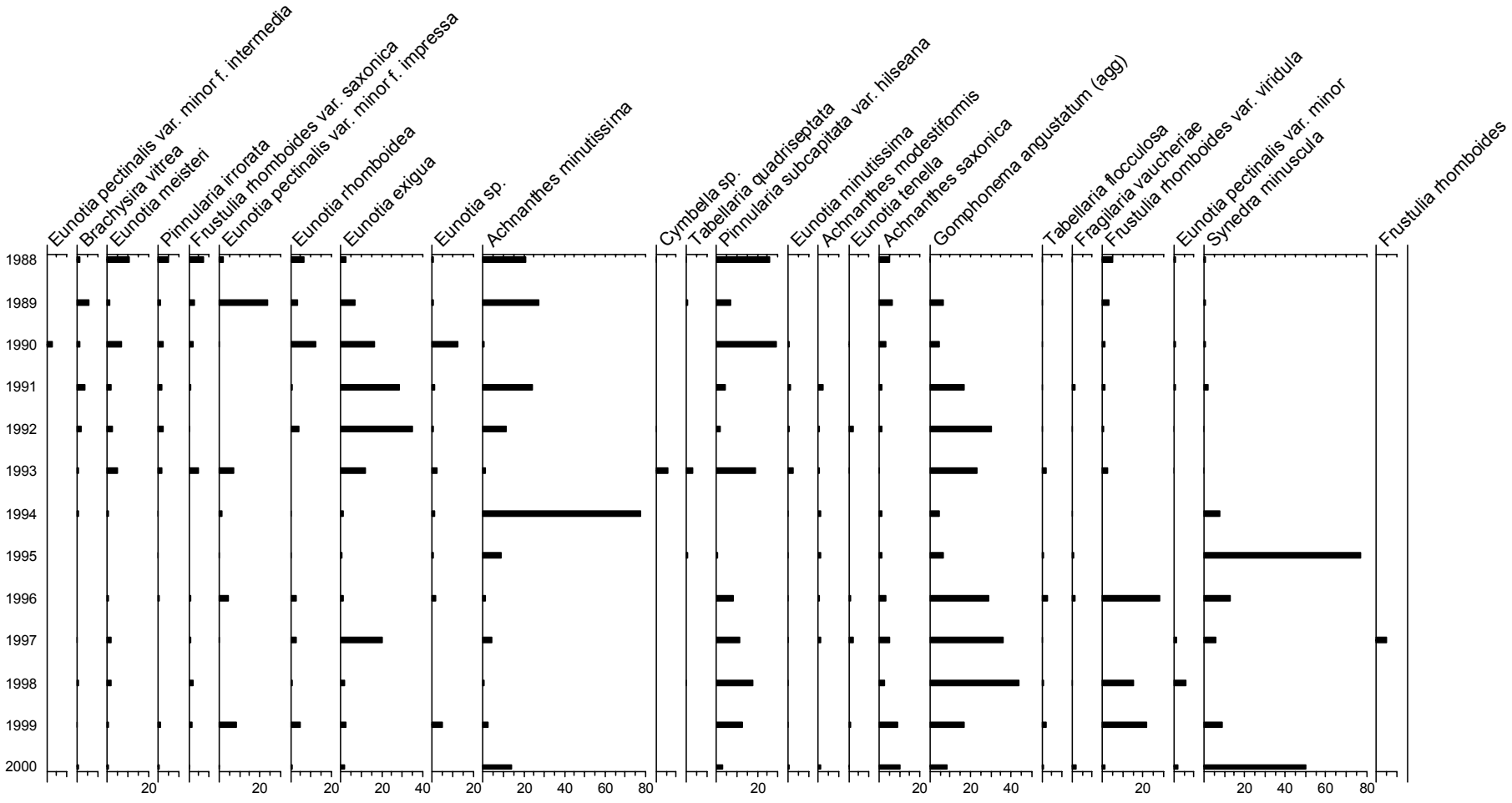
19.3. Fish data

19.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Beaghs Burn

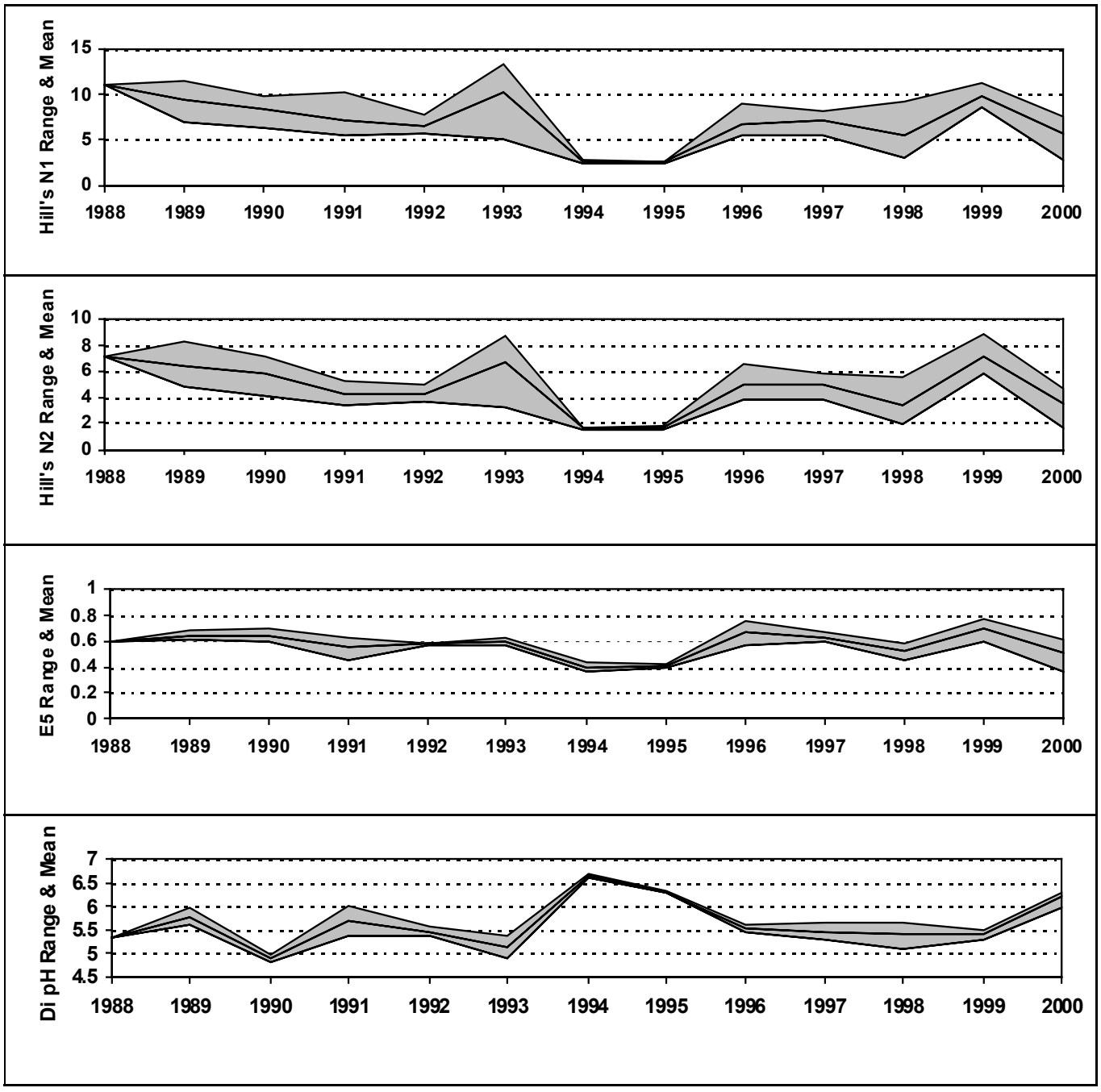


19.4. Epilithic diatom data

19.4.1. Percentage abundance summary, Beaghs Burn

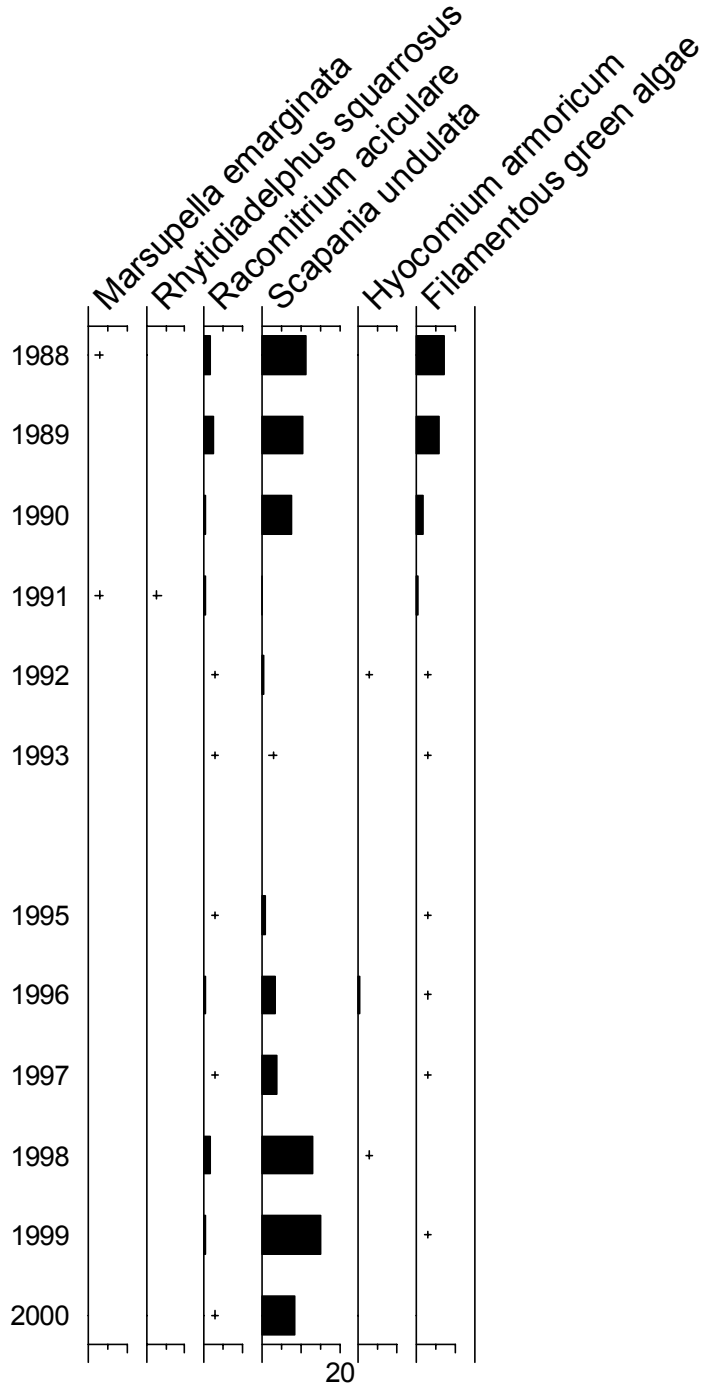


19.4.2. Summary statistics, Beaghs Burn



19.5. Aquatic macrophyte data, Beaghs Burn

Percentage Species Cover



+ Represents <0.1% abundance

20. Bencrom River

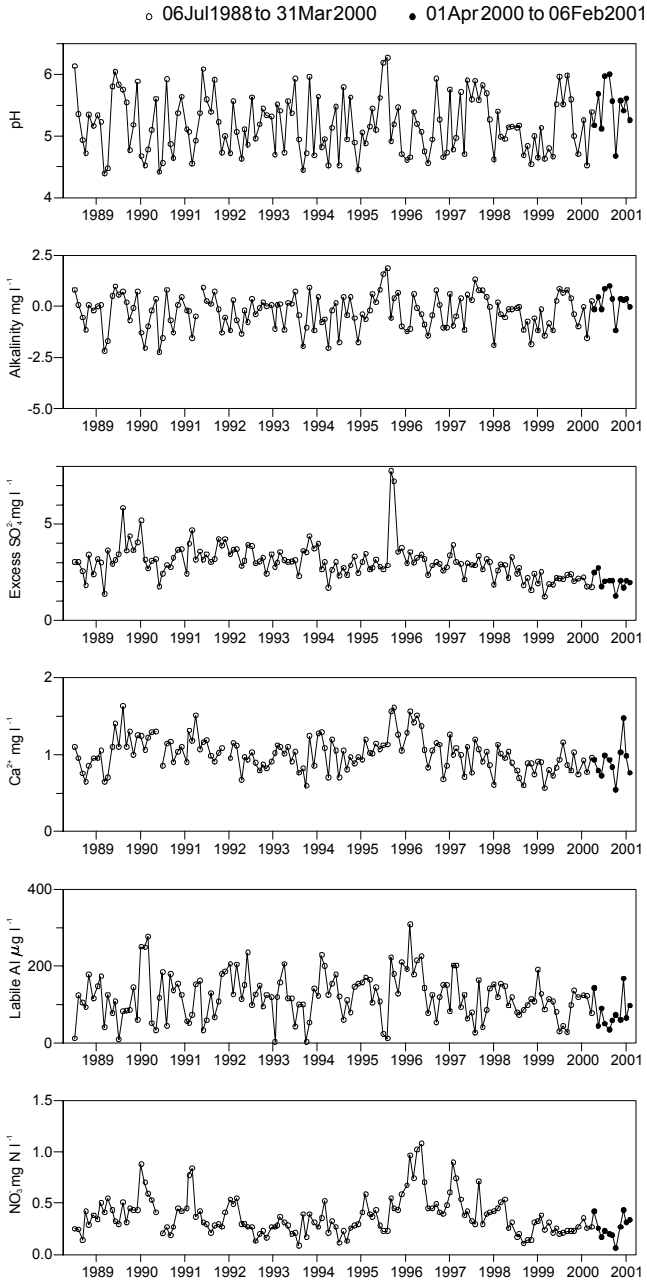
Catchment area: 298 ha
Minimum catchment altitude: 140 m
Maximum catchment altitude: 700 m

Grid Ref: J 304245

Soils: Blanket peat Geology: Granite Vegetation: 100 % Moorland

20.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Feb 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.45	6.00	4.67	0.39	91.7
Alk($CaCO_3$)	0.19	1.00	-1.20	0.59	91.7
Cond	42.5	49.0	36.0	4.3	91.7
Ca	0.91	1.47	0.54	0.24	91.7
Mg	0.65	1.00	0.50	0.16	91.7
Na	5.51	6.60	4.30	0.77	91.7
K	0.41	0.56	0.27	0.08	91.7
Ba	0.00	0.00	0.00	0.00	91.7
Sr	0.01	0.01	0.00	0.00	91.7
Fe	0.06	0.12	0.01	0.03	83.3
Mn	0.01	0.01	0.00	0.00	91.7
Sol.Al	160.1	256.0	70.0	60.9	91.7
Sol.lab.Al	80.0	167.0	34.0	41.7	91.7
Cl	8.71	10.00	6.80	1.08	91.7
SO_4	3.24	4.00	2.20	0.48	91.7
XSO_4	2.00	2.72	1.23	0.39	91.7
NO_3	0.26	0.43	0.06	0.11	91.7
PO_4	All recorded data below detection limit.				91.7
Br	0.02	0.05	0.01	0.01	66.7
F	0.24	0.34	0.10	0.08	91.7
Si	2.44	3.50	1.60	0.60	91.7
DOC	5.27	12.00	2.50	2.70	91.7

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

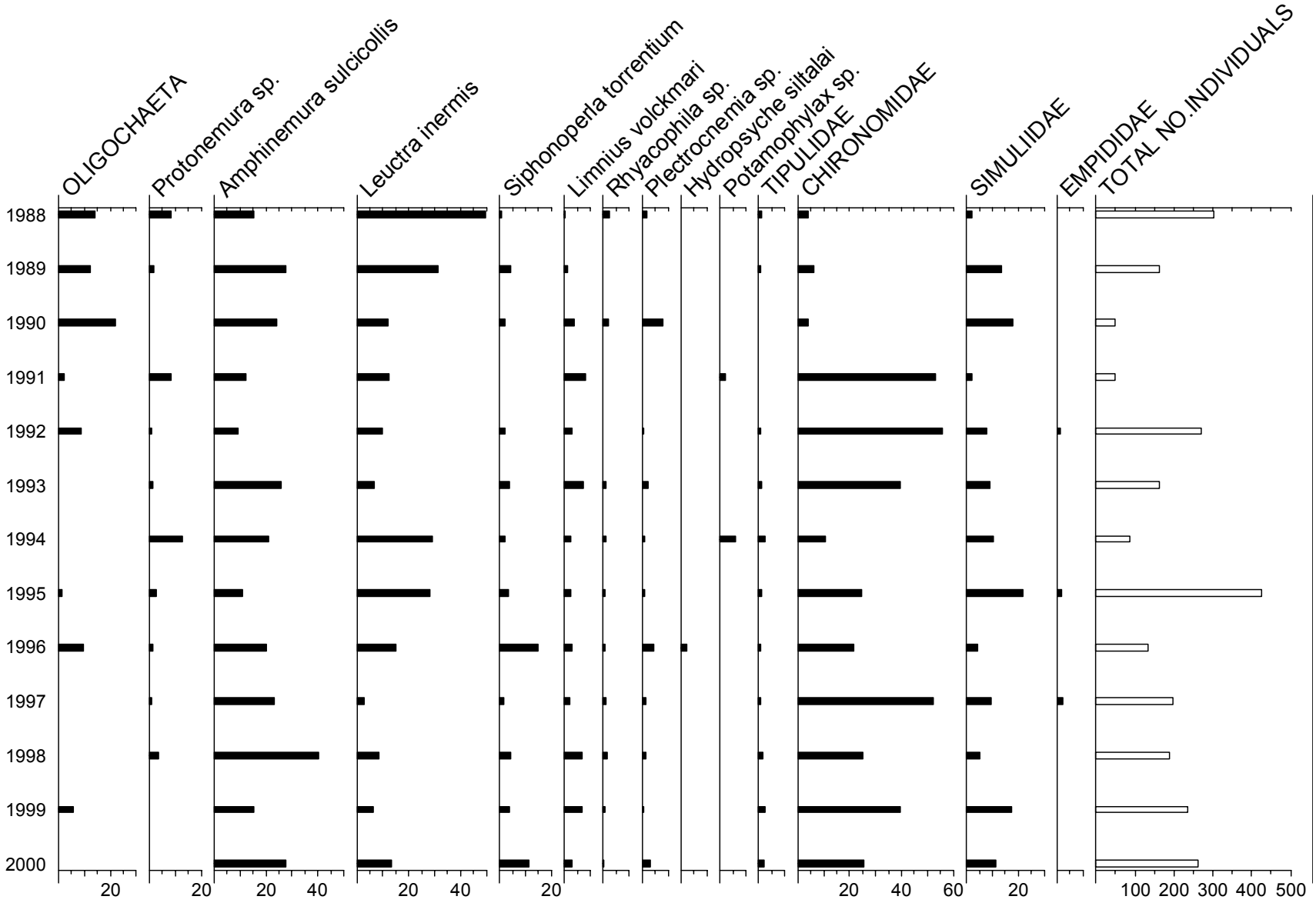
Chemistry statistics for period July 1988 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	5.17	6.27	4.38	0.47	100.0
Alk($CaCO_3$)	-0.30	1.85	-2.25	0.84	100.0
Cond	49.6	80.0	35.0	7.7	100.0
Ca	1.01	1.63	0.56	0.22	100.0
Mg	0.73	1.30	0.40	0.16	100.0
Na	5.96	8.10	4.10	0.80	100.0
K	0.43	0.99	0.31	0.09	100.0
Ba	0.00	0.01	0.00	0.00	90.3
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.07	0.59	0.01	0.06	100.0
Mn	0.01	0.12	0.00	0.01	100.0
Sol.Al	199.5	400.0	9.0	75.5	100.0
Sol.lab.Al	121.0	308.0	2.5	58.7	100.0
Cl	9.00	13.20	4.90	1.60	100.0
SO_4	4.30	9.00	2.40	0.94	100.0
XSO_4	3.02	7.75	1.21	0.90	100.0
NO_3	0.38	1.08	0.08	0.19	100.0
PO_4	0.01	0.54	0.00	0.05	100.0
Br	0.02	0.07	0.00	0.01	100.0
F	0.24	0.47	0.00	0.11	100.0
Si	2.80	4.90	0.90	0.95	100.0
DOC	4.55	16.00	1.20	2.81	100.0

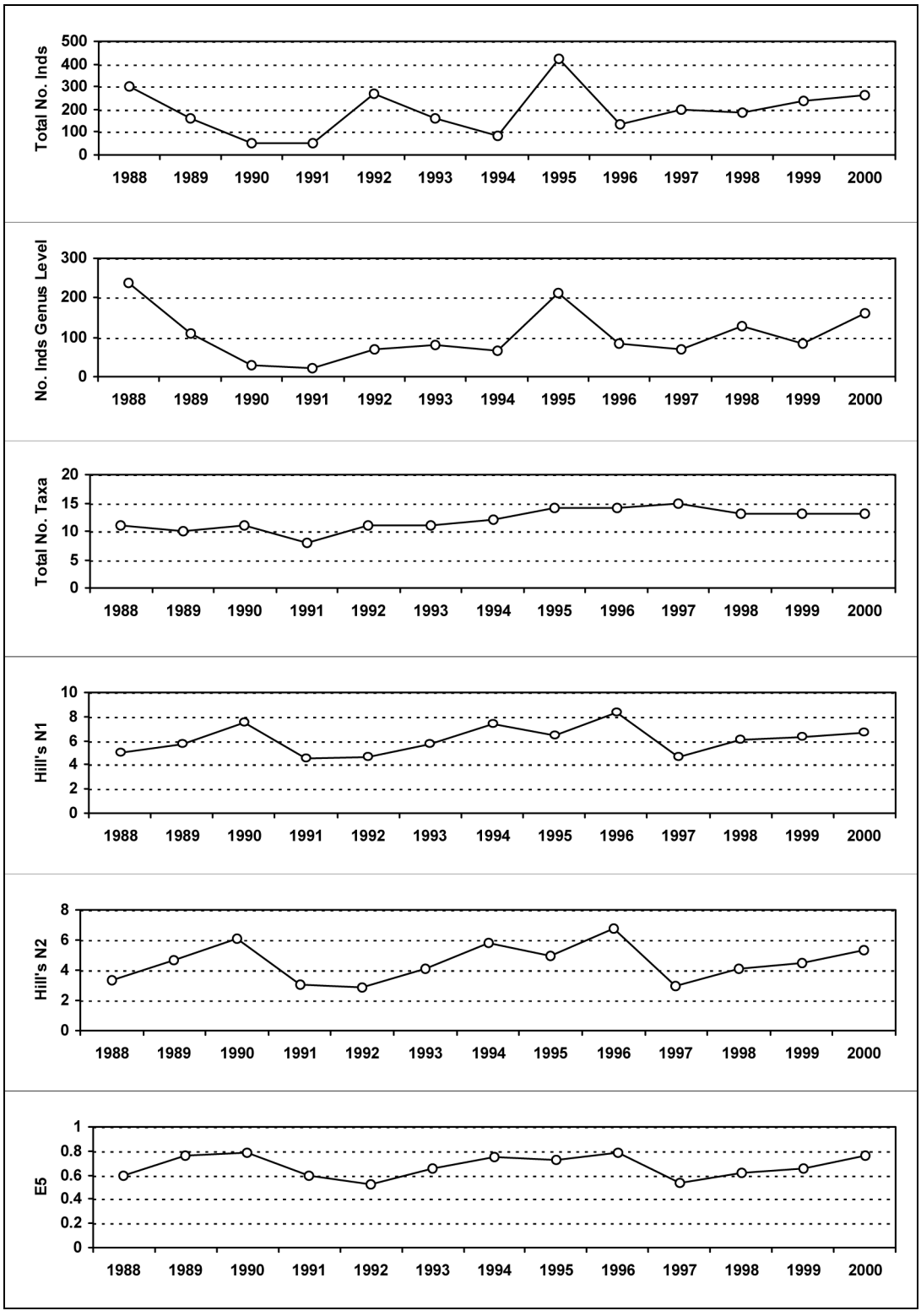
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

20.2. Macroinvertebrate data

20.2.1. Percentage abundance summary, Bencrom River

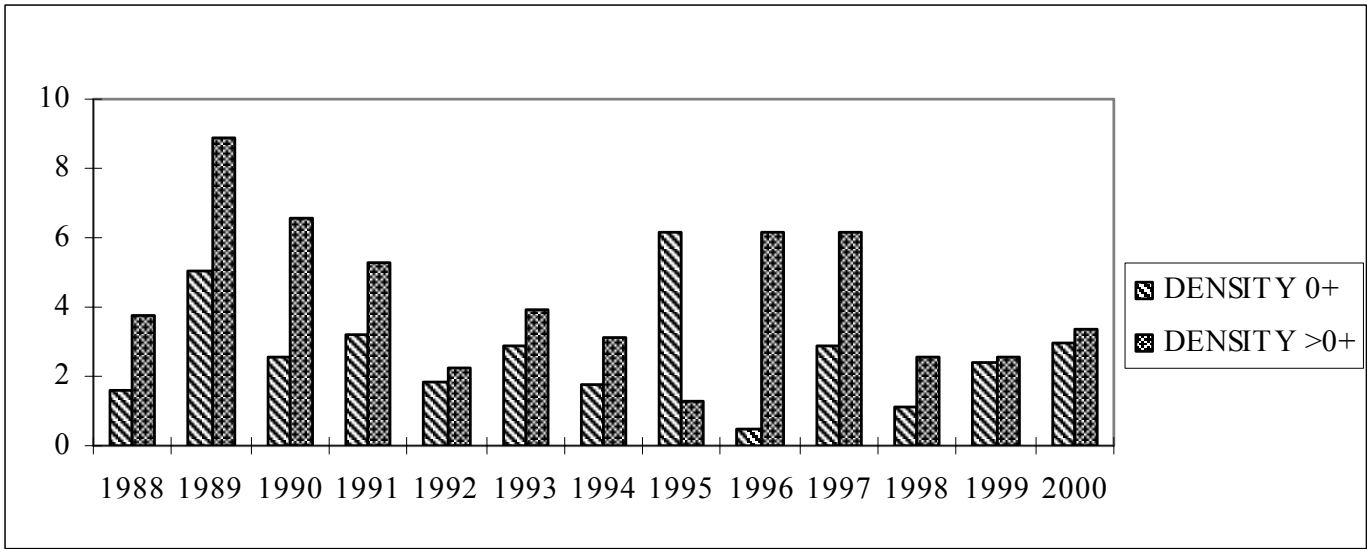


20.2.2. Summary statistics, Bencrom River



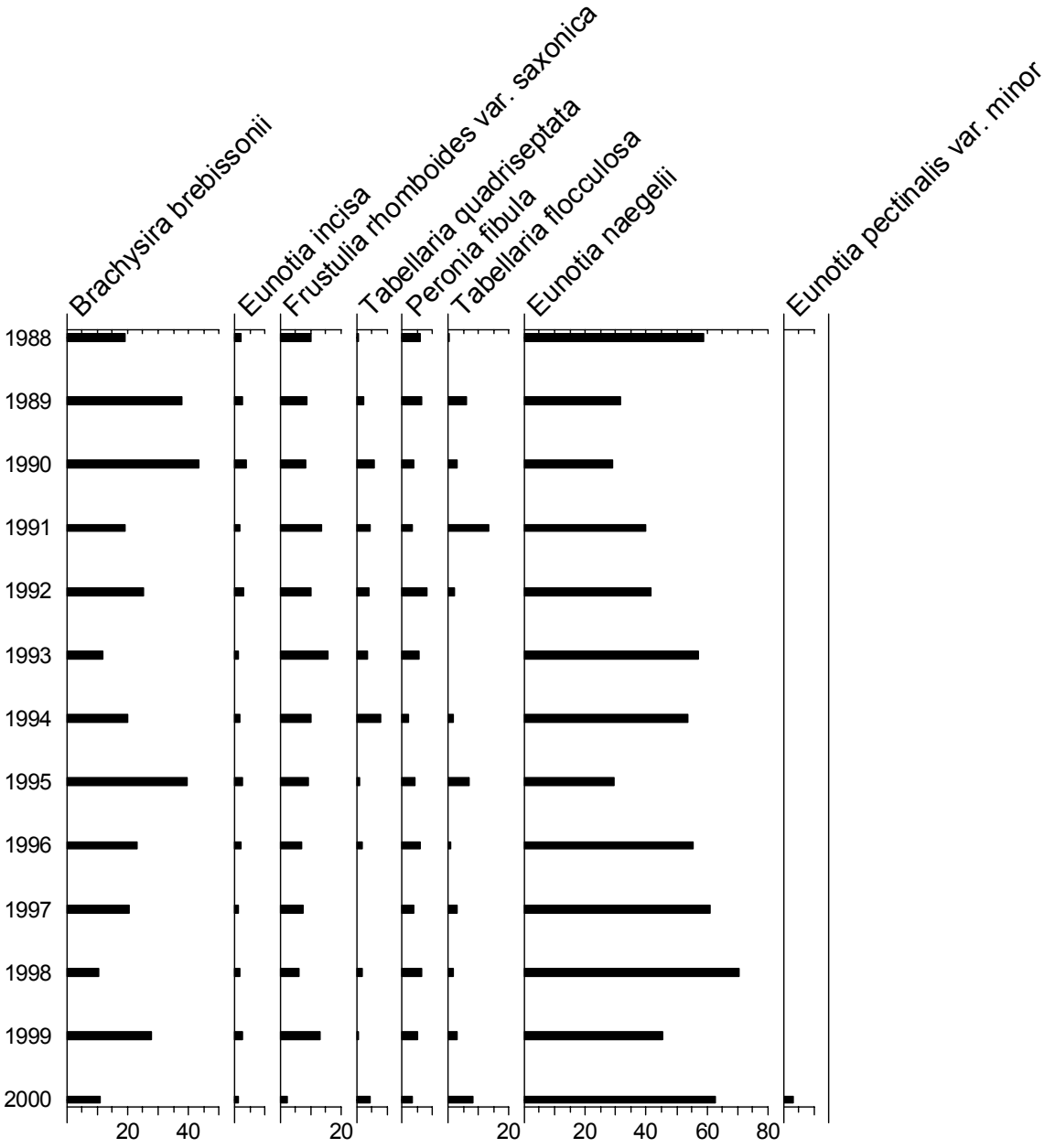
20.3. Fish data

20.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Bencrom River

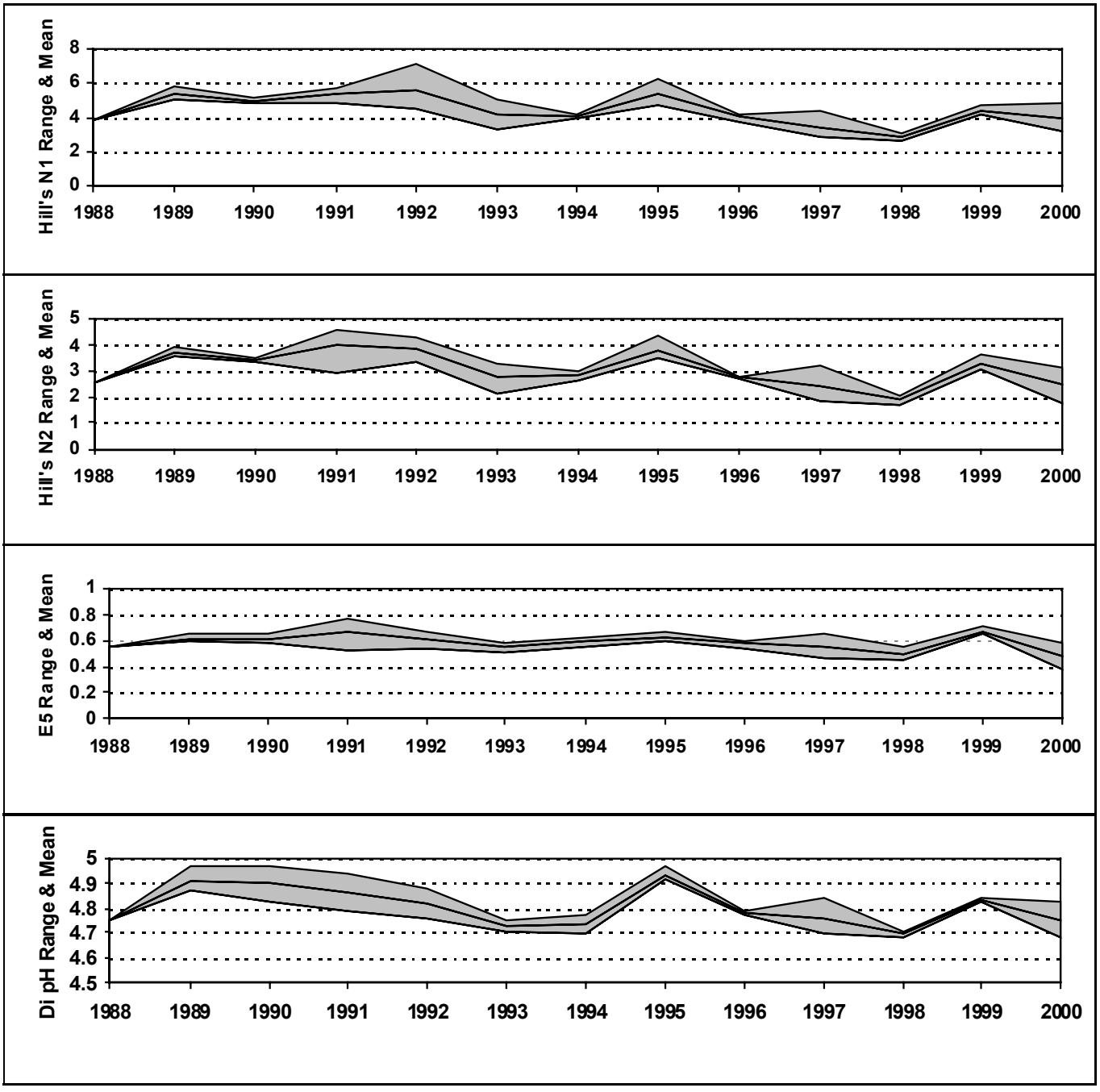


20.4. Epilithic diatom data

20.4.1. Percentage abundance summary, Bencrom River

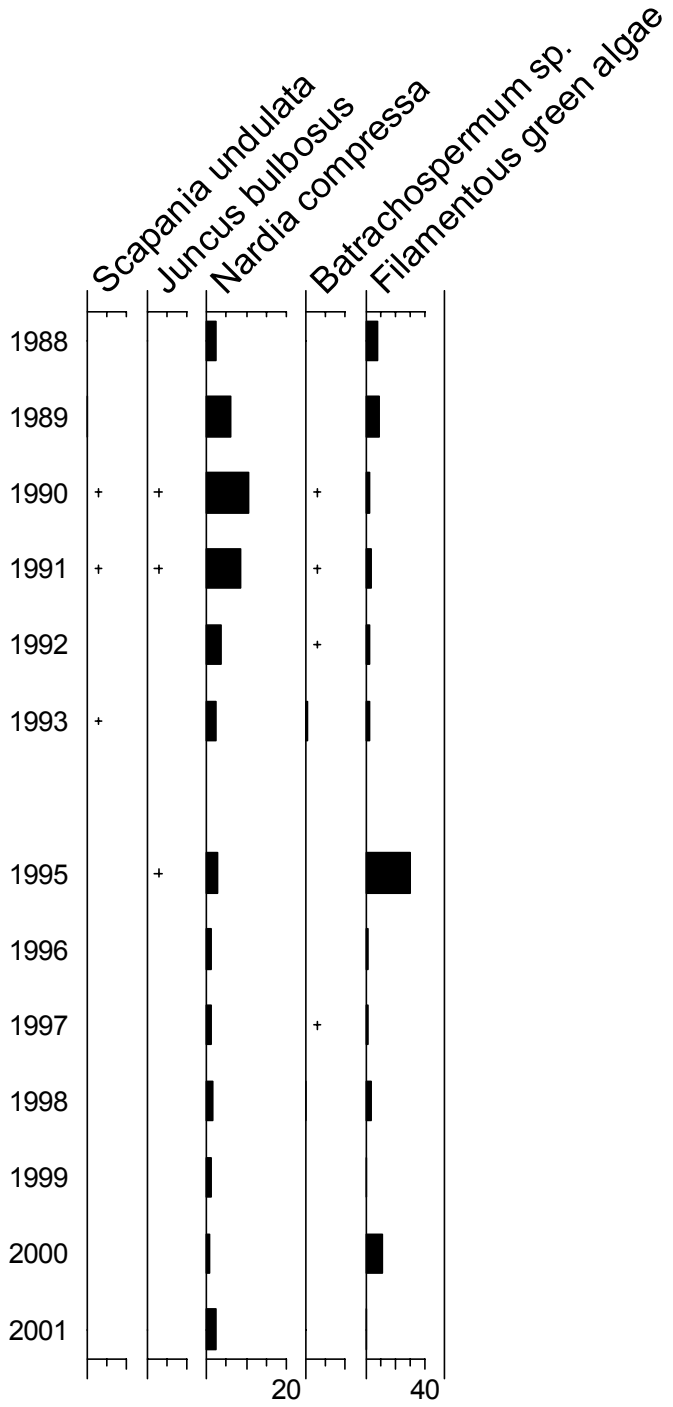


20.4.2. Summary statistics, Bencrom River



20.5. Aquatic macrophyte data, Bencrom River

Percentage Species Cover



+ Represents <0.1% abundance

21. Blue Lough

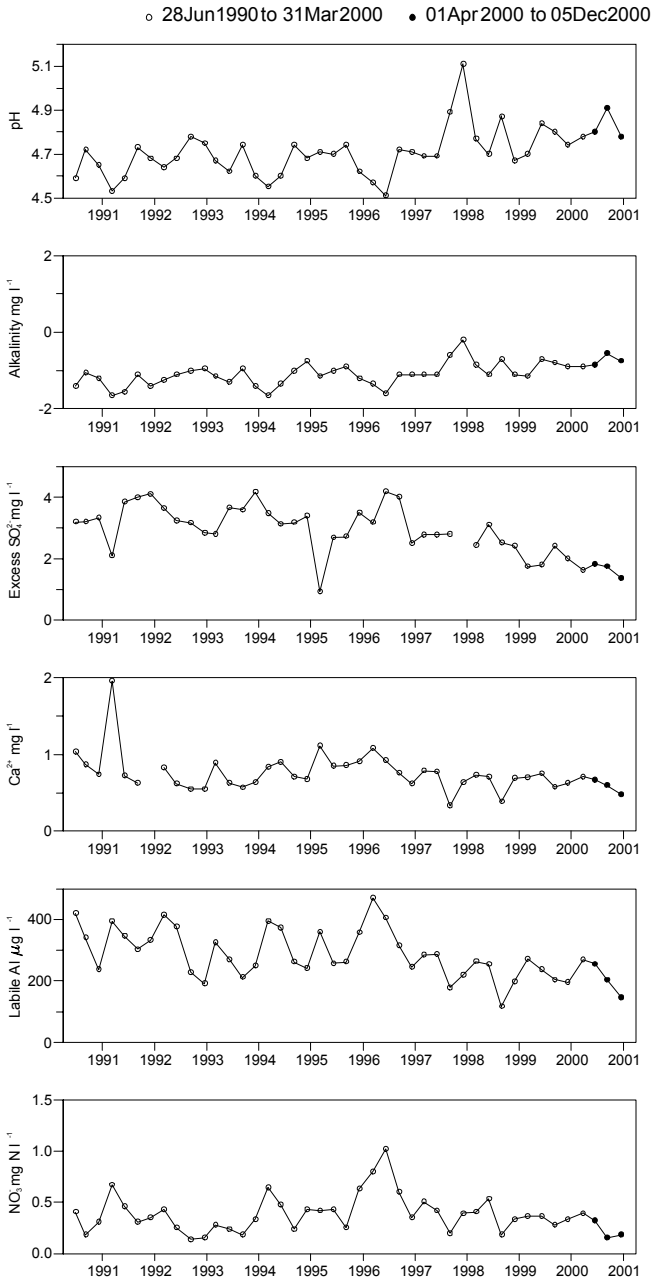
Lake altitude:	340 m	Lake area:	2 ha
Maximum depth:	5.0 m	Catchment area:	42 ha
Mean depth:	1.7 m	Catchment:lake ratio:	19.9
Volume:	0.03 x 10^6 m^3	Net relief:	363 m

Grid Ref: J 327252

Soils: Blanket peat Geology: Granite Vegetation: 100 % Moorland

21.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to Dec 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.83	4.91	4.78	0.07	75.0
Alk($CaCO_3$)	-0.72	-0.55	-0.85	0.15	75.0
Cond	47.7	51.0	44.0	3.5	75.0
Ca	0.58	0.67	0.48	0.10	75.0
Mg	0.60	0.70	0.50	0.10	75.0
Na	5.67	6.00	5.10	0.49	75.0
K	0.48	0.56	0.39	0.09	75.0
Ba	0.00	0.00	0.00	0.00	75.0
Sr	0.00	0.01	0.00	0.00	75.0
Fe	0.03	0.05	0.01	0.02	75.0
Mn	0.01	0.02	0.01	0.00	75.0
Sol.Al	270.3	326.0	234.0	49.0	75.0
Sol.lab.Al	201.3	255.0	146.0	54.5	75.0
Cl	9.93	11.00	8.60	1.22	75.0
SO_4	3.07	3.40	2.60	0.42	75.0
XSO_4	1.66	1.84	1.38	0.24	75.0
NO_3	0.22	0.32	0.15	0.09	75.0
PO_4	All recorded data below detection limit.				75.0
Br	0.03	0.04	0.01	0.01	75.0
F	0.16	0.19	0.12	0.03	75.0
Si	0.80	1.40	0.30	0.56	75.0
DOC	4.00	4.50	3.70	0.44	75.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

Past record statistics

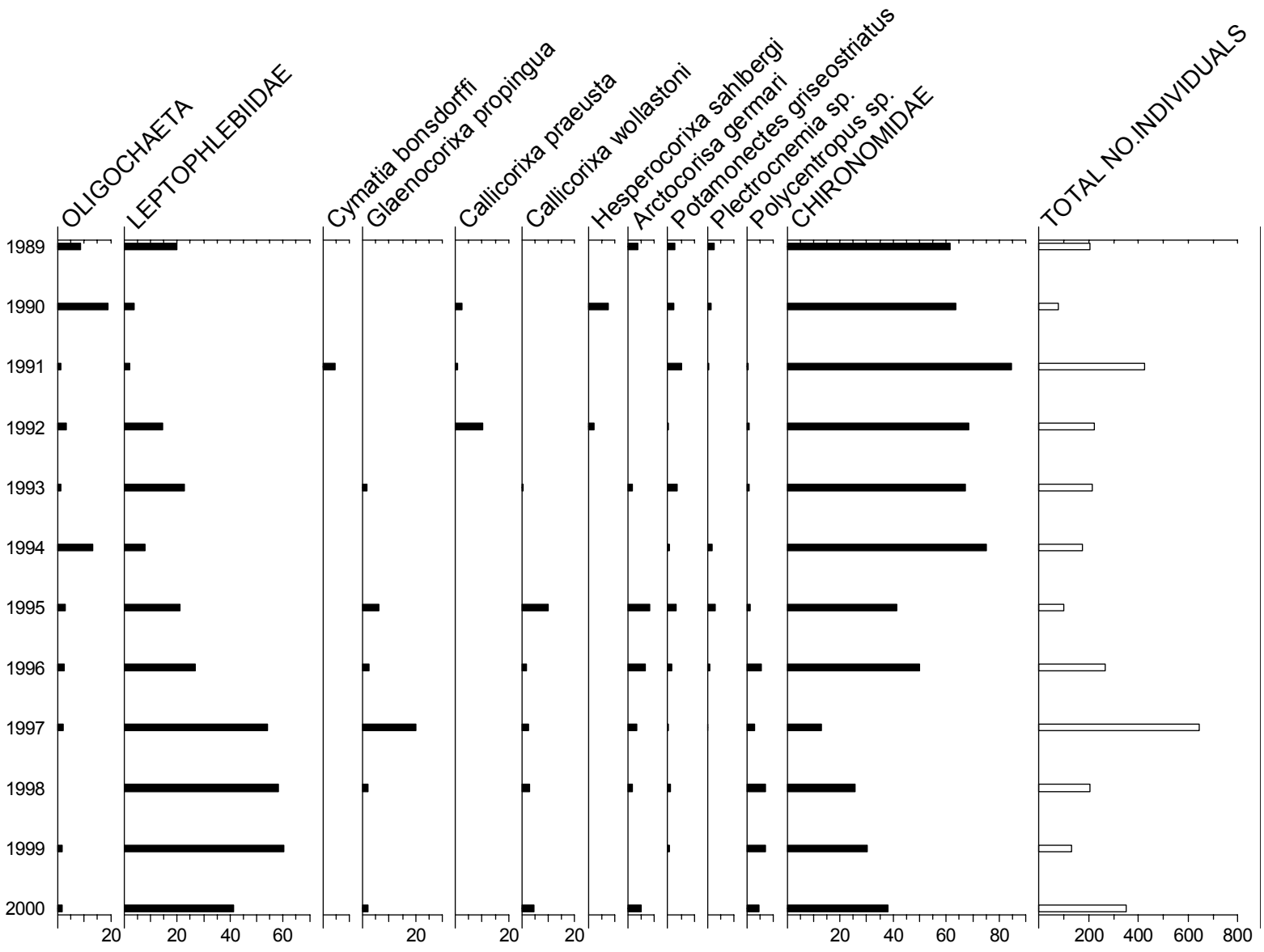
Chemistry statistics for period June 1990 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	4.70	5.11	4.51	0.11	100.0
Alk($CaCO_3$)	-1.10	-0.20	-1.65	0.30	100.0
Cond	54.5	73.0	33.0	8.9	100.0
Ca	0.77	1.96	0.33	0.26	100.0
Mg	0.70	1.10	0.30	0.17	100.0
Na	5.85	8.50	2.80	0.97	100.0
K	0.50	0.99	0.36	0.13	100.0
Ba	0.00	0.01	0.00	0.00	90.0
Sr	0.01	0.01	0.00	0.00	100.0
Fe	0.06	0.87	0.01	0.14	100.0
Mn	0.02	0.19	0.01	0.03	100.0
Sol.Al	361.9	520.0	254.0	69.1	100.0
Sol.lab.Al	289.4	470.0	118.0	79.0	100.0
Cl	9.71	14.20	4.80	2.09	100.0
SO_4	4.35	5.70	1.70	0.81	100.0
XSO_4	2.98	4.19	0.93	0.76	100.0
NO_3	0.39	1.02	0.14	0.18	100.0
PO_4	0.00	0.03	0.00	0.00	90.0
Br	0.03	0.05	0.01	0.01	100.0
F	0.17	0.25	0.00	0.05	100.0
Si	0.97	5.40	0.04	0.88	100.0
DOC	3.70	6.80	1.40	1.20	100.0

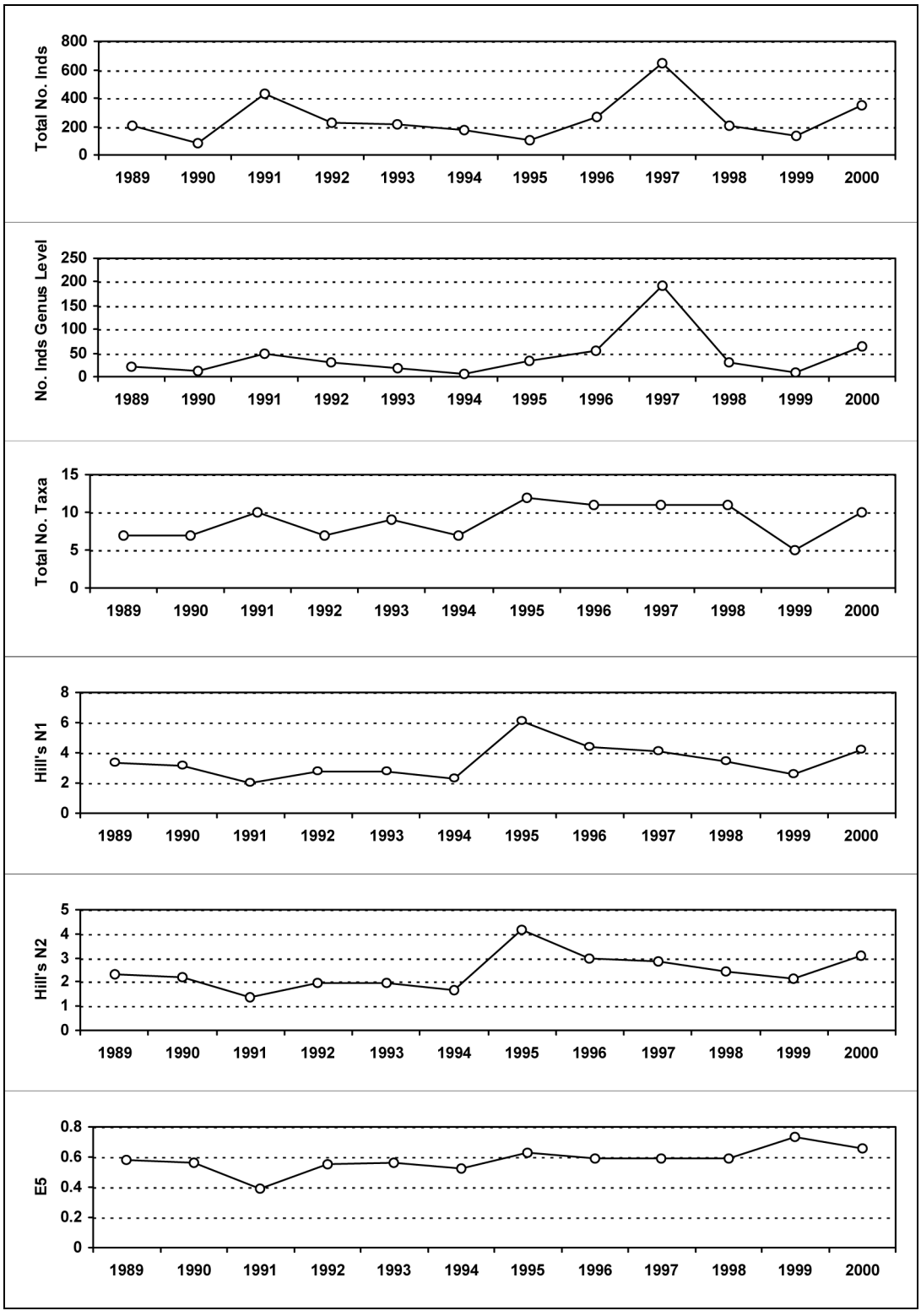
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l.^{-1}$

21.2. Macroinvertebrate data

21.2.1. Percentage abundance summary, Blue Lough

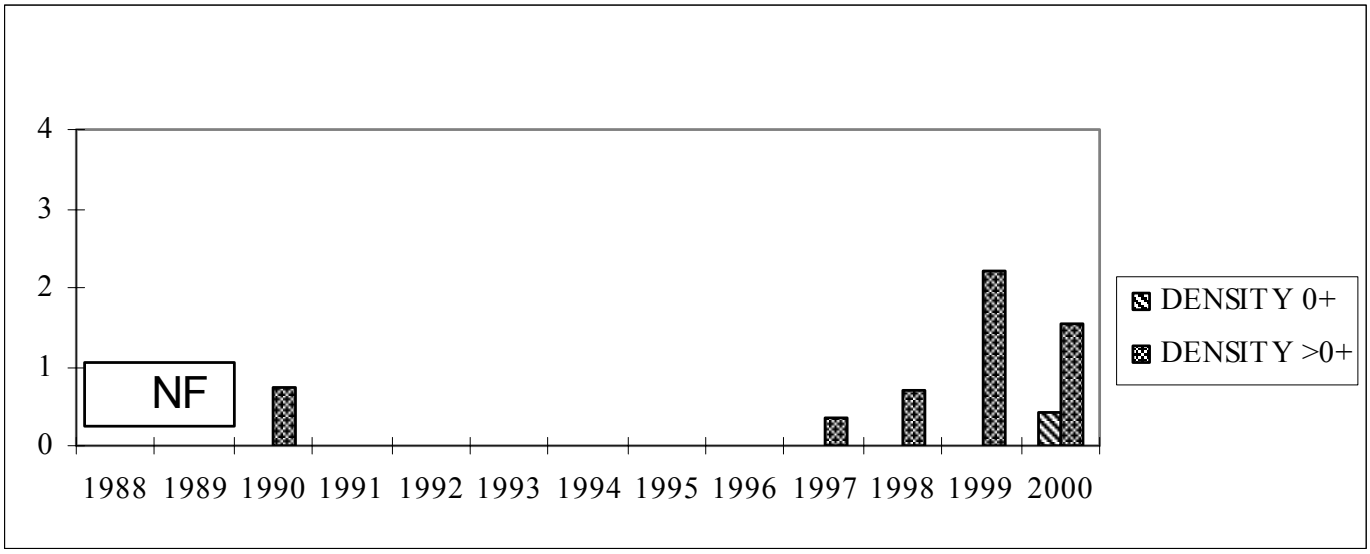


21.2.2. Summary statistics, Blue Lough



21.3. Fish data (for outflow stream)

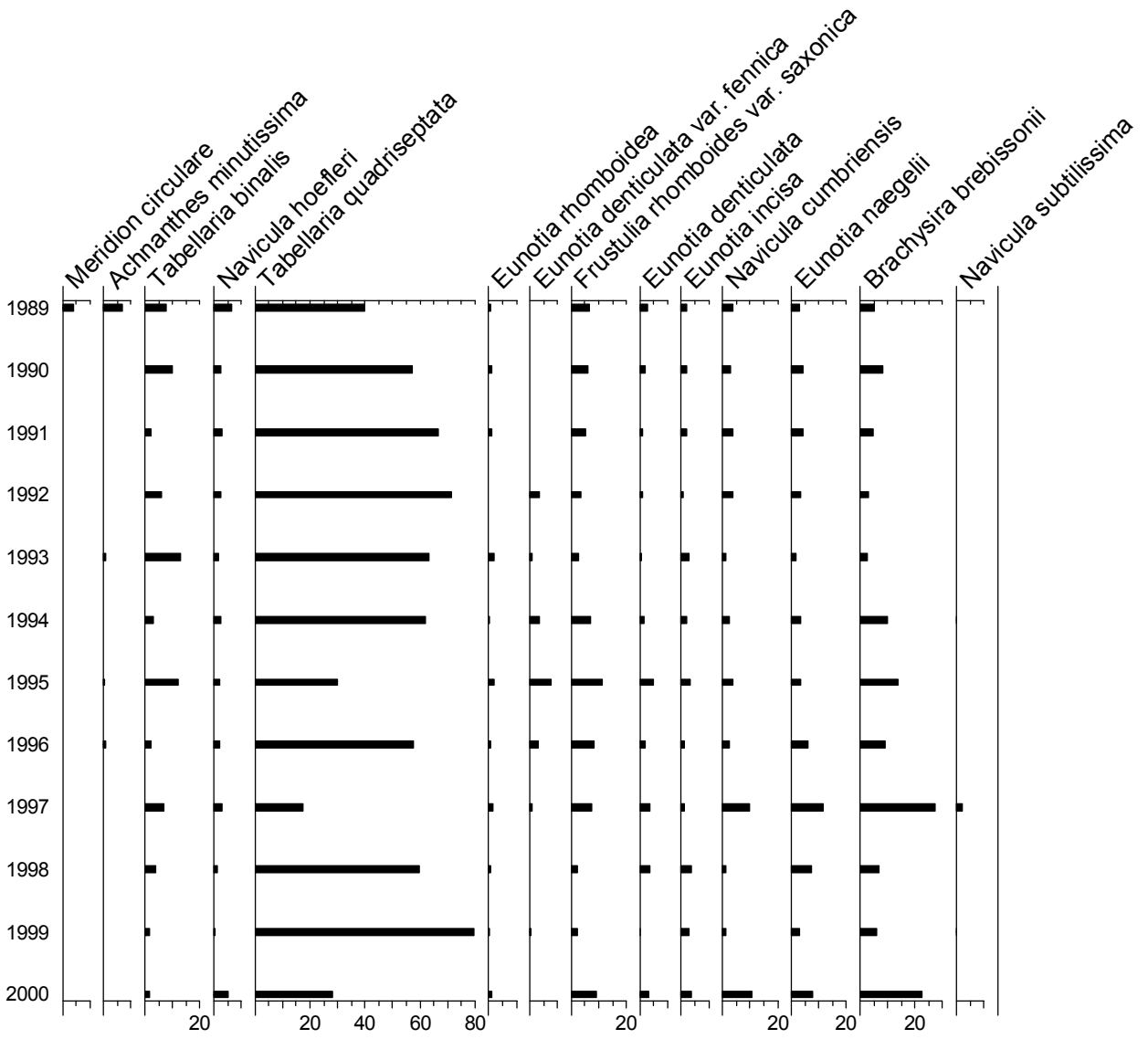
21.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Blue Lough



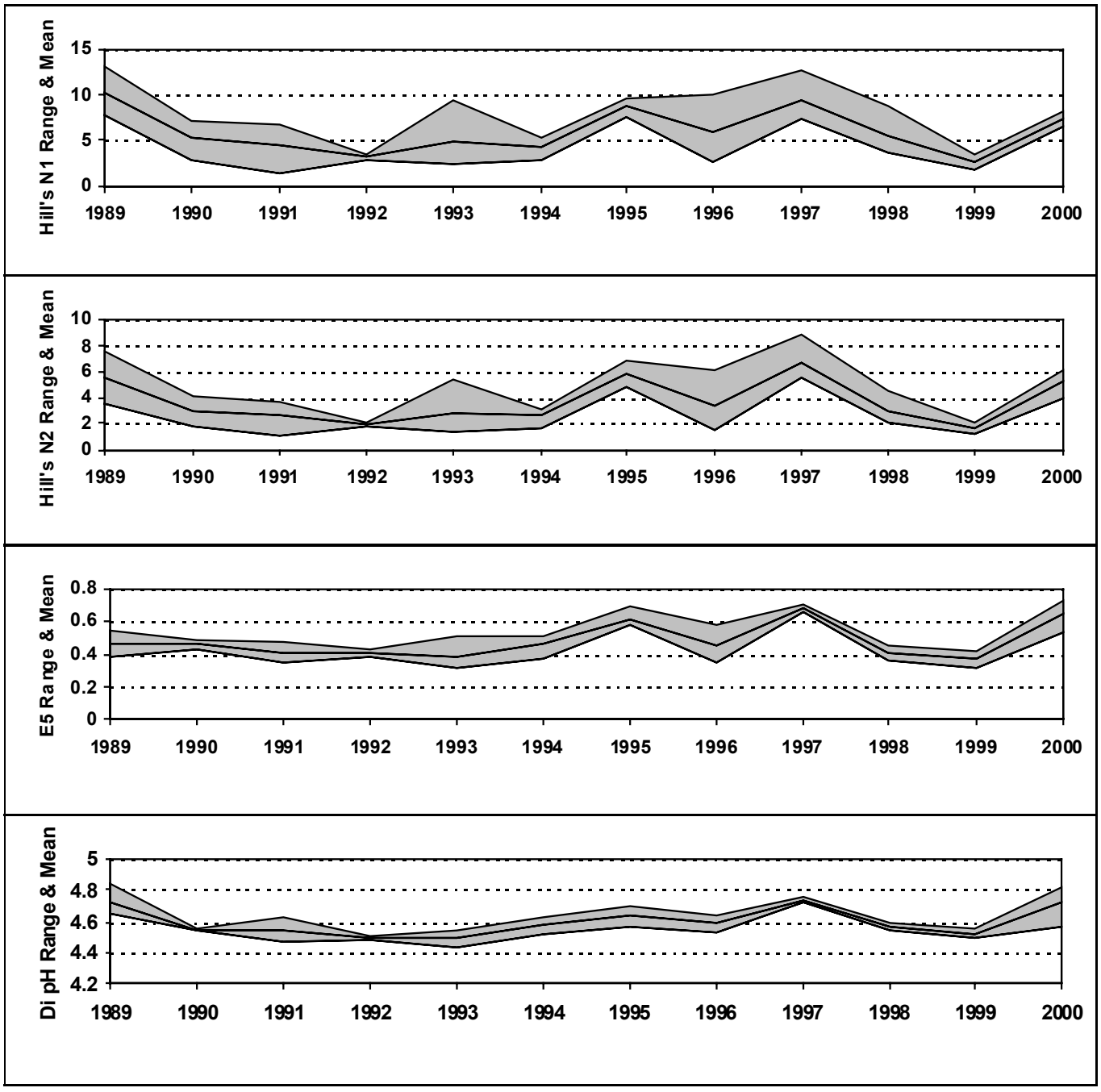
NF = Not fished

21.4. Epilithic diatom data

21.4.1. Percentage abundance summary, Blue Lough

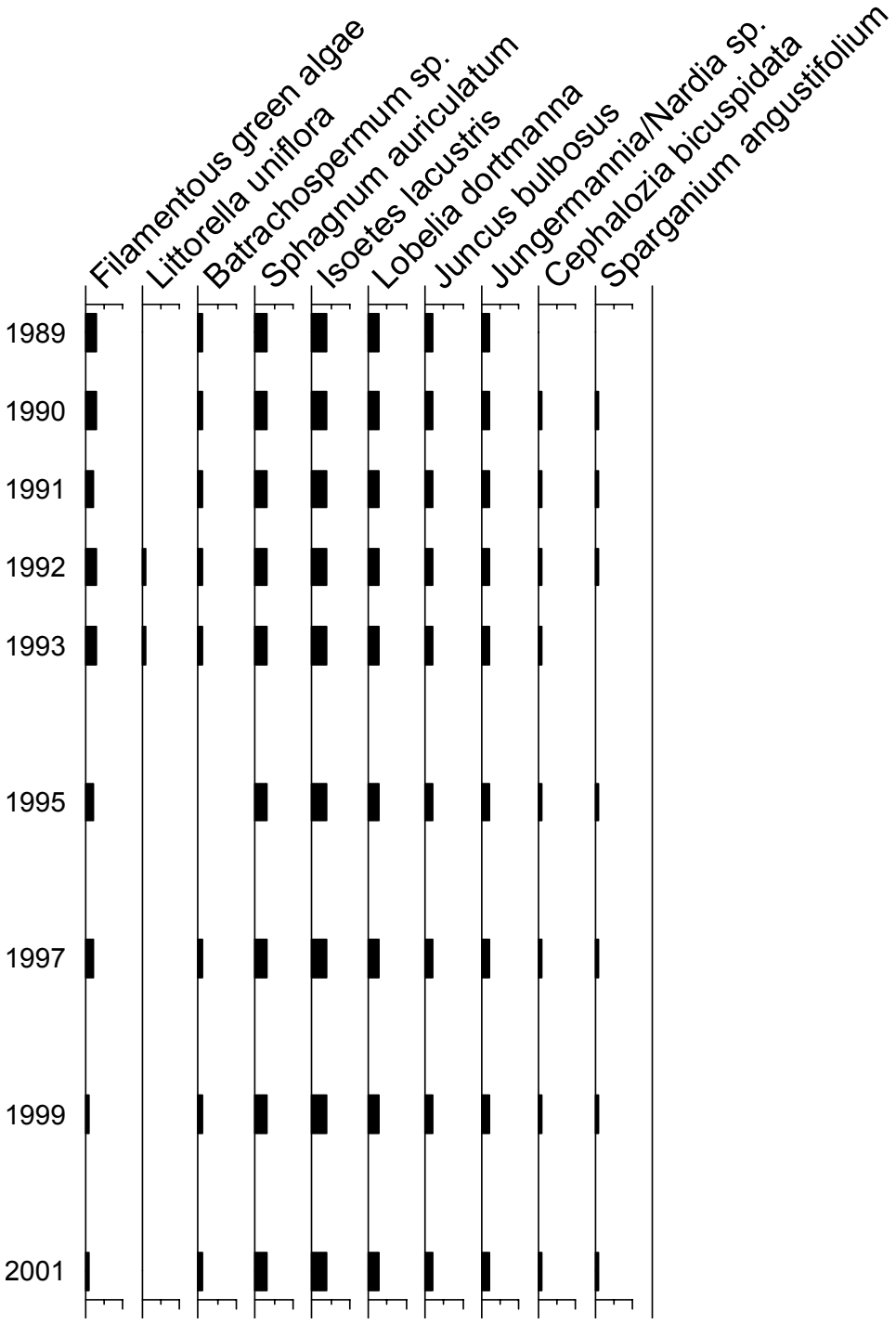


21.4.2. Summary statistics, Blue Lough



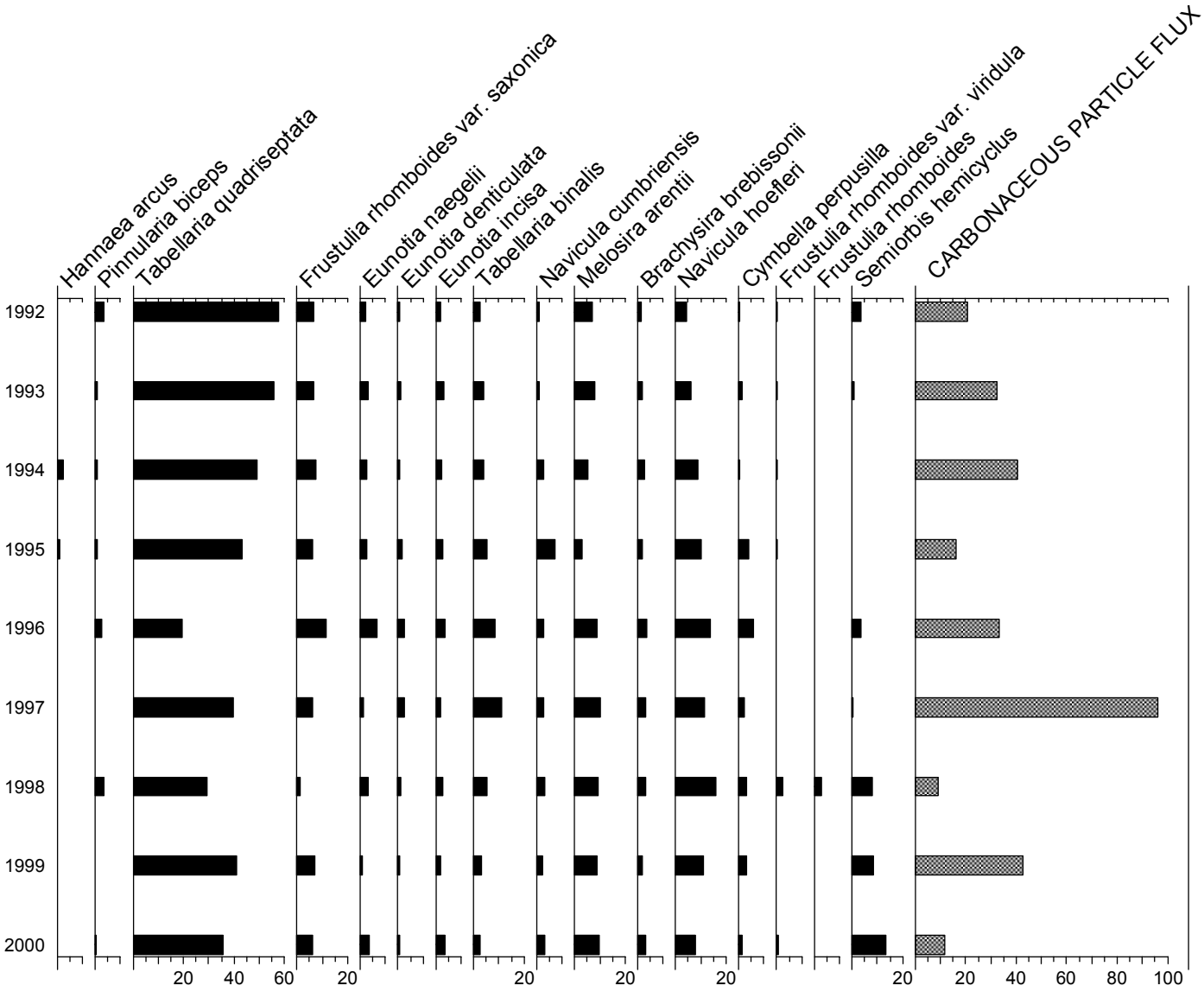
21.5. Aquatic macrophyte data, Blue Lough

Species Scores (1-5)



21.6. Sediment trap data, Blue Lough

Relative percentage frequency of diatom taxa and carbonaceous particle flux (no. trap^{-1} day^{-1}).



22. Coneyglen Burn

Catchment area: 1414 ha
Minimum catchment altitude: 230 m
Maximum catchment altitude: 562 m

Grid Ref: H 640885

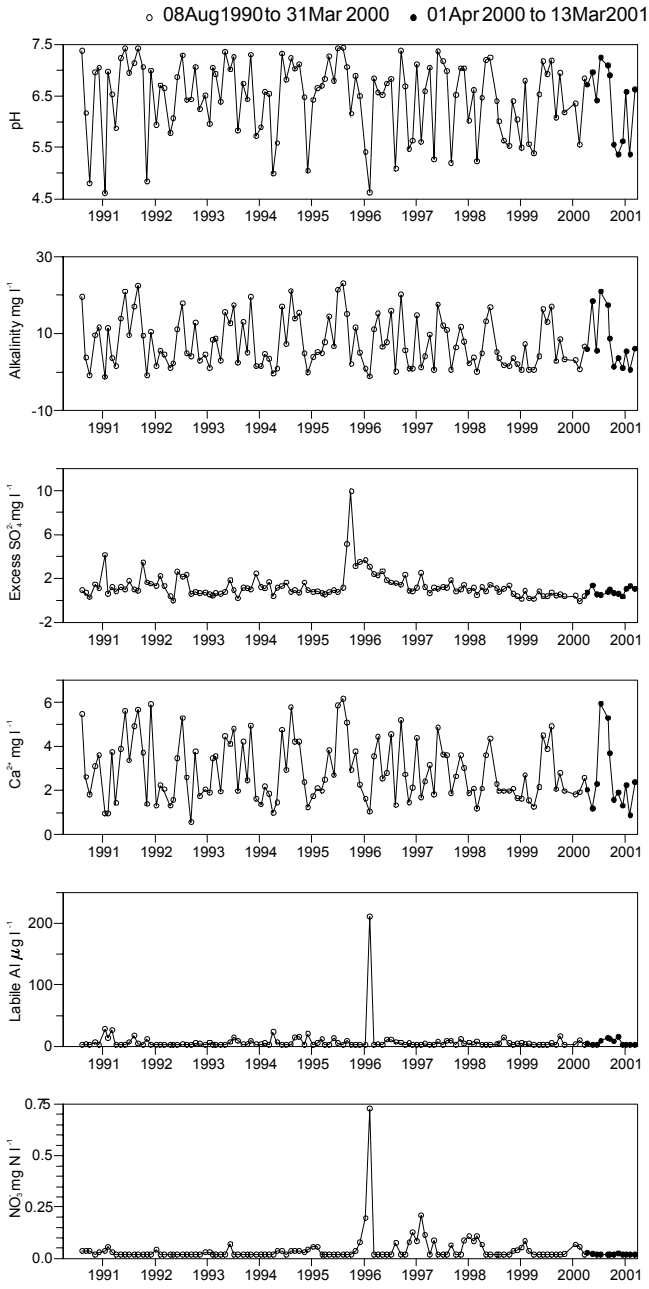
Soils: Blanket peat

Geology: Schists

Vegetation: 95 % Moorland
5 % Conifers

22.1. Spot sampled chemistry data

Time series data



Current year statistics

Chemistry statistics for period April 2000 to March 2001

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.36	7.24	5.36	0.70	100.0
Alk($CaCO_3$)	7.87	20.95	0.50	7.11	100.0
Cond	48.6	72.0	32.0	13.9	100.0
Ca	2.55	5.93	0.88	1.60	100.0
Mg	1.43	2.40	0.50	0.68	100.0
Na	4.63	5.70	3.30	0.78	100.0
K	0.37	0.77	0.15	0.16	100.0
Ba	0.01	0.01	0.00	0.00	100.0
Sr	0.01	0.02	0.00	0.01	100.0
Fe	0.99	2.63	0.04	0.87	100.0
Mn	0.10	0.27	0.00	0.08	100.0
Sol.Al	41.3	88.0	19.0	19.2	100.0
Sol.lab.Al	6.5	16.0	2.5	5.1	100.0
Cl	7.66	9.80	5.50	1.35	100.0
SO_4	1.92	2.30	1.40	0.34	100.0
XSO_4	0.83	1.38	0.35	0.33	100.0
NO_3	0.02	0.03	0.02	0.00	100.0
PO_4	0.00	0.02	0.00	0.00	100.0
Br	0.02	0.04	0.01	0.01	75.0
F	0.03	0.04	0.01	0.01	100.0
Si	1.01	2.10	0.20	0.58	100.0
DOC	11.86	25.00	6.00	5.64	100.0

N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

Past record statistics

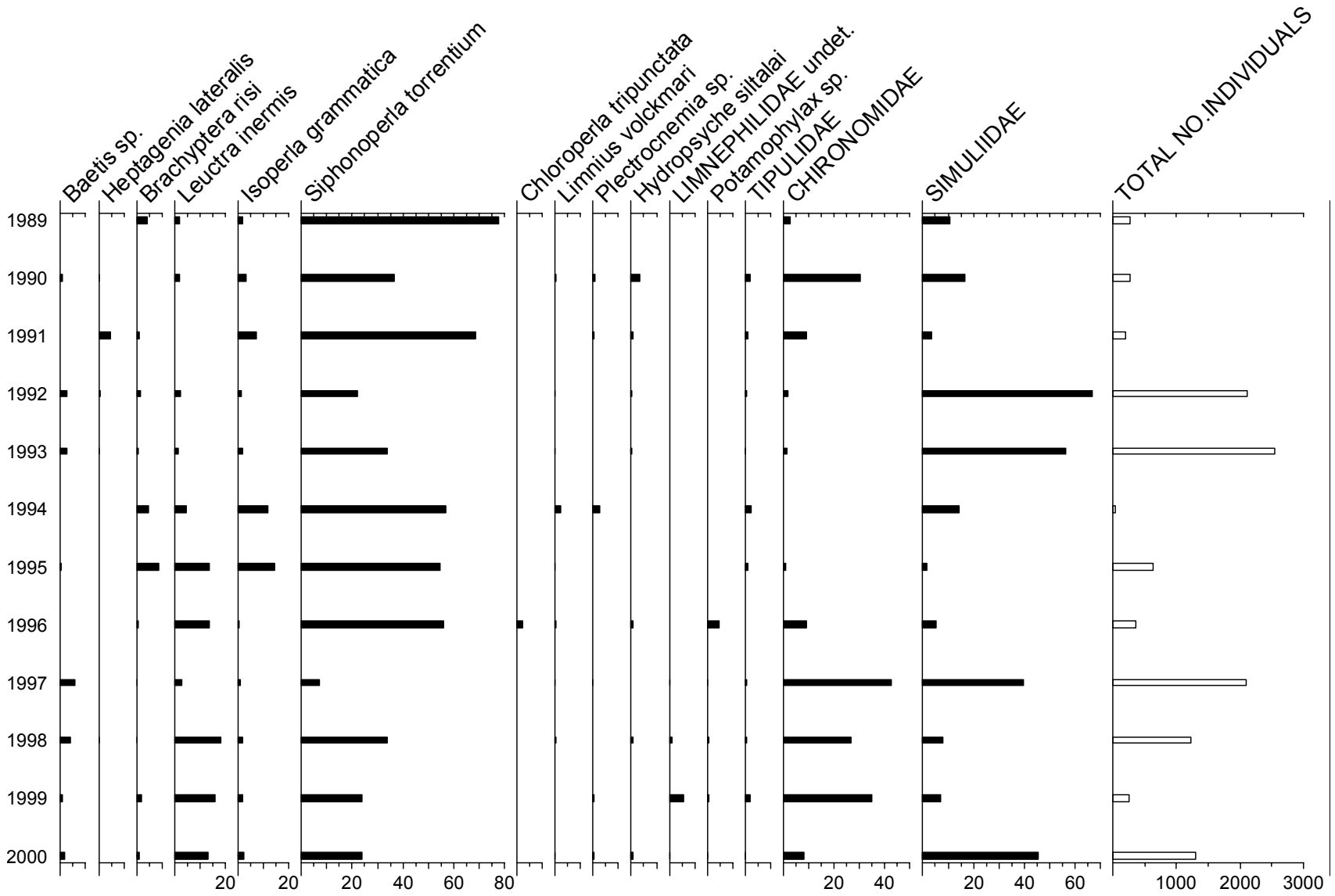
Chemistry statistics for period Aug 1990 to March 2000

	Mean	Max.	Min.	Std. Dev.	N%
pH	6.47	7.44	4.60	0.72	100.0
Alk($CaCO_3$)	7.62	23.05	-1.30	6.47	100.0
Cond	54.2	83.0	31.0	11.6	100.0
Ca	2.89	6.17	0.54	1.37	100.0
Mg	1.42	2.50	0.50	0.49	100.0
Na	5.44	8.60	3.20	0.82	100.0
K	0.42	0.90	0.24	0.10	93.3
Ba	0.01	0.01	0.00	0.00	100.0
Sr	0.01	0.02	0.00	0.00	100.0
Fe	0.89	3.06	0.02	0.57	100.0
Mn	0.15	0.40	0.00	0.08	100.0
Sol.Al	41.8	264.0	6.0	28.3	100.0
Sol.lab.Al	7.4	211.0	2.5	19.9	100.0
Cl	9.10	17.60	3.70	2.24	100.0
SO_4	2.58	11.40	1.00	1.21	100.0
XSO_4	1.29	9.90	-0.10	1.19	100.0
NO_3	0.04	0.73	0.02	0.07	100.0
PO_4	0.01	0.14	0.00	0.02	93.3
Br	0.03	0.26	0.00	0.02	100.0
F	0.03	0.25	0.00	0.03	100.0
Si	1.23	2.40	0.30	0.56	100.0
DOC	9.13	26.90	1.70	5.10	100.0

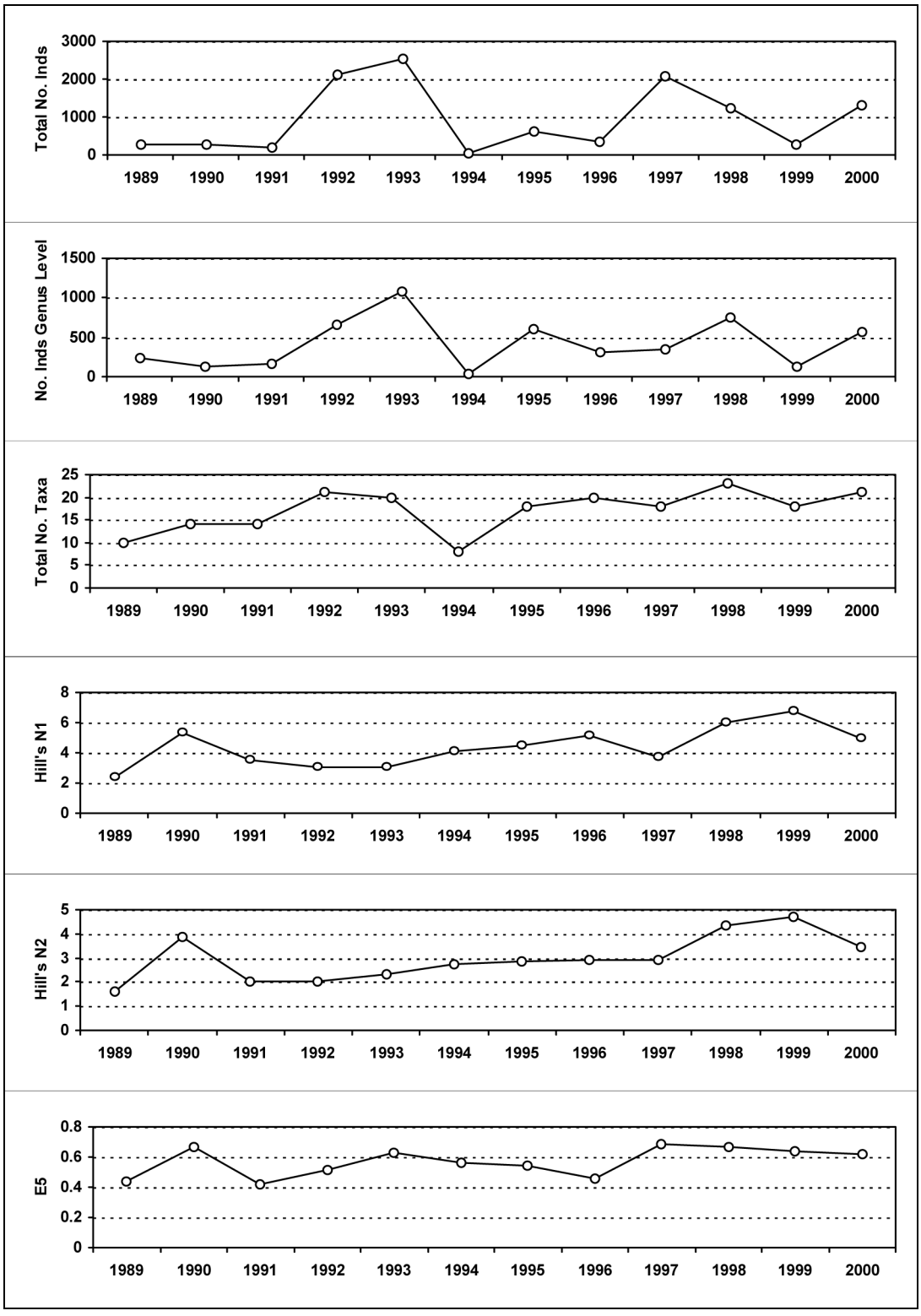
N% is the percentage of the expected number of values
Soluble Al in $\mu g\ l^{-1}$, Cond in $\mu s\ cm^{-1}$, all other units in $mg\ l^{-1}$

22.2. Macroinvertebrate data

22.2.1. Percentage abundance summary, Coneyglen Burn

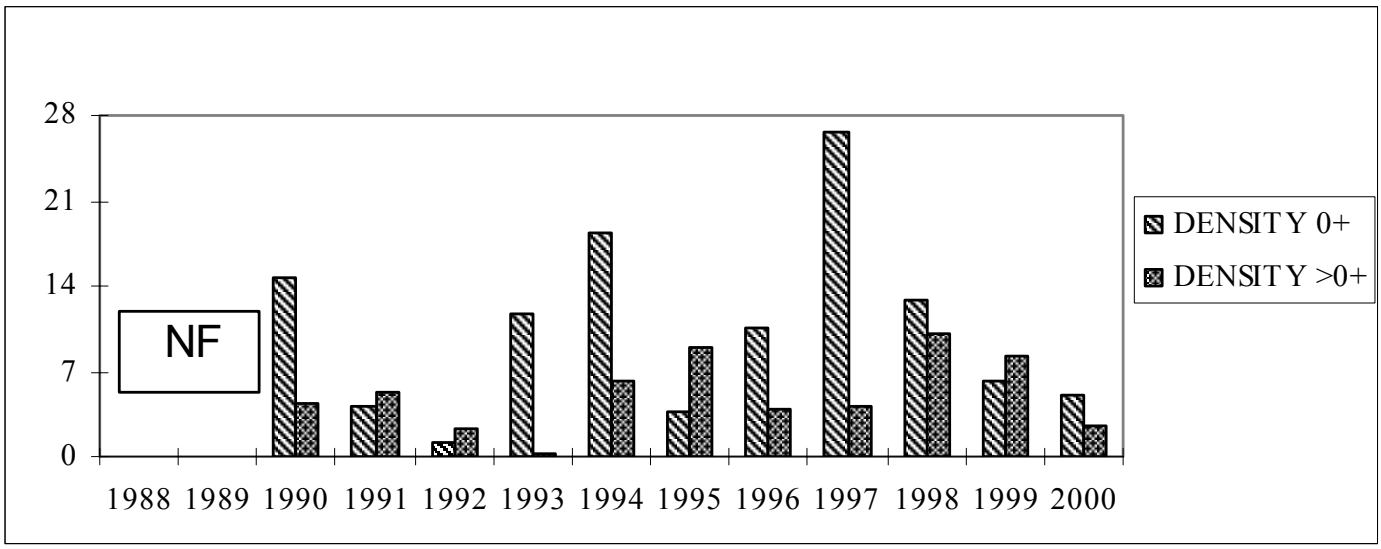


22.2.2. Summary statistics, Coneyglen Burn



22.3. Fish data

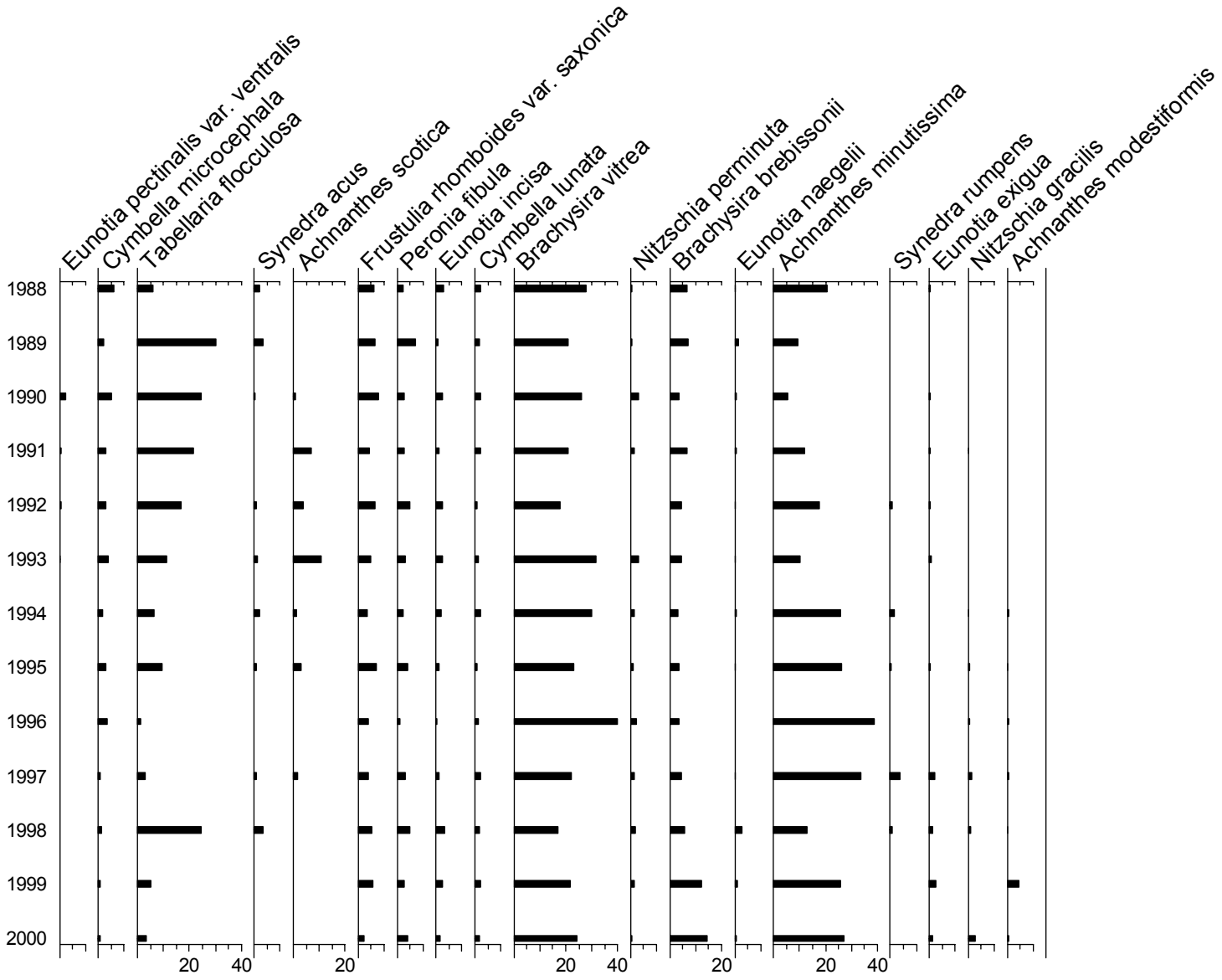
22.3.1. Summary of mean Trout density (numbers $100m^{-2}$), Coneyglen Burn



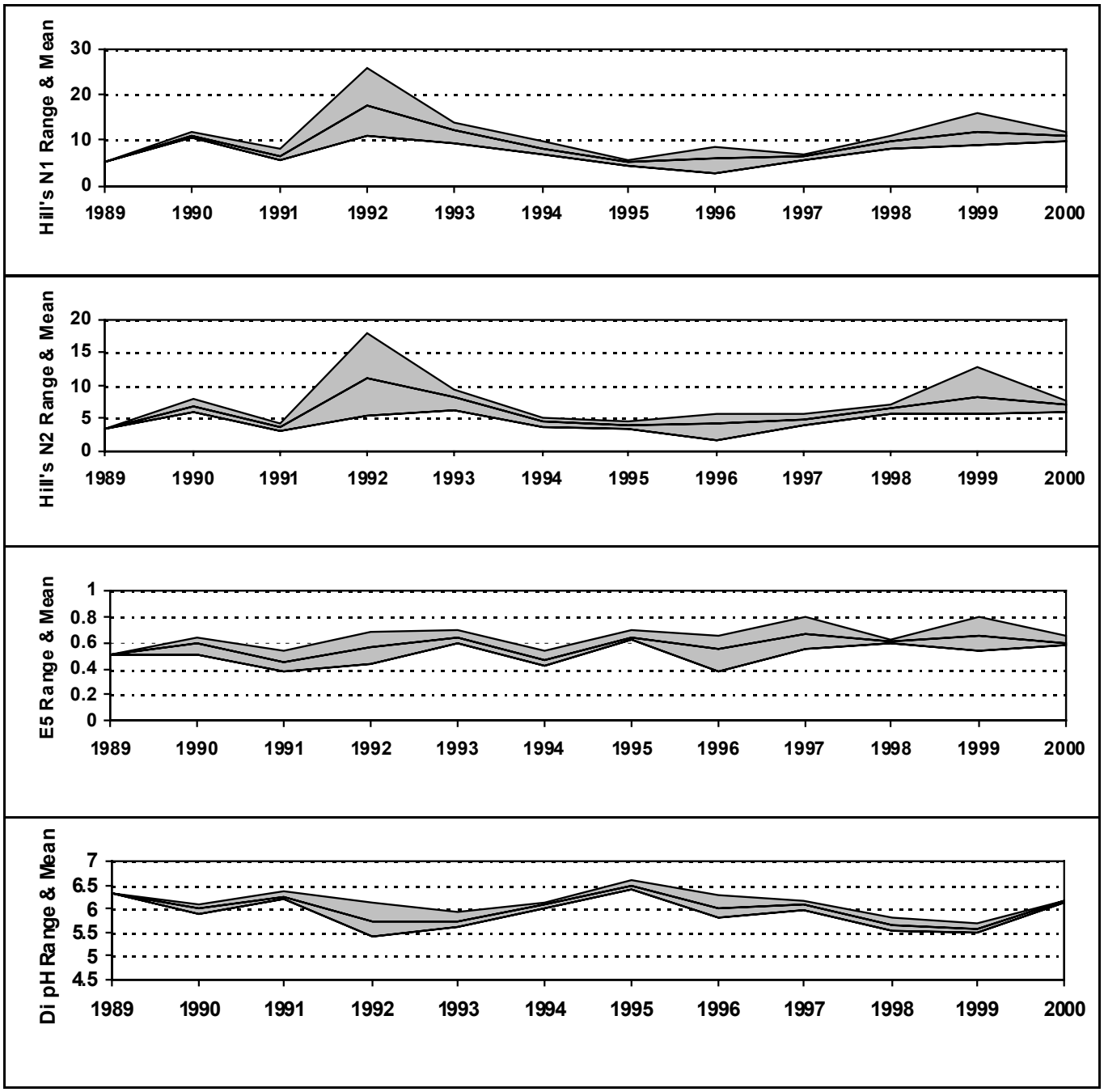
NF = Not fished

22.4. Epilithic diatom data

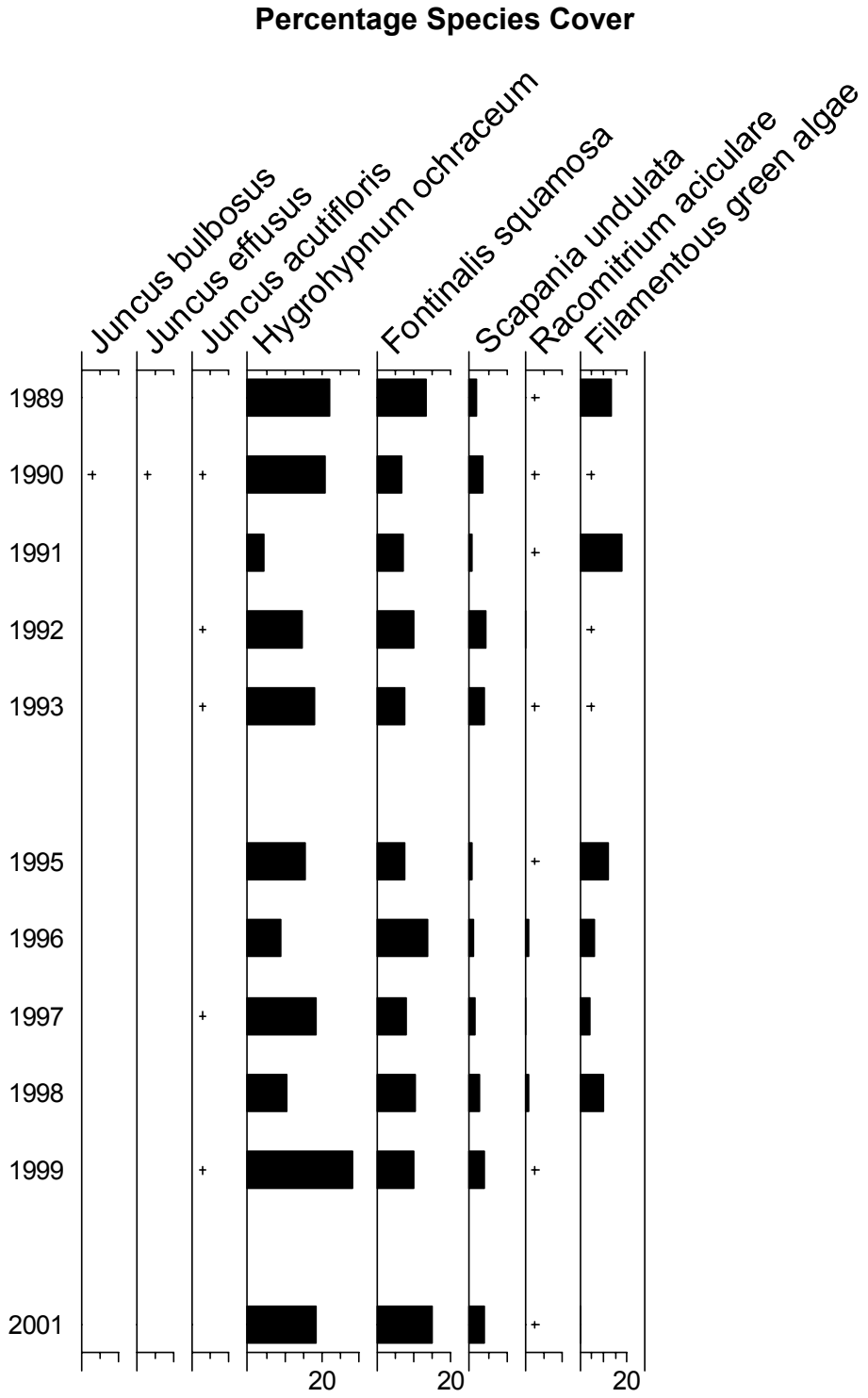
22.4.1. Percentage abundance summary, Coneyglen Burn



22.4.2. Summary statistics, Coneyglen Burn



22.5. Aquatic macrophyte data, Coneyglen Burn



+ Represents <0.1% abundance